

## **Empowering Students as Champions in Technology Enhanced Learning to Improve Digital Literacies**

**ABSTRACT:** We explore the usefulness of developing frameworks to allow students and staff at universities to improve their digital skills with respect to education, and to develop strong authentic partnerships for the benefit of universities and their students. We use examples from two universities with very different models of delivery and discuss some of the issues that arise in the development of such frameworks, focusing on Harvey's iChamps model.

Digital technologies and the resulting expectations for both students and staff to be digitally literate have put enormous pressure on institutions in terms of how those institutions introduce technology enhanced learning within their curriculum (ECORYS, 2016; Adams Becker *et al.*, 2018; Fujitsu, 2018). Student expectations to be able to access the web and resources 24/7 means that institutions need to think much more deeply about the implications of working and learning both within and without the institution's walls. One side of this participation in the ubiquitous web is that staff also have been under pressure to explore new technologies and commit to introducing the 'digital' into their curriculum. From a student engagement point of view, this chapter explores the perspectives of a senior academic teaching in a traditionally 'chalk and talk' environment and an education developer who is tasked with supporting academics and students to become engaged in the digital. It highlights issues of engagement for both staff and students in their agreement to participate in the virtual (and physical world). The focus for this exploration is within the traditional, research intensive University of Southampton located on the South Coast of England, UK, ranking in the top 1% worldwide. It has approximately 24,500 students with a strong focus on the technology and engineering subjects as well as a diverse range of other disciplines such as Art, Business and the Humanities (Reputation and Rankings, 2016) and the new online University College of Estate Management (UCEM) the "leading provider of supported online education for the Built Environment, with 100 years' experience of providing the highest quality learning opportunities" (UCEM, 2018). It has around 4,000 students from 150 countries around the world with a specific focus on the Built Environment.

Over the last few years there has been more and more attention on 'learning online'. The advent of Massive Open Online Courses (MOOCs) whilst not necessarily the Tsunami they were predicted to be (Jaschik, 2015), they have none the less opened up the eyes of many university leaders and faculty to the opportunities that online learning can bring (Gil-Jaurena and Domínguez, 2018). More importantly, if an institution becomes more digital, utilising online spaces and using more technology enhanced learning, it brings with it opportunities for engaging with students, in ways that would have been very hard to scale in the past. We are in a world now, where technology, the web and the devices that we have is advanced enough and cheap enough to be offered across institutions (Adams Becker *et al.*, 2018, p. 30). It is the perfect storm.

Despite being the perfect storm, there are challenges associated with the broader use of technology to enhance learning in higher education. Not least, impact on the staff and students in terms of skills. Many people, including students, are not as comfortable with using technology in a high stakes environment. By 'high stakes' we refer to the whole degree, from communications with faculty and administrative staff for support and for information, to using it to be tested in the lectures, or even through exams. Part of the problem is not the technology per se, but the skills required to use it. Some have these innate

skills: problem solving, flexibility, curiosity, open-mindedness and alike. But some do not, and it is the development of these skills that are as important as technical ability to allow for the practical use of technologies to enhance programmes and engage more effectively.

Across the spectrum of online education delivery, whether it be within a campus-based institution in a blended learning format, or within a totally online programme, the matter of student engagement with learning has always been an issue. In 2009, Kuh stated that Student Engagement “represents the time and effort students devote to activities that are empirically linked to desired outcomes of college and what institutions do to induce students to participate in these activities” (Kuh, 2009, p. 683). In a completely online environment, we cite engagement with the virtual learning environment. In a campus-based environment questions can be asked and active learning encouraged through participation of in-class polls to aid discussions, break out groups or other such activities along with opportunities for engaging with the institution through events and societies. Within an online environment, the online learning platforms are the students’ access to the virtual university and it needs to be capitalised upon to ensure that it is as effective as possible. We can design our programmes to ensure that our students have the best opportunity to engage, by scaffolding learning using techniques such as the five stage model (Salmon, 2000, p. 25) and ensuring that we have created the right amount of balance in the environment to enable students to build up to their confidence and skills to make effective use of their online environment. Regardless of our design, we still need to support our staff and students to develop the appropriate skills to engage.

