

AUTONOMOUS LEARNING RESOURCES FOR EFL: WHAT LEARNERS THINK

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Resumen:

Este artículo trata sobre trabajo llevado a cabo por miembros del grupo de investigación ATLAS en el marco del proyecto SO-CALL-ME (*Social Ontology-driven Cognitively Augmented Language Learning Environment*). Una de las aplicaciones móviles creadas por el grupo es *Eating out*, un recurso educativo digital para el aprendizaje autónomo del inglés como lengua extranjera, desarrollado en Moodle. El artículo describe este recurso y pasa a continuación a explicar un experimento en el que un grupo de estudiantes universitarios de inglés trabajaron con él a lo largo de un semestre, algunos usando un ordenador y otros utilizando un dispositivo móvil. Al final del semestre los estudiantes respondieron un cuestionario sobre aspectos pedagógicos y técnicos de su experiencia con *Eating out*. En el artículo se comentan los contenidos del cuestionario así como los resultados del experimento. Al dar a los estudiantes la oportunidad de evaluar *Eating out* se buscó obtener información valor a la hora de mejorar este recurso educativo. Los resultados también nos permiten comparar la experiencia de los estudiantes que trabajaron en un ordenador con la de aquellos que lo hicieron con un dispositivo móvil y de esta manera comprobar si el mismo recurso educativo es tan válido –o no– para la enseñanza de lenguas asistidas por ordenador como para la enseñanza de lenguas asistida por dispositivos móviles.

Palabras clave: Enseñanza de lenguas asistidas por ordenador enseñanza de lenguas asistidas por dispositivos móviles, inglés como lengua extranjera, opinión de los estudiantes

Abstract:

This paper reports on work carried out by members of the ATLAS research group within the SO-CALL-ME (*Social Ontology-driven Cognitively Augmented Language Learning Environment*) project. One of the mobile applications created by the group is *Eating out*, an EFL autonomous learning digital resource developed on Moodle. The paper describes this resource and then moves on to explain an experiment in which a group of EFL university students worked with it during a semester, some of them using a PC, some using a mobile device. At the end of the semester they answered a questionnaire on pedagogical and technical aspects of their experience with *Eating out*. The contents of the questionnaire are discussed as are the survey results. By giving the students the chance to evaluate *Eating out*, we seek to obtain valuable information that may help us to improve this learning resource. Additionally, the results allow us to compare the experiences of students working on a computer and those using a mobile device and thus see whether the learning resource can be run on one as well as on the other.

Key Words: CALL, MALL, EFL, Student's feedback

1. Introduction

The development of technology has changed the face of education: its presence in the classroom affects teaching, learning and assessment (Otero *et al.* 2005). It is now unusual to find a language class which does not use some sort of technology to enhance, assist or support the learning process. Although the use of technology should not be the goal in itself, as any technological tool requires the knowledge and expertise of the teacher in order to engage the students, it can offer many advantages when effectively combined with sound instructional practices and activities.

The initial fact to take into account is that in order to learn a second language (L2) there are a number of hours that must be invested. Unfortunately, very few courses are able to provide the necessary amount for the students to progress from level to level, and technology can be the answer to bridge the gap between what is required and what can be offered in face-to-face time. University students spend around eight months, or 32 weeks in their L2 class at an average of three hours per week in an annual course. That estimate gives just under 100 hours, and as Archibald *et al.* point out: "learning a second language for 95 hours per year for six years will not lead to functional bilingualism and fluency in the second language" (2006: 3). As shown in Figure 1, Cambridge University Language Assessment¹ estimates the following number of hours of study of the English language in order to go from one level of achievement to the next.

Common European Framework	Number of study hours
A2	Approx. 180–200
B1	Approx. 350–400
B2	Approx. 500–600
C1	Approx. 700–800
C2	Approx. 1.000–1.200

Figure 1: Number of hours of study per level.

They also explain that the number of approximate hours will depend on several other factors such as the previous experience in learning languages, the intensity of the study or interest on the part of the student and age. However, if the figures of what is necessary and what is provided in face-to-face classes are compared, it is clear that the former are always higher than the latter and this is an area where technologies can be of great help. It is possible to increase the number of hours dedicated to the study of the L2 and expose the learners to authentic language and culture by using some sort of e-learning platform, including portable devices. Moreover, learners can benefit from the integration of face-to-face and online learning and develop autonomy, which is "the ability to take charge of one's own learning [...] to have and to hold the responsibility for all the decisions concerning all aspects of learning" (Holec 1981: 3; see also Hamilton 2013 about how technology can help build autonomy in the L2 learner). It is a skill that is developed over time and is also very valuable for L2 as it adapts to the multiple intelligences theory (Gardner 2011). Little (2007: 15) explains that "the development of learner autonomy and the growth of target language proficiency are not mutually supporting but fully integrated with each other". Gadamer (2001) points out that education is self-education. Autonomous learning, also known as student-centred learning or flexible learning (Macaskill & Taylor 2010), highlights the change from a classroom where the teacher presents information to the students, to an environment where students construct their own knowledge based on previous experience (Kember 1997). It involves, therefore, a transfer of responsibilities from teacher to learner (Cotterall 2000). As Rogers (1994: 103) states:

