

21st CENTURY LEARNING SPACES AND ONLINE RESIDENCY: JUST HOW MUCH TIME DO STUDENTS SPEND ONLINE?

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Abstract

Digital technologies and the Internet have revolutionised *places* where learning occurs today. Increasingly students spend a considerable amount of time online. They may attend lectures, tutorials and laboratories at university but are also online, e.g., to use VLEs, email, social media, etc., to enhance their learning. This may merge into personal social activities and students often find they are living a large part of their lives *online*. A better understanding of the impact of the internet as a *place to reside* both for academic purposes and socializing should allow faster, more flexible educational provision of modern virtual *learning spaces*. Any place, any time!

Digital Literacies

Increasingly students spend a considerable amount of time online. They may still attend face-to-face lectures, tutorials and practical sessions at university but may also be expected to be online, for example, to use a Virtual Learning Environment such as Moodle, Facebook, YouTube, LinkedIn, Twitter, and other social media to enhance their learning. Many of these will merge into personal social activities hence students may find that they are living a large part of their lives *online*.

Many students starting university lack sufficient digital technology skills to apply to learning. Since approximately 90% of jobs for new graduates will require excellent digital skills, it is vital that digital literacy is regarded as a key employability skill for graduates. It is therefore critical that core digital skills are developed, as well as subject specific use of technology, if students are to gain the necessary skills and confidence to use digital technology to support their learning as well as in the workplace.

This paper will examine data collected within the School of Computing at University of the West of Scotland and the impact that this is likely to have on future initiatives to enhance learning, improve engagement, and enjoyment for students.

Changes in Digital Technologies

Martin Weller, Professor of Educational Technology at the Open University in the UK (Weller, 2011) has been investigating the impact of new technologies from the viewpoint of both students and teachers and has looked at lessons that can be learned from other sectors. He described how technology is transforming student learning. He outlined an interesting comparison of the tools and resources he

used when writing his latest book and his previous book six years before. Current tools include the following.

- **Books.** Previously via the library, but increasingly now as e-books, and audiobooks.
- **E-journals.** University library has access to wide range of databases, but frequent use of others through tools such as Google Scholar and Mendeley.
- **Bookmarking.** Now *forages* in the bookmarks of people he knows and trusts, who make their collections available.
- **Blogs.** More than 100 blogs in Google Reader.
- **Web 2.0.** YouTube, Wikipedia, Slideshare, Scribd, Cloudworks, and other sites –offer useful starting points.
- **Own blog.** Useful resource for items commented on and drafts of book sections, also scrapbook-type blog using Tumblr where I post any interesting links or multimedia and revisited this for resources I had harvested over the past few years.
- **Social network.** Twitter network especially useful for gaining feedback, asking for suggestions and, on a daily basis, as a filter and for sharing resources.
- **Work and personal network.** Face-to-face discussions with colleagues, invaluable.
- **Google alerts.** For a few key phrases with daily email updates on new content to find new resources, track conversations and stay up-to-date.
- **Seminars and conferences.** Face-to-face conferences declined, but dip into online.

In contrast, many of these services did not exist six years before. Books, journals and face-to-face conferences were used more with some early forays into blogs. These changes are significant for three reasons:

1. **Quantity of information:** This has increased dramatically online – at least doubled.
2. **Online network:** Global peer networks in particular are an invaluable information source with links to resources, debates, comments, videos and audio. All accessible from many locations.
3. **Range and variety of content:** Content has diversified significantly to now include blogs, video, draft publications, conference presentations, publications, discussion, comment, debate, etc.

The Challenges of Web Residency

In recent years there has been a substantial amount of research in Digital Literacies, including the Higher Education Academy (HEA) project discussed in this paper: “Working with new forms of online practice in the disciplines: The

challenges of web residency.” The project includes investigating new forms of online practice in various disciplines. In this particular paper the focus is on computing. It is hoped that such work will encourage teaching staff to reflect on practices and to consider how they might implement strategies for integrating technology into their learning and teaching. It is hoped that this will result in a deeper insight into the role technology plays in programmes of study in different disciplines both from a staff and student perspective. The specific disciplines or clusters under consideration include Arts and Humanities, Social Sciences, Health and Social Care, Science, Technology, Engineering and Mathematics (STEM). David White and Alison Le Cornu (2011) proposed *Visitors and Residents* to replace Prensky’s *Digital Natives and Immigrants* (2001). The original Visitors and Residents project was JISC funded. (White, Connaway, Lanclos, Le Cornu, & Hood, 2012). Although there is a similar purpose of mapping engagement with the Web, it takes into consideration the use of technology today, particularly social media. White et al. (2012) suggested that people behave in different ways when using technology, depending on their motivation and context rather than age or background, hence producing a much wider model of online behaviour.

