

Building on the L20 experience: designing Reusable Learning Objects (RLOs) as structured question banks

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Background

The Department of Languages and Translation Studies at the University of Surrey has an established practice in designing and delivering online language courses. They are used in either blended or 'add-on' programmes as part of a range of online activities within the University's VLE, WebCT. These courses have been reused in different language programmes offered by the department. They consist of two parts: self-check exercises comprising vocabulary, grammar, listening practice and reading comprehension developed using the authoring tool, Hot Potatoes, and communicative discussion tasks carried out using WebCT's discussion board.

Stage one: Repurposing existing online listening material

For the L20 Project a small number of these existing online learning materials, specifically those self-check exercises focussing on listening practice, were selected for remodelling (repurposing) as reusable learning objects (RLOs). This required the design of a suitable template so that the relevant tasks and resources could be repackaged as single items together with any necessary additions (e.g. an introduction, some task feedback) so that they could function as fully stand-alone items with potential for re-use. To perform this repurposing, the L20 disaggregation process model was applied and then the template used to recombine all the required parts (introduction, task, task instruction, audio resource and feedback) forming a single content package for each RLO. The RLOs were then tagged with contextual metadata (reflecting the learning and teaching context in particular) and uploaded to a repository designed for storing and retrieving reusable learning objects.

Applying lessons learned

To date the study of phonetics in specialist language degree programmes has taken place in face-to-face sessions in a lab. Face-to-face time is quite restricted, so students also do independent work in the self-study centre. In the rest of the language programmes, pronunciation and phonetics have not been included in the online courses and they are left to

the individual tutors to organise. Thus, the need for some kind of complementary online learning material to be developed in this area was identified.

Learning from the L₂0 discussions on instructional design and RLO development, a plan was made to design a set of formative RLOs in Spanish phonetics that could be reusable in a variety of situations and levels, from both the student's and the tutor's point of view. These could be then potentially be used as, a whole, in basic and advanced modules in oral Spanish, or they could be added separately to existing blended learning modules in general Spanish.

The challenge

The original plan was to develop an online listening course in Spanish phonetics for specialist students suitable for *ab initio* and post A-level pathways. In a large class with a wide ability range, the online activities would offer students a flexible system so that they would have access to a wide bank of audio materials with instant feedback built-in anywhere, at any time. These would also support different learning styles and levels, and encourage students to work independently and at their own pace.

It was then recognised that phonetics is a language area that can be independent of level to a certain extent. Consequently, the scope of the project was extended to include non-specialist modules, to which the online phonetics material could also be added as a complement.

The pedagogic approach

In order to maximise their reusability, the RLOs were developed to be self-contained and with a low level of granularity or 'size'. The first condition was achieved by including the explanations, questions and feedback all on one webpage, using the template as the 'anchor point' for all of these parts. The second condition required each RLO to be devoted to one minimal pair of phonemes or aspect of change in pronunciation (e.g. the pronunciation of /j/ in different contexts representing the sound of the letters 'll' and 'y' in Spanish). These could, however, also be grouped into sets, such as "vowels", "consonants", or "stress", each set of which could be completed by student users in about forty minutes. This approach made the exercises more flexible, as they could be targeted according to students' native language and areas of possible interference between L1 and Spanish. Further RLOs were created providing self-test exercises bringing all of the phonetic phenomena from the other RLOs together into whole sentences.

Drawing from the discussion about repositories in the L₂0 project, each question in the self-test exercises is in actual fact a bank of question items¹, under the same topic and with the same task instructions. Only a limited number of items appear every time the webpage uploads, and these are then randomised. Thus, each student user can be offered a wider range of listening practice and can choose to re-use the exercise without the risk of remembering the order of the answers.

Finally, English was chosen as the language of instruction, explanation and feedback in the RLOs aimed at supporting the introductory level so that they could be reused at a wider range of levels, including lower levels². Spanish was used in the instructions and feedback for RLOs aimed at supporting the advanced level.