Developing skills to engage with online learning are not easy. Digital skills are not generational and they do not require a particular style. All these myths should be put to bed as soon as possible, as they are unhelpful and tend to lead us down the path to failure. If only life were that simple. In truth, engaging online can be harder than just turning up to a lecture. Being an online student, whether it is a blended approach, where a percentage of the programmes of study are available online as well as a face to face or on campus component, or whether it is completely online, requires a certain amount of personal accountability, time management and determination. There is no one physically making you attend class, no-one sat next to you to talk to or for you to ask the odd anonymous question, and ultimately, if you turn off the tools you use to access the content, it’s not there anymore. You only have your conscience and your beliefs that you can do this to spur you on.

Framing online tools for engagement is very important and brings in the concept of digital literacies. Our world has changed from the traditional model of ‘chalk and talk’ view of higher education. Through every other aspect of our interactions with the world, technology has had an impact, from the way we shop to the way we talk to our bank. Nothing is sacred, everything has been touched by the web and education is no different. There is no reason in the world that digital technologies and tools cannot be used within our curriculum offer. It is better, but does not replace the use of traditional educational tools. They can exist together. What we do need to do however is change. We believe that change is harder than actually using most of these tools. But through the development of digital literacies skills the use of the web for education and life-long learning is easier and can lead to the broadening of skills and opening of minds to allow for a better educational experience for our students.

The concept of this resistance to change is nothing new; centuries of developments have led to cries of the dumbing down of education. This is not the place to cover them here, see Ferguson as one example. However, it is important to note that the resistance comes not just

from staff in universities, but also to some extent from students. There are many reasons for this, but one of the most interesting is that with the rise of the massification of higher education, our students are becoming more like customers, with expectations being set at the outset of the 'right' to have a degree, regardless of their own input into the process. If we take the example of this expectation, then we have a duty or responsibility to ensure that all our students take advantage of their environment. They should have the opportunity to develop these skills and for our staff to be confident in their application. Burying your heads in the sand will not make these requirements go away and the more that we do, the faster the world moves without us. This is not a sustainable option, but there is a solution. Bringing staff and students along through their own digital skills development is vital.

This chapter covers out two differing views of the participation and issues around engaging students with technology to enhance learning.

The first view is that of a senior academic within the University of Southampton who, although personally engaged in using social media for learning, is a member of the School of Mathematics and researches Pure Math, a discipline not traditionally known for its penchant for engaging with technology-enhanced learning.

The second view is that of an academic-related member of staff whose role includes being an advocate for technology-enhanced learning and encouraging the use of TEL who has since moved onto to another very different university which has similar issues regarding engagement with technology to enhance programmes. Although the role was to support and encourage the use of technology-enhanced learning with academic staff, it was with the help of students that a new model was created that flipped staff development so that the students were at the heart of their development. The Innovation and Digital Literacies (iChamps) model supported both staff and students (Harvey, 2017). The contrasting view is that of online students and staff who operate entirely online for a small, private university and demonstrates the similarities between these remarkably different universities and shows how attitudes and behaviours across both students and staff are the same regardless of the status of the university.

These stories are presented as case studies and offer the reader an insight into the challenges and possible solutions to approach reaching staff and students with the use of technology-enhanced learning.

### **The institutional view – Professor Jim Anderson, Associate Dean University of Southampton**

I approach this view from two different points of view: one the one hand as a pure mathematician, a geometer by trade, and the other as a senior member of the university with an education focused remit. It is true that pure mathematics in particular, and mathematics more generally, has the reputation for an old style of delivery - chalk and talk - and one of the few places in the university where chalk boards can still be found are in the offices of mathematicians. However, I feel that this reputation is no longer accurate.

Mathematics (and other quantitative subjects, such as engineering or statistics) in fact lends itself to many different aspects of TEL, from the use of short recordings capturing the module lead solving problems and talking through the solutions, to the use of mathematical software packages to generate questions for students to provide them with formative feedback; from

embedding programming skills within taught modules, to developing the knowledge searching and processing skills to explore unknown mathematical questions.

