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CALRG 2019 Conference
17-18 June 2019

Conference Proceedings

The Open University
Milton Keynes, UK

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Conference Schedule

Monday 17th June 2019

09:30-09:45	Tea & Coffee	
09:45-10:00	Welcome to CALRG 2019 , by Professor Eileen Scanlon	
10:00-11:00	Keynote 1 – Martin Oliver <i>OpenTEL and the post digital campus</i>	
11:00-12:15	Session theme: OpenTEL	
	Andrea Berardi, Gareth Davies and Mark Gaved	<i>ARCLIGHT: Offline networked tools for collecting positive mental health stories in Guyana</i>
	Venetia Brown, Trevor Collins and Nicholas Braithwaite	<i>Fostering a sense of community: The role of interactive web broadcasts to develop online learning communities in STEM</i>
	Mike Sharples, Maria Aristeidou, Christothea Herodotou, Kevin McLeod and Eileen Scanlon	<i>Inquiry Learning at Scale: the nQuire Platform</i>
12:15-13:00	Lunch and book launch: “Practical Pedagogy”	
13:00-14:40	Session theme: Doctoral Consortium	
	Jo Buxton	<i>Design for Collaborative Engagement: Exploring inclusivity in online collaborative learning for students with sensory impairments, a design-based research project.</i>
	Irina Rets	<i>Assessing language barriers in online learning: The suitability of English language Open Educational Resources for non-native speakers</i>
	Dimitrios Vogiatzis	<i>Examining adult learners’ use of Facebook for language learning purposes</i>
	Jessica Carr	<i>Becoming citizen scientists - an inclusive approach engaging people with learning disabilities in citizen science</i>
	Jake Hilliard	<i>An exploration of students’ goals, appraisals and emotions in an online collaborative project</i>
14:40-15:00	Tea & Coffee - Students will present their posters to the audience for feedback	
15:00-17:00	Session theme: Doctoral Consortium continued	
	Lesley Boyd	<i>Using technology-enabled learning networks to drive module improvements in STEM</i>
	Ralph Mercer	<i>Speaking the Future: A Critical Futures Studies approach to the Technologies of Learning in Post-Compulsory Education</i>
	Victoria Murphy	<i>Contradictions in Learning from Incidents</i>
	Vasudha Chaudhari	<i>Role of technology in fostering self-regulated learning strategies of finance professionals during times of uncertainty</i>
	<i>Discussant Jenna Mittelmeier</i> <i>Closing remarks Eileen Scanlon and Francisco Iniesto</i>	

Tuesday 18th June 2019

09:30-09:45	Tea & Coffee
09:45-10:00	Welcome to CALRG 2019 , by Professor Eileen Scanlon
10:00-11:00	Keynote 1 – Linda Price <i>Research or the scholarship of teaching and learning – which is impacting educational technology in higher education?</i>
11:00-12.30	Session theme: Languages and interaction
	Xinying Zhang <i>An Assessment Instrument for Blended Language Learning Module - The Revised Community of Inquiry Survey</i>
	Anna Comas-Quinn <i>Integrating TED Translators in language and translation education</i>
	Andrew Brasher, Professor Denise Whitelock and Wayne Holme <i>How should the quality of education offered by online institutions be assessed?</i>
	Andrew Brasher and Kathleen Calder <i>Making sense of students' interactions with Interactive Media Objects</i>
12.30-13.30	Lunch and book launch: "Artificial Intelligence in Education. Promise and Implications for Teaching and Learning"
13.30-15.00	Session theme: Professional Development
	Sharif Haider <i>Virtual simulation games for interprofessional training</i>
	Elizabeth Fitzgerald, Anne Adams, Duygu Bektik, Carina Bossu, Gill Clough, Nashwa Ismail and Julia Sargent <i>Tools and Technologies for Advancing Professional Development</i>
	Rebecca Ferguson <i>European MOOC Consortium: Labour Market</i>
	Simon Cross, Freda Wolfenden and Lina Adinolfi <i>Transforming classroom observation and professional development with 360-degree video</i>
15.00-15.20	Tea & Coffee
15.20-17.00	Session theme: Innovation and methods
	Francisco Iniesto <i>How can MOOCs be designed accessible? A mixed approach including qualitative, quantitative and HCI methods</i>
	Beck Pitt <i>The Transformation by Innovation in Distance Education (TIDE) project: Improving the Quality of Distance Education in Myanmar</i>
	Chenxi Cecilia Li <i>A gaze analysis of meaning negotiation episodes in webcam-mediated interactions</i>
	Thomas Daniel Ullmann <i>Reflective writing analytics - Validating machine learning approaches</i>
	Chris Edwards, Professor Denise Whitelock, Wayne Holmes and Alexandra Okada <i>Embedding e-authentication into online assessment: the TeSLA project</i>