Visitors and Residents Paradigm

The original JISC-funded research on the *Visitors and Residents* paradigm (White et al., 2012) aimed to help foster a greater understanding of the role of technology in learning for both students and academics. It was hoped that a better understanding would allow faster, more flexible educational provision of modern *virtual learning spaces*.

The project investigated the sources that learners use to gather information and the choice of tools as part of their learning process (White et al. 2012). Further investigations were made to determine whether this changes as the learner moves through various educational stages, or if practices learned in the early learning stages remain as they progress. Learners from the United Kingdom and the United States participated in the project allowing the project team to investigate possible cultural differences. The project identified a number of categories of participation, or modes of engagement, that can be considered *digital literacies*, particularly the concept of *residency*. Resident learning strategies include:

- **Decompartmentalisation.** Removing time/focus boundaries (multitasking & flexibility).
- **Social media.** To develop a highly collaborative approach to learning activities and tasks.
- **Visibility.** Using ‘open’ forms of practice to gain visibility and build a reputation.
- **Performative aspects.** Having an *audience*.
- **Building a lasting professional profile and resources.** *Out on the Web*.
- **Managing tensions.** Around emerging forms of establishing credibility in engaging students and teaching practice.

Mapping Online Activity

The mapping process that students carried out consists of producing a map using the template shown in Figure 1, which shows a vertical axis representing a scale from *personal* at the top to *institutional* (or other suitable terms the user is familiar with) at the bottom.

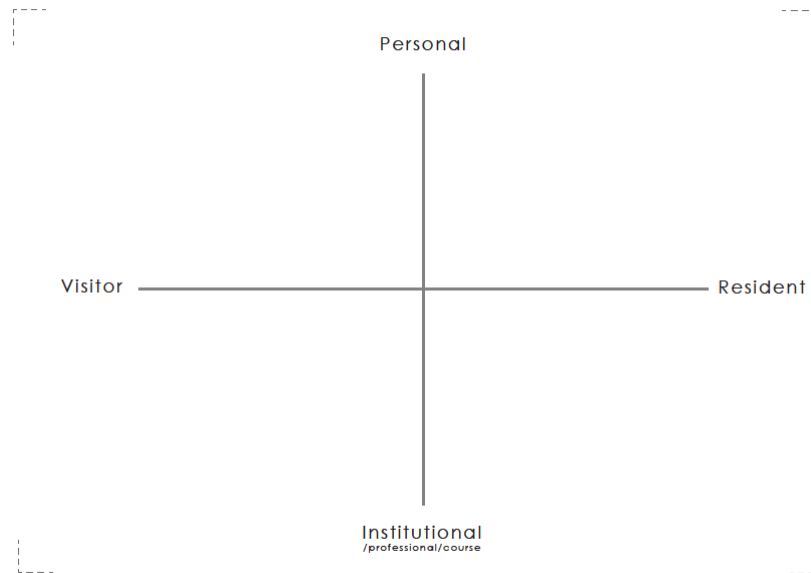


Figure 1. Template map.

The horizontal axis ranges from *visitor* to *resident*. The main feature of visitor mode is that no *social* trace remains online. Data on a remote is merely regarded as a side effect. Online Postings, which anyone can find via a search engine such as Google, on the other hand, can be regarded as highly Resident behaviour, although this is actually fairly rare.

The majority of student activity is towards the centre of the grid since they might not know all members of the group, but nevertheless the group has recognisable boundaries, for example, Facebook and Skype. Social media tools such as Twitter encourage a greater level of residency.

The mapping process is flexible and can be modified to include aspects of online engagement important and relevant to an individual, such as coding to identify *device used* or *time spent*, etc. The visitors and residents metaphor is relatively simple and the mapping process described here can be viewed as a starting point. It is not intended to capture everything about the use of the Web, but to foster strategic thinking in approaches to supporting and engaging students and staff. Sample maps produced by 3rd year Computing students are shown in Figures 2 and 3. In Figure 2 the student did not view her/him self as particularly resident even though he/she was completely confident and proficient in the use of information technology (IT). Figure 3 shows more activity towards residency.

