

Use of Mobile Phones for Language Learning and Assessment for Learning, a Pilot Project

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ABSTRACT

The benefits of mlearning in language education have been widely documented (Kiernan & Aizawa, 2004, Schwienhorst, 2000, Appel, 1999). However, while projects using mobile devices and computer-mediated communication have been reported on from third-level language education, the use of mlearning in second-level education has been somewhat overlooked. This paper examines the use of mlearning in second-level education in Ireland for teaching and learning Irish.

The National Council for Curriculum and Assessment (NCCA) in partnership with the National Centre for Technology in Education (NCTE) initiated a pilot project, at the request of the Minister for Education and Science, to investigate the use of mlearning for teaching and learning Irish. Learnosity were contracted as technology partners, to design and develop the mlearning system and provide technical support for the duration of the pilot. Learnosity is a specialist e-Assessment and m-Learning company based in Ireland, with clients in Ireland, the UK, Asia and Australia.

A five-week pilot project took place in a school in County Meath, a rural area close to Ireland's capital city, Dublin. An mlearning system was deployed in this environment with the aim to facilitate school-based oral assessment and students' self-assessment, increase students' communicative competence and motivate students to learn Irish with the fun and familiar props of a mobile phone and web-chat. The mlearning system proved useful and popular with teachers and students alike.

Author Keywords

assessment, language, mobile phone, instant messenger, podcast, voice biometric

INTRODUCTION

"The way to bring a language to life is to be able to converse in it every day. The Irish language is interwoven with our history and our cultural heritage – we need to nurture and preserve it and pass it on to the next generation,"

Irish Minister for Education and Science, Mary Hanafin, 11th March 2007 (Department of Education and Science (DES), 2007)

While English is the first language of the vast majority of Irish people, most children learn Irish as a second language from the average age of 5. Despite years of schooling in the language, a great number of students leave school in their late teens with a less than satisfactory grasp of Irish.

The way in which to educate Irish students in their once native language is a subject that has long caused controversy. Students' attitudes to the usefulness of learning Irish have been shown to decrease as their years of schooling progress (Smyth, Dunne, McGoy & Darmody, 2006). It has been argued that the apparent lack of enthusiasm towards the Irish language is ultimately leading to the cessation of conversational Irish amongst young people and the language is slowly dying out with each new generation. Research has estimated that the Irish language will no longer be spoken as a native language at home in any Gaeltacht or native Irish-speaking area of Ireland by 2027 if current trends continue (Siggins, 2007).

Earlier this year, in an attempt to promote the use of oral Irish language, the Minister for Education and Science announced a significant change to the proportion of marks awarded for oral (spoken) Irish in the State examinations; the Junior Certificate examination taken by students aged 15-16 and the Leaving Certificate examination taken by students aged 18-19.

With these changes applying to students enrolling in First Year in 2007 it means that in 2010, there will be 40% of marks available for the optional oral examination in the Junior Certificate and 40% for the oral examination in the Leaving Certificate in 2012. This is a two fold increase at Junior Certificate level, and a 60% increase at Leaving Certificate level.

To facilitate the change and emphasise the importance of student oracy, the Minister also initiated a pilot project to investigate the use of Information and Communications Technology (ICT) in the teaching and learning of Irish.

In a country where the number of mobile phones exceeds the population (ComReg, 2006) mobile devices can play a vital role in the teaching of languages. Not only does mlearning use technology that most, if not all, Irish teenagers are thoroughly familiar with, mobile phones have an added advantage in the field of language learning, summed up eloquently by Clark Quinn, the director of cognitive systems at Knowledge Planet, and cited in Shephard (2001);

“The mobile phone has one facility that makes it better than most PCs. It has been designed to deliver audio. You can listen to, or even talk with a real person. It is this mix of audio and text that make delivery of certain types of learning content possible.”

Problems with large scale Oral Assessment

Given that second-level teachers do not as a rule participate in the assessment of their own students for state certification, the compulsory assessment of oracy in the Leaving Certificate examination in Irish is done through interview by a visiting examiner, the latter generally being a teacher from another school. This practice is already posing significant logistical challenges for schools, with the examinations commission finding it increasingly difficult to persuade teachers to act as examiners (Flynn, 2007). For the Junior Certificate examination the oral test is optional, and is done by the students' own teachers. The take-up is less than 1%. Given such circumstances, it is virtually impossible to provide oral Irish examination at Junior Certificate level on a mandatory or optional basis to a large candidature. One of the aims of the mlearning pilot project was to ascertain whether ICT, including mobile technology, could facilitate school-based oral assessment.