However, when we consider the issue of the use of TEL more broadly, there are still definite issues to be addressed. The first is the issue of consistency. Much of the development of the use of TEL in its various guises is discipline dependent and is driven by the interests and needs of individuals. While this can be valuable from the point of view of students on an individual module, it does create the possibility of an inequity of experience of students across modules, depending on the interests and needs of the individual module leads.

This observation immediately leads to two other observations. The first of these concerns the availability of the hardware and software to make TEL possible. A good clue here is to consider the resources available to any member of staff in any lecture theatre on campus. There will almost certainly be a podium desktop computer linked to an overhead display projector and access to wireless in the lecture theatre, but can the lecturer smoothly and easily screencast from their iPad to the projector. There may be lecture capture facilities available, but how well do they capture the use of white boards.

More critical than the availability of hardware and software resources, is the training and support for members of academic staff to use these resources and to use them well.

In part, this training need is caught up in the transition of higher education from being focused on the delivery of facts to the development of skills for processing facts and communicating results. In the former case, the resource needs and the training needs are both relatively limited. If I can reach all the corners of the room with my voice, possibly assisted by a microphone, and my handwriting on the board can be read, I can transmit the information I intend to transmit. But once we shift the focus to the development of skills for processing and communicating, I need to now develop an entirely different set of skills, no longer viewing my audience as merely passive recipients.

This transition is underway but haltingly. My personal view is that a large reason for the uneven speed of this transition within individual universities and across the sector is the lack of clear institutional priorities for direction of travel and the corresponding training and development needs of members of academic staff.

Here, the institutional strategy becomes critical. The institution has a duty and responsibility to set the direction of travel for its members of academic staff, and to ensure that the training and support for these staff is in place. And this requires a significant shift in thinking from the institutions.

Training is time intensive and expensive. At research intensive universities, most of the academic staff involved in teaching are part time teachers. We are part time researchers. We are part time administrators, though most academic staff have relatively small administrative lives. And so creating the time and space to engage in this training and development takes effort and requires care.

**From the bottom up - Encouraging the use of technology-enhanced learning with students and staff through the use of Champions (iChamps)**

In talking about how to engage students to use technology to enhance their learning, there needs to be some explanation here, we want to cover some misconceptions first. Firstly, there is no such thing as a 'digital native'. It is an over-hyped, falsehood that has gone too far and needs to stop. Prensky coined the term to describe a generational divide, people of a certain age used technology naturally, they had some kind of tacit skill set which they could adapt much more easily than the rest of us, those of us who were born in a time when PC's were not commonplace, and neither were mobile phones, social media and the web. We know that this isn't true and yet, time and time again, references are made to our students, those under 30 years old, who will know instinctively how to use those technologies that they use every day within an academic setting. This is, of course, complete fallacy and should be disregarded. Students are no more adept at using the web than anyone else, those that are interested in its use and those of us who are curious enough to see what various technologies can do, are those whom we need to make use of in the design of our programmes and as tools for engaging our students. The attitude makes all the difference, a point we will come back to later.

Secondly, the term 'Technology-enhanced learning' (TEL) refers to that fact that we needed to find a better way of explaining the web-based learning that was dominating the higher education landscape. Although e-learning was commonly used, it probably related more often than not, to working with a stand alone computer, something disconnected from the web and allowed the user to work in isolation. As the web developed, so we turned our attention away from e-learning to TEL, purely because it meant more than a PC and a CD-ROM. Networked learning is another term that could be applied, but we don't want to get too hung up on parlance. TEL in this case, refers to any web-based technology that can be used to enhance educational practice. Usually for engagement, but also as a tool to develop the skills that allow our students (and staff) to become effective users of the web and develop their digital literacies knowledge and skills.

One exacerbating aspect of universities is that the members of academic staff are highly intelligent, highly motivated people. If an institution were to put into place a structure of standard tools, along with training opportunities and development programmes in how to use these tools and how to integrate them into their teaching, then we feel the take up among academic staff would be quite high.

But there is a curious aspect of the academic mindset. We, and we are as guilty of this as many of our colleagues, tend to want to start from the beginning and find our own way. This is how we were taught as researchers and we sometimes seek to apply this framework, for lack of a better term, to everything we do.