¹ CEFR and ALTE Can DO Statements. Available at: <http://www.cambridgeenglish.org/about-us/what-we-do/international-language-standards/>

The role of education, if we are going to survive, is the facilitation of change and learning. The only man who is educated is the man who has learned how to learn, the man who has learned to adapt and change; the man who has realized that no knowledge is secure, that only the process of seeking knowledge gives a basis for security.

Cotterall (1995) lists three important reasons for developing learner autonomy: philosophical, pedagogical and practical. Firstly, the philosophical reason has to do with the learners' right to make choices about their own learning. This characteristic is essential as learners must be able to adapt to a rapidly changing future (Knowles 1975). Secondly, the pedagogical reason is related to the fact that adults seem to learn more effectively when they are involved in making decisions about the pace, sequence, mode of instruction and the content of what they are studying (Candy 1988). Thirdly, the practical reason is that promoting learner autonomy compensates the shortage of learning time in class with autonomous study, as previously mentioned.

Another positive aspect that can be gained from the use of technology is the possibility of presenting language in context (Omaggio-Hadley 2001). A video can show a multitude of aspects that are important for the learner: speed of speech, intonation, pronunciation, hesitation, pauses, and even the correct distance between individuals when interacting.

Thus, a rich contextualised learning environment can be made available for learners to interact with at their own time and pace. It is therefore feasible to present students with gambits and formulaic expressions of language which are common phrases or multiword units found useful in developing fluency (Wood 2002). Situations that would be of great use for the learners in the future can also be introduced here. As claimed by Schema Theory (DiMaggio 1997), many communication problems that a speaker might have in the L2 are due not so much to the lack of linguistic knowledge but more to certain common situations for which they are unprepared. This is also avoidable if they are presented with information about features, such as turn-taking or the rhythm of interaction. All of those details reflect the difference between "narrow listening" or "narrow reading" (Krashen 1996, 2004), and "broad listening" or "broad reading". Learners benefit more from listening to small amounts of language repeatedly, than from listening to large amounts once, and this is something that a video can clearly offer. Therefore, technology cannot only increase the amount of language input that learners are exposed to; it can also enhance its intake, a difference first proposed by Corder (1967).

Finally, a deciding factor in learning is the learner's attitude. As Walker Tileston highlights, "emotion and cognitive learning are not separate entities; they work in tandem with one another" (2010: 1). Those benefits, as detailed above, are enhanced when ICT is involved, notably MALL (Mobile Assisted Language Learning), as the number of mobile device users is rapidly increasing, as shown in Figure 2.

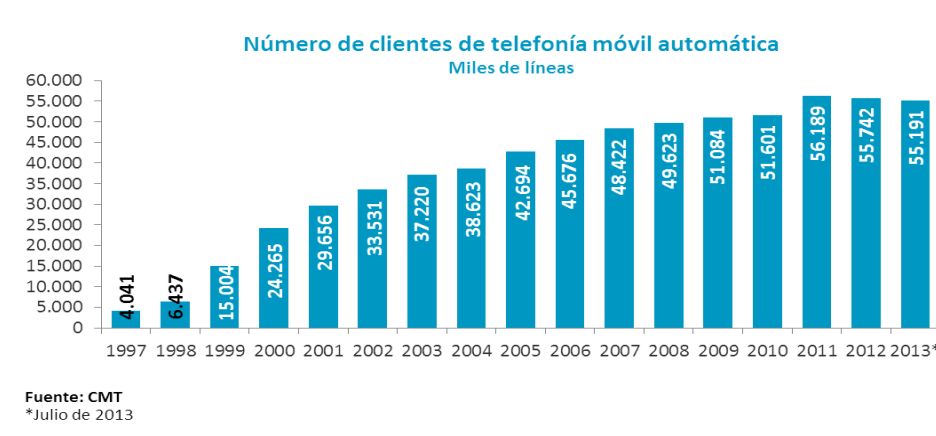


Figure 2: Number of mobile users in Spain. Available at <http://www.4gmoviles.com/evolucion-del-numero-de-clientes-de-telefonía-movil-en-espana-abril-2013/>