Keynotes

Mon 17th June 2019
10.00-11.00hrs



Dr Martin Oliver, UCL

OpenTEL and the postdigital campus

Abstract

This talk will explore connections between ideas about the production of knowledge, and interdisciplinary initiatives such as OpenTEL. I will trace discussions of the relationships between education and material cultures, to give an account of the ‘the campus’ in Higher Education. As part of this, I will introduce the idea of infrastructure, explaining the campus as a ‘resourceful constraint’. Then, I will draw parallels with the Open University’s work to bring flexibility to learners by distributing the campus, and by exploring the ways in which the campus can be made virtual. I will discuss the limits of this using the idea of the ‘postdigital’ education – a bringing together of the digital with material, embodied perspectives. Finally, I will

conclude by suggesting ways in which these ideas could help to develop a fuller appreciation of the work of OpenTEL (and the Open University more generally), and may also be useful in thinking about other opportunities to engage people in new forms of learning.

Biography

Martin is currently Head of Department for Culture, Communication and Media, within the UCL Institute of Education. Prior to this, he was Head of the Centre for Doctoral Education for three years, a role that included serving as Faculty Graduate Tutor. Martin’s research focuses on the use of technology in education. Much of his work has explored this in the context of Higher Education, for example by looking at the way that students use digital devices, networked services and traditional resources in order to learn. He also has a strong interest in the ways that teachers create and manage the curriculum, including the role of technology in constructing claims about disciplinary knowledge.

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Tue 18th June 2019
10.00-11.00hrs



Professor Linda Price, University of Bedfordshire

Research or the scholarship of teaching and learning – which is impacting educational technology in higher education?

Abstract

As technology is increasingly being used for teaching and learning in higher education, it is important to understand the tangible benefits it can bring if we are to capitalise on it for learners. There are many claims about the transformative power of educational technology in higher education but is this borne out in practice? In many cases it could be argued that we are doing the same old thing, but faster. While educational researchers would argue that they do provide evidence of the benefits of educational technologies, those engaged in the scholarship of teaching and learning (SoTL) would counter this, arguing that educational researchers are too distanced from practice.

Conversely, educational researchers would argue that those engaged in SoTL lack training and expertise in robust research methods. Hence research and practice would appear to be progressing along parallel, but largely independent tracks. If we are to bridge the gap between research and practice, how can educational research and the scholarship of teaching and learning work harmoniously to make positive and demonstrable changes in the use of educational technology in higher education? This talk explores these tensions and examines a case study that capitalises on the relative merits of research and SoTL to advance the effective use of educational technology.

Biography

Linda is currently the Director of Academic & Organisational Development at the University of Bedfordshire. Prior to this, she was Head of Technology Enhanced Learning at Kingston University, where she remains a visiting Professor of Educational Technology. She has been a visiting Professor of Engineer Education in Lund University, and is a visiting researcher in Umeå University. Linda previously held a number of roles at the Open University including Associate Dean, Learning and Teaching in the Institute of Educational Technology. Linda has been researching and promoting pedagogically-driven uses of educational technology in a range of contexts in higher education for more than 25 years. More recently, her research has focused on holistically modelling the factors that affect learning and teaching in a university context. This research is strongly synergistic in developing the nexus between research and practice, traversing the fields of education and educational technology research and scholarship. It brings together the two research areas of conceptions and perceptions of learning and teaching in higher education and technology enhanced learning.

