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# **Data, data everywhere, but ne'er time to think: identifying patterns in user behaviour across changing open media channels**

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## **Abstract**

The Open University has made its open educational resources (OER) available through a number of different 'open channels', or websites in different formats. The investigation of mass and individual user activity is not always straightforward with the same 'content' on different channels. Equally, it is also not always straightforward to chart trends in activity over time when the site is also subject to many functional and content changes in response to internal and external feedback. Nevertheless this paper examines and discusses two aspects of user behaviour and how we try to make sense of it. The first aspect is the number of activities that can be viewed as evidence of collective or collaborative behaviour on and between channels which have or have not been sustained and grown over time. The second aspect is the journey that users take between informal learning as represented by our open media and formal learning as represented by our taught courses (and vice versa). From the patterns in the data some tentative conclusions are drawn as to the major factors that drive or inhibit such collective and/or collaborative behaviour and how we might characterise these varying communities of interest or practice.

## **Keywords**

OER, open media, data, learning journeys, communities, collective behaviour, collaborative behaviour

## **Introduction**

The Open University (OU) has for some time thought of its open educational resources (OER) work in terms of various types of 'open content' being made available through a number of different 'open channels' or websites, all of which we talk about under the term open media (Lane and Law, 2012). These types of openly available if not always openly licensed content range from short audiovisual pieces to large, sometimes text heavy teaching materials developed for study by distance learners. These open access channels principally include the BBC networks (mainly for the UK), the in-house OpenLearn websites, and the external, open access, proprietary channels of YouTube and iTunes U.

The investigation of activity on a website is not always straightforward and much of the interpretation of analytics data or empirical observations has to be done with caution (Godwin et al, 2008). With the same content on these different channels, but possibly in different formats, tracking and understanding user behaviour is tricky. Equally, it is also not always straightforward to chart trends in activity over time when the site is also subject to many functional and content changes in response to internal and external feedback (OpenLearn has traditionally involved 3

different websites, now two, and seen at least 3 major makeovers in 6 years) and has also seen changes to its URL addresses, thus affecting search engine responses.

This paper takes a partial view of the wealth of quantitative and sometimes qualitative data that is generated by the analytics and observed activities on the various websites used by the OU to try and understand what might be the collective and/or collaborative behaviour involved.

### ***Basic facts and figures about open media from the Open University***

Facts and figures are always changing with dynamic websites and changing content where so much is going on but here is a quick snapshot of the open media channels from the OU (see also Lane, 2012a and Lane and Law, 2012).

#### **OpenLearn**

OpenLearn gives anyone free access to OU course and programme related materials from eight broad subject areas covering material from access to postgraduate level. Programme related materials can be anything from 1 to 60 minutes in length while study units from OU modules vary in length from 1-50 hours of learning. The OpenLearn website was launched in October 2006 with 900 hours of content. Comprising three websites with different URLs – OpenLearn, LearningSpace and LabSpace – this channel is now available as just OpenLearn and LabSpace (soon to re-launched as OpenLearn Works).

By July 2012 the ‘OpenLearn’ website had seen over 21 million unique visitors from over 200 countries and territories although about 55% of visitors are from the UK with 3% being from registered OU students. Nearly 330,000 people have signed up/registered on OpenLearn itself to be able to use some of the tools noted below.

The OU made around 3% of its current and archived course content freely available during the first 2 years - around 5400 in LearningSpace and 8000 in LabSpace learning hours of current and past content respectively. Over 10,000 hours of open material are now available in OpenLearn (excluding LabSpace) and there is an operating policy to make 5% of all new and revised modules openly available.

The popularity of content can vary widely across the subject areas. However, some study units remain very popular over time (see italicized entries in Table 1 where 6 remain in the top 10 over a two year period) while others spring to prominence because they are associated with a broader campaign or TV series such as Frozen Planet (NB: there are over 600 such study units in total).

Table 1 Top 10 units (in LearningSpace) for January 2010 and January 2012 respectively with dual entries shown in italics

<b>Title</b>	<b>Visits</b>
Judges and the Law	24,748
<i>Start writing fiction</i>	23,593
<i>Essay and report writing skills</i>	17,486
<i>Numbers, units and arithmetic</i>	17,342
<i>Understanding Operations Management</i>	16,984
Plate Tectonics	15,811
The role of play in children's learning	14,228
<i>Introducing social work practice</i>	12,921
Manufacturing	12,396
<i>Spanish: Espacios publicos</i>	12,008

## Top 10 units (LearningSpace) January 2012

Title	Visits
The frozen planet	29185
<i>Start writing fiction</i>	27843
<i>Essay and report writing skills</i>	26987
An introduction to music theory	23871
<i>Introducing social work practice</i>	13609
Beginners' Chinese: Introducing yourself	12519
English grammar in context	11910
<i>Understanding operations management</i>	11792
<i>Numbers, units and arithmetic</i>	11780
<i>Spanish: Espacios publicos</i>	11068

As well as viewing study units in situ many people prefer to look at them in another format. Thus during 2100 we saw up to 20,000 units being printed per week and up to 15,000 downloads of study units per week from a number of available formats.

A big question is what happens to such downloads and how they get used. This is one of the trickiest areas to investigate and sometimes a more detailed analysis reveals things that tracking data alone might not (Lane, 2012b).