Portable devices have become an important component of young people’s lives: as a means of communication and a source of entertainment. As statistics clearly show, 94% of people who access the Internet on a weekly basis are between 16 and 24 years of age. Furthermore, 70% of people who access the Internet do it when they are away from their homes or work places, by using a mobile device:² the majority (63.2%) use a mobile phone, followed by those who use a laptop, tablet or net-book (31.6%), or other devices such as PDAs or iPods (6.3%). It makes sense to try to take advantage of this use of technology, which is ubiquitous and can be used to fill the time travelling between classes or to/from work or university with autonomous learning resources that may reinforce what L2 learners do in their classes or simply allow them to increase the number of hours they spend practicing the L2.

This paper looks at the effectiveness of autonomous learning resources on both non-mobile and mobile devices, not so much in terms of academic results as in terms of user, i.e. learner, satisfaction. To that end, we report on an experiment carried out with EFL university students as part of the research work in which the ATLAS (<http://atlas.uned.es/>) group is involved within the SO-CALL-ME (*Social Ontology-based Cognitively Augmented Language Learning Mobile Environment*) project. The paper is structured as follows: section 2 offers a general overview of SO-CALL-ME and the work so far done, of which the research here presented is a follow-up. Section 3 explains the methodology carried out in our experiment, while the results thereof are discussed in section 4. Finally, section 5 provides some concluding remarks and pointers to the future.

2. Background

SO-CALL-ME focuses on designing and developing a theoretical framework for computer assisted language learning tools that used handheld mobile devices such as smart-phones, tablets or PDAs, as they can take full advantage of all the positive characteristics that ICTs can provide and are readily available among students, as previously highlighted. Mobile tools are ubiquitous and enhance flexible, adaptive, interactive, practical learning, very much related to everyday communicative socio-cultural contexts and the use of foreign language (Rodríguez-Arancón *et al.* 2013: 1190). Another research focus within SO-CALL-ME is the design

² Data obtained from ONTSI (Observatorio Nacional de Telecomunicaciones y de la SI). Available at: <http://www.ontsi.red.es/ontsi/es/estudios-informes/perfil-sociodemográfico-de-los-internautas-datos-ine-2013>

and development of a linguistic ontology of visual learning objects to support foreign language learning in an efficient and pedagogically rigorous manner. To this end, the work has evolved in five phases so far: phase 1 encompassed an analysis of EFL apps and their categorization; phase 2 included the design of a rubric for the pedagogic and technical assessment of educational apps, notably EFL-related ones; phase 3 consisted in the creation of a rubric more narrowly geared to the assessment of EFL apps for listening skills; in phase 4 a higher number of apps was assessed taking advantage of the rubrics designed in phases 2 and 3. Finally, in phase 5, i.e. the current phase in our project, looks at both the creation of EFL apps and the feedback obtained from users of those apps. The following paragraphs explain each of these phases more in detail.

2.1 Phase 1. Analysis and categorization of EFL apps

The objective of this particular phase was to analyse some of the over 80,000³ EFL applications for mobile devices already available in the market. This would represent a starting point from which to develop our own apps after gaining knowledge of the features that are effective and suitable for learners. These apps were evaluated from a pedagogic point of view without taking into account their technical specifications (Arús-Hita *et al.* 2013). The evaluation of apps was done with the use of two templates created for that purpose. In the first template the three evaluators could note each app assessed and its URL. The second template was an in-house created rubric with three criteria and a scale from one to five. The aim was to keep the rubric simple and significantly adjusted to our project's specific needs in order to evaluate as many apps as possible in a short period. The three criteria considered were: 1) the apps' cognitive value; 2) similarity of the apps with the pedagogic aims of SO-CALL-ME; and 3) complementarity with the pedagogic aims of SO-CALL-ME. At the end of each rubric, a concise description and a final conclusion of each of the 67 apps were given (Rodríguez-Arancón *et al.* 2013: 1192).

2.2 Phase 2. Design of an evaluation rubric for the pedagogic and technical assessment of EFL apps

In the second phase, a quality guide and a rubric were designed in order to evaluate apps. The guide was based on the one drawn by Fernández-Pampillón *et al.* (2012) for the creation of learning objects and encompasses the quality criteria for the evaluation and creation of new educational apps. The important feature of this guide is that it combines pedagogical aspects (Cognitive value and pedagogic coherence; Content quality; Capacity to generate learning; Interactivity and adaptability; and Motivation) with technical ones (Format and layout; Usability; Accessibility; Visibility; and Compatibility). It therefore highlights the combined importance of technology and a pedagogical perspective.