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Posters

A poster sessions will be held from 14:40-15:00 on 17th June. Posters being displayed at the conference include:

- **Stephen Foster** – How do students use an automated immediate formative feedback system to help them write assignments?
- **Victoria Murphy, Allison Littlejohn and Bart Rienties** – Learning from incidents and implementing action
- **Quan Nguyen and Bart Rienties** – Learning analytics to uncover inequality in behavioural engagement and academic attainment of black, ethnic minority (BME) students in a distance learning setting
- **Shi Min Chua** – A keyword analysis between initiating posts and lone posts in MOOC discussions

All abstracts – in alphabetical order of title

A gaze analysis of meaning negotiation episodes in webcam-mediated interactions

Chenxi Cecilia Li
The Open University, UK

With the recent technological development, video Synchronous Computer-Mediated Communication (video SCMC) has become available and popular for online language teaching. It has been widely acknowledged that the different affordances between text-chat and webcam mediated interactions have a large impact on the way language learners negotiate meaning and acquire languages (Stockwell, 2010; Hampel & Stickler, 2012; Wang & Tian, 2013). However, very few studies (Guichon & Cohen, 2014; Stickler & Shi, 2015; Satar & Wigham, 2017) have specifically addressed the role of webcam in video SCMC for second language acquisition (SLA), especially in meaning negotiation episodes, which are directly related to SLA. This study proposes to investigate students' gaze during negotiation for meaning episodes synchronous video conferencing environment, aiming to identify if there is any statistical relationship between students' use of webcam and second language acquisition in video SCMC.

Eight adult Chinese learners of English are involved in lexically seeded information gap tasks through one-to-one webcam mediated interactions. Screen video recordings of their video SCMC interactions are analyzed manually frame by frame to identify learners' gaze directions. Three main gaze directions of online learners have been identified: looking at their peer's video image, looking at their task sheet, and other directions. Screenshots of gaze direction tests and video stimulated recall interview data are used to triangulate the coding of gaze directions. More than one hour of data have been analyzed and more than one thousand gaze directions have been coded. The quantitative analysis shows a relatively strong positive correlation between the amount of gaze on participants' interlocutor's video image and the number of successful meaning negotiation episodes. In other words, the more students look at their peer's video image during their video interaction, the better they are at negotiating meaning.

Keywords: webcam; gaze; video SCMC; multimodal communication; meaning negotiation; Interaction Hypothesis

An Assessment Instrument for Blended Language Learning Module: The Revised Community of Inquiry Survey

Xinying Zhang
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Using technology to support language learning receives increasing attention in China nowadays. With MOOCs introduced into Higher Education, blended language learning module becomes popular conduct. The strength of integrating face-to-face synchronous communication and video-based online asynchronous communication is powerfully complementary for higher educational purposes.

The Community of Inquiry (CoI) theoretical framework frames the discussion of the practical implications of blended learning in higher education. The three key elements or dimensions of the CoI framework are social, cognitive, and teaching presence. The CoI Survey has also been thoroughly validated as a measurement of the extent to which students engage in collaborative blended learning.

This paper shares the results of a study applying the Revised Community of Inquiry (RCoI) survey, which has one more dimension added—learning presence, focusing on self-regulation and co-regulation of learners.

The sample (n=180) is first-year undergraduate students of one Chinese university and the survey is composed of three parts: RCoI Likert Scale (1-4) items, RCoI open-ended questions, and open-ended questions inquiring about learner experiences with using technology in language learning.

The analysis employs Cronbach's alpha coefficient to confirm the internal consistency of four dimensions, which is in alignment with previous studies. The Pearson correlation coefficient shows a strong, positive correlation between the four presences, concluding that this RCoI survey is a valid measurement. The following description analysis indicates positive learner experiences, showing this blended language learning module functions as a successful community of inquiry, and further qualitative analysis pinpoints suggestions for future learning design. This module and survey are recommended for other language instructors and program administrators.