## YouTube

YouTube provides a low-cost way of producing and publishing the OU's video based material, some of which is also associated with study units in OpenLearn. The viral nature of sharing YouTube clips has enabled the University to extend the reach of OU materials and OU experts, and in doing so build a community and raise awareness of the OU's activities as well as enabling user generated content. There are four separate channels available (Home, Learning, Student Life and Research) with the site originally launched in July 2007. Since then we have overall had just over 65,000 subscribers, 7.5 million unique visitors and 14 million video views (there are breakdowns by channel on the site). Nearly 50% of these are from the US and less than 20% from the UK.

## iTunesU

The Open University joined iTunes U in June 2008 to make available a range of high quality audio-visual assets used in our modules or associated with other projects. These are available as downloadable podcasts of over 400 collections/albums. We have also been adding over 400 ebooks for downloading, many of which are versions of the study units hosted on OpenLearn. The OU iTunes channel has had over 8 million unique visitors to date who have made nearly 60 million downloads. Only about 13% of the visitors and downloads are from the UK (the US has 27% and China 11%).

## ***Trends in collaborative and collective activity***

All of the above channels can simply be seen as repositories of content which people access in situ and/or download for personal use. But learning is often a social activity and so we also want to try and understand the collective and collaborative behaviour of our channel users wherever possible. However it has to be noted that more detailed qualitative research undertaken in the early days

found most people did just want content and very few were looking to working or connecting with others (McAndrew et al, 2009).

## **OpenLearn**

As well as hosting content OpenLearn has variously offered (and sometimes withdrawn) a number of support and social networking tools:

- Discussion forums to enable learners to engage with those with similar interests
- A personal portfolio to keep track of ideas and resources
- Learning clubs that enable people to set up events and discussion groups and to share resources
- Knowledge mapping software (Compendium) and an idea mapping application (Cohere) to support management, sharing, analysis and tracking of information, ideas and connections between them
- Video blogging (FlashVlog) to allow people to record themselves and embed the video blog in other web pages
- Video conferencing (FM) enabling chat, voting and URL sharing.

However 'Open Learners' have not been very active in using these. While over 13,000 FM video conferences were booked and there were over 350 public FM conferences with over 35,000 replays recorded on the FM server, only a small proportion were associated with OpenLearn with most being booked direct by a wider range of users, particularly certain projects.

Equally while there have been more than 8,500 Compendium software downloads but only a few hundreds of Compendium maps have ever been uploaded on to or downloaded from LabSpace.

Fewer than 100 Learning Clubs were ever created and few remained active for long.

Up to 15,000 forum entries have been read per week but this number is very small compared to the number of registered users and browsing visitors. Nevertheless a detailed examination of these postings can reveal some interesting and incipient trends in user behaviour, particularly among students (Lane, 2012c).

## **YouTube**

The inbuilt recommendation and commenting features of YouTube allow some feedback on OU content while the student life channel allows for students and staff alike to upload their 'own' videos.

## **iTunesU**

As iTunesU is simply a store there is no direct way of observing or inferring collective or collaborative behaviours.

## **User behaviour across channels**

Through the extensive surveys of students and other learners we have been guided by a model of engagement with users whereby the relationship someone has with the OU could go through four phases:

- Awareness – of the University and its association with certain rich media;
- Interest – in using some of the media as a 'consumer';

- Engagement - by contacting the OU for further information or informal educational materials supporting the programs (such as posters and leaflets);
- Commitment – to a formal offering from the OU, most usually signing up for a module or course but could be another event or service

This learner journey can be very varied and occur over many years but recognises that, as lifelong learners, people are wanting a broader relationship with what the OU has to offer than just being a student (although they can also be students for many years as well since most study part time and take several years to complete a qualification). It also acknowledges that people will want to move between informal and formal learning opportunities at different times or even at the same time and also to do that interaction through a wide number of OU-hosted and proprietary channels.

By looking carefully at the connections between different open content on different channels we can turn individual engagement by some with the content into more collective and collaborative engagement with both content and other users. While such connections can be identified by both ourselves and by users through what they do on the site, the most successful examples of doing so have been through carefully designed campaigns that offer a range of different levels of engagement from different users, as exemplified by the 2012 Frozen Planet campaign (Figure 1).

Figure 1 Frozen Planet: An example of the interrelated items of open engagement around a single open media campaign starting with the TV programmes



The level and sometimes depth of public engagement in just this one campaign around Frozen Planet in early 2102 is evident in that viewing figures for the broadcasts was 10.8 million each

week (about 44 per cent of the adult viewing population in the UK had watched at least one episode); over 200,000 people requested the poster; nearly 310,000 looked at the related materials on OpenLearn; 11,000 used the interactive item; nearly 15,000 engaged with the free Frozen Planet course extract on LearningSpace; there were 700 downloads of the Climate Change eBook on iTunes U; 7,500 looked at the related taught module description on the online prospectus (Study at the OU) and just over 600 registered for the first presentation of the related.

## Conclusions

The OU has both a mass and morass of data to wade through and make sense of. Even after more than six years of operating in the OER field most users, most of the time, are simply interested in content. All of our efforts to encourage self supported support collective and collaborative sharing have largely failed except where there has been a funded project or dedicated campaign to provide sustained support. While we still look at a variety of data we have of necessity limited what we focus on to understanding how users undertake learning journeys from the informal learning that hopefully occurs with engagement with the OER available on these various open media channels through to more formal taught courses from the OU, and how registered students also make use of OER.



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