But this aspect is something that I think is peculiar to academia, and peculiar to pockets within academia. Given a clear path, academic staff will, we are convinced take the path of improvement and benefit to the students. If we make it straightforward for them to do so.

### **Digital Literacies and why they are important to recognise**

The term 'digital literacy' is another phrase bandied about, with very little thought about its meaning. When we use the term, we are referring to the set of skills that allow for a range of actions for effective use of the web: "the capabilities required to thrive in and beyond education, in an age when digital forms of information and communication predominate" (Littlejohn, Beetham and McGill, 2012) Not just how to use a computer or how to access and

use the software. These skills are fundamental as we all work in a knowledge economy and are lifelong learners.

In terms of setting the scene for engagement with technology, these concepts, of who our students are, what we mean by the term technology-enhanced learning and digital literacies are vital to provide a foundation of 'value' for engagement. Providing value for the students is vital to engagement and to detach our own motivations for using technology to enhance programmes. As an institution, it is common to hear at committee meetings or groups where software purchasing is the value that these tools provide for our own objectives, usually to show that we are complying with a regulatory requirement or that we can do the task that we need to do in order to show engagement. That should never be the driver for purchasing, the value to the student is how we will get engagement and should be the high on the list for any decision to implement it.

The importance of digital literacies skills should never be underestimated. These are fundamental to any engagement with TEL as they provide the skills required to be effective and efficient learners, embracing the web to create, collaborate, communicate and be a true 'citizen of the web' (Ryberg and Georgsen, 2010). These skills are usually only paid lip service and projects come and go, but tend not to be maintained once the funding goes. They should be, by now, embedded into programmes and recognised as important as team working and communication in face to face settings. Our students know that they need to engage with people from around the world, that they need to be able to make the best use of technology, through informed practice, within the 'safe space' of their programme (before they launch themselves onto their world of employment). But they don't necessarily know how, so programmes or activities that allow these skills to be developed are essential (Li and Ranieri, 2010).

Linking this back to a point made above, one very helpful structure to put into place involves a framework. The lowest level of the framework contains those aspects of educational IT that all members of academic staff are expected to be able to use, and to use. This framework is more than a list of tools: it includes access information and training, as well as institutional expectations and best practice for the use of these tools.

Higher levels of the framework contain tools that require more effect to use fluently, both on the part of academic staff and students, but since they live within this institutional framework, there are clear institutional expectations and champions who can assist those interesting in using them. But it is not enough to have such a framework sitting alongside the taught modules and programmes. The framework needs to be embedded within, and there needs to be the institutional support on how best to use the educational IT for the module at hand. And for us, it is here that the iChamps model becomes important, as part of this programme of institutional support.

### **The role of students as champions for engagement with digital literacies skills: Fiona Harvey**

My role had always been that of academic staff development, with a particular emphasis of technology. As an Education Development Manager, my role was to work with academic staff to support the implementation of technology to enhance their practice. This is not an easy task in a university where the focus was on research and not education. Nevertheless, I

had established useful networks of people who were enthusiastic and engaged, willing to experiment and implement new ideas into their programmes if they satisfied their needs.

I had been introduced to the concept of digital literacies when I was a student with Edinburgh University on their MSc programme “Digital Education”. In the very first module “Introduction to Digital Environments for Learning” we were encouraged to read about digital literacies skills and I realised then that this was exactly what was required to allow me to do my job more effectively. Being digitally literate, is an ongoing goal, and requires continued engagement from staff and students, but it is also a life-long skill to be curious and explore the web through the lens of an informed individual and not blindly tripping and stumbling through the web, clueless as to how you got there or even what you have signed up for. So it was with this information, that I took forward the ideas that I had as I could see that digital literacies were the bedrock for enabling staff and students to be able to make the best use of the web and associated tools. At the University of Southampton, between 2013 and 2017 there was a successful drive to bring digital literacies to the attention of the university through a variety of activities and with the support of initial internal project funding. The Digital Literacies project was designed to bring the term ‘Digital Literacies’ to the attention of the academic community, originally through a series of workshops, a new module and an final event. Within the project there was funding for one student to act as a champion for the project as we knew that we needed to get students involved as the whole point was to enhance their programmes. Without the buy-in from the students then none of the academic activities work. The ultimate aim, of course, was to bring digital literacies skills into programmes that would support students and staff to use technology effectively to enhance their programmes and it would then become the ‘norm’. As it turned out, we didn’t have just one student but we started with four. These students ran workshops and helped at the final event. The project was a success and the student champion model was carried over and funding was provided to maintain the Champions for the life of the learning and teaching unit.

