

The background of the entire page is a photograph of a sunset. The sky is filled with horizontal bands of color, transitioning from a pale yellow at the top to a deep orange and red towards the horizon. Below the horizon, the silhouettes of several mountain ranges are visible against the bright sky. The foreground is a dark, almost black silhouette of a hillside or valley.

# **SYMPOSIUM PROCEEDINGS**

## **The Next Generation: Digital Learning Research Symposium**

**The Helix  
Dublin City University, Ireland  
November 1st 2016**

**<http://nextgen16.esai.ie>**

# SYMPOSIUM 2016

## INTRODUCTION

There is still considerable debate about the value, benefits and long-term impact of digital learning. Amidst both the promise and the peril of the digital era it is important that we pause to critically reflect on what we have learnt (or not) over several generations of research on the use of educational technology. Moreover, what should the current generation of postgraduate students and new and emerging educational researchers be investigating as digital learning evolves and has become a key component of national and international policy? Also, with an eye on the future, what theoretical lenses and research methodologies are required to better understand and harness the affordances of a new generation of technologies? In this respect this Research Symposium aims to contribute to building the next generation of researchers as we identify, discuss and debate some of the big issues likely to face educators from first to fourth level, and beyond. We expect there will be many more questions than answers and to help frame the research conversation the Symposium is structured around the following five broad questions:

- What do we know from the research literature?
- What research is currently being conducted, particularly in the Irish context?
- Who else is conducting research in my area and how does it relate to my own work?
- Where are the gaps and methodological weaknesses in the current research literature?
- What are likely to be the future questions, challenges and possibilities in digital learning research?

In exploring these questions the Research Symposium has been designed to give voice to a wide range of Irish educators and researchers across all levels and sectors. Hence the event is aimed at current and prospective postgraduate students, including doctoral candidates, new and emerging researchers, experienced practitioners, industry stakeholders and academics conducting research in the area. Although the event has attracted almost 250 registrants we will try to follow a participatory approach where you are encouraged to actively network around existing and emerging themes, theories and methodologies. The primary objective is to help build capacity in digital learning research by establishing connections and fashioning stronger bridges across and between different generations of educators and researchers. To this end we would like to acknowledge all the speakers and the partnership between the Educational Studies Association of Ireland, the Irish Learning Technology Association, and both the Institute of Education and National Institute for Digital Learning at Dublin City University which has made this event possible. Finally, on behalf of the Programme Committee I trust you find the Research Symposium stimulating, challenging and thought-provoking.



Dr. Eamon Costello

Programme Chair

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## COMMITTEE

### Organising Committee

We wish to acknowledge the following people who contributed to the Symposium Organising Committee:

- Dr. Eamon Costello
- Professor Mark Brown
- Dr. Enda Donlon
- Dr. Tom Farrelly
- Sandra Forster
- Colette Kirwan
- Una Ryan
- Michelle Smyth

### Programme Committee

We wish to acknowledge the following people who contributed to the Symposium Programme Committee:

- Dr. Eamon Costello - Dublin City University
- Professor Mark Brown - Dublin City University
- Professor Deirdre Butler - Dublin City University
- Catherine Cronin - National University of Ireland, Galway
- Dr. Enda Donlon - Dublin City University
- Louise Drumm - Glasgow Caledonian University
- Dr. Tom Farrelly - Insitute of Technology Tralee
- Professor Conor Galvin - University College Dublin
- Paul Gormley - National University of Ireland, Galway
- Dr. Pat Ibbotson - University of Ulster
- Colette Kirwan - Dublin City University
- Dr. Anne Marcus-Quinn - University of Limerick
- Naoimh O'Reilly - Dublin City University
- Dr. Angelica Risquez - University of Limerick

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We would like to acknowledge the support and joint collaboration of the Education Studies Association of Ireland (ESAI), the Irish Learning Technology Association (ILTA), and the Institute of Education (IoE) and National Institute for Digital Learning (NIDL) at Dublin City University (DCU) which made this Research Symposium possible.



We would also like to acknowledge the generous support of the European Distance and E-learning Network (EDEN) for supplying copies to symposium delegates of The Best of EDEN Research Workshop 8. EDEN is Europe’s leading professional association in the area of online, blended and digital learning in higher education offering individual membership. Accordingly, we are pleased to alert you their 26th annual conference, 13-16th June 2017, in Jönköping, Sweden. See the EDEN website for further information:

<http://www.eden-online.org>



## PROGRAMME OVERVIEW

NOTE: A PDF version of the full Programme Outline with details of each session, individual speaker and room location is available from the Research Symposium website:

<http://nextgen16.esai.ie>

### PROGRAMME OVERVIEW

Time	Session	Theme	Venue
8:00 – 8:50am	REGISTRATION		The Helix
8:50 - 9:15am	Welcome Why a Research Symposium?	Dr Eamon Costello, Programme Chair Professor Brian MacCraith President, Dublin City University	The Mahony Hall
9:15 - 10:00am	Keynote 1 Professor Sian Bayne	Manifesto: Making a Teaching Philosophy from Research in Digital Education	
10:00 - 10:15am	Brief Panel Response	Catherine Cronin - NUIJG Dr Conor Galvin – UCDD Dr Charlotte Holland - DCU	
10:15 - 10:45am	REFRESHMENT BREAK – Levels 2 & 3		
10:45 - 11:40am	Research Spotlights 1 Concise Papers	Strand 1 The Mahony Hall	Strand 4 The Blue Room
11:40 – 11:45am	TRANSITION BREAK		
11:45 - 12:45pm	Research Spotlights 2 Concise Papers	Strand 2 The Space	Strand 3 The Gallery
12:45 - 13:30pm	LUNCH BREAK – Levels 2 & 3 Research Posters		
13:30 - 14:10pm	Keynote 2 Professor Grainne Conole	Research Through the Generations: Reflecting on the Past, Present and Future	The Mahony Hall
14:10 - 14:55pm	Looking to the Future Major Research Themes	Key Questions Roundtable Discussions Final Report Back	

# SYMPOSIUM 2016

## PROGRAMME OVERVIEW contd.

14:55 - 15:00pm	Tribute to Barry McIntyre Rapid Fire Presentations	Paul Gormley Irish Learning Technology Association		
15:00 - 15:30pm	REFRESHMENT BREAK – Levels 2 & 3			
15:30 – 16:10pm	Research Snapshots Rapid Fire Presentations	Facilitator, Dr Tom Farrelly Order of Presentations Random	The Mahony Hall	
16:10 - 16:45pm	Keynote 3 Professor Paul Conway	From Manuscripts to Digital Era Publishing: Old and New Academic Practices?		
16:45 - 17:00pm	Next Steps Irish Research Community	Journal Announcement A Research Network for Scholarly Professionals		
17:00 - 17:15pm	Summary Reflections Professor Mark Brown	Analysis of Major Themes Weaving Together the Generations		
17:15 - 17:30pm	Final Reflections Closing	Symposium Participants Programme Chair		
17:30 - 18:30pm	SOCIAL EVENT – Level 3			

## USEFUL INFORMATION

### Registration Desk

The main Registration Desk located on the ground floor of The Helix will be occupied throughout the Research Symposium to assist with questions.

### Information for Presenters

If you submitted your slides for Concise Papers, as requested before the event, then they will have been downloaded onto the laptop in the room of your presentation. Please check and locate this room from the information contained in the Programme Outline, and that your slides appear on the laptop. Should you need to install your slides on the local laptop then this should be done no later than at the start of the morning refreshment break. All Rapid Fire Research presentations will appear in a folder on the laptop in the Mahony Hall. It was a condition of this category of submission that all presentations had to be submitted in advance of the event. If you have any technical problems, then please contact the Registration Desk or locate one of The Helix technicians assigned to support the venue.

### Symposium Pack

Your symposium pack contains a number of background articles which have been selected to support further discussions about current and future research initiatives in the general area of digital learning. More specially, the articles serve to highlight some of the gaps in the literature and indicate a number of the more credible academic publications in the field. We trust that you find these readings helpful. In addition, you will find in your pack a copy of The Best of EDEN Research Workshop 8 and information about the next EMPOWER Online Learning Leadership Academy (EOLLA), which will be hosted in Brussels in January 2017. This leadership development programme targets both experienced and new and emerging leaders in the area. Further information about the EOLLA programme is available from:

<http://empower.eadtu.eu/eolla>

### Venue

The Research Symposium utilizes a number of rooms in The Helix. The welcome, keynote addresses, Rapid Fire Research presentations and closing sessions take place in The Mahony Hall on the ground floor. There are four separate streams for the Concise Papers spread across the Mahony Hall, the Gallery, the Blue Room, and The Space. Please check the Programme Outline in your symposium pack for a more detailed description of the time and room for individual papers. Tea and coffee during the refreshment breaks will be served on level 2 and 3 of The Helix. At the end of the day drinks and finger food will be available on level 3 of The Helix.

### Internet Access

The Helix is well equipped in terms of supporting wireless Internet access. You should have two choices: (i) connect via Eduroam if you normally have access to this network, or (ii) connect via the guest access. If you have any difficulties connecting to the Internet, then please contact the staff on the Registration Desk. The website with further information about the Research Symposium can be accessed at the following address:

<http://nextgen16.esai.ie>

**Twitter**

We encourage symposium delegates to tweet about the event. In so doing we request that you are respectful of other attendees and presenters. The Research Symposium aims to provide an open environment for academic and scholarly exchange but please follow standard etiquette protocols. The main hashtag for the Research Symposium is:

[#NextGenDL](#)

We also encourage you to include the following hashtag whenever you can which will be used after the Symposium for the Research in Digital Learning Special Interest Group (SIG) managed by the Education Studies Association of Ireland (ESAI).

[#esaidl](#)

**Media Team**

The main keynote addresses will be recorded and made available after the event. We also hope to stream the keynotes and other presentations in the Mahony Hall using Periscope but to a large extent the quality of the streaming depends on external factors. Over the course of the day we also have a small media team consisting of teacher education students who hope to record your reflections on the event and what you see as the major opportunities and challenges facing educators and researchers in the area of digital learning. Please look out for this team and we trust that you will be willing to be interviewed if they ask. Also note that we will be taking a number of photographs over the course of the day and please let our official photographer know if you do not wish to be included in any of these photos.

**Follow Up Workshops**

Two follow up Next Generation Digital Learning workshops on the topic of Learning Design and Doctoral Study are being offered on November 2nd and at the time of writing space is still available in the latter workshop. A waitlist is being kept for the Learning Design Workshop and please contact the Registration Desk to see if any spaces have become available. Equally if you have registered for one of the follow up workshops but can no longer participate, then please let us know or go online to cancel your registration. Further information about the follow up workshops is available on the Research Symposium website:

<http://nextgen16.esai.ie>

## KEYNOTES

The Research Symposium is anchored by three keynote addresses that have been selected to provide different perspectives on research in the area of digital learning from both an Irish and international perspective.