Derived from this guide, a new rubric was created to ease the app evaluation process carried out this time by two evaluators. Four of the 67 previously evaluated EFL apps, i.e. those that obtained the highest marks, were chosen for a preliminary evaluation: *Englishfeed*, *SpeakingPal English Tutor*, *Clear Speech* and *Learn English Audio and Video*.

2.3 Phase 3. Rubric for the evaluation of apps in language learning (REALL)

The contribution in this third phase was to present a rubric that included criteria that were both educational and linguistic. To that end, a template was created enabling app evaluators to focus on the specific dimensions of language teaching and learning, as defined by the *Common European Framework of*

³ <http://noticias.universia.es/ciencia-nn-tt/noticia/2014/04/07/1093782/ya-existen-mas-80-000-aplicaciones-educativas.html>

Reference for Languages: Learning, Teaching, Assessment or CEFR (Council of Europe 2001): oral reception and production, written reception and production, interpretation and translation; and providing detailed descriptors for each of those categories. This task complemented the previous phases of research and represented an added value to the pedagogic assessments that had already been carried out.

All this culminated in REALL, a rubric which was used to evaluate the linguistic competence of EFL apps for listening. It followed the same criterion as the previous one: the information given in the cells took the quality guide as a reference. The categories considered were: level, types of texts, topics and delivery. The evaluating process was also similar to the one used in phase two: two evaluators analysed the five chosen apps (*Englishfeed, Speakingpal, Clear Speech, Learn English Audio & Video, Learn English Elementary Podcasts*), so as to assess their linguistic adequacy according to the CEFR. Although the number of apps studied was too small to reach definitive conclusions, it served the authors to pilot REALL and show the consistency between the two evaluators, since there were minimum discrepancies between them (Martín-Monje *et al.* 2013).

2.4 Phase 4. Evaluation of apps from a pedagogic and linguistic point of view

In this phase, the aim was to confirm the preliminary results obtained in phases 2 and 3 as a final stage before adopting the quality guide as a model to develop and create EFL applications. To this end, an additional number of apps were evaluated making use of the rubrics designed in the previous two phases (see Calle-Martínez *et al.* forthcoming). The entire number of evaluated apps was 9. The evaluating process was as usual: two testers undertook the evaluation of 4 more apps (*Learn English-Listening Skill, Headway Listening, English Conversation, TOEIC 700Q*).

2.5 Creation and evaluation of EFL apps

This is the current phase in our project. The apps so far designed and developed by the members of this research group are:

ANT (Audio News Trainer): useful application to improve oral comprehension through news that is updated daily.

BUSINESS APP: application implemented throughout the tool MIT App Inventor. It is aimed at professionals and business students who need to acquire oral skills in English and who might have to put them into practice in future professional situations, such as the presentation of a new product or working for a company.

FAN CLUB (Friends of the Audio Narrative Club): similar application to ANT as regards the aim they pursue, i.e. a constant use of the application on the basis of offering highly enjoyable and popular contents for apprentices and non-apprentices of a second language. The added value of this application consists in (1) the previous sequencing of content in difficulty levels and (2) methodological patterns for a maximum use in the improvement of the listening competence.

MARLUC: effective application to work on Phonetics through the production and comprehension of words.

VIOLIN and *VISP*: practical applications to improve oral and audiovisual comprehension through videos.

EATING OUT: online unit for both computers and mobile devices, convertible into an app. It provides oral comprehension practice as well as the lexico-grammar necessary to order and talk about food. This is the app that we describe in the next section and which was tested with actual users, as reported in the rest of this paper.

3. Methodology

As said above, one of the resources created by our group was *Eating out*, a listening comprehension and lexico-grammatical practice aimed at A2-B1 English learners. *Eating out* is not in itself a mobile application but rather an autonomous learning resource that can be run on a computer or a mobile device. It was designed on the e-learning platform Moodle 1.9 and consists of four main parts: 1) a recording of a situation in which three characters have to deal with ordering food in a cheesesteak restaurant, with listening comprehension questions; 2) exploitation of the recording's key vocabulary; 3) explanations and practice of the lexico-grammatical goals of the unit; and 4) more open-ended practice with the unit's lexico-grammar. Figure 3 shows the introductory screen, where the tabs for these four parts can be seen on top.

