OSCAR AND NIAMH TWO MOOC ANIMATION ROBOTS: HOW DID LEARNERS RESPOND?

Sally Mhic Dhomhnaill, Mairéad Nic Giolla Mhichíl, Dublin City University, Ireland

Summary

There has been an increased shift in the use of digital technologies as educators recognise the many benefits in pedagogy that these technologies provide. With learning occurring within a social context and higher cognitive activity taking place from social interactions, educators are building relevant opportunities for learners to interact not only with content but also with the instructor and other learners (Dunlap & Lowenthal, 2009; Vygotsky, 1978). The purpose of this study was to explore learner responses to the integration of two animation robots in a language learning MOOC. The literature relating to learning in MOOCs indicate that student engagement is a prerequisite for online learning and that social, cognitive and teacher presence leads to increased engagement levels (Hew, 2016; Garrison, Anderson, & Archer, 2000). Data was analysed from the course statistics and comments of a language MOOC titled Irish101: Introduction to Irish Language and Culture and four distinct themes emerged in capturing engagement levels of learners: course content, technical assistance/how to do support, recommendations/sharing of resources and course facilitators/course itself. The findings indicate a good response by learners within the MOOC and it they also underpin the importance of teacher presence to support learners (Kop & Fournier, 2011)

Introduction

Digital technologies are increasingly used in higher education due to the many benefits these technologies provide in teaching and learning such as increased engagement levels and greater cognitive activity (Dunlap & Lowenthal, 2009; Vygotsky, 1978). The last decade also shows an increase in the attention being given to gamification in learning, also referred to as game-based learning (Wouters & van Oostendorp, 2013). de Freitas (2017) found in her research that games when viewed from an educational perspective and often referred to as Technology Enhanced Learning are effective learning tools that engage learners, enhance motivation and are associated with behavioural change. Massive Open Online Courses (MOOCs) are online courses which attract substantially larger audiences than traditional online education. MOOCs are free and open to all and provide interactive forums that help learners engage with each other and with their educators (Conole, 2013). While student engagement is a necessity for learning online, one of the challenges in teaching MOOCs is engaging students due to the large and diverse body of learners as well as the lack of instructor accessibility (Hew, 2016). According to Garrison, Anderson, and Archer (2000), there are three interconnected forms of presence that increase engagement levels of online learners: social, cognitive, and teaching

presence. Social presence relates to learners' affective responses or feelings towards their peers. Cognitive relates to learners' thinking and points of view through communication with others while teaching presence relates to the design and facilitation of the course. Jung and Lee (2018) found in their studies that teacher presence has a direct effect on learner engagement in MOOCs and highlighted the importance of instructional design and direct facilitation and feedback. Kop and Fournier (2011) in their research on emergent technologies influencing the design of learning environments concluded that meaningful learning occurs if social and teaching presence forms the basis of course design, facilitation and the direction of cognitive processes. They went on to emphasize that the teacher as facilitator needs to be persistently present as well as dynamic and change throughout the course.

Background

Irish101: Introduction to Irish Language and Culture Massive Open Online Course (MOOC) was launched and run by Dublin City University in early 2018 on the FutureLearn platform. The MOOC is co-funded by the Irish Government's Department of Culture, Heritage and the Gaeltacht under the Twenty-Year Strategy for the Irish Language with support from the National Lottery. The MOOC titled Introduction to Irish Language and Culture is a Language MOOC (LMOOC) developed for beginner level learners of the Irish language globally. The goal of the LMOOC is to provide learners with the basics to help converse in the Irish language as well as an introduction to Irish culture and ran over three weeks. To facilitate learning and support during each week of the course run an end of week section titled Questions of the Week formed an integral part of the course design. Learners were able to post questions to this section about course content and two animation robots called Oscar and Niamh were created and served as course facilitators to answer the more frequently asked questions posed by learners as well as providing general guidance by featuring in a weekly cloud-based animated video which was uploaded late Friday afternoons for learners to view. Questions that didn't appear in the animation were also individually answered by Oscar and Niamh

Methodology

The research was exploratory in nature and involved analysing discussion comments data generated by learners following a weekly FAQ video posted by the animation robots in the MOOC. A total of 554 comments were collated and the breakdown can be seen in Table 1.