### **Manifesto: making a teaching philosophy from research in digital education**



**Professor Sian Bayne**

University of Edinburgh

[sian.bayne@ed.ac.uk](mailto:sian.bayne@ed.ac.uk)

#### **Abstract**

Teaching online challenges us to think differently about some fundamental issues for both schooling and higher education: changing ideas about the importance of place and space, new modes for assessment and academic writing, and new models of what it means to teach. In this talk I will discuss some of these, and explore ways in which research in the field can offer critical and theoretical frameworks for engaging with them. Using the ‘manifesto for teaching online’

[link: <http://www.de.ed.ac.uk/project/manifesto-teaching-online>] developed at the University of Edinburgh as a starting point, I will discuss two particular issues currently facing teachers and researchers in digital education: teacher automation and the re-thinking of physical space.

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### **Research Through the Generations: Reflecting on the Past, Present and Future**



**Professor Grainne Conole**

Visiting Professor, Dublin City University

[gconole@gmail.com](mailto:gconole@gmail.com)

#### **Abstract**

Research into the use of technologies for learning can be traced back to the sixties or even earlier. In the eighties authoring tools and e-assessment tools enabled teachers to create multimedia resources for their

students and provide them with formative feedback on their learning. The Web emerged in the early nineties and there is no doubt that its impact on education has been transformative. UNESCO argues that education is a fundamental human right and hence we have seen the emergence of Open Education Resources (OER) and Massive Open Online Courses (MOOCs), which are challenging traditional educational offerings. Mobile devices mean that learning anywhere anytime is now a reality and social media mean that teachers and learners can be part of a global community of peers. Therefore digital technologies offer a plethora of ways in which learners can interact with rich multimedia and ways of communicating and collaborating. As such now is a good point to critically reflect on the use of technology in education, identify some of the defining technologies and how they are being used and think of some of the big challenges associated with the field. Despite the potential technologies offer for education they are not being used extensively, teachers and learners lack the necessary digital literacies to make effective use of technologies and teachers need support to rethink their design practice to make appropriate use of technologies. The talk will centre around the following questions:

- What do we know from the research literature?
- What research is currently being conducted?
- Who else is conducting research in my area and how does it relate to my own work?
- Where are the gaps and methodological weaknesses in the current research literature?
- What are likely to be the future questions, challenges and possibilities in digital learning research?

The talk will conclude by tentatively projecting what are likely to be some of the key developments in the field over the coming years and suggesting some potential areas for research.

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## From Manuscripts to Digital Era Publishing: Old and New Academic Practices



**Professor Paul Conway**

University of Limerick

[Paul.Conway@ul.ie](mailto:Paul.Conway@ul.ie)

### Abstract

From books to blogs, manuscripts to metrics, 'closed' to green/gold access and from ivory towers to engaged scholarship – all remind us of striking changes in the dynamics of academic publishing in the last two decades – at least at first glance. In the context of the fast changing digital era, this presentation provides some reflections on the ways in which academic publishing has changed, or not, vis-à-vis authorial practices, dissemination 'publics' and the political economy of publishing. To what extent, if at all, has academic writing and publishing changed in the digital era? In what ways has the 'consumption' of the academy's 'goods' shaped the dissemination of academics' writing within and outside academia? How have the major publishing houses shaped the contemporary dissemination arena? What are the challenges for emerging and experienced academics in this new era of digital dissemination?

# CONCISE PAPERS

Following a peer review process the following presentations were accepted under the Concise Paper category.

## Apps for Active Learning - A Digital Futures Pilot

Richard Beggs

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Students' expectations are rising year on year and they expect to see digital technologies throughout their journey in ways that are relevant to their academic success (Beetham, 2013). Using active learning apps is an ideal way to address these expectations and raise the digital literacy of both staff and students in the process. As part of the Digital Futures Strategy the Office for Digital Learning, within Ulster University organised a 'Apps for Active Learning' pilot for academic year June 16 to June 17. At Ulster University we are in a period of change, with a new campus under development in Belfast, we are exploring changes to curriculum delivery, there is also the Learning Landscapes project, the Teaching Excellence Framework and the Digital Futures strategy all of which combined have created an opportunity to enhance the student learning experience. This however has a flipped side and brings challenges with it and in particular how to meet the added expectation of technology integration. Our statistics have highlighted that each student has 3 devices on average, they already have the technology in their pockets (BYOD), the pedagogical opportunities that these devices bring to a collaborative and active learning experience are immense. Nearpod gives us a platform to test the technology integration. This paper explores the early interactions with students and academic/professional support staff, their concerns, training needs and case studies of enhancing their teaching using apps for active learning. Methodology: 50 licences were purchased for use by academic and professional support staff, in addition there are 5 administrator accounts to manage the pilot. Along with the academic and professional support staff there are approximately 600+ students involved in the pilot. Currently in week 2 of semester one there are 26 active teachers, some academic and support staff will be using Nearpod in semester two. There have been 2805 active students in 289 sessions. Qualitative and quantitative feedback has been gathered from all participants, both student and staff through questions tailored to that role via Nearpod at the commencement of the pilot and then throughout. NOTE: As an incentive to students 10 x £25 iTunes vouchers will be randomly drawn towards the end of semester two 2017.

### Key Readings

- Beetham, H., & White, D. (2013). Student expectations. Jisc. [online]  
[http://repository.jisc.ac.uk/5572/1/JR0006\\_STUDENTS\\_EXPECTATIONS\\_EXEC\\_SUMMARY\\_v2.pdf](http://repository.jisc.ac.uk/5572/1/JR0006_STUDENTS_EXPECTATIONS_EXEC_SUMMARY_v2.pdf) Accessed 15 July 2015.
- Johnson, L., Adams Becker, S., Estrada, V., & Freeman, A. (2015). NMC Horizon Report: 2015 Higher Education Edition. Austin, Texas: The New Media Consortium.
- Kandiko, C, B. (2013). Student experience QAA report [online]  
<https://www.kcl.ac.uk/study/learningteaching/kli/People/Research/DL/QAARepor.pdf>. Accessed 14 July 2015.
- McConatha, D. (2013). Mobile pedagogy and perspectives on teaching and learning. [online] USA, IGI Global. Availanle from  
[https://books.google.co.uk/booksid=utyWBQAAQBAJdq=constructivist+theor+definition+higher+education+academy&source=gbs\\_navlinks\\_s.13](https://books.google.co.uk/booksid=utyWBQAAQBAJdq=constructivist+theor+definition+higher+education+academy&source=gbs_navlinks_s.13) Accessed 12 February 2015.
- Murphy, B. (2015). Digital Futures Strategy – Executive Summary. Belfast: Ulster University.

## Critical Reflections on the Irish Horizon Report What Did We Learn From the Exercise?

Mark Brown & Paul Gormley

[martin.brown@dcu.ie](mailto:martin.brown@dcu.ie)

This talk critically reflects on some of the lessons from Ireland's first Horizon Report on future trends and challenges facing Higher Education (Johnson, Adams Becker, Cummins & Estrada, 2015). The Horizon Reports are widely followed internationally and produced annually for many regions and countries by the New Media Consortium (NMC). An online Delphi method using a standard template of questions, which was adapted for the Irish context, invited a panel of local educators to rank and comment on the relative importance of different trends, challenges and future technologies. In this respect the Irish report presents the wisdom of a purposively selected crowd who were identified for their specialist knowledge and experience of learning technology within the local context. That said, particular attention was given during the selection of the so-called expert panel to include a wide range of perspectives, including those of new and emerging academics. However, it also needs to be acknowledged that previous Horizon Reports have been strongly criticised for fad hopping, overly focusing on technology rather than pedagogy, and failing to accurately predict the future (Downes, 2015). More specifically, the reports are challenged for the lack of explanatory narrative between annual editions, which fail to connect previous predictions with the latest ones. In contrast the annual \*Innovating Pedagogy\* reports published by the Institute of Educational Technology at the UK Open University (Sharples, et. al., 2015) adopt a different methodology, which arguably have greater validity. While aware of the above limitations the primary aim of the Irish Horizon Report was to generate wider discussion around the impact of new pedagogical models and new technologies on the future of Higher Education. With this outcome in mind we reflect back on the value of the exercise and to what extent the report met its original objective. Finally, the paper takes another look at what the Horizon Report said (or did not say) in terms of major trends, challenges and developments for Ireland and with the benefit of hindsight briefly reflects on the currency of the findings.

### Key Readings

Downes, S. (2015). \*NMC Horizon Report: 2015 Higher Education Edition.\* Available from <http://www.downes.ca/post/63412>

Johnson, L., Adams Becker, S., Cummins, M., Estrada, V., and Freeman, A. (2015). 2015 NMC Technology Outlook for Higher Education in Ireland: A Horizon Project Regional Report. Austin, Texas: The New Media Consortium.

Sharples, M., Adams, Ferguson, R., Gaved, M., McAndrew, P., Rienties, B., Weller, M., & Whitelock, D. (2014). \*Innovating pedagogy 2014: Exploring new forms of teaching, learning and assessment, to guide educators and policy makers.\* Open University Innovation Report 3. Available from <http://www.open.ac.uk/innovating>

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## Factors Affecting the Introduction of Digital Portfolios in Irish Education

Martin Brown, Joe O'Hara, Gerry.McNamara & Paige Poole

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This paper, provides an analysis of the first part of a two-year study on the integration of ePortfolios in Irish Post-Primary Education that is being carried out at the Centre for Evaluation, Quality and Inspection (EQI) at Dublin City University in Ireland. Through a series of interviews with school principals and teachers, this phase of the research explores the place of and factors affecting the introduction of

ePortfolios in Irish post-primary education. Evidence suggests that, on the one hand, although principals and teachers view the use of ePortfolios to enhance teaching and learning favourably. On the other hand, there are a number of unresolved issues such as equity of broadband access, and the disconnect between ePortfolio functions and the Leaving Certificate Curriculum that need to be resolved before ePortfolios become a common feature of the Irish educational landscape.

### Key Readings

- Becta. (2007). The impact of e-portfolios on learning. Available from [http://dera.ioe.ac.uk/1469/7/becta\\_2007\\_eportfolios\\_report\\_Redacted.pdf](http://dera.ioe.ac.uk/1469/7/becta_2007_eportfolios_report_Redacted.pdf)
- Carney, J. (2006). Analyzing research on teachers' electronic portfolios: What does it tell us about portfolios and methods for studying them? *Journal of Computing in Teacher Education*, 22 (3), 89-97.
- JISC. (2008). Effective practice with e-portfolios: Supporting 21<sup>st</sup> Century learning. Available from [http://www.sspplus.info/files/effective\\_practice\\_e-portfolios.pdf](http://www.sspplus.info/files/effective_practice_e-portfolios.pdf)
- Rhodes, T., Chen, H., Watson, C., & Garrison, W. (2014). Editorial: A call for more rigorous eportfolio research. *International Journal of ePortfolio*, 4 (1), 1-5.