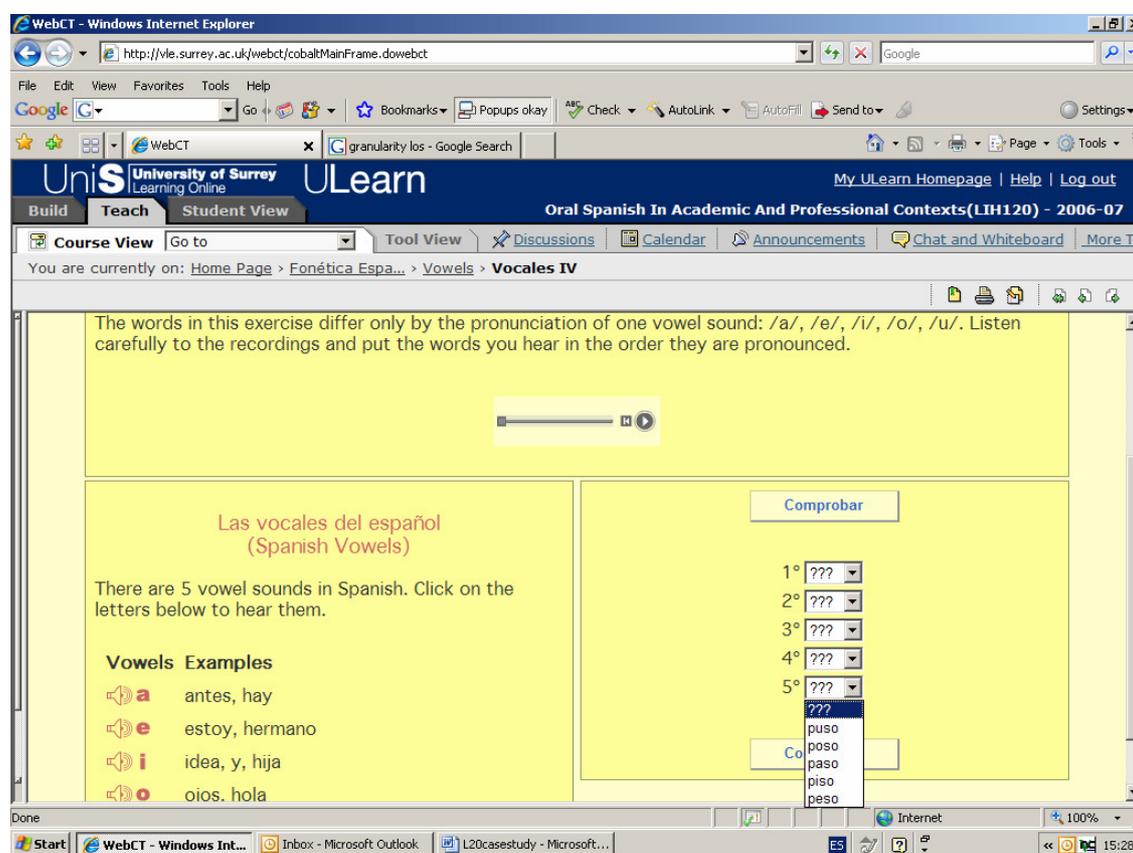


Figure 1. RLO providing listening practice with vowel sounds for use in the basic level course

¹ The *GramEx* software (by the TELL consortium) uses a similar system (last accessed 17/4/2007: <http://www.hull.ac.uk/cti/tell/tellprod.htm#GramEx>)

² As it was done in the CARLA project (last accessed 02/04/2007: http://www.carla.umn.edu/speechacts/sp_pragmatics/for_teachers.html#eng).