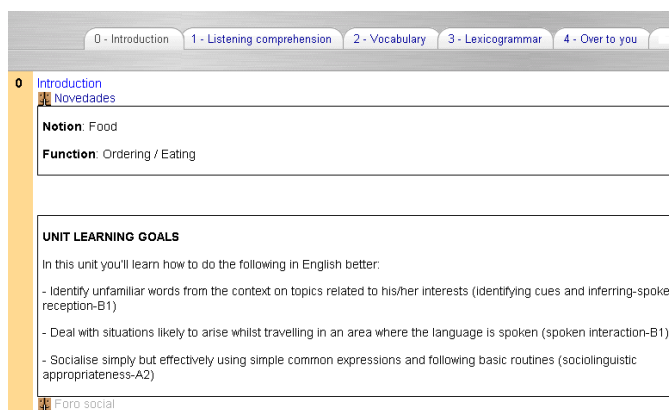


Figure 3. Introduction screen of *Eating out* with tabs for its four sections.

All resources in *Eating out* were designed to be autonomously run by learners and all activities are automatically corrected and graded by the program. When users perform poorly in one given activity, they are advised to reinforce their practice and perform a similar activity before moving on to the next stage, as shown in figure 4. No limit of attempts is established, as the idea is to have users repeat each section as many times as they need until they successfully complete the task at hand. Progress can be monitored by checking the grades section in the Moodle seminar used to run *Eating out* (see figure 5).

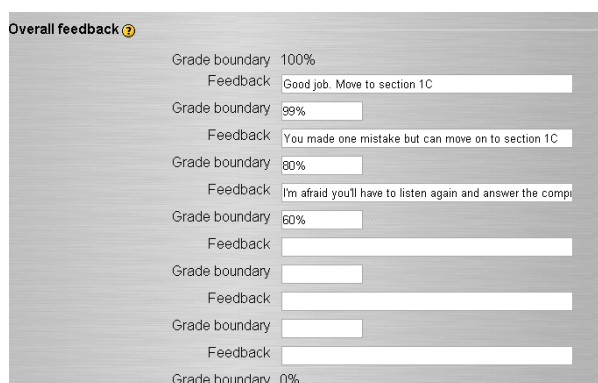


Figure 4. Feedback settings after activity completion.

Grade item	Grade	Range	Feedback
Eating Out			
Comprehension			
Comprehension questions (2)	6.00	0.00-10.00	
Category total	-	0.00-10.00	
Lexicogrammar			
Ex.1. They/you/bring me a sandwich. They want you to bring me a sandwich.	0.00	0.00-10.00	
Ex.3. I/you/behave better. I expect you to behave better.	10.00	0.00-10.00	
Ex.4. I/you/like ice-cream. I see you like ice-cream.	-	0.00-10.00	
Ex.5. I/you/like/her. I know you like her.	-	0.00-10.00	
Ex.6. I/you/say that. I'm glad that you said that. (Note the second part is in the past).	-	0.00-10.00	
Ex.2. I/you/bring me a sandwich. I would like you to bring me a sandwich.	-	0.00-10.00	
Ex.1. They/you/bring me a sandwich. They want you to bring me a sandwich.	-	0.00-10.00	
Ex.2. I/you/bring me a sandwich. I would like you to bring me a sandwich.	-	0.00-10.00	
Ex.3. I/you/behave better. I expect you to behave better.	-	0.00-10.00	
Ex.4. I/you/like ice-cream. I see you like ice-cream.	-	0.00-10.00	
Ex.5. I/you/like/her. I know you like her.	-	0.00-10.00	
Ex.6. I/you/say that. I'm glad that you said that. (Note the second part is in the past).	-	0.00-10.00	
Category total	0.33	0.00-10.00	
Vocabulary			
Matching Activity	10.00	0.00-10.00	
Category total	10.00	0.00-10.00	
Over to you			
Jorge's diary	0.00	0.00-10.00	
Category total	0.00	0.00-10.00	
Course total	-	0.00-10.00	

Figure 5. Automatic grading of the different sections.

A key factor in choosing Moodle as the e-learning platform on which to implement *Eating out* was that it can be run and operated on mobile devices. Figure 6 shows a smartphone screenshot of an activity with some selections made.

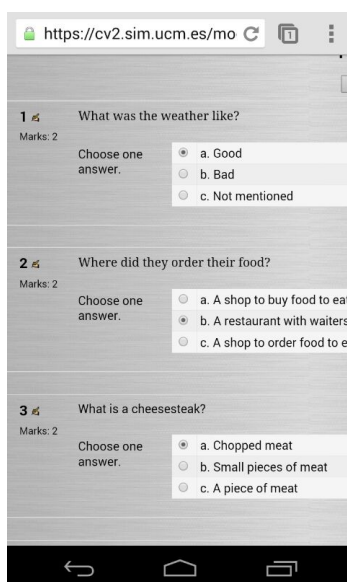


Figure 6. *Eating out* on a smartphone.