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## A MOOC to Facilitate Flexible Learner Transition into Higher Education - Head Start Online: First Steps to Flexible Study

James Brunton, Mark Brown, Eamon Costello & Orna Farrell

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This paper reports on a five week pre-induction socialisation MOOC developed on a new MOOC platform called Academy built by Moodle HQ, and designed to facilitate successful transition into higher education for flexible learners. In this context a broad definition is adopted of flexible learners, which includes adult learners engaged in part-time and/or online/distance education. Enhancing retention and completion rates of this group of flexible learners has become a significant problem throughout the world, especially with the growth of new models of online learning. Although the number of flexible learners in Ireland is relatively low in comparison to many other countries, around 17% of all undergraduates. The MOOC targets prospective flexible learners during early parts of the study life-cycle, when they are considering entry into Higher Education, or have just made that decision and may benefit from advice about how to effectively prepare. The MOOC utilises a number of the digital readiness tools developed by the Student Success Toolbox project ([studentsuccess.ie](http://studentsuccess.ie)) and combines these tools with supporting materials in order to deliver a comprehensive pre-induction socialisation course. The key areas of focus in the MOOC are to:

- Present information that aids in the creation of a realistic set of expectations about flexible learning in Higher Education, especially around the importance of time-management
- Facilitate prospective flexible learners in reflecting on their readiness for study in Higher Education
- Reduce anxiety by presenting reassuring messages
- Offer opportunities for socialisation with other prospective flexible learners
- Equip these prospective learners with advice and tools on how to effectively prepare for the educational journey ahead.

A small-scale pilot of the Head Start Online was carried out in Aug-Sept 2016. Participants were made up of prospective flexible learners planning to start courses in Ireland this year and also a cohort of about 70 learners from a German organisation called Kiron, who support refugees in gaining access to higher education. 150 individuals enrolled on the course, 105 signed into the course and 50 of those went on to receive a certificate of completion. Survey results indicate that the course has the desired impact on participants' perceptions relating to readiness for flexible learning.

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## Minecraft and Digital Learning: Building a Research Culture

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This presentation describes a unique project known as MindRising Games. It reports how the innovative use of Minecraft combined with the principles of authentic and meaningful learning contributed to a rich digital story telling experience. MindRising Games was a competition, which was part of the 100-year commemoration of the Easter Rising, designed to celebrate 200 years of the Island of Ireland. It involved over 400 young people and educators from nearly every corner of Ireland in a digital exploration of the past, the present and the future. In short, MindRising Games was about telling digital stories through the experiences of today's youth in reflecting on the events of 1916 and reimagining what the next 100 years could bring for Ireland. Participants were required to create a project portfolio in Sway, build a virtual world in Minecraft and make a short video showcasing their efforts. The paper reflects on this experience and outlines our intention to build a long-term programme of research in the area of educational video and computer games, including both the opportunities and challenges.

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## Improving the Student Experience and Attendance at Mathematics Tutorials using the Computer Aided Assessment Tool Numbas

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We have rolled out e-assessments in Mathematics to over 1000 students in Cork as part of a joint initiative between UCC and CIT and funded by the National Forum for the Enhancement of Teaching and Learning in Higher Education. The initial motivation for using e-assessment was to manage lecturer workload in correcting continuous assessment and therefore allow regular assessments and timely feedback to take place (teame.ie, 2016). Regular assessment and quick feedback improves learning (Black & Wiliam, 1998). Students tend to be very judicious in where they focus their efforts and can be 'selectively negligent' when there is no assessment associated with a topic (Gibbs & Simpson, 2004-5). Assessment and feedback, although widely accepted as increasing engagement, are all very difficult and time consuming in practice. The idea of automating these processes (or partially automating) seems very attractive as the students get the benefits without the huge increase in workload involved in marking tests and giving timely feedback. We chose to use Numbas (Foster, Perfect, & Youd, 2012), a freely-available e-assessment tool for mathematics, which has been developed at Newcastle University. It allows students to input mathematical formulae easily and creates a similar but different question for each student. It gives students instant feedback and also interacts with Learning Management Systems like Blackboard and Moodle. Numbas worked very well as an assessment tool for both formative and summative assessment. However, there was also an unexpected discovery, the students seemed to like the Numbas work and it appeared that they had a positive user experience. Attendance records show that attendance at the Numbas tutorials was better than traditional pen and paper tutorials. Surveys conducted show that Lecturers and students agree that students were more engaged with the mathematics presented. Over the course of the three years since we first piloted Numbas assessments lessons have been learned about what works best when using e-assessment and what difficulties might be encountered. Our talk discusses how we gradually introduced e-assessment and our experiences with it (teame.ie, 2016). It also discusses student and lecturers' views and the possibilities of applying this system in other contexts, e.g. Second level mathematics.

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## Integration of Tablet Technology in Post-primary Education: A Case-Study of Teachers' Experiences

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The integration of technology into classroom practice has been widely research over the last two decades.

In Ireland, most primary and post-primary schools are now equipped with overhead projectors, classroom PCs, interactive whiteboards, dedicated computer rooms and more recently, tablet technology. Deployment of each of these educational technologies has generated much discussions regarding appropriate teaching and learning strategies, classroom practices and transformative assessments. This study examines the opportunities and benefits that tablet technology offers to both teachers and learners in post-primary schools. This research has been carried out in an Irish post-primary school with a small group of teachers (n=10) whom developed and video-recorded several lessons which integrated tablet technology in the classroom. This presentation will discuss the approaches adopted and challenges faced by these teachers when integrating tablet technology in multiple Junior Cycle subjects. The findings from interviews with these teachers revealed that the integration of tablet technology in the classroom was beneficial and generally a positive experience for both teachers and learners. However, these teachers felt that the use of tablet technology demanded a significant investment in time for planning and implementing lessons. They also expressed their reservations to the use of tablet technology for developing and assessing student learning, as this method was not aligned with current national assessment practices.

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## Openness and praxis: Exploring the use of open educational practices for teaching in higher education

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Openness in education attracts considerable attention and debate. Much recent research, within Ireland and globally, has focused on MOOCs, open educational resources (OER), social media in education, and concomitant issues related to privacy, data ownership, ethics, and equality (National Forum, 2015; Schuwer et al., 2015; Weller, 2014; Wiley et al., 2014). There has been little empirical research, however, on educators' use of open educational practices (OEP). OEP is a broad descriptor that includes not only the creation, use and reuse of OER, but also open pedagogies and open sharing of teaching practices (Ehlers, 2011; McGill et al., 2011). Veletsianos and Kimmons (2012) note that educators "can shape or be shaped by openness". It is this individual meaning-making and praxis that I explore in this paper. The paper presents findings from my ongoing PhD research study exploring the digital and pedagogical strategies of a diverse group of 19 university educators, focusing on whether, why and how they use OEP for teaching. Using a constructivist grounded theory approach, four co-related dimensions were found to be shared by open educators in the study: balancing privacy and openness, developing digital literacies, valuing social learning, and challenging traditional teaching role expectations. The use of OEP by educators is complex, personal and contextual; it is also continuously negotiated. The findings suggest that research-informed policies and collaborative and critical approaches to openness are required to support staff, students and learning in an increasingly complex higher education environment.

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## Using Case Study Methodology to Explore the Relationship between Digital Learning and Widening University Access

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Much of the focus on digital learning in higher education (HE) relates to how technology can enhance the knowledge, skills and employability of traditional full-time on campus students. Little attention is paid to how technology might broaden access to new and diverse students who are unable to attend. Yet equality of access to university is one of the big issues facing society in the 21st century. While Ireland has experienced a dramatic expansion in HE participation research indicates that certain groups continue to be under-represented: those from lower socio-economic bands, first-time mature entrants, students with disabilities, part-time/flexible learners, further education (FE) award holders and Irish travellers. There is typically an intersectionality between some of these groups, for example mature students are more likely to be part-time learners. Age, in turn, is often related to socio-economic background, with adults more likely to have delayed their participation in higher education for reasons related to social class. FE award holders too are likely to be from lower socio-economic groups and tend to have chosen FE in constrained financial circumstances, knowing that their course will be short and allow them to enter the labour market sooner. Furthermore, costs associated with travelling, or having to live away from home while studying, present a significant barrier to accessing full-time HE for many working class students. Research tells us that most of the underrepresented groups are more likely to require part-time study options yet funding to widen participation is funnelled exclusively into full-time courses. This study employs case study methodology to examine the pre-participation profile and employability outcomes of 268 recent distance graduates from Dublin City University (DCU) Ireland.

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## Harnessing the Crowd: Framing a Research Agenda

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This presentation explores the growth of crowdsourcing and the potential as a context for educational research. Crowdsourcing is a term often used for processes of data collation and creation where individuals or groups of users who are not necessarily located centrally generate content that is then shared. While the term originates within the world of business, it has since gained traction within a number of academic and professional disciplines including education. Drawing upon two Irish examples, the paper reflects on the educational potential of crowdsourcing and opportunities and challenges as a context for research. Firstly, it reports a unique one-year open crowdsourcing initiative which compiled a comprehensive A-Z directory of edtech tools for teaching and learning through collaborative contributions. Secondly, it describes an initiative to develop a crowdsourced repository of study tips and suggestions for adult, part-time, online and flexible learners embarking on further study. These two case studies provide a valuable context for discussing a wider research agenda on the potential of crowdsourcing in education.

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## The Next Generation of Online Learning: How can Digital Portfolios Enhance the Nature of the Learning Experience and the Development of Criticality among Flexible Learners?

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This paper reports on a doctoral research project which examines the nature of the learning experience of using an eportfolio and whether it enhances the development of criticality among flexible learners. It aims to interrogate the process of the development of criticality rather than the product. The project adopts a case study approach, following 20 flexible learners over the course of one academic year in a Dublin based third level institution. This study is using an exploratory holistic single-case design where the “object of the study” or the single issue/ the of the learner experience of using an eportfolio and the process of developing criticality are investigated. (Creswell 2007, Stake 1995, Yin 2014) The setting is a unit which is a provider of online, ‘off-campus’ programmes in a Dublin based higher education institution. The participants are intermediate flexible sociology learners studying a module called Soc3A as part of the BA (Hons) in Humanities. The participants are mature adult students combining study with work and family

commitments, in the context of this project they are defined as flexible learners. In order to gain a rich, thick and personal description of the experience of using an eportfolio the following data collection methods are selected; physical artefacts contained in an eportfolio and interviews. The main source of data will be the written, visual and multimedia artefacts from the learner's eportfolios, and the focus of the interviews will be the learner's eportfolios and their experience of the process of learning with an eportfolio. Participants will use their eportfolios to create a critical commentary of their learning and will complete five eportfolio entries over the course of one academic year at key points in their learning journey.

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## A Framework-Based Methodological Approach to Embedding Digital Literacies into Professional Education Programmes (PEPs)

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Recent Irish and European Commission educational strategy publications have identified the need to support the development of key professional competences for adult educators practicing in the Irish lifelong learning sector (CEDEFOP, 2013; European Commission, 2013; Irish Teaching Council, 2011; SOLAS, 2014). An emergent body of higher and further education research has developed around this discourse which posits the view that the development of digital literacies is now considered an essential competency for adult educators (Laurillard, 2012). This proposition has led to the development of pedagogical frameworks (e.g. JISC, Beetham and Sharpe, 2010; NFETL/All Aboard!, 2015) that, at a high level, claim to enable the embedding of contextualised digital literacy tools practices into professional education programmes (PEPs). However, methodological questions remain around: (1) how learning designers can best operationalise these frameworks into constructively aligned professional curricula (Biggs, 2003); and (2) whether this can be achieved through accessible and sustainable practices which do not necessitate reinventing the wheel. This paper describes how NUI Galway employed the DigEULit digital literacy framework approach (Martin, 2006) to embed digital literacies into their professional education programmes for adult educators; and highlights the methodological tools and practices employed in this process. It will:

- Explain how the DigEULit 5-step framework was operationalised
- Introduce a pre-and post- PEP self-efficacy survey tool used by the course participants that was generated through the DigEuLit operationalisation process
- Highlight the Cronbach alpha reliability results carried out to test the robustness of the tool over four academic learning cycles
- Identify the digital literacy tools and practices the participants engaged with

- Highlight how the DigEuLit framework methodology was employed to underpin two doctoral study investigations addressing the following research questions:
  - Are student-reported self-efficacy ratings reliable indicators of academic performance? [a quantitative quasi-experimental methodology, 2012]
  - How does adult educator engagement with professional digital literacy curricula impact on their professional identity? [a mixed methods methodology, 2016]

This presentation will be of interest of institutional educational providers, policy makers, researchers and practitioners; particularly those interested in operationalising digital literacies within professional curricula, and in QQI standards development.