PROJECT DESCRIPTION

The pilot project took place in a rural school over a five week period. 69 second year students aged between 14 and 15 and their three Irish teachers participated. The aims of the project were to:

- promote oracy in Irish through audio-lingual and more communicative methods
- increase student motivation through the use of familiar technology
- increase student use of the four skills- reading, writing, speaking and listening- in Irish
- help students become more competent in Irish
- promote the use of Irish for communicating
- investigate the use of ICT in the assessment of students

Ultimately the aim of the project was to trial a possible ICT solution to promote oracy and facilitate in-house oral assessment with a view to ascertaining the potential for using mlearning for large scale examinations.

Mobile telephones, laptops, the internet and a text-based web chat application were deployed as part of the five-week project. The second year Junior Certificate students participating in the pilot project were supplied with a mobile telephone for the duration of the initiative.

It is imperative to note that the school which participated in the trial demonstrated how the project could succeed with limited facilities and without the cushioning of a school well-equipped with technology. The participating school had no technical support staff and students were being taught in temporary buildings that included corporate boxes in a local horseracing course. The unconventional schoolrooms meant that teaching was called to a halt each time a race meeting was scheduled.

Mobile phones in language practice and assessment

In order to access their practice and assessment sessions, students use a mobile phone to dial a specific phone number to access an Interactive Voice Response (IVR) system. They then pass a log-in process by keying in individual student numbers and PINs into their mobile phone. They are then presented with a series of ten question prompts, randomly selected from a much larger question bank. Students verbally respond to each prompt and their responses are recorded. Students progress through levels - each consisting of twenty questions of a specific difficulty. Different topics are practised and assessed, including sport, music, television and general knowledge. These topics were chosen by the teachers involved from their schedule of work and reflect the topics in the Junior Certificate syllabus for Irish.

The responses are saved to a server as WAV files which can be played through a web interface and marked online by a teacher. The answers can also be podcast, bringing with it a realm of opportunities for both teachers and students. Teachers can subscribe to a podcast of student answers and mark them at their leisure. They can also highlight a particular answer as an "exemplary" answer and students could subscribe to a podcast of the exemplary answers on their iTunes/iPod. Students can also subscribe to hear their own answers.

Where a student's response is deemed incorrect or lacking, the individual student response was set alongside an exemplary answer for that question. Students can later compare their response to the exemplary answer and re-record their answers. Teachers decide when students move on to the next level of questions and which questions need to be re-answered within any given level.

Students work their way through a series of levels. When marking the answers, teachers will provide detailed feedback to justify the mark given. A feedback booklet can then be sent to the student by email or printed out by teachers as required. This feedback serves as a portfolio of competence for students.

Biometric Voice Verification

Recommendations for the expansion of this pilot project (starting in the 2007/2008 northern hemisphere academic year) include Biometric voice verification. Biometric voice verification uses spoken words to calculate a unique digital representation of an individual's voice. Students will login using their voice, and have each of their Irish language responses verified against a previously recorded voice-print. Biometric voice verification would facilitate the extension of the use of mobile technology for reliable and secure on-demand, high-stakes oral exams. If biometric voice verification was used and assuming the student is sitting an "open book" examination, it would be possible to allow students complete their oral examinations from home, unsupervised.

Mobile phones in vocabulary learning

Educators have recently voiced concern about the detrimental effect the rise of text messaging is having on teenagers' vocabulary. Earlier this year a chief examiner in the Department of Education and Science stated that text messaging posed a significant threat to writing standard in English due to the use of phonetic spelling and lack of punctuation (Flynn, 2007a).

While the aforementioned threat may well be present, text messaging was utilised during the course of the pilot project text messaging to attempt to extend students' Irish vocabulary. Each day, one Irish word or phrase was sent by SMS to students' phones. The text messages, scheduled to arrive during Irish classes, were selected by teachers from a range of topics similar to those mentioned for the voice-prompt system. Students were required to incorporate the word or phrase into Irish conversations during their school day. Students were also obligated to use the phrase during the course of their weekly text-based web chat (see below).

Text-based web chat

Student practice and assessment during the pilot project was not solely confined to mobile phones. The trial also incorporated a teacher-monitored text-based web chat for students to communicate in Irish with their classmates and teacher. It was hoped this portion of the project would promote students' competency in Irish by using familiar tools. The application also promoted an alternative form of communication to facilitate students with any hearing and/or speech impairments.