Once the resource was created, the time came to test it with learners. A total of 32 English students from the degree in Classical Philology at the Universidad Complutense de Madrid (CEFR level B1) took part in the experiment. The application was to be used outside the classroom setting, as part of the self-study component of the course evaluation. The main purpose of the experiment was not at this stage to test the actual pedagogic effectiveness of *Eating out* in terms of the grades obtained by students⁴—they were in fact allowed an unlimited number of attempts to complete each activity. There was therefore no need for a control group, pre-tests or any of the requisites typically associated with experiments concerning teaching.

⁴ Previous experiments looking at comparative grades between students using computers and those using mobile devices, such as the one by Stockwell, showed “no consistent difference” (2010: 105).

What we wanted from this experiment was to obtain feedback from actual EFL learners concerning their experience with *Eating out*. There exist several evaluation models and rubrics which are meant for evaluators, including our own rubrics, discussed in section 2 (see also, e.g., Vincent 2014; Walker 2010). Yet the opinion of teaching resources and/or app users is not so systematically gathered. That is why we thought there was a need for a pedagogically-based questionnaire adapted to learners, i.e. without the methodological jargon. Given that our previously created rubrics had proven to be quite reliable for EFL app assessment (as reported in Calle-Martínez *et al.* forthcoming), we decided to use them as the base from which to create the new questionnaire.

Figure 7 below shows the questions included in the student questionnaire. For all questions, students had the choice to answer 1) strongly disagree, 2) disagree, 3) only partially agree, 4) agree, 5) strongly agree, except for the preliminary question, where the options were: 1) I don't like using mobile phones for learning, 2) I feel more confident using a computer, 3) I don't have a mobile phone, 4) I didn't know I could do it on a mobile phone, 5) I used a mobile phone or tablet. Questions 1 through 10 make up the general questionnaire, which can be used to obtain feedback for all sorts of education resources and apps. The preliminary question was specific to this experiment, as students had been given the choice to work with *Eating out* on a computer or on their mobile phones, and we were interested in knowing the reasons for their choice and then also compare results between those using a computer and those using mobile phones. Each of the points 1-10 is a simplification of the criteria in the general and EFL-specific rubrics. Question 1a and questions 2-10 stem from the general rubric, whereas questions 1b, 1c, 1d are based on REALL, the EFL-specific rubric.⁵ Note that point 1 from the general rubric assesses the apps' 'Cognitive value and pedagogic coherence', which is intimately related to the specific criteria in REALL, hence the fact that all four make up the different parts of question 1 in the questionnaire. Also note that whereas question 1-5 address pedagogic issues, 6-10 target technical aspects, which makes the general rubric, and therefore the questionnaire, quite comprehensive.

Preliminary question: Why did you prefer to use a computer rather than a mobile phone? If you used a mobile phone or tablet, choose number 5.
1a: I knew from the beginning what I was going to learn, and the contents and sequencing allowed me to learn that.
1b: This experiment has contributed to the improvement of my listening comprehension competence
1c: My Grammar knowledge has improved
1d: My Vocabulary knowledge has improved
2: Contents are clearly presented and distributed and instructions are easy to follow and understand.
3: Contents helped me to learn autonomously and to relate new things to things I already knew.
4: I felt I could control my learning process.
5: I felt I was learning interesting things in an attractive manner.
6: Contents are clearly organized and audio-visual contents are good quality and can be well assimilated.

⁵ We would like to thank our colleague Elena Martín-Monje for her suggestion to include EFL-specific questions in the questionnaire, i.e. questions 1b, 1c and 1d.

7: It was easy to use and links were reliable.
8: Contents were easy to access and I always knew where to go next.
9: Contents were clearly visible on my screen.
10: I had no incompatibility problems with operating systems.

Figure 7. Student questionnaire on *Eating out*.

To carry out the survey, the questions were uploaded on Moodle by means of the *choice* tool, which allows the customization of surveys. Students were given access to the questionnaire near the end of the term, once they had finished working with *Eating out*. When the survey was completed, it was exported as an Excel file and the answers were quantified. The next section looks at this quantification.

4. Results

Figure 8 below shows the figures for student responses to the different questions in the questionnaire. Rows refer to the questions and columns indicate choices made as specified in the previous section, i.e. 1 = strongly disagree, 2 = disagree, 3 = only partially agree, 4 = agree, 5 = strongly agree. The *total responses* column shows that some students did not answer all questions. Only the preliminary question was answered by all students. After that, we see numbers fluctuating between 26 and 29, probably indicating a perfunctory completion of the questionnaire (students knew they were not being graded on this task).