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## Aladdin's Lamp: A Vision or Creating, Supporting, Sustaining and Improving the Impact of UCD's Digital Scholarship

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The emerging trends in higher education internationally indicate that researchers are increasingly conducting their work in the context of interdisciplinary collaborations emerging around the field of digital scholarship – scholarly activities that apply computational methods and digital media and technologies to teaching and research. This points to the need for a coordinated approach within the university to support innovative faculty engaging with new media and initiating digital scholarship projects (e.g. UCDscholarcast). From a strategic perspective, developing a digital scholarship service that effectively facilitates the discovery, development, dissemination of UCD research outputs, and measures their impact would increase the visibility of UCD scholarship globally, as well as strengthen the university's public engagement efforts. Digital Scholarship Centres (DSC) are integrated facilities that include staff offices, public workstations with software licences, collaboration spaces, service point/desk, consultation areas, seminar/workshop/classroom spaces, media production studios, makerspace, exhibition space, visualization lab. These spaces are enhanced by the co-located technical skills and digital scholarship experts who can be called upon to support a wide variety of digital media projects throughout their lifecycle. The team that support the use of this facility include a mix of librarians, software developers, multimedia professionals, faculty and graduate students. DSC are considered by many university leaders to be the future for libraries “librarians will work side-by-side with faculty and students through all steps of the research process, including the selection and management of resources, the analysis, documentation and design of findings, and the dissemination and preservation of scholarly works.” (Maron, 2015, p. 34). DSC are viewed by the current players in this emerging field as potential catalysts to affect a cultural change across universities and repositioning the university from an organising of learning to a ‘learning organisation’ (Senge, 1990), providing students with a 21<sup>st</sup> century education and the graduate skills required for an increasingly digital world.

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## DBR3: Design-Based Research for Digital Learning Research in Formal and Informal Education Contexts

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The interoperability, interactivity and mobility of technology create new opportunities to enhance learning, teaching and assessment (Thompson Long & Hall, 2015; Hall, Ó Grádaigh & Ní Ghuidhir, 2016). Importantly, the emergence of increasingly sophisticated digital devices and applications can potentially enable learning that is more constructionist and interactive, where the predominant focus is on learners' creativity with technology (Resnick, 2016). But how do we effectively design digital learning, in a conceptually principled yet practically impactful way, informed by the exigencies of our teaching contexts while at the same time inspired by relevant theory? One methodology that can help to enable and support this type of systematic digital learning research is design-based research (DBR) (Reeves, Herrington & Oliver, 2005). This paper explores concepts and principles of DBR in education, and how DBR – as a practitioner-oriented, interventionist methodology - can help with the systematisation of the design of digital learning research for different educational settings, elective and compulsory. After setting the context and outlining the challenges of contemporary technology-enhanced learning, the paper discusses key features and principles of design-based research methodology. It outlines the main contributions and limitations of DBR, and how it might be applied – over time - to scale and optimise the impact of design for digital learning research in a range of educational contexts, formal and informal. The paper concludes with a framework for digital learning research: DBR3, framed and guided by DBR methods and principles. Based in particular on the educational design research of McKenney & Reeves (2012), the DBR3 Model consists of a ternary of key impact axes for digital learning research: proximal (local implementations); medial (adaptable resources and technologies); and distal (ontological design sensitivities).

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## Flipped CPD Redefines Teacher's Role in Professional Development

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Fostering professional learning networks and transforming learner's role in teacher education is one objective for this research study's exploration into an alternative model for continuing professional development (CPD). This study aims to explore the use of a flipped instructional approach within teachers' professional development and its impact on teacher learning among Ireland's secondary teachers. Embedded within a virtual learning environment, Flipped CPD has the potential to encourage teachers to reflect and re-envision their role as an active learner and teacher amongst their colleagues. Flipped CPD draws on similar flipped approaches to Learning, Leadership, and Professional Development, encouraging collaboration and discussion through the restructuring of the ineffective and traditional CPD model. Broader exploration of learning and instructional theory and practice provides renewed opportunity to explore the structure of CPD. Literature, as well as current reform initiatives, address a need and demand for CPD to evolve with the innovative instructional practices embedded within the classrooms of the 21st century educator. Today's classrooms are transitioning to a collaborative/active learning and learner-centred approach, an approach that experts within the field of teacher professional development hope to embed. The research on Flipped CPD will be conducted as an evaluative case study and utilise a concurrent mixed methods approach that draws data from teacher/student questionnaires, teacher interviews, student focus groups, classroom and workshop observations, digital artefacts, and learner analytics. The data collected from Flipped CPD will explore the expected benefits of providing teachers flexibility in engaging with CPD, contribute to content and personalise learning, as well as engage in continuous support from a valuable community of colleagues. It is the aim of this research study that Flipped CPD will encourage teachers as active learners and change agents throughout their CPD experience where teachers share, collaborate, and lead their colleagues within a virtual professional learning network.

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## A Doctoral Study in Progress

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It is argued that in multiple fields of study, the fundamentals of Computer Science are becoming increasingly important, including meta skills such as problem solving, logical reasoning and algorithmic

thinking (Wing, 2006). This generalisation, of both the study and application of Computer Science principles as key problem solving skills, is known as Computational Thinking (Wing, 2006). Computational Thinking is a highly valuable 21<sup>st</sup> century skill (Mohaghegh & McCauley, 2016). It can be used to support problem solving across all disciplines, including science, mathematics, and the humanities. In September 2014, England became the first European Union country to mandate Computer Science classes for all children between the ages of 5 and 16. Its goal is to “equip pupils to use computational thinking and creativity to understand and change the world “ (UK Dept. of Education, 2013). The Irish Action Plan for Education 2016-2019 (pp.66) details an action to accelerate “... the Digital and ICT agenda in schools by including a coding course for the Junior Cycle and introducing ICT/Computer Science as a Leaving Certificate subject”. This presentation will discuss a (newly started) PhD research project funded by the Irish Research Council in this area whose overriding aims are firstly to investigate the pedagogical approaches to teaching Computational Thinking to post primary children and secondly to investigate how the emerging technologies and pedagogies designed around MOOCs can be married with contemporary pedagogical approaches to teaching Computational Thinking.

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## On-Message Out-of-Class: An Exploration in to the Effect of Message Source Credibility and Message Content on Student Engagement on Twitter

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Kuh (2009) defines student engagement as 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.” Numerous studies suggest that students who invest more time and higher quality of effort, and thus engage more fully, gain more from the college experience than those who do not (Pace, 1990; Astin, 1984). Engagement may be in-class or out-of-class and therefore may include a wide range of activities including interactions with faculty, extra- and co-curricular activities as well as peer interactions (Kuh, 2009; Pascarella and Terenzini, 2005). Unsurprisingly, studies have found a positive relationship between technology and engagement including voting devices, video games, and more recently social media (Heiberger and Harper, 2008; Junco et al. 2010; Junco, 2012). Social media (and social networking sites) are a pervasive feature of student life. Twitter, a predominantly public social networking site, is widely used for student engagement in the delivery of conventional higher education courses and so-called massive online open courses (MOOCs)(van Treeck and Ebner, 2013; Shen and Kuo, 2015) . Despite its popularity, there is a dearth of empirical studies exploring the determinants of Twitter engagement in educational contexts. This presentation will discuss research in progress relating to the relationship between message source credibility and message content (including content, interactivity and tone) on

out-of-class student engagement on Twitter.

#### Key Readings

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## Primary Physical Education Initial Teacher Educators' Experiences of Integrating of Technology in their Teaching

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Alongside numeracy and literacy, information communication technology (ICT) has been identified as a key national priority area in Ireland (Teaching Council, 2011). Teachers in today's classroom must not only be prepared to use technology, but must also know how to use technology to support children's learning (Butler, Marshall & Leahy, 2015). The effective preparation of teachers in the use of educational digital technology has been extensively discussed by researchers in the past few years (Khoo, Merry, Bennett & MacMillan, 2016; Butler, Marshall & Leahy, 2015; Kirschner & Sellinger, 2003). This 3- year study describes physical education initial teacher educators (PEITE's) experiences of integrating technology into a physical education module. The research design was emergent with each year planned and conducted to answer particular research questions. The methodology utilised in year 1 was lesson study followed by qualitative methods in year 2. In year 3 qualitative and quantitative methods were used simultaneously. The participants (N=2) were physical education initial teacher educators and their students, (pre-service teachers [PST's]) (N=25). Data included video recordings, audio files, a weekly reflective journal, a student focus group interview, questionnaires and field notes. Following data analysis a number of themes were developed including learning the technology, managing the technology and integrating the technology. The findings showed that the PEITE's were grappling with their own technological pedagogical content knowledge [TPCK] assuming that the PST's were technologically competent. The added challenge of integrating technology into the module was overcome. It took time to learn the technology, teach the technology and integrate the technology with physical education. This research confirms the importance of ensuring that technology is integrated and contextualised to develop PSTs TPCK. It provides evidence of the initial teacher educators themselves being an important resource and the need for their professional development to become more comfortable teaching technological applications (Graham, Culcatta, Pratt & West, 2004). We, 'the people' are beginning to make things happen (Butler et al., 2015) to inspire the new generation of teachers.

#### Key Readings

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## Towards a Culturally Responsive Pedagogy in Online Teaching: An Irish Perspective

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The aim of this qualitative interview study is to explore the extent to which faculty in one Irish higher education institution consider the cultural nature of what they include in the design and delivery of online courses. As the number of online courses increases nationally and internationally, there is a need to consider the diverse background of the students that faculty will meet and work with. However, from the literature examined it seems that the focus is primarily on identifying suitable pedagogical approaches and technology, rather than the cultural dynamics amongst participants in online programmes. In this study, it emerged that though faculty are aware of diverse learning needs of their students, culture was not considered either in the design or delivery phases of their courses. Recommendations for how to address this are included and intended to provide some assistance for those working as or with faculty teaching online.