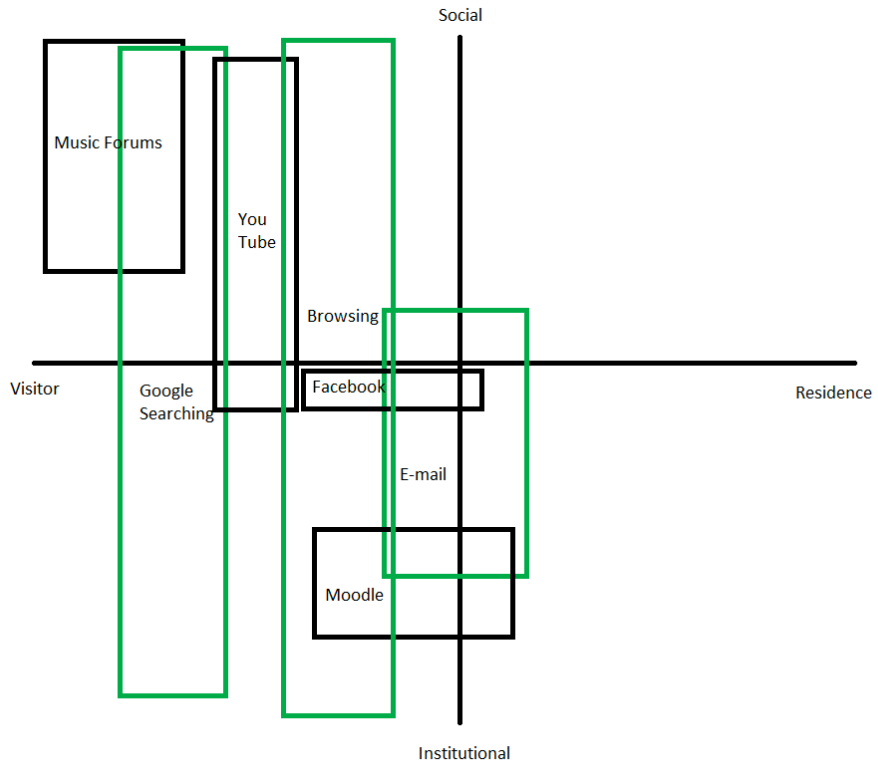


Figure 2. Sample student map: visitor status.

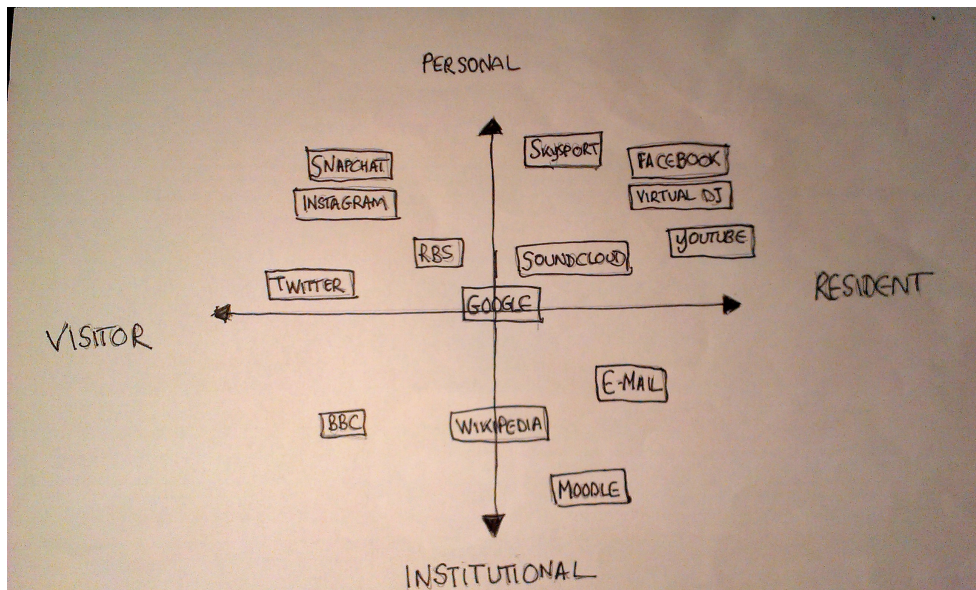


Figure 3. Sample student map: resident status.

Significance for Student Engagement and Learning

Twenty-first century life, learning and employment often require students to be competent in gaining new types of knowledge and skills, and managing new processes. Students may be taking degrees for jobs that have not yet been created in the workplace today.