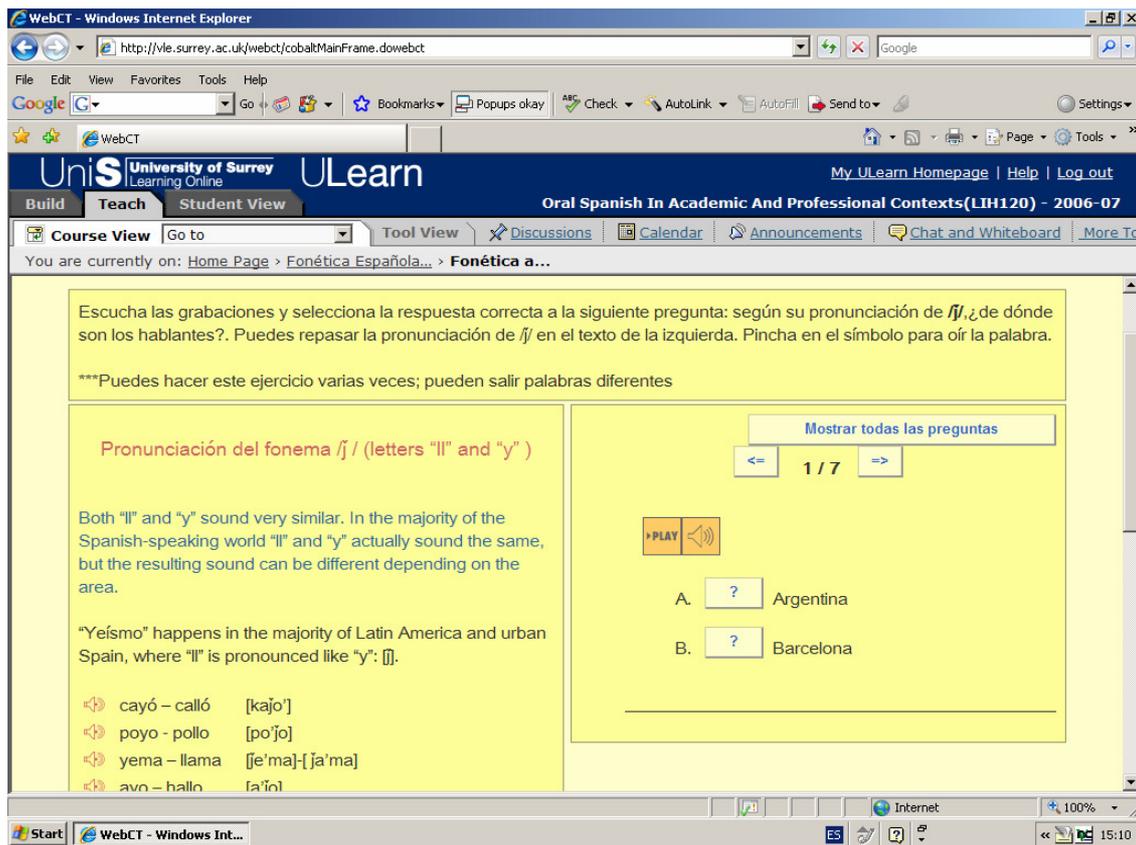


Figure 2. RLO providing practice with regional varieties used in the advanced level course

The e-learning advantage

Although the integration of the RLOs on the phonetics course is still in the pilot phase, feedback from students has highlighted their flexibility and instant feedback, and the fact that they offer a wide bank of questions to practise listening; something the students have welcomed. The piloting has also highlighted the need for RLOs centred around longer texts to contextualise all the phonetic phenomena studied. This was previously done face-to-face; so for the next stage of the project, the focus will be on RLOs focussing on syntactic phonetics and longer texts. Also, assessment of use of the learning materials shows an increased degree of reflection by the students about phonetic phenomena and regional varieties.

Key points for the effective development of RLOs in phonetics

A number of practical and technical considerations were identified as a result of the experience of creating RLOs in phonetics:

- Planning is vital; as the RLOs function as both a complete course and as a bank of task and audio practice files. Careful planning is required concerning the selection of question types and design, the explanations and the feedback etc. The experience of participating

in the discussions about instructional design in the L₂0 project was an element in the success of the RLOs.

- From the technical point of view, altering the flash files so that they are embedded in the question itself rather than in the instructions meant that the names of the audio files were generic and could be reused in other exercises more easily.
- Embedding a large number of sound files into Flash was a very tedious task for the e-learning technician; for a large number of sound files, it may be interesting to look into batch processing.
- Recording and editing the audio files, done by tutors trained in basic audio recording and editing software, was also definitely time-consuming, but easy to do.
- Support from the technical e-learning team was essential, as was peer review and student review of the resources.

Additional information

For further information, contact Marga Menendez-Lopez: m.menendez-lopez@surrey.ac.uk