The benefits of text-chat in education, especially in the field of language learning, have been widely documented. Research has found that text-chat learners participate more than in face-to-face conversations (Kern, 1995) and produce more complex language structures (Vetter and Chanier, 2006).

As part of the Irish pilot project students took part in a text-chat lesson once a week on laptops supplied to the school. Once students had logged-in they would be randomly assigned a partner to chat with. Chat partners were kept anonymous to alleviate the negative aspects of peer pressure. The teacher could also be an anonymous chat partner, targeting students with varying levels of competency and prompting them through chat to reach their maximum potential – students requiring more assistance could be helped along with scaffolded conversation while more advanced students could be challenged with more complex topics.

During the course of the web-chat students had a link to an online dictionary. This provided some of the scaffolding (Wood, Bruner, & Ross, 1976) necessary to support students' language production. Access to and use of computerised bilingual dictionaries has been reported to *help stimulate vocabulary learning* and *help all students to process new expressions rapidly and effectively* (Loucky, 2002: 132).

The text-chats were monitored in real-time by the teacher. The teacher's control on the system meant that conversations could be interrupted if students needed to be redirected in content or target language being used.

The text of the conversations was also saved to script for later analysis. As with the mobile practice sessions and assessments, copies of the text conversations could be marked with each student receiving feedback. Students could also access their saved scripts to facilitate self-assessment.

PILOT PROJECT EVALUATION

The pilot project was evaluated using teacher and student questionnaires, teacher reflective diaries, impromptu feedback from students and teachers gathered in the school and observation.

Both students themselves (67% of respondents¹) and teachers stated that students had made progress in speaking Irish as a result of participating in the pilot project. Students remarked on progress made in comprehension, competence, grammar and vocabulary. Students regarded the integrated technologies as a positive move from more traditional methods of learning Irish. They embraced the ‘new age’ technology and it proved to break down barriers to students’ learning and speaking of Irish. 95% (n=61) of respondents reported that they had ‘enjoyed’ using the technology for teaching and learning Irish. Students also reported a reduced amount of pressure in communicating through Irish using the integrated technologies than they usually experienced in face-to-face settings in the classroom. Students’ abilities to learn autonomously were enhanced – the technologies facilitated learning at any time, in any place and at the students’ own pace. 93% (n=60) of students recommended that other students should also be given the opportunity to use the technologies for learning and practising Irish.

Challenges identified by students all related to the workings of the mlearning system. They made suggestions for improvements to the system should the pilot project be extended. Suggestions included more robust call facilities to avoid dropped calls and improvements to the quality, volume and speed of delivery of the recorded prompts.

Teachers commented positively on the shift from more teacher-led learning to student-led learning that mlearning allowed. Teachers noticed increased motivation and student interest for using Irish during the pilot project. They stated that students found using the technologies more interesting and fun than traditional learning methods. Teachers also noticed that students learned certain topics faster when using the technologies than they had done using more traditional methods. Teachers’ perspectives on the impact the technologies had on their own teaching style were also positive. They reported enjoying the shift from providing feedback in a traditional manner using ‘a red pen’ to more modern ways via Podcast or feedback sheet. They also commented favourably on their increased ability to hear more from those students who are usually shy in the classroom. Teachers commented on the success of the text-message delivery of Irish vocabulary – to such an extent that students requested that they could receive vocabulary during their Summer break to their personal mobile phones.

Challenges identified by teachers included increased time commitment for meeting to discuss the project progression and providing feedback on the high number of students’ recorded responses (‘time consuming but well worthwhile’). Teachers also made suggestions for further features and improvements to the mlearning system should the pilot project be expanded. All feedback was noted and assisted in shaping recommendations for any future use of mlearning for teaching, learning and assessing Irish.

CONCLUSION

Keegan (2003) says mLearning will provide the future of learning. This statement has proven true for this short pilot project and it has provided an insight into the role mLearning could play in the future of the Irish language.

The success and impact of any mLearning project, however, can not rely solely on the technology provided. The ability of teachers and students alike to embrace the change is vital. Any larger implementations of this project, which may follow over the next few years, would employ a number of different strategies to ensure students and teachers enthusiastically “opt-in” to learn, practise and assess in this way.

¹ N=61; n=57

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