The student champions model was known as ‘DigiChamps’ and evolved into the Innovation and Digital Literacies Champions (iChamps). The basis of the model is that students should be involved in the development of skills, nothing else and that they should be able to evidence all the work that they do. We were very clear that the role was not to replace a member of staff, that they were there to support their academic member of staff and encourage students to participate in whatever the project required. They served the function of support for academics to be able to try out the use of some form of technology enhanced learning and they covered a range of projects from supporting students to write blog posts, using apps like Nearpod, developing materials with the academic member of staff. The reason that the iChamps worked so well was that the students were able to build their own confidence and the confidence of academic member of staff, and that they kept track of their own contributions through the use of open badges and ePortfolios.

Key engagement issues using this model was through the shared working between the students and the staff. It was explicitly mentioned to both the academic lead and the iChamp that there was no hierarchy, that they were as responsible for the success of their project as much as the academic. An outcome was to allow staff to explore ideas around technology enhanced learning that they might have shied away from without the support of students within their programmes within a supported environment. Students who took the module with that academic were not just thrown into the deep end and expected to pick up how the tools were used, but were supported by their peers, providing a supportive environment with

very low levels of exposure to asking embarrassing questions. They were encouraged to engage and had the support to do it. Likewise, through this partnership approach, staff were able to bring in enhancements that they were not otherwise able to due to various concerns, such as, the lack of time and fear of failure in front of their students (a common concern) and they were able to develop their own digital skills.

One of the key indicators of engagement was through the use of open badges. To be able to call yourself an 'iChamp' you would have to be able to provide evidence through completion of a set of Open Badges. Open Badges were used, in this case, not as a motivator but they served as recognition of the contributions that the students made. A set of three badges were required to be completed, each offering digital literacies skills and they served two purposes, for the institution, we could see what was being done and we had set these badges as a kind of standard to be achieved. For the students, they completed these activities and were awarded their badges as a result, once they had all three then they could claim the overall iChamp badge. All the badges required the students to complete evidence of their set tasks. The evidence for each formed the students ePortfolio, and using Pathbrite (Cengage tool) the students provided the url for their specific eportfolio in Pathbrite. All the badges required a contribution to the iChamps blog which meant that students reflected on all their work as an iChamp. The engagement happened because there was value to the students as well as the staff involved. The projects were directed and specific to issues or ideas that directly related to the students and served a clear purpose for the staff who were involved.

There are challenges involved in implementing the iChamps model, as there are challenges in any significant programme of work. How for instance can be model be scaled up to allow for iChamps for all who are interested in using them as intended.

Ideally, and this is still work in progress, the iChamps model can be made relatively self sustaining, perhaps having the experienced iChamps be part of the process for choosing both future iChamps and the members of academic staff for them to work with and the projects for them to work on. This would allow for the transmission of experience across generations, which would clearly be of benefit to all concerned.

Since this project, I have now moved onto another university, the University College of Estate Management (UCEM) and I am using the same model for staff development. It is a completely online university for the Built Environment and heavily reliant on it's staff and students to have digital literacies skills. I work with a team of Educational Technologists who are all in new roles who work closely with academic staff and so this model is also useful for staff engagement. The use of ePortfolios and open badges allows them to capture their work and show how it has been applied. Reflecting on the engaging students through the use of badges and ePortfolios within a face to face environment and within a very traditional university like the University of Southampton had its challenges, but within a completely online university, there are advantages and disadvantages. Not being together all the time is not that much of a barrier to engagement by staff, we communicate regularly through various online methods, but in order for this model to work with students, will rely on my team having the right skills as well as the confidence and vision to see it through. This will be the next chapter of the iChamps model, within a vocational online setting.