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## The Importance of Emotional Design for Positive Engagement in Technology Enhanced Learning Tools

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The past decade has seen major advancements in both technology and its acceptance in educational environments. This Ph.D. research is examining the application of emotional design theory via technology-enhanced learning tools for positive student engagement in the field of Human-Computer

Interaction (HCI) education. It aims to explore how emotionally designed interfaces can engage the learner on a positive level while reducing perceived difficulty and learner frustration. The current generation of learners are interacting with products with excellent user experience across a range of platforms, fostering high expectations on the tools developed for technology enhanced learning (TEL). Research has begun to merge both Technology Enhanced Learning and Emotional Design, in an attempt to explore the positive benefits of the role emotions play on engagement in multimedia learning environments. The theory of emotional design is to design the product with emotional intent. Human emotions are derived from our inner representations and interactions with external factors, such as people, places, objects and things. The majority of research conducted into emotional response toward products is focused around the stream of affect (feelings) and cognition (thoughts). Research findings suggest that both have an enormous influence on how we interact with products and the emotions that they elicit can change the experience dramatically. The use of emotional design in TEL is in constructing the interface in a more attractive manner by enhancing the interface and user experience to be more visually appealing, functional, usable and engaging. As a result, positive emotions elicited by the user can enhance the learning experience by the task being perceived to be less difficult while increasing both motivation and learning outcomes. Preliminary findings from primary research conducted with HCI educators in Ireland has found that TEL tools are being utilized in the support of HCI education and the majority agreed that aesthetics were important for student's perception of quality and continued. It was also noted that the quality of TEL tools aesthetics was lacking or overlooked in general.

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- Um, E. et al. (2012). Emotional design in multimedia learning. *Journal of Educational Psychology*. Available from <https://steinhardt.nyu.edu/scmsAdmin/uploads/007/535/JEP%20Um%20et%20al%202012.pdf>

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## The Flipped Classroom as a Vehicle for the Enhancement of Accessibility in Higher Education: A Literature Review

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In recent years there has been a significant global shift towards an inclusive approach towards Higher Education. The drivers for this are varied and are among others legislative, attitudinal, economic and political. Due to commercialisation a market has developed which requires Institutes of Higher Education to be proactive in the recruitment and retention of students. The challenges posed by the increasing diversity in the modern classroom require that changes are needed in the way that education is delivered. New technologies are seen as a means by which this change is delivered. The flipped classroom is viewed as a strategy which can effect change. This paper describes a traditional narrative review of the literature relating to the concept of the flipped classroom. In particular it examines whether the flipped classroom can increase accessibility to education for marginalised groups. It commences by detailing the historical development of the concept and then establishes definitions for key concepts and terms. Literature describing flipped initiatives is reviewed as is empirical research on the topic. The review concludes that while some research shows some benefits for students from the use of the flipped classroom significant further research is required in this area before definitive conclusions can be drawn. It is further concluded that there is an absence of research in the field relating to the use of the flipped classroom as a vehicle for the enhancement of accessibility.

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- Eager, A., Peirce, J., & Barlow, P. (2015). Math Bio or Biomath? Flipping the mathematical biology classroom. *Letters in Biomathematics*, 1(2), 139–155. <http://doi.org/10.1080/23737867.2014.11414476>
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## E-Learning Policy: A Trojan Horse for Neoliberalism

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This paper will present a snapshot of the findings from my recently submitted doctoral research, a Critical Discourse Analysis (CDA) of thirteen e-learning policy texts published in the UK between 2003 and 2013. Via thematic analysis (Braun and Clarke 2006) I identified recurring themes across the 138, 900 word corpus. These were then clustered around a trinity of neoliberal ‘Master Narratives’ (Jessop 2004; Fairclough 2006): Marketisation, Instrumentality, and Modernisation. The themes and narratives were then subjected to an ‘Ideology critique’ (Held 1980) in order to expose evidence of myths, contradictions, biases, hegemonies, and omissions. CDA sees the wider context as essential to making sense of a text (Bloor and Bloor 2007; Van Dijk 2008), thus I also examined each text within its historical and socio-economic context. Furthermore, since ideologies can be enacted and obscured by language (Bloor and Bloor 2007; Henriksen 2011), my analysis also examined the role of visual presentation, lexical choices, and rhetorical techniques in communicating the policies. My findings demonstrated that, overall, the policies considered were predominantly motivated by neoliberal imperatives aimed at placing HE within the realm of the market and enhancing the UK’s economic competitiveness. Furthermore, the policies persistently reflect a deterministic and uncritical perspective towards technology, while many of the claims made about the supposed characteristics and capabilities of e-learning are exaggerated, unsubstantiated, duplicitous, or justified via reference to contested discourses. I contend that this problematic framing of e-learning is exacerbating the negative impacts of neoliberalism on HE’s social, cultural, and intellectual role as a public good, and is intensifying social inequalities. It is also channelling e-learning into a restricted form that limits any possible pedagogical or egalitarian opportunities that the judicious application of digital technologies in HE teaching and learning might support.

**Key Readings**

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- Fairclough, N. (2010). *Critical discourse analysis: The critical study of Language*, 2nd edn, Pearson Education Ltd, Harlow.
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- Selwyn, N. (2014). *Distrusting educational technology: Critical questions for changing times*. Routledge, Oxon.

## Exploring the Role of Blended Learning Courses in the New Managerialism-Collegiality Debate

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This paper reports on the pilot study stage of a doctoral thesis on the management of blended learning (BL) courses in the Irish higher education (HE) sector. The full research, which is being undertaken as part of Lancaster University's Doctoral Programme in E-Research and Technology Enhanced Learning, takes an exploratory case study approach to viewing the management of BL courses using Activity Theory as a lens. The research is motivated by a desire to explore the impact of the challenges posed by online education to the HE sector, which, it has been argued, is already experiencing a conflict between collegiality and new managerialism brought on by the introduction of more business-like practices into the sector. The suggestion is that an exploration of the specifics of managing BL courses using Activity Theory to expose contradictions and conflicts will better inform the development and delivery of such courses. More significantly, it is hoped that the research will offer some insight into how the HE sector in Ireland might emerge from the larger collegiality vs. new managerialism conflict. The full research will look to explore the experiences of managing BL courses within this context at three Irish HEIs, using in-depth semi-structured interviews. This presentation looks at the insight gained from the pilot study in terms of informing the choice of methods required to pursue the research and the manner in which the researcher implements these methods in practice. The presentation will also discuss the impact of that learning on the choice of Activity Theory as a lens and the rationale behind the research itself.

### Key Readings

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## LMOOCs? Language Learning MOOCs – First Steps and Growing Pains

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Title LMOOCs? Language Learning MOOCs – First Steps and Growing Pains Moving from what was described in 2014 as a neonatal position into their infancy, language learning MOOCs are increasingly being offered by higher education institutions. In 2014, few LMOOCs were available in Lesser User Languages and most LMOOCs adopted approaches to language learning based on an asynchronous and an acquisition design-based approach. The research undertaken is to establish whether this situation remains the case. The paper begins by describing the aims of study is to benchmark the expansion of language learning MOOCs. Using Conole's (2014) classification of MOOCs the study frames how this growth is unfolding in terms of pedagogical approaches, technical advances and support for language learners by providers. Preliminary findings from the classification are provided in the paper. A short case study is also presented which explores the delivery of one LMOOC with multiple iterations investigating the specific pedagogical, technical and learner support issues faced by the LMOOC provider. The paper concludes by contextualising these findings with the wider expansion of MOOCs.

**Key Readings**

- Bárcena, E., & E. Martín-Monje (2014). Language MOOCs: an emerging field. *Language MOOCs: Providing learning, transcending boundaries*. E. Bárcena and E. Martín-Monje, DE GRUYTER OPEN.
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## Twitter for Professional Learning: Myths and Realities

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Twitter, an online social networking service, has been commonly encouraged as a learning tool for professionals. However to-date little evidence exists on how professionals use Twitter for learning purposes. This study draws on the responses of seven higher education professionals working in various roles. Individual case studies illustrated participants’ use of Twitter for professional learning and cross-case analysis highlighted similarities and differences among cases. This study calls into question the widely accepted notion that Twitter inherently enables social learning and thus enables professional learning. Wenger’s (1998) community of practice model, which proposes that learning occurs in relationships between people and that mutually negotiated activities contribute to identity construction, was used to problematise how professionals used Twitter for learning. The findings of this study confirm the complexity of professional learning in online public spaces such as Twitter. While participants were digitally literate, certain factors contributed to a lack of presence and participation on Twitter. These factors were confidence, cautiousness, vulnerability, and capacity to participate in social networking activities. This study concludes by asking if professionals in higher education are truly ready to embrace digital spaces for learning, and how they can be supported in that process in an increasingly digital world.

**Key Readings**

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- Veletsianos, G. (2016). *Social media in academia: Networked scholars*. New York, NY: Routledge. [Amazon; Barnes & Noble]
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## Are We There Yet? Why has the Virtual Learning Environment Failed to Transform Teaching?

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This paper takes a case study approach to look at the current status of virtual learning environment implementation in one faculty of a newly research intensive university. It adopts an activity theory perspective to examine the contradictions that have impacted on how the tool has been adopted within the faculty. The study finds that the virtual learning environment has been successfully adopted, but has not transformed teaching. This is explained in terms of contradictions within and between internal activity systems. In particular, the activity system of the internal unit charged with delivering blended learning is identified as complex and marked by contradictions. The VLE is assessed as overly complex, with a strong emphasis on the more administrative functions. The lack of a community of practice (Lave & Wenger, 1991) is a critical factor in inhibiting the sharing of innovation in teaching practice. Again, this is partially attributed to a culture that is seen not to value teaching but also to the characteristics of the users of the platform, and to differences in motivation for so doing.

### Key Readings

- Ashwin, P. (2012). *Analysing teaching-learning interactions in higher education: Accounting for structure and agency* (2nd ed.). London: Continuum International Publishing Group. Retrieved from <https://books.google.com/books?hl=en&lr=&id=8RdHAQAAQBAJ&oi=fnd&pg=PP1&dq=Analysing+Teaching%E2%80%93Learning+Interactions+in+Higher+Education&ots=QfDcYFPTiz&sig=WhILgeOvstWeimpxogBSgfbxHs>
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## Applying Theory to Practice: Raising a Virtual Child

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This qualitative study explores the perceptions of first year preservice teachers studying Developmental Psychology during the 2015-16 academic year using 'My Virtual Child'. 'My Virtual Child' programme was utilized as a virtual field experience to provide preservice teachers with an opportunity to apply the various developmental theories under study, such as Erikson, Bowlby, Ainsworth, Piaget, Vygotsky, Skinner, Bandura and Bronfenbrenner, to practice. 'My Virtual Child' is a virtual parenting simulation programme, designed by Frank Manis at the University of Southern California in 2007. The programme can be used in different types of courses and in various formats – face-to-face, hybrid or online. Following registration, students select the gender, child's physical characteristics and complete cognitive and personality quizzes. Once the initial student choices are made, the task of raising a virtual child from 0 to

18 years begins. Each child's development is unique and may be affected by a variety of factors. When students have completed the programme, they will have made 275 parenting decisions. This qualitative study of preservice teachers' experiences of raising a virtual child explores the strengths and limitations of this virtual programme in supporting effective learning. The data sources of the study consisted of reflective exercises and end of term evaluations which were analysed by the researcher to develop thematic categories of the participants' experiences of the programme. Findings are presented and implications for future use of 'My Virtual Child' are provided.