Keywords: blended learning; Community of Inquiry; teaching presence; social presence; cognitive presence

An exploration of students' goals, appraisals and emotions in an online collaborative project

Jake Hilliard, Karen Kear, Helen Donelan and Caroline Heaney
The Open University, UK

The use of online collaborative learning is becoming increasingly common in higher education learning contexts. Not only has this form of social learning been shown to have positive impacts on educational outcomes, it is also highly valued by employers due to the development of much sought after 21st century skills (e.g. teamwork, collaboration). Despite the abundance of literature exploring collaboration in online learning environments (e.g. Jeong & Hmelo-Silver, 2016), little research has focused on the emotional aspects of working with others online. With research in the last two decades highlighting the importance of emotions for student achievement and learning (e.g. Pekrun et al, 2018), it is important to explore how emotions function in social online learning situations. This may be vastly different to how emotions function in individual learning tasks or in face-to-face collaborative contexts, where much of the research on emotion and learning has been undertaken.

In this presentation, initial data from a study exploring the emotional experiences of 20 students undertaking an 8 week assessed, online, collaborative project will be reported and discussed. This study is particularly interested in how personal goals and appraisals of the online collaborative project act as antecedents of students' emotional experiences.

Keywords: emotions, personal goals, appraisals, online collaborative learning

References

Jeong, H. and Hmelo-Silver, C.E. (2016) 'Seven Affordances of Computer-Supported Collaborative Learning: How to Support Collaborative Learning? How Can Technologies Help?' *Educational Psychologist*, vol. 51, no. 2, pp. 247-265.

Pekrun, R., Muis, K., Frenzel, A. and Goetz, T. (2018) *Emotions at school*, Abingdon, Oxon, Routledge.

ARCLIGHT: Offline networked tools for collecting positive mental health stories in Guyana

Andrea Berardi, Gareth Davies and Mark Gaved
The Open University, UK

Over one billion people globally struggle with issues related to mental health, including depression, substance abuse and self-harm. Lack of research in implementation and policy change is further impeded by stigma, capacity shortages, and fragmented service delivery. The OU is leading the new ARCLIGHT research project to develop, implement and evaluate a capacity building and intervention programme for addressing the challenges of mental health in Guyana.

The 18 month project will identify, record and share successful local practices for building community mental health resilience that have evolved to cope with challenging cultural, organisational and environmental conditions, and devise mechanisms to promote these in low resource settings within Guyana and worldwide.

In this presentation we will explain how we are building on tools developed in the EU funded MAZI project (www.mazizone.eu) to gather community wellbeing data through surveys, and collect, curate, and disseminate positive mental health stories within the ARCLIGHT project. MAZI toolkits use low-cost, low-powered computers (Raspberry Pi's) for gathering and sharing stories in remote areas away from the internet where there is familiarity and use of networked devices (smartphones and tablets). These will enable us to enhance learning, teaching and engagement opportunities, and we will explore their efficacy in this challenging environment.

The deployment of technologies in remote locations for such sensitive work also raises a number of ethical, pedagogical and technical challenges. We will report on those identified and how we seek to overcome them and provide an evidence base that can support the creation of a locally relevant BSc honours degree in Mental Health Nursing in Guyana.

Keywords: offline networking, mental health, digital storytelling

Assessing language barriers in online learning: The suitability of English language Open Educational Resources for non-native speakers

Irina Rets
The Open University, UK

Open Educational Resources (OER) contribute to the field of learning by enabling anyone to exercise their right to education. Yet the language in which the resources are written, and the level of linguistic complexity used, could be a barrier to many potential learners. A number of OER quality guidelines (e.g. UNESCO, 2015) already reflect on the importance of making online educational text content readable and understandable. However, review of literature on OER showed that there is lack of research on the readability level of OER, the extent to which they are accessible to English non-native speakers (NNS), and consideration of the meaning of the educational levels assigned to OER courses has been limited.

This study examines the readability of 200 OER courses in English from two major platforms, covering different assigned educational levels and subject categories. The accessibility of these courses to English NNS is assessed using an advanced readability tool. Results show that there is a progression of difficulty between lower and higher educational levels. However, more than 86% of the courses require an advanced level of English language proficiency. Conversely, subject matter does not appear to be linked with the readability of the courses.

The practical implication of the study is determined by the finding that despite published accessibility guidelines, OER are disseminated with language too complex for English NNS at lower levels of English proficiency. Recommendations are made as to how to make OER materials accessible to a wider global audience.