Table 1: Number of course comments in the Question of the Week sections by week in Irish 101

Week	Number of comments
1	284
2	156
3	114

A thematic analysis of the comments was conducted to form patterns and identify themes by the researchers, each of these was cross-checked, four distinct themes emerged. The first theme related to comments specifically about course content. The second theme revolved

around technical assistance including how to do questions related to the course. The third theme consisted of recommendations and sharing of useful resources while the fourth theme were comments about the course facilitators and the overall course itself as shown in Table 2.

Table 2: Comments by theme for Weeks 1-3

Comments	Week 1	Week 2	Week 3	Total
Course Content	112	61	25	198
Technical Assistance /How to do	47	20	2	69
Recommendations/Sharing of Resources	54	27	9	90
Course Facilitators and Overall Course	34	35	73	142
Other	37	13	5	55

The weekly videos featuring Oscar and Niamh answering more general questions learners had each week also showed a high number of views as shown in Table 3 with an equally high percentage of those learners viewing the videos in their entirety.

Table 3: Video views per week

Video views	Total video views by learners	% of learners who viewed 100% of the video
Week 1	2192	57%
Week 2	1314	58%
Week 3	910	63%

Theme 1: Course Content

There were 198 comments related to course content with the majority of these comments i.e. 112 made in Week 1. These comments related to specific questions about the language element of the course e.g.

> *"Hi Oscar and Niamh. The word féin [me] when following Conas atá tú [How are you]. Is that just a reflex marker? Also, is there gender in Irish?"* *(Learner A, 2018)*

Interestingly, a significant proportion of learners sought to provide answers directed at the course facilitators throughout the 3 weeks, demonstrating collaborative and peer-learning i.e. 46% of total comments made e.g. this reply was made by a learner to the example above:

> *"[NAME], that's exactly right. When preceded by the definite article (an), feminine nouns take a séimhiú (h), whereas masculine nouns do not. For this reason, when learning nouns, it can be useful to try and learn them with the definite article"* *(Learner B, 2018)*

Theme 2: Technical Assistance/How to do

Learners sought guidance relating to technical assistance for example how to use the *fada* on various electronic devices such as in the case of a learner, as well as comments around how to

do things within the course such as where and how to ask questions of Oscar and Niamh as indicated by another learner:

> *"I am struggling to use the accented letters on an Ipad. I see them then I press and hold but don't seem to be able to use them. Any tips?" (Learner C, 2018)*

> *"I'm not sure how to ask Oscar and Niamh questions. Did I miss something?" (Learner D, 2018)*

Most of the comments relating to technical assistance and what to do were made in Week 1. As with course content, many learners sought to respond to each other:

> *"Press, hold, then slide the finger to select the letter you want. May need a bit of practice." (Learner E, 2018)*

Theme 3: Recommendations/Sharing of Resources

There were 90 comments relating to recommendations and the sharing of resources as indicated by one learner:

> *"Dear Oscar and Niamh I am interested in the history of the development of the Irish alphabet and language. Are there any particular books you would recommend on the subject?" (Learner F, 2018)*

Learners provided the majority of recommendations and useful resources as shown in an example from a learner:

> *"I'm sure that Oscar and Niamh will have some great suggestions, but in the meantime let me introduce you to one of my favorite online resources. www.teanglann.ie has five dictionaries*
> *Irish-English*
> *Irish-Irish*
> *English-Irish*
> *Grammar You can see how verbs are conjugated and also look up the different forms of the nouns and adjectives*
> *Pronunciation In this one you can listen to the pronunciation of a word in the three dialects.*
> *It's also available as a phone app." (Learner G, 2018)*

Theme 4: Course Facilitators and Overall Course

A total of 142 comments were captured relating to course facilitators and the overall Irish101 course which were predominantly positive in nature. These comments included favourable thank you and appreciation comments directed at the weekly Oscar and Niamh videos as indicated by one learner