### Key Readings

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## Gamification in Education

Laura Rafferty

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This presentation draws on the literature review process undertaken as part of an MA in E-learning Design and Development. The term gamification can be traced back as far as 2002. Although it does go back over 10 years, it is still a relatively new emerging trend in the educational world. At its most basic, gamification could be described as taking elements of the principles of play and applying them to real world activities in an attempt to make them more motivating and engaging. However, this will only work well if gamification is used in an effective way. This presentation will discuss both the positives and negatives of using different digital gamification techniques in an educational context. This presentation will conclude by offering some practical examples of how gamification can be used.

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## Can Technology-enhanced Classes be Truly Interactive?

Barry Ryan

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NearPod is a multiplatform, blended e-learning tool that allows students to engage with each other and the lecturer in real time, independent of learning space size or type. In this research the use of NearPod was investigated in three different third level educational settings; a large foundation organic chemistry module, a medium size intermediate biochemistry module and a small maths for STEM programme. The rationale for this investigative case study was two-fold; practical implementation of key trends in higher education and enhancing the student learning experience. Recent NMC Horizon Reports cite the higher education adoption of BYOD (Bring Your Own Device) and flipped classroom learning is imminent. One aim of this project was to identify if NearPod, could address these two key trends in a simple, cost effective way. Secondly, the research sought to investigate if embedding technology into the learning environment could enhance the student learning experience and create a truly interactive environment. Beauchamp and Kennewell's (2010) Interactive Teaching with Technology paradigm formed the underpinning theoretical framework for exploration and evaluation. The use of NearPod as a constructivist learning tool was evaluated in terms of student interaction, engagement and participation through NearPod facilitated synchronous learning activities. Evaluative data was collected in several forms; anonymous questionnaires of all students that experienced a NearPod module, independent academic facilitated discussion fora with purposefully sampled students, staff reflective diaries and NearPod data analytics. Qualitative data analysis was carried out under Braun and Clarke's (2006) model and fed into a triangulated data set, ensuring only valid themes emerged. Overall, the students perceived use of the technology, and the academics personal reflective writings during student use, informed the success of the project. It was noted that the learning environment evolved towards a student-orientated, social constructivist space where the students took ownership for their participation in the learning activity and interacted with their peers and the academic through meaningful dialogue. Additionally, students became responsible for constructing their learning 'product'; created by the students, for the students and, hence, their learning overall. Finally, recommendations for practice and future research directions will be offered to stimulate further debate.

### Key Readings

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- Beauchamp & Kennewell. (2010). Interactivity in the classroom (...). *Comp.& Ed.*, 54, 759-766.
- Vuopala, et al. (2016). Interaction forms in successful collaborative learning (...). *Act Learn H. Ed*, 17, 25-38.

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## A Survey of Prior Experience of Computing and Engineering Undergraduates

Glenn Strong, Nina Bresnihan, Catherine Higgins & Richard Millwood

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Despite the wealth of research into the teaching and learning of software development at 3rd level, educators are still being challenged to find the right blend of technology and pedagogy in order to facilitate student success and retention in computing and engineering programmes (Price & Smith, 2014; Coull & Duncan, 2011). Equally, it has become apparent that increasing numbers of students arriving in college to sit such programmes have prior experience of computer programming (McInerney & Margaria, 2015).

However, the proliferation of this prior exposure as well as its nature, origins, depth and usefulness is not known beyond anecdotal evidence. It follows that understanding the computing profile of incoming students is vital for the ongoing design and improvement of college courses with the aim of achieving a positive impact on student outcome and retention. For this reason, members of the Computational Thinking for Life research group based in Trinity College Dublin decided to conduct an annual survey of first year undergraduates in Irish colleges. It began with a pilot study in 2015 followed by a larger study in 2016 which involved 8 colleges nationwide with 313 students responding. This paper reports on the results obtained to date. It was found that 34% of first year students had some prior experience of programming with nearly half of that group reporting that they had a reasonable level of fluency in one or more languages. The most common languages reported were Java, C/C++/Objective C and Web languages (HTML and CSS). Over half of the respondents gained experience via online courses such as Codecademy; a quarter though school related clubs and activities; 10% though non-school related clubs such as CoderDojo and the remaining students learning via books and projects. The aim is to grow the number of partner colleges going forward so trends and patterns can be identified in the years ahead.

#### Key Readings

- Coull, N. J., & Duncan, I. M. (2011). Emergent requirements for supporting introductory programming. *Innovation in Teaching and Learning in Information and Computer Sciences*, 10(1), 78-85.
- McInerney, C., & T. Margaria. (2015). Software as a high-tech weapon in Ireland's strategy. *Computer Software and Applications Conference (COMPSAC), 2015 IEEE 39th Annual, Taichung, 2015*, pp. 658 – 663.
- Price, K., & Smith, S. (2014). Improving student performance in CS1. *Journal of Computing Sciences in Colleges*. 30(2). pp 157 - 163.

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## Two Digital Learning Challenges at Third Level – Digital Expectations and Digital Learning Fatigue

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It is important that digital learning researchers continue to investigate what works and why (Beetham and Sharpe, 2013). Dissemination of their findings can improve the effectiveness of digital and inform educators of good practical pedagogical practices that are backed up by research so that (sceptical) lecturers can be convinced of the real benefits of digital learning and make it an effective reality for their students. However, there are several challenges to be faced. One challenge is different digital expectations i.e. the misalignment between what students expect on leaving secondary school and what they experience at third level. At second level, the students are exposed to a relatively uniform use of educational technologies - at least across their school. The recent Digital Strategy for Schools (DES, 2015) will see continued improvement in this area. However, at third level, there is a wide range of use of digital technologies in the learning process and this inconsistency can be confusing and at times frustrating for students. Some lecturers use digital technologies extensively, while others may only use them for providing lecture notes to students. Another challenge is digital learning fatigue. This could occur when an initially interesting and novel technology becomes over-used and loses its effectiveness. For example, in-class quizzes are becoming popular, especially for large classes, but what happens if/when in-class quiz fatigue sets in and the negatives outweigh the positives? Will this really be a problem? Will Computer Assisted Learning (CAL) become so normalised (Bax, 2003) that such a question will seem ridiculous in 20 years time or will there still be lecturers who use digital technologies in a limited way? Although the technology will change, there will always be the need to have a careful balance between what is possible and pedagogically sound practices – of course, the two are not mutually exclusive, but divergences can arise. In digital learning, there needs to be a balance between easier-to-do lower order learning and not-so-easy-to-do higher order learning (Fullan and Langworthy, 2014) – not an easy task, but an important one.

## Key Readings

Bax, S., (2003). CALL - past, present and future. *System*, 31(1), pp.13-28.

Beetham, H., & Sharpe, R. (2013). *Rethinking pedagogy for a digital age: Designing for 21st century learning*. London: Routledge.

DES (2015). *Digital Strategy for Schools (2015-2020) - Enhancing Teaching, Learning and Assessment*. Department of Education and Skills.

Fullan, M., & Langworthy, M., (2014). *A rich seam: How new pedagogies find deep learning*. Pearson.



## Rapid Fire Research

Following a peer review process the following presentations were accepted under the rapid-fire research category.

### If TeachMeet is the Answer, Then What is the Question?

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TeachMeet, a recently burgeoning form of CPD, is “an organised but informal meeting for teachers to share good practice, practical innovations and personal insights in teaching with technology”. There is currently an inadequate knowledge of the practice of TeachMeets - their nature, diversity and effectiveness. Tacit knowledge in TeachMeet organisers is not appearing in literature to date, and positive outcomes might easily be lost if not researched. Research questions that will be addressed to fill this gap may be as follows: How do TeachMeets work - what are the typical elements at play? How has social media influenced this? How can the value of TeachMeet be measured - in terms of its effect on teachers, classrooms and students? Is it possible to evaluate the role of TeachMeet as part of Teacher CDP? How is teachers’ participation to be recognised formally as part of their CPD?

#### Key Readings

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- TeachMeet UK - Multiple authors, (2006-2016), <http://teachmeet.pbworks.com/w/page/19975349/FrontPage> 3.  
 TeachMeet IE - Multiple authors, (2009-2016), <https://irishteachmeet.wikispaces.com/>

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### Pedagogical Constructs that Support Teacher Learning in an Online Setting

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Pedagogies are the key factor in teacher learning (Loughran, 2007). This study focuses on teacher learning, in particular the pedagogical approaches used during an online professional development activity in formative classroom assessment. Knowledge of assessment is a professional requirement but without access to well researched evidence based professional development opportunities teacher learning in assessment is confined to the knowledge gained from unquestioned classroom practices. The three principal challenges of learning to teach are countering the apprenticeship of observation, the challenge of enacting the theory and the difficulty of the complexity of the task of teaching and the teaching environment (Darling-Hammond, 2006). Quality teacher learning in assessment therefore involves pedagogies that “disrupt the apprenticeship of observation” (Westrick & Morris, 2016). They argue that such effective teacher education pedagogies must contain five separate elements that reflect Korthagen’s (2010) model of teacher learning. Effective pedagogies involve 1. The presentation of dramatically new ideas to elicit the awareness of gestalts and unexamined assumptions about teaching and learning 2. The usefulness of affect in awakening that awareness 3. An opportunity to develop metacognition and process reactions through writing that uncovers gestalts and articulates new understandings as schemas. 4. Cognitive work that engages with concepts and ideas from the new schema, rather than ideas that are too abstract or settled. 5. Experiences or topics that reveal the complexity of teaching while also offering practical and conceptual tools accessible to those at beginning levels of Korthagen’s (2010) three-level model of professional learning. Teacher learning online must extend beyond participant satisfaction to collaborative practice that contributes to sustainable school improvement (King, 2014).

**Key Readings**

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- Korthagen, F. (2010). Situated learning theory and the pedagogy of teacher education: towards and integrative view of teacher behaviour and teacher learning. *Teaching and Teacher Education*, 26 (1), 98–106.
- Westrick, J. & Morris, G. (2016). Teacher education pedagogy: disrupting the apprenticeship of observation. *Teaching Education* 27 (2), 156-172.

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## Constructivism in a Computer Mediated Communication Software Engineering Project

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Two distinguishing characteristics of adult learning most frequently advanced by theorists, are firstly the adults autonomy of direction in the act of learning and secondly the use of personal experience as a learning resource. Digital Learning is facilitated by technology, giving the students some element of control of their learning over time, place and pace. Computer-mediated communication can be defined as human communication that is maintained or altered through machines. By exploring computer-mediated communication in a digital learning environment, this project undertook a key challenge for educators teaching students to engineer software in globally dispersed teams. The current workplace emphasis on teamwork, technology and globalization make these core learning concepts, and none more so than in the software development industry. Organizations have increased their reliance on technology as a mode of communication. Software engineering development in virtual teams, across international boundaries, is common-place in industry, however this is seldom obtainable to students within educational institutions. This paper describes the constructivist approach, supported by computer-mediated communication theory, to teach Software Engineering. The project involved three international higher educational establishments teaching Software Engineering to computing students. The paper contribution presents a comprehensive course design that accelerates team and group theory beyond the traditional face-to-face team application. It conveys the potential for growth in online pedagogies and explicates the value of technology in course design and delivery with today's millennial student-learners.