Keywords: Open Educational Resources; accessibility; readability; English as a Foreign Language; inclusiveness; online learning

Becoming citizen scientists: An inclusive approach engaging people with learning disabilities in citizen science

Jessica Carr
The Open University, UK

The aim of citizen science is to involve non-scientists in scientific inquiry drawing on their collective community knowledge to inform scientific practices. Citizen science is still looked down on by some of the scientific community, however, who believe 'science is an unashamedly elitist activity' (Durodie, 2003). These contradictory ideas can create confusion around the identity of a citizen scientist. Can they be professionals? Are they only to be thought of as amateurs? Can they ever 'belong' within the 'elite'? Furthermore, within the citizen science literature there are certain communities that aren't actively engaged. One of these is the learning disabled community, removing their voices from this decision influencing practice. A large part of identity is the feeling of belonging within a community (Strnadova, 2018). The citizen science community appears to have ignored people with learning disability and therefore denied their membership of a specific community. I am interested however, in exploring the extent to which people with learning disabilities themselves identify as citizen scientists.

My PhD study explores ways of involving people with learning disabilities within the ever growing field or community of citizen science and the ways in which citizen science must adapt to ensure they have an equal voice. In this presentation I will outline the inclusive methods I am using in my PhD study with a local self-advocacy group. The group will run their own citizen science project, collecting and analysing data on a topic important to them. I will present the data I have collected so far, looking at how the participants have approached the task of becoming citizen scientists and researchers. I will discuss what research means to our group and how they identify as citizens/researchers.

Keywords: citizen science; learning disabilities; inclusive research; creative methods; identity

Contradictions in Learning from Incidents

Victoria Murphy¹, Allison Littlejohn² and Bart Rienties¹
The Open University, UK¹ & University of Glasgow, UK²

Learning from incidents (LFI) is the process of reflecting on past accidents and near-misses to avoid incidents in the future. It is particularly prevalent in high-risk industries where incidents, such as the Chernobyl disaster (1986) or Deepwater Horizon (2010), can have far-reaching consequences for both individuals and societies at large. Energy companies have a well-defined organisational LFI process which consists of seven steps: reporting incidents, investigating incidents, developing incident alerts, disseminating, contextualising, implementing actions, and evaluating. In order to avert large scale accidents, it is imperative that how this LFI process enables learning is understood, and equally what are potential inhibitors of learning.

A multiple-case study research design was employed to investigate how three energy companies enable learning from accidents and near-misses, and any barriers to learning common across the companies. An activity theory based analysis was undertaken to both describe how companies learn and highlight contradictions in the activity systems during the LFI process. Data consisted of 165 responses to the validated quantitative Learning From Incidents Questionnaire and 45 qualitative semi-structured interviews. The data was used to create a description of each company's activity system. Additionally, analysis of discursive manifestations of contradictions was undertaken on the interview data. The descriptions of the activity systems varied across companies, however all three had developed multiple tools to enable front-line employees to engage with incident information. Several contradictions were identified through the discursive analysis, such as information being distributed when an accident has occurred instead of when it is needed for relevant tasks.

Energy companies invest heavily into learning from the past, and correspondingly have created a comprehensive system to enable reflection on incidents. However, some fundamental contradictions must be addressed by the industry as a whole to allow employees to maximise their ability to learn.

Keywords: learning from incidents; activity theory; contradictions; organisational learning; professional learning

Design for Collaborative Engagement: Exploring inclusivity in online collaborative learning for students with sensory impairments, a design-based research project

Jo Buxton
The Open University, UK

Research has shown the importance of collaboration (Barkley et al., 2014), and the accessibility of online tuition and learning has been extensively explored and researched. An area where it seems to be failing, and where there is limited research, is the accessibility of online synchronous collaborative activities which are often built into the learning model and curricula and often form required components of courses.

If collaboration is important and beneficial to learning outcomes, then it is important that the collaborative experience is open and accessible to all students and that they can engage freely in online collaborative activities whether synchronous or asynchronously. There are both legal and ethical requirements for education to be accessible. When team work and collaborative effort forms part of the assessment criteria for a unit of study then this further increases the importance of accessibility. Students with hearing and/or sight loss seem to have particular barriers to engagement with these activities. In this presentation I will discuss the proposed research and the initial findings from a pilot study of five stakeholders in the online learning environment: an academic, a tutor (associate lecturer), a representative of the disabled students' association and two students with sensory impairments.