> *"Go raibh maith agat a Niamh agus Oscar, [Trans: Thank you Niamh and Oscar] you spoke English in exactly the right speed for me to process and I suspect everyone else too. You succeeded making a great effort to maintain Anglo zombie-speed instead of Irish street-speed, and I truly appreciate that. Obtained a DVD The Most Fertile Man in Ireland recently, absolute slap stick comedy at its cheekiest and a gem, but no subtitles, it was in English I couldn't understand a word most of the time – still it was easy to follow. It is the speed of Irish that worries me most."* (Learner H, 2018)

Favourable comments in relation to course facilitators and the course itself were more notable in Week 3, the final week of the course e.g.:

> *"Go raibh míle maith agaibh Niamh agus Oscar. Bhain me an taitneamh as an cursa. Ta súil agam so bhfeicim sibh i gcursa 102. Slán go foill a chairde [Trans: Thank you very much Niamh and Oscar. I really enjoyed the course. I hope I will see you in the 102 course. Goodbye for now friends]."* (Learner I, 2018)

while another learner highlighted his sentiments about the course:

> *"This course was terrific! I really enjoyed it. Unfortunately unforeseen circumstances made it impossible for me to give it all the time necessary for me to absorb all the information. I will be traveling soon so I won't be able to take much advantage of the extra time (Mar. 4) that you extend for the class. (thank you, that is a fantastic idea!)*
> *Will you be offering this course again?*
> *Will you be offering Irish 2 again also?*
> *I want to master all the information and pronunciation before I go forward. I'm so glad I came across 'Future Learn' and DCU! I did this as an audit course just to see what it was all about and I am extremely impressed by your presentation, structure and delivery.*
> *I look forward to taking many certificate courses in the future. Slán go foill [Trans: Goodbye for now]."* (Learner J, 2018)

Discussion

The findings of this study highlight how the integration of digital technologies by using two animation robots within the course design led to high student engagement levels over the duration of the LMOOC. Learners took an active role in posting comments and communicating with other learners to provide answers to questions posted in the Questions of the Week section. This created a high level of social and cognitive presence within the LMOOC, two of the three required forms of presence required in an online environment for meaningful learning to occur (Garrison, Anderson, & Archer, 2000). The animation robots provided an active teaching and facilitative presence to the LMOOC by (a) uploading weekly videos featuring answers to frequent questions asked by learners and (b) by responding to

more specific questions within the comments section of the Questions of the Week. The high percentage of videos viewed in their entirety by learners also indicated their interest in learning the answers to the questions posed by themselves and other learners. This compares to studies undertaken by Jung and Lee (2018) who found a positive correlation between teacher presence and learner engagement. Favourable comments posted by learners towards course facilitators especially in the final Week 3 of the LMOOC heightened the importance of teacher presence for learners. There was little evidence of negative responses to Oscar and Niamh within the comments. The study also found and as indicated by Kop and Fournier (2011) that course facilitators need to be willing to take on a multitude of roles, not just a teacher or facilitator but also a technical support provider, a sharer of resources and a supporter of repurposing of information. Finally, the study aligns with findings from research undertaken by Kop and Fournier (2011) which shows that learning and engagement is enhanced through the presence of both facilitators and learners who form a community built on a strong sense of belonging thus leading to stimulated and active participation.

Conclusions and Further Research

Our findings have shown that learners actively engaged and responded to Oscar and Niamh, the two animation robots used within the LMOCC. This was achieved by creating a Questions of the Week section which provided an opportunity for learners not only to post comments but to engage with other learners as well as course facilitators on topics relating to course content, technical support as well as the sharing of useful resources creating a community of active participation. The study also supports to existing research on the importance of social and teacher presence being central in course design to facilitate meaningful learning (Jung & Lee, 2018; Kop & Fournier, 2011). This study was empirical in nature and comprised of a thematic analysis of data generated from course comments and learner behaviour within the LMOOC. Further research to ascertain learners' deeper perceptions will be conducted in subsequent iterations of these courses.

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