**Key Readings:**

- December, J. (1996), Units of analysis for Internet communication. *Journal of Computer-Mediated Communication*, 1 (4),
- Papert, S. (1993). *The children's machine*. New York: Basic Books.
- Walther, J. B., (1996). Computer-mediated communication: Impersonal, interpersonal, and hyperpersonal interaction. *Communication Research*, 23(1), 3-43

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## Your Course is Bigger Than You Think!

Laurence Cuffe  
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In this talk I discuss the digital footprint of a course and its impact on learning. For many courses much of the content of the course is reproduced in a shadow course, curated by course participants and commercial

organizations, whose functionality can undermine the goals of both formative and summative assessment. I refer to it as a shadow course, insofar as the goal of those who create it is often to keep its content, or even its existence hidden from those in charge of formal course delivery. The course structures may mimic those of the formal course LMS, where present, but may attract greater engagement for cultural reasons which are not hard to understand. For effective course delivery certain steps may be taken to mitigate the negative effects of this shadow course, and curate its content in a manner which will enhance learning and student engagement. This may involve student education, specifically addressing cultural norms, redesigning assessment tasks, and increasing the use of social media in course delivery. Keywords: Plagiarism, online learning, blended learning. Course curation.

### Key Readings

Belmont Lay, site:Mothership.sg “This S’pore Whats App hotline is called Homework Gods. They will help you solve your homework questions.” Commercial website <http://writemypaper4me.org/>

Fattah, Said Fathy El Said Abdul “The Effectiveness of Using WhatsApp Messenger as One of Mobile Learning Techniques to Develop Students’ Writing Skills” *Journal of Education and Practice*, v6 n32 p115-127 2015

Watson, George; Sottile, James; Liang, Jia Grace, “What Is Cheating? Student and Faculty Perception of What They Believe Is Academically Dishonest Behavior” *Journal of Research in Education*, v24 n1 p120-134 Spr-Sum 2014

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## Low-cost MOOC Development Techniques do not Significantly Reduce the Quality of the Learning Experience Compared to Higher-cost Production Methods

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Education is changing on a global scale; one of the foremost changes has been the impact and use of technology inside and outside of the classroom; as any type of course can now be uploaded and made completely online or blended. The educational trajectory has been making the transition from traditional classroom methods to online methods within further and higher educational institutions, the next evolutionary step is how these institutions can access students through the use of (MOOCs) Fain (2012). The MOOCs have been utilised as taster courses, continuous professional development and as part of undergraduate marketing, the next step is the integration into mainstream education. At present, there is a disparity between the cost of creating a MOOC and the income they generate. This is one of the considerations for MOOC sustainability, The cost consideration is based in terms of creating the content from the perspective of the academics (subject matter experts) time quantification and the technical or support workers, as well as the facilitation support to keep the MOOC re-running again and again. The synergy exists between reducing the cost of production and sustainability of the MOOCs; as it would suggest that this is the only prohibitive consideration for most institutions, albeit that the research will attempt to prove that lowering production costs does not have a detrimental effect on the quality. MOOCs potentially disrupt the traditional tenets of formal education. A framework for thinking about quality and the different variables and questions that need to be considered when conceptualising quality in MOOCs has been Biggs’ (1993) 3P model. The literature on MOOCs cannot assess how quality can be measured and the PhD will provide original content in this respect. If MOOCs are to be viewed through the lens of economic sustainability in the long term for most educational institutions with budgetary considerations, then they need to reduce the cost of production and delivery. The PhD will address this disjunction by providing the framework for which other institutions can model and build upon the IT Sligo model.

### Key Readings

Biggs, J. (2003). *Teaching for quality learning at university: what the student does* (2nd ed.). Buckingham: SRHE & Open University Press.

Lesse, M. (2009). Out of class – out of mind. The use of the virtual learning environment to encourage student engagement out of class activities. *British Journal of Educational Technology*. 40 (1) pp70-77.

# Gestural User Interfaces for ALL - a practice-based Inclusive Design approach to teaching Computational Thinking with Kinect

Stephen Howell

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This research proposes to examine the effectiveness of teaching and learning Computational Thinking through natural user interface design and development. This practice-based research focuses on original software, dubbed Kinect2Scratch, that enables any student (or educator) develop body tracking psycho-motor games and software in Scratch utilising the Kinect sensor.

This research is a critical review of how the software is deployed in a teaching environment and the best-practice strategies for teaching Computational Thinking with it. This will allow a definitive distillation of how, why and when natural user interfaces should be deployed to teach Computational Thinking.

## Key Readings

- B. Daily, S. E. Leonard, A. Jörg, S. Babu, S. Gundersen, K & Parmar, D 2015, 'Embodying Computational Thinking: Initial Design of an Emerging Technological Learning Tool' *Technology, Knowledge and Learning*, vol 20, no. 1, pp. 79-84. doi: 10.1007/s10758-014-9237-1
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- Knochel, A. and Patton, R. (2015). 'If Art Education Then Critical Digital Making: Computational Thinking and Creative Code'. *Studies in Art Education*, Vol. 57, Issue. 1
- Kivunja, C. (2015) 'Creative engagement of digital learners with Gardner's bodily-kinesthetic intelligence to enhance their critical thinking', *Creative Education*, 06(06), pp. 612–622. doi: 10.4236/ce.2015.66060.
- Chang, Y.-J., Kang, Y.-S., Liu, H.-H., Wang, C.-C. and Kao, C.C. (2015) 'Designing Kinect2Scratch games to help therapists train young adults with cerebral palsy in special education school settings', *Proceedings of the 17th International ACM SIGACCESS Conference on Computers & Accessibility - ASSETS '15*. doi: 10.1145/2700648.2811356.

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## Learning analytics for learners

Mary Loftus

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Like many other sectors, education is looking to the emergence of data analytics for new insights into the process of learning. The field of learning analytics is moving past earlier crude behaviourist interventions and showing promise as a light to shine into the dark corners of individual student experience. In Ireland, educational researchers at DCU, working with the Insight analytics research cluster, are leading the way. Exciting developments in Australia are emerging in supporting student metacognition using dispositional analytics (Deakin-Crick 2015). By making the richness of the learning process more visible, learners and teachers can access deeper insights into the effectiveness of their learning and teaching approaches. As Gašević (2015) reminds us, Learning Analytics are about learning. However, little attention has been paid to the student's role in these data-rich learning environments, as noted by Kitto (2016). This paper sets out a PhD research project which will use learning analytics approaches to augment the pedagogical underpinnings of a module in a BSc in Computing degree course. Optimally refined machine learning techniques will be used to analyse learner, teacher, content and connected classroom interactions. These analyses will clarify the learner's path through the course, offer data for self-reflection and help teachers provide the most appropriate guidance and support. Learners will be supported in building their data literacy skills so they themselves can become more active participants in their own data-driven learning process – rather than be passive objects of an analytics driven set of interventions by teacher or institution.

**Key Readings**

- Deakin Crick et al (2015). Developing resilient agency in learning: The internal structure of learning power. *British Journal of Educational Studies*, 63(2), 121–160. <http://doi.org/10.1080/00071005.2015.1006574>
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- Kitto et al (2015). *Learning analytics beyond the LMS: the connected learning analytics toolkit* (pp. 11–15). ACM Press. <http://doi.org/10.1145/2723576.2723627>

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## What's Up with Whats App

Anna Logan & Suzanne Stone  
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This presentation is based on recent research around student engagement in the online virtual classroom conducted with students from the Masters in Special Educational Needs at St. Patrick's College now the new Institute of Education within DCU. A mixed method two-phased approach was used with two cohorts. Phase 1 comprised anonymous online student evaluations (n=27) and Phase 2 comprised two focus groups; one face-to-face and one online with 10 participants. Initial findings from phase 1 suggest that while most participants expressed a preference for the face-to-face classroom, the convenience of the online element was highly salient in enabling them to complete the programme. Data from phase two shed further light on student perceptions of engagement and expectations of online learning prior to registration. Building on Falloon's (2011) conceptual framework, this study suggests that collaboration between lecturer, learning technologist and students can help online learners develop the technical, procedural and operational knowledge required to make this transition and thus harness the affordances of the online synchronous classroom. In this presentation we focus on one key finding from Phase 2. The virtual online classroom tool used for this programme is *Adobe Connect*. Despite a variety of communication tools available in this platform, students elected to use a back channel to discuss the programme and as a social tool, in this case the *Whats App* messaging tool. Participants indicated that confidence levels in using the virtual classroom technology pushed the participants towards the use of a back channel. The public nature of presenting opinions in an online space was also an issue when using the Adobe Connect communication tools. While the use of a back channel has also been found to foster peer interaction and reduce the instructor's burden in the virtual online classroom (Vu & Fadde, 2013), the researchers are concerned by the level of discomfort that students are reporting in communicating within the Adobe Connect classroom itself. In the next phase the researchers would like to explore how student expectations of virtual online learning are influencing the level of confidence for participants in the online virtual classroom and how student expectations might be managed to support the development of confidence within this learning space.

**Key Readings**

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- Falloon, G. (2011b). Exploring the virtual classroom: What students need to know and teachers should consider. *MERLOT Journal of Online Learning and Teaching* 7(4), pp. 439-451.
- P. Vu, P.J. Fadde (2013). When to talk, when to chat: student interactions in live virtual classrooms *Journal of Interactive Online Learning*, 12 (2) (2013) Retrieved from <http://www.ncolr.org>

## Using Game Elements for Motivation and Engagement in Digital Learning

Daire O Broin  
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Game elements have been used in non-game contexts such as learning to make it more engaging and motivating. There are many examples of learning systems that contain game elements for increasing engagement, such as the language learning app DuoLingo, which includes game elements such as experience points, clear goals, enticing feedback, progression (both momentary and longer term), player agency, and wagering. When using game elements, it is vital that they are selected or designed to be relevant and well integrated into the experience, as many systems exist in which the game elements are meaningless or even harmful (Nicholson, 2012). One approach to mitigate this is to adopt a Human-Centred Design (HCD) process. This talk presents an overview of some work in this area currently being undertaken by the gameCORE research group in IT Carlow, using HCD to apply game elements to improve learning at third level with a focus on: peer and self assessment, student time management, forming study habits, and using career opportunities to encourage selection of learning goals and motivating learning.

### Key Readings

- Hamari, J., Koivisto, J., & Sarsa, H. (2014). *Does gamification work? – A literature review of empirical studies on gamification*. In proceedings of the 47th Hawaii International Conference on System Sciences, Hawaii, USA, January 6-9, 2014.
- Fishman, B. J., & Aguilar, S. (2012). *Gaming the class: Using a game-based grading system to get students to work harder... and like it*. In C. Martin, A. Ochsner, & K. Squire (Eds.), *Proc. GLS 8.0* (pp. 111-118). Pittsburgh, PA: ETC Press.
- Hanu, Michael D., & Jesse Fox. (2015). Assessing the effects of gamification in the classroom: A longitudinal study on intrinsic motivation, social comparison, satisfaction, effort, and academic performance. *Computers & Education*, 80, 152-161.