	1	2	3	4	5	Total responses
Preliminary	9	17	0	0	6	32
1a	0	0	7	17	4	28
1b	1	1	9	13	4	28
1c	1	2	4	20	1	28
1d	0	1	3	17	6	27
2	0	1	4	10	14	29
3	0	0	2	21	3	26
4	0	0	7	17	3	27
5	1	0	8	10	9	28
6	0	1	3	16	8	28
7	0	2	7	9	10	28
8	0	3	5	10	10	28
9	0	2	2	12	12	28
10	2	0	6	7	13	28

Figure 8. *Eating out* survey results.

We were particularly interested in responses to the preliminary question, i.e. whether a computer or a mobile device had been used and, if the former, why. This could give us a realistic insight into the potential

of apps for pedagogic use rather than as pastimes, as well as shedding some light on something of which, according to Stockwell, “we still have little knowledge ... [i.e.] how learners make decisions about using mobile phones” (2010: 95). Additionally, we expected to obtain relevant information on whether mobile versions of online resources can make good apps, at least as good as the original resource, since MALL activities which simply replicate those designed for other platforms run the risk of losing effectiveness (see Balance 2013). Thanks to this preliminary question we could then find out whether students working on mobile devices rated *Eating out* lower than those running it on a computer, and, if they did, whether it was an overall poorer rating or on specific points.

We see that only six students, i.e. under 20%, opted for a mobile device, and this in spite of the instructor’s request for having as many people as possible using this kind of platform. We see in figure 8 that the main reason (17 out of 32, i.e. over 50%) for not using a mobile device was lower confidence when using mobiles than when using computers, which, combined with the 9 students choosing option 1, i.e. not liking mobile devices for learning, gives the impression that there still is a lot of work to be done to integrate MALL into curriculum-related CALL activities.

In order to facilitate the assessments of points 1 through 10 in the questionnaire, we assigned 1 point to each answer in column 1, 2 points to each answer in column 2, and so on, and then divided the resulting figure by the number of responses, to account for the different amount of responses on each case. Figure 9 below shows the average punctuation for each item in the questionnaire.

	1a	1b	1c	1d	2	3	4	5	6	7	8	9	10	Total
Avg.	3.9	3.6	3.6	4.0	4.3	3.9	3.9	3.9	4.1	4.0	4.0	4.2	4.0	4.0

Figure 9. Average punctuations (out of 5) in the questionnaire on *Eating out* (rounded off to the nearest decimal point).

A general look at Figure 9 reveals that *Eating out* was overall considered a good teaching resource by students, with a total average punctuation of 4 out of 5. The most favourable results were obtained in points 2 and 9, the former pedagogic (as all points 1 through 5), the latter technical (as all points 6 through 10). Point 2 states that ‘contents are clearly presented and distributed and instructions are easy to follow and understand’, and in point 9 students agreed, or else, with the statement ‘contents were clearly visible on my screen’. The other point with an average above the total 4.0 average was technical criterion 6, i.e. ‘contents are clearly organized and audio-visual contents are good quality and can be well assimilated’. Conversely, the weakest points are all of them pedagogic, notably 1b and 1c, ‘this experiment has contributed to the development of my oral comprehension competence’, and ‘my grammar knowledge has improved’, respectively.

We see, therefore, that *Eating out* performs quite well overall and that in no single point in the questionnaire does it fare notoriously badly. The next step is to look at what lies underneath those results, i.e. the comparison of results among students working on *Eating out* on a computer, i.e. CALL users, and those using a mobile device, i.e. MALL users. One of the big issues in MALL is the adaptability of apps and other resources to the technical specificities of mobile devices, notably smartphones with their comparatively small screens and keyboards. We could therefore expect to find lower ratings among MALL users on technical aspects, i.e. questions 6-10 in the questionnaire. If these lower ratings are found, it will then be

worth looking at whether they also have an incidence on pedagogical aspects, i.e. questions 1-5. Figure 10 breaks down the results seen in figure 3 into the two different user types.