Students today may be expected to develop critical thinking skills and different types of literacies, as well as be able to collaborate, problem solve, and apply knowledge in new settings or contexts. Technology is at the forefront of 21st century teaching and learning and there is a need for new, flexible, learner-centric, technology-rich, and collaborative *learning spaces* for students to interact with and for teacher to prepare. Future learning models are evolving as technology evolves, and the rate of change is increasing to such an extent that it may be difficult to keep up with the latest trends.

One typical comment:

“If I’m not in this place”(university computer lab), “then I’m in that one” (nodding to his laptop computer),”or this one”(indicating his smartphone).

This individual is speaking of different places in which he spends a considerable amount of learning time. Although students still attend face-to-face lectures, tutorial, labs, etc., they are also expected to use various institutionally provided online tools such as Moodle, the university’s chosen Virtual Learning Environment (VLE) with specially-prepared material, and any other technology that it is felt would enhance learning.

This is learning with a difference: students live part of their lives online and *reside* there, not just for work purposes, but also for personal and social ones. They move seamlessly from one place to the other with great ease. It is useful to consider how technologies, and the Internet in particular, have opened up new *places* in which learning can take place today. This does raise a dilemma for many higher education establishments that increasingly aspire to increase the flexible of their provision for students. Just how much is the level of residency likely to be significant, and does it vary depending on the discipline?

JISC funded a £1.5 million Developing Digital Literacies Programme, which completed in December 2013. The program produced a “Responding to Learners” resource pack with guidance for managers, practitioners, course teams, learning developers, and researchers. The advice to course teams (JISC, 2012) included:

The concept that e-learning relates to the use of course-related technology is too narrow. Learners are immersed in technology and make use of whatever they have available to fit learning into their lives: in this sense, learning is potentially enabled by

technology in a range of settings. However, learners lack a clear sense of how technology could support their learning.

Nor are young people all confident users of ICT. In fact, there is plenty of evidence that age is not the main factor determining confidence, and that a supportive context is more significant. Even highly confident users of digital technology struggle to transfer those skills to new domains such as study. Curricula should allow learners to develop and practice relevant skills in authentic contexts, and should exploit the specific advantages that technologies offer for learning in each topic or practical domain.

Beyond ICT and information skills, successful learners require a complex range of digital capabilities including: communicating in different media, collaboration, self-organisation, self-presentation, managing identities, critical reading and creative expression in different media, navigating virtual spaces/worlds, coping with distractions and digital overload, staying safe, choosing appropriate blends of technology, and managing public–private boundaries in online social spaces. It may therefore be beneficial to many students to be introduced to the following since these may be technologies that learners may not discover for themselves or from their friends:

- Web 2.0 tools for knowledge building, such as wikis, peer review, and social tagging
- Immersive environments, such as Second Life, subject-specific simulations, interactive video)
- E-portfolios

Given the importance the technological advances in today's world in may be worth considering the following to equip students with appropriate digital literacies:

- **Integrate digital technologies.** Make digital technologies integral to learning activities in order to familiarise students with them.
- **Use Web 2.0 tools.** Where appropriate these can enhance learning and collaborative knowledge building.
- **e-portfolios.** Encourage students to develop these to encourage them to reflect on their own learning, practices, planning and presentation.
- **Workplace relevance.** Consider how the workplace is tackling advances in digital technologies and make sure that students gain as much exposure as possible to equip them for the world of work.
- **Identities.** Foster group and professional identities by involving students in online learning communities.
- **Ethics and online safety.** Teach students about ethical and safe online practices.

- **Flexibility.** Establish flexibility in response to new digital opportunities and challenges.

Conclusion

Digital literacies can be viewed simply as the capacity to live, learn and working in a digital society. Graduate employability skills requirements may be a significant factor for many students and universities can help equip their student with the necessary skills to be able to learn, thrive and succeed in today's digital society. Students tend to like to see technology introduced to their courses when it is used in real, authentic activities which are relevant to their learning, rather than as a 'fad' or whim. It also helps if the technology is used in the workplace environment they are likely to encounter. The technology should also add something to the learning experience, rather than merely acting as an equivalent to face-to-face or paper-based activities or offered to widen the choice available to students.

If the technology consists of high quality academic research material, then students may value it. This is also the case if the technology helps students manage their work better, for example, in the VLE where all necessary materials can be centralised for ease of access. The technology should also allow students to fit it into their lives with the minimum of effort.

A final word about innovation and the benefits of developing a culture encouraging innovation--the ability to innovate is valued as a key skill for 21st century graduates. Exposing students to appropriate innovative use of technology and innovative learning opportunities will stand them well in facing the future.

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