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## Mobile Learning on an Initial Teacher Education Programme

Seán Ó Grádaigh  
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Mobile learning considers the process of learning mediated by handheld devices such as smart phones and tablet computers (Schuler, Winters & West 2012). The ubiquity and diverse capabilities of these technologies have created considerable interest amongst educators (Authors 2012; Foley & Reveles 2014; Johnson, Adams Becker, Estrada & Martín 2013) who seek to investigate their application for learning on the move (Sharples 2013) across a variety of formal and informal contexts. Students can now learn when, where and how suits them best and Initial Teacher Education can play a central role in the integration of this technology in the classroom. The challenge for teacher educators is to facilitate the ability of pre-service teachers to enhance their learning and teaching process through implementing and integrating mobile technology to support their teaching practices. The National Education Technology Plan (US Department of Education, 2016) states “It is inaccurate to assume that because pre-service teachers are tech savvy in their personal lives they will understand how to use technology effectively to support learning without specific training and practice. This expertise does not come through the completion of one educational technology course separate from other methods courses but through the inclusion of experiences with educational technology in all courses modelled by the faculty in teacher preparation programs.” Although pre-service teachers are expected to demonstrate their ability to integrate technology into their pedagogical practice, they are often deterred from doing so by technical problems, sometimes referred to as ‘first-order barriers,’ external to the student (Ertmer, 2005). More recently attention has shifted to ‘second-order barriers’, the internal factors which inhibit teachers from using technology such as their own attitudes and beliefs (Ertmer, Ottenbreit-Leftwich, Sadik, Sendurur & Sendurur, 2012). The Digital Strategy 2015-20 now expects that the use of ICT will be embedded at each stage of the continuum

of Teacher Education. ( DES,2015 ). This paper presents a case study of a 1:1 (one-to-one) iPad deployment on the Máistir Gairmiúil san Oideachas (MGO), a one year, Irish medium, Initial Teacher Education programme for post-primary teachers in Ireland. Mobile technology is integrated in all aspects of the programme rather than as a stand alone 'Ed Tech module'. The resulting affordances for Mobile Learning in relation to digital portfolios, audio and video reflection, resource creation, peer assessment are discussed. The impact on student teachers' and MGO graduates' professional learning and pedagogical knowledge development will also be examined.

#### Key Readings

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- Mac Mahon, Ó Grádaigh.. & Ní Ghuidhir, (2016). iTE: Student Teachers using iPad on a Second Level Initial Teacher Education Programme, *International Journal of Mobile and Blended Learning (IJMBL)* 8(2), Link:<http://www.igi-global.com/article/ite/152272>

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## Examining Virtual Learning Environment (VLE): A Comparison Between High Performance Schools and Other National Schools in Malaysia

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In a world where information and communication technology (ICT) becomes increasingly important, many nations have responded by transforming school education from the traditional face-to-face and teacher-oriented experience to a student-centred environment that goes beyond the classroom, as well as promoting pedagogical approaches that encourage interactivity and the development of 21st century skills. One of the ways to achieve the transformation is via enabling schools to have access to Virtual Learning Environment (VLE), as it allows for the implementation of synchronous and asynchronous teaching and learning. This study focuses on the Malaysian government's initiative of implementing VLE to all national schools in the country. The existence of different types of national schools in Malaysia makes it interesting to compare and explore the effectiveness and impact of VLE implementation between the nation's preferred choice of school and other national schools.

#### Key Readings

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## Facebook as a Learning Space for Adult Basic Education (ABE)

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An online collaboration environment was constructed for an adult basic education (ABE) setting using best practice guidelines reported for Higher Education settings. Facebook was used as the online platform. Examination of the resulting learning outcomes, revealed several salient findings. Similar to findings for Higher Education settings, higher order learning was facilitated through the online collaborative environment, making it a realistic and achievable objective for ABE. Other equally important learning outcomes were also indicated – increased confidence, self-regulation and an equalisation effect, indicating it's potential as a pedagogical approach for ABE.

### Key Readings

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## Collaborative Information Seeking in Online Learning Contexts

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Collaborative information seeking (CIS), i.e., how people work together to fill information needs, has been studied extensively in organisations, but little in digital learning environments, a surprising gap given pedagogical emphasis on group projects in such contexts. For my PhD, I hope to explore how social factors such as context, division of labour and technologies intersect to shape CIS as well as how CIS leads to higher-order learning (e.g., through the collective definition of a discipline or topic). For this 3-minute presentation, I will discuss preliminary results of a pilot study conducted in October which explored how globally-dispersed students in an online postgraduate course organised their social search behaviour, for which I used semi-structured interviews and review of their discussions on Slack. I was curious whether collaborative search was happening, what social factors and technologies intertwined to shape it and what higher-order learning could I discern.

### Key Readings

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- Shah, C. (2014). Collaborative information seeking. *Journal of the Association for Information Science and Technology*, 65 (2), 215-236.
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# Evaluating the Usability of a Social Network Analysis Resource for the Digital Humanities

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Social network analysis (SNA) involves the mapping, evaluation and measurement of relationships and flows between information, people and groups. SNA visualisations comprise a series of nodes, representing the actors of a network, and edges, which represent the links between these actors. SNA is an increasingly important topic in many disciplines. In recent years, researchers have begun to apply it to the digital humanities, in particular to literary studies. However, it is still at an early stage of application in this field, and there are many open questions concerning to how humanities researchers might use this technique, how the visualisations could be presented so that they are maximally meaningful to researchers and students of literature, and what computational tool sets might best supported such potential users. The "Nation, Genre and Gender: A Comparative Social Network Analysis of Irish and English Fiction, 1800-1922" [1] project began in December 2013; the Principal Investigator is Professor Gerardine Meaney of the UCD Humanities Institute. The aims of the project include advancement of social network analysis of the novel and the establishment of an electronic corpus of novels and related SNA visualisations that can be used by other researchers, students and interested parties [2]. This Rapid Fire presentation describes the usability testing of an initial prototype of the the Nation, Genre and Gender (NGG) project website. The 'think-aloud' method was employed and two participant groups were involved: academics and postgraduate students of English literature. The session will briefly explore some of the usability issues identified that were of relevance to social network analysis in the literary digital humanities context. It will consider the potential usefulness of the visualisations in their current static state and ask whether - or not - the next best step would be a more interactive site. Finally, it will discuss the implications of such projects for network, services and computational tool support.

**Key Readings**

Nation, Genre and Gender Project Available from <http://erdos.ucd.ie/novels>  
 UCD Humanities Institute (2013). *Nation, genre and gender: A comparative social network*. Analysis of Irish and English Fiction, 1800-1922. Retrieved from <http://www.ucd.ie/humanities/research/nationgenreandgender/>



## POSTERS

Following a peer review process the following posters were accepted for presentation at the Research Symposium.

### **CoderDojo Mentors' Perceptions of Teaching and Learning**

Abeer Alsheaibi

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CoderDojo is a global network of volunteer-led, independent and community-based programming clubs for young people. The CoderDojo foundation is promoting a learning philosophy to be adopted by all Dojos' globally to develop young people's coding skills. Since Dojo clubs are set up and run by volunteers (mentors), each will have a different set of skills and strategies of learning. This research attempts to investigate CoderDojo mentors' perceptions of teaching and learning through a survey to explore CoderDojo mentors' personal beliefs based on their experience. Outcomes may reveal the nature of alignment with the learning philosophy promoted by the foundation.

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### **Digital Readiness Tools for use in Supporting Flexible Learner Transition into Higher Education**

James Brunton, Mark Brown, Eamon Costello, Lorraine Delaney & Seamus Fox

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This poster presents a suite of openly available digital readiness/preparation tools, created by the Student Success Toolbox project ([studentsuccess.ie](http://studentsuccess.ie)), which can be used by programme teams/institutions, to address the problem of effective flexible learner transitions into higher education (HE), during the study-lifecycle's initial stages. Flexible learners are defined, here, as adults engaged in part-time or online/distance-learning. Enhancing retention and completion rates of this group is a problem both globally and within the Irish context. This poster presents a summary of how each tool can be utilised, along with links to further online information, along with the tool itself. Eight tools have been created, based on an analysis of existing literature and tools used internationally, along with a guide to supporting new flexible learners, which will inform institutions/discipline teams on how to effectively deploy these tools. This poster aids in the dissemination of the tools and related guide.

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## Combining Emotional Design and Technology Enhanced Learning to Create Engaging Digital HCI Learning Experiences

Denise McEvoy, Benjamin R Cowan & Marcus Hanratty

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This poster describes PhD research currently exploring how Emotional Design and Technology Enhanced Learning (TEL) can be used to develop engaging digital artefacts to improve the HCI education for digitally engaged students. It outlines the main concepts of emotional design, TEL and the Design-Based Research (DBR) methodology which drives the project. It also reports preliminary findings from interviews with HCI educators conducted as part of Stage 1 of the research project. From this, the research will leverage an aesthetic lens through which emotional design and DBR will be used to create an engaging TEL tool for HCI education.

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### Social Media Interactive Learning Environment

Denise McEvoy, Séamus Ó'Ciardhuáin & Ailís Ní Chofaigh

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Social Media Interactive Learning Environment, SMILE, is a digital interactive learning tool aimed at Smart Agers (users above 55 years of age). With technology-enhanced learning, SMILE will help to teach Smart Agers how to use social networking sites (SNSs) and engage them through the use of emotional design and gamification. Using qualitative research and user-centred design, SMILE hopes to bridge the digital divide by providing Smart Agers with a tool designed specifically for their ICT and learning needs. Having strong social connections improves our well-being; SMILE aims at teaching Smart Agers to use ICT to enhance their social connectivity online.

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### Assessment Feedback Practice In First Year – Findings from an Irish Multi-institutional Project

Lisa O'Regan, Mark Brown, Moira Maguire, Nuala Harding, Elaine Walsh, Gerry Gallagher, Geraldine McDermott

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This poster reports on a baseline review of *Assessment Feedback* practices at four Irish third level institutions as part of the Supporting Transition: Enhancing (Assessment) Feedback in First Year Using Digital Technologies project. This two year project (2015-17) is funded by the (Irish) [National Forum for the Enhancement of Teaching and Learning](#) and is a collaborative initiative between the Higher Education Authority (HEA) cluster partners: [Maynooth University](#), [Dublin City University](#), [Athlone Institute of Technology](#), and [Dundalk Institute of Technology](#). The aim of this project is to identify and pilot approaches to enhance assessment feedback in first

year undergraduate programmes, using digital technologies. The study is particularly timely in the Irish context given our strategic focus on improving the transition to Higher Education and the first year experience (Hunt, 2011). While evidence shows that regular and frequent formative feedback in first year is associated with student success (Nicol, 2009; Tinto, 2005) the reality, particularly in large cohorts, can be quite different. The Irish Survey of Student Engagement (ISSE) 2013, found that nationally, 23.3% of first year undergraduate students never, and 45.1% only sometimes, received timely written or oral feedback from teachers on academic performance. This poster reports on the first phase of the project, particularly on the research undertaken in the first half of 2015 to identify current assessment feedback practice in first year undergraduate programmes, which consisted of: (i) an anonymous online survey of lecturers teaching on first year undergraduate programmes; and (ii) focus group interviews with first year undergraduate representatives. In this poster, we will provide an overview of the project, overall rationale and describe the research approach taken for the current practice review.