The context of this research project will be the Open University (OU). This is the largest academic institution in the UK with 132,966 active students and has been at the forefront of distance learning since its inception 50 years ago. It also has the largest proportion of disabled students of any HE institution in the UK and is at the forefront of online learning. It therefore seems the ideal context for this research.

The core questions I intend to address in this research are:

- How do we improve inclusivity in online distance collaborative learning for students with sensory impairments?
- What interventions might improve inclusivity?

Keywords: Accessibility; Collaboration; Online; Hearing impairment; Sight impairment

Embedding e-authentication into online assessment: the TeSLA project

Chris Edwards, Professor Denise Whitelock, Wayne Holmes and Alexandra Okada
The Open University, UK

This presentation reflects on the TeSLA project. An EU Horizon 2020 project with seventeen partners that developed and trialed an e-authentication system comprising a suite of five tools: face recognition, voice recognition, keystroke dynamics, forensic analysis and plagiarism detection. The trialing took place in 7 universities in six different countries. TeSLA was designed to embed within a university's virtual learning environment (VLE) to be invoked as required to increase confidence in the authenticity of a student's online assessments. We provide an overview of the suite of five tools and of the three pilot studies that and their findings, including student and staff perspectives: where the majority felt that the system improved trust in online assessment. We also reflect on the OU team's experience of the project.

Keywords: assessment; cheating; plagiarism; authentication; online assessment; trust

European MOOC Consortium: Labour Market

Rebecca Ferguson
The Open University, UK

MOOCs and digital training offer flexible and scalable solutions for transnational responses to the needs of the European labour market. Together, they can be used to provide workplace training and to prepare individuals to take on new jobs. The European MOOCs Consortium (EMC) has formed a knowledge alliance with public employment services, companies, and SMEs to investigate how MOOCs and digital training can be used to enhance the competitiveness of the European economy. The alliance shares experience and expertise gained on different European MOOC platforms. It will develop a framework for structural collaboration on the development, delivery, and use of MOOCs to meet the needs of the EU labour market and it will work on responsive and large-scale outreach to that labour market. The project also intends to contribute to regional, national and European policies for education and training, employment and growth, proposing strategies for change and action plans. This lightning presentation will introduce the European MOOC Consortium and outline work undertaken so far on this project.

Keywords: MOOCs; digital training; labour market

Examining adult learners' use of Facebook for language learning purposes

Dimitrios Vogiatzis
The Open University, UK

The sheer popularity of Social Networking Sites (SNSs) has led many scholars to view them as tools that can potentially facilitate language learning. Although a lot of research has been done on the use of SNS in Higher Education, there is paucity of evidence on the impact of SNS in informal and adult education. There is also a clear lack of concrete evidence to support an authoritative statement that these online environments can efficiently and effectively be integrated into language pedagogy (Barrot, 2018; Manca & Ranieri, 2016). This study investigates the efficacy of Facebook use in informal language learning context and offers an examination of its affordances and constraints. Pre- and post-questionnaires, online observations and semi-structured interviews were used amongst 16 adult Greek as a foreign language learners throughout a 10-week intervention using Facebook. The findings suggest participants' positive attitudes and perceptions towards the use of Facebook for language learning purposes as well as their willingness to use it in the future. The use of Facebook was also perceived as beneficial for participants' language learning. Learners also demonstrated a considerable level of participation in the online environment. Nevertheless, students' participation rarely did go beyond the completion of their assignments, while their online communication and interactions were limited to their pre-existing social connections. This study offers an empirically evidenced account of how Facebook can provide a means of facilitating student's language learning in informal education settings and what obstacles and limitations might occur during that use.