	1		2		3		4		5		Averages	
	CALL	MALL	CALL	MALL	CALL	MALL	CALL	MALL	CALL	MALL	CALL	MALL
1a	0	0	0	0	7	0	13	4	3	1	3.8	4.2
1b	1	0	1	0	8	1	9	4	4	0	3.6	3.8
1c	1	0	1	1	1	3	19	1	1	0	3.8	3.0
1d	0	0	1	0	2	1	14	3	5	1	4.0	4.0
2	0	0	1	0	3	1	8	2	12	2	4.3	4.2
3	0	0	0	0	1	1	17	4	3	0	4.0	3.8
4	0	0	0	0	6	1	14	3	2	1	3.8	4.0
5	1	0	0	0	7	1	8	2	7	2	3.9	4.2
6	0	0	1	0	2	1	13	3	7	1	4.1	4.0
7	0	0	1	1	7	0	9	0	6	4	3.9	4.4
8	0	0	2	1	5	0	9	1	7	3	3.9	4.2
9	0	0	1	1	2	0	10	2	10	2	4.2	4.0
10	2	0	0	0	3	3	7	0	11	2	4.1	3.8
Total averages											4.0	4.0

Figure 10. *Eating out* survey results: CALL vs. MALL.

The first caveat to be noted when looking at figure 4 is that any comparison based on these figures has to be taken as rather tentative, given that the number of participants using portable devices and answering the questionnaire was as low as five (one of the students only answering the preliminary question turned out to be one of the six smartphone users). We will therefore not look at how CALL and MALL results contrast in specific points but rather at how they contrast in general, and whether any tendency can be identified concerning MALL results.

Bearing this proviso in mind, we can see in figure 4 that the average scores for CALL and MALL are the same, i.e. 4.0. Students seem therefore to be quite satisfied with *Eating out* regardless of the platform employed. Also, concerning our previous expectation that MALL users might encounter higher technical difficulties than those working on a computer, the results contradict this expectation; the lowest average score in MALL is actually found in point 1c, ‘‘my grammar knowledge has improved’’, i.e. a pedagogical point. As said, however, more results are needed before trying to draw conclusions from specific points. The smaller population in the MALL sample in our experiment probably explains the fact that the most extreme average scores are found there: 3 for 1c and 4.4 for 7, vs. 3.6 for 1b and 4.2 for 2 in CALL. In any case, it is worth pointing out that the modes, i.e. the most repeated values, are slightly higher in MALL than in CALL (4 and 4.2 vs. 3.8 and 3.9, respectively), as is the median, i.e. the middle value (4.0 in MALL and 3.9 in CALL).

In conclusion, it seems that statistical measures point to a similar degree of satisfaction among students using computers and those using mobile devices for working on *Eating out* (as indicated by the averages), with an apparent yet still highly tentative tendency for MALL users to be more positive about their experience (as indicated by the modes and the medians).⁶

5. Conclusion

In this paper we have shown an example of the work carried out by the ATLAS group to develop autonomous learning resources. Although the group's main focus is on mobile apps, the resource here presented, *Eating out*, is intended for e-learning platforms, Moodle in this case, which can also be run online. After a number of experiments run and presented in previous publications from the perspective of evaluators, we set out in this paper to show the other side of the coin, i.e. the actual users' perspective. To that end, we have shared the questionnaire which students were asked to answer, and which is an adaptation of the pedagogical and technical rubric used for evaluations by experts.

We have seen that students rated *Eating out* quite high, with an average score of 4.0 out of 5 and no item in the questionnaire averaging below 3.6. Student satisfaction is constant across the board both in terms of the pedagogical/technical divide and the CALL/MALL one. The initial expectation that students using mobile devices might show higher dissatisfaction concerning technical aspect, reinforced by the fact that *Eating out* is not an app proper, was not fulfilled. Larger-scale surveys will confirm or refute this preliminary finding. In any case, and although there still is room for improvement, results in the pedagogical part of the questionnaire, i.e. 1-5, suggest that *Eating out* has a sound methodology, which is often a weak point in educational apps and autonomous learning resources in general, as discussed in previous research (e.g. Calle-Martínez *et al.* forthcoming).

Besides more extensive student surveys, and based on these, future work will focus on the improvement of *Eating out* so as to bring it closer to excellence, i.e. 5.0, as well as testing the resource on more recent versions of Moodle, since Moodle 2.4 and higher can be run on a Moodle app. As said in section 3, *Eating out* was developed and is currently running on Moodle 1.9, which means that, when accessed from a mobile device, users have to go through the same login procedures as on a computer. App-based access should, among other things, make the resource more user-friendly. As with the survey presented here, users will have the last word.

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⁶ The differences between mean averages (without rounding off, i.e. 3.954 for CALL and 3.983 for MALL) are unsurprisingly non-significant at $p=0.7963$, with a 95% confidence interval from -0.263 to 0.204. The statistical comparison of the modes and medians, although with lower p values, also shows non-significant differences; that is why we can only speak of 'tendencies'.

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