The model for a campus based or completely online university is not just to be a chance for students to develop their digital literacies skills, but as a strategic drive to support the institution to become digitally literate and use authentic student engagement, in initiatives



such as the iChamp model to achieve strategic goals. For programmes to be effective online and have the students at the centre of the process requires both staff and students to be able to use the web effectively. At UCEM, using the iChamp model to enhance student engagement we are planning on selecting some of our online students to be part of the process and champion our projects over the next few years. This will build a community of practice for both staff and students and lead for us, our digital literacies strategy. Within the University of Southampton, there has been a broad use of different types of strategies to engage with TEL through students and through various staff initiatives. Learning from our experiences of these initiatives will help us achieve our ambitions of supporting digital literacies across our programmes, including research and engagement. Through both types of institutions, there are challenges that need to be addressed but fundamental to their success is the application of reflective practice from both members of the institution and the student body to realise the benefits to both agendas. Working together through these partnerships in the ways that we have mentioned, are essential to ensure that the interests of both students and the institutions of which they are part, it is never that one holds precedent over the other.

## References

- Adams Becker, S. *et al.* (2018) *NMC Horizon Report 2018 Higher Education Edition*. Louisville, CO. Available at: <https://library.educause.edu/~media/files/library/2018/8/2018horizonreport.pdf> (Accessed: 21 April 2019).
- ECORYS (2016) 'Digital skills for the UK economy', *Department for Business Innovation & Skills*, (January), p. 130. Available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/492889/DCMSDigitalSkillsReportJan2016.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/492889/DCMSDigitalSkillsReportJan2016.pdf).
- Fujitsu (2018) *Research report: The road to digital learning*. London. Available at: <https://www.birmingham.ac.uk/Documents/HEFI/FUJ-Education-Report-UK.pdf> (Accessed: 21 April 2019).
- Gil-Jaurena, I. and Domínguez, D. (2018) 'Teachers' roles in light of massive open online courses (MOOCs): Evolution and challenges in higher distance education', *International Review of Education*, 64(2), pp. 197–219. doi: 10.1007/s11159-018-9715-0.
- Harvey, F. (2017) 'Students as Digital Partners - empowering staff and students together', *Journal of Educational Innovation, Partnership and Change*, (In press).
- Jaschik, S. (2015) *Stanford president offers predictions on a more digital future for higher education, Inside Higher Ed*. Available at: <https://www.insidehighered.com/news/2015/03/16/stanford-president-offers-predictions-more-digital-future-higher-education> (Accessed: 21 April 2019).
- Kuh, G. D. (2009) 'What Student Affairs Professionals Need to Know About Student Engagement', *Journal of College Student Development*. Johns Hopkins University Press, 50(6), pp. 683–706. doi: 10.1353/csd.0.0099.
- Li, Y. and Ranieri, M. (2010) 'Are "digital natives" really digitally competent? - A study on CHinese teenagers', *British Journal of Educational Technology*, 41(6), pp. 1029–1042.
- Littlejohn, A., Beetham, H. and McGill, L. (2012) 'Learning at the digital frontier: A review of digital literacies in theory and practice', *Journal of Computer Assisted Learning*, 28(6), pp. 547–556. doi: 10.1111/j.1365-2729.2011.00474.x.
- Reputation and Rankings (2016) *Reputation and rankings | University of Southampton*. Available at: <https://www.southampton.ac.uk/about/reputation.page> (Accessed: 9 March 2018).
- Ryberg, T. and Georgsen, M. (2010) 'Enabling Digital Literacy', *Nordic Journal of Digital Literacy*, 5(02), pp. 88–100. Available at: <http://www.idunn.no/dk/2010/02/art03>.
- Salmon, G. (2000) *E-moderating : The Key to Teaching and Learning Online: EBSCOhost*. 1st edn. London: Taylor & Francis. Available at: <http://web.b.ebscohost.com.ezproxy.lancs.ac.uk/ehost/detail?sid=61499d32-f6d5-43c2-ab0f-dcb90af4c794@sessionmgr120&vid=0&format=EB&rid=1#AN=56799&db=nlebk> (Accessed: 21 April 2019).

UCEM (2018) *About UCEM - University College of Estate Management*. Available at: <https://www.ucem.ac.uk/about-ucem/> (Accessed: 21 April 2018).