Keywords: Facebook; Language learning; Online learning; Social Networking Sites

References

Barrot, J. S. (2018). Facebook as a learning environment for language teaching and learning: A critical analysis of the literature from 2010 to 2017. *Journal of Computer Assisted Learning*, 1–13. <https://doi.org/10.1111/jcal.12295>

Manca, S., & Ranieri, M. (2016). Is Facebook still a suitable technology-enhanced learning environment? An updated critical review of the literature from 2012 to 2015. *Journal of Computer Assisted Learning*, 32(6), 503–528. <https://doi.org/10.1111/jcal.12154>

Fostering a sense of community: The role of interactive web broadcasts to develop online learning communities in STEM

Venetia Brown, Trevor Collins and Nicholas Braithwaite
The Open University, UK

Research shows that synchronous media can help mitigate feelings of isolation by fostering a social learning environment and sense of community (SoC). This study investigates the extent to which the interactive web-broadcasts (known as labcasts and fieldcasts) influence STEM students' SoC and support their learning. The project will investigate: the strategies lecturers apply to engage with students; the ways students use the widgets and text-chat features to interact and the motivations of students to engage with the labcasts.

Two case-studies will be used to primarily evaluate 18J presentations in modules SXPA288 and SXHL288. Data collection will include observation of recordings, system logs, questionnaires and focus group interviews. Further studies are planned for 19B/19J modules across STEM disciplines. It is expected that findings will help to gain a better understanding of how the labcasts are being used, their impact and what could be done to improve labcasts for future module presentations.

Keywords: distance learning, synchronous technologies, student interaction, learning community, learner experiences

How can MOOCs be designed accessible? A mixed approach including qualitative, quantitative and HCI methodsMOOCs

Francisco Iniesto
The Open University, UK

The goal of this research has been to understand the accessibility barriers in MOOCs and to develop processes to identify and address these barriers. Technologies and the learning design approaches for MOOCs need to be as accessible as possible, so that learners are able to use MOOCs in a range of contexts, including via assistive technologies. This research has investigated the current state of accessibility in MOOCs. It has involved interviews with 26 MOOC providers; including software developers, accessibility managers, inclusive designers, instructional designers, course editors and learning media developers; comparative quantitative survey data involving disabled and non-disabled learners participating in 14 FutureLearn MOOCs; interviews with 15 FutureLearn disabled learners which have captured their experiences; and an accessibility audit was devised and then used to evaluate MOOCs from FutureLearn, edX, Coursera and Canvas. This audit comprises 4 components: accessibility, user experience (UX), quality and learning design; 10 experts were involved in its design and validation.

This research programme has yielded an understanding of how MOOC providers cater for disabled learners, the motivations of disabled learners when taking part in MOOCs, and how MOOCs should be designed to be accessible for disabled learners. A range of barriers to accessibility in MOOCs have been identified, and recommendations for accessible development of MOOCs have been proposed.

Keywords: MOOCs; Accessibility; Learning Design

How should the quality of education offered by online institutions be assessed?

Andrew Brasher, Professor Denise Whitelock and Wayne Holmes
The Open University, UK

Comparing universities and courses is of interest to a variety of stakeholders including potential students, policy makers, news and media organisations, and universities themselves. There are a range of existing university ranking schemes that provide comparisons (e.g. Academic Ranking of World Universities) but typically these are designed with face-to-face teaching and learning in mind. There is also a number of quality assurance tools and approaches aimed at ensuring quality in online education that have been developed by a variety of providers (e.g. E-xcellence (Rosewell et al., 2017)). We have analysed a range of quality assurance systems for online institutions and courses, and a variety of ranking systems targeted at conventional universities with the aim of establishing what they measure, and how they measure it. We compared the findings of this analysis with a meta-analysis of the literature about how students choose their university leading to the following conclusions; (1) ranking systems are of limited value for most potential undergraduate students, particularly with reference to online education (2) comparison systems that can be of value to students from a variety of different backgrounds are likely to be complex to set up and run (3) quality indicators that promote both formative and summative evaluation may be beneficial to both institutions and students.

The work reported was supported by the EU Erasmus+ funded COODUR project with partners from Universitat Oberta De Catalunya and Consiglio Nazionale Delle Ricerche. The project completed in September 2018.

Keywords: quality assurance; marketing; online education; metrics; ranking; students; stakeholders

References

Rosewell, J., Kear, K., Williams, K., Rodrigo, C., & Sánchez-Elvira, A. (2017). E-xcellence methodology: lessons learned over ten years of development and implementation.

Inquiry Learning at Scale: the nQuire Platform

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We describe a new platform to support a pedagogy of inquiry-led learning through scientific investigation. The nQuire platform is open for any person to create or participate in a 'mission' to address a problem or satisfy curiosity. It offers two generic types of mission: social and confidential. With social missions, an individual, group or organization can author then launch a mission that could require participants to upload images (e.g., wildlife in their gardens), collect sensor data (e.g., noise levels), or respond to small or large challenges (e.g., to review a TV programme). All responses are open to other participants for discussion and for 'liking'.

Confidential missions are extensions of online surveys. A mission can include a rich mix of elements such as: sounds or images as prompts; the ability for participants to upload a picture or sound as a response; and a variety of response types such as slider scales. In confidential missions, participants do not see other contributions and all data are anonymized before sending for analysis. The platform provides tools to assist academics and media organizations. These include: customizable consent forms; checks that the participant has the right to upload an image; and an embedded media player. The platform supports institutions as well as individuals, through branding of individual missions and a space to develop missions and run pilot studies before launching on the main site.

Initial use of the site includes a large-scale investigation into how creativity can improve wellbeing, providing personalised feedback. Over 25,000 people have completed that nQuire mission, with 60% on mobile devices.

Keywords: Inquiry learning; Innovative pedagogy; Learning at scale

Integrating TED Translators in language and translation education

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TED Translators is an open online translation community with some 30,000 volunteers who subtitle TED Talks into more than 100 languages. By transcribing, translating and reviewing tasks volunteers can develop digital, participatory and information literacy skills, and develop their language, translation and subtitling skills. Harnessing the potential of open communities, tools and resources can present challenges for teachers, for example, combining informal, voluntary activities with the strict schedules of formal education. However, there are valuable opportunities to engage learners in meaningful tasks that are connected and contribute to society, a pedagogical approach that sits well with the project-based, situated and experiential approaches that are increasingly adopted in translation education (Király et al, 2015; González Davies & Enríquez Raído, 2016). This paper describes experimental activity designs (Cámara & Comas-Quinn, 2016; Comas-Quinn & Fuertes Gutiérrez, 2017) to use TED Translators in language and translation education. Over several iterations, activity designs have been refined to offer learners and teachers flexible ways of engaging with this resource. Reflections are included on the different models and the ethical considerations involved in making a voluntary activity part of formal education.

Keywords: open pedagogy; translation education; situated learning; TED Translators

References

Cámara, L. and Comas-Quinn, A. (2016) 'Situated Learning in Open Communities: the TED Open Translation Project'. <http://oro.open.ac.uk/48834/>

Comas-Quinn, A. and Fuertes Gutiérrez, M. (2017) 'An interest in translation and a great addition to the CV!' An evaluation of learners' experiences of an online volunteering task. <http://oro.open.ac.uk/54898/>

González-Davies, M. and Enríquez-Raído, V. (2016) 'Situated learning in translator and interpreter training: bridging research and good practice', *The Interpreter and Translator Trainer*, vol. 9, no. 3, pp. 1–11.

Király et al (eds) (2016) *Towards Authentic Experiential Learning in Translator Education*, Mainz, Mainz University Press.

Learning analytics to uncover inequality in behavioral engagement and academic attainment of black, ethnic minority (BME) students in a distance learning setting

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Although the attainment gap between black and minority ethnic (BME) students and White students has persisted for decades, the potential causes of these disparities are highly debated. The emergence of learning analytics allows researchers to understand how students engage in learning activities based on their digital traces in a naturalistic setting. This study investigates the attainment gap by analysing the differences in behavioural engagement between different ethnic groups. Using multilevel models of online traces of 149,672 students enrolled in 401 modules in a distance learning setting, we confirmed the existing attainment gap. After controlling for other demographics, module characteristics and engagement, BME students were 19%-79% less likely to complete, pass, or achieve an excellent grade compared to White students. To achieve the same results as White students, BME students would have to spend 4-12% more time on studying than White students. While the attainment gap remained persistent after controlling for academic engagement, our study further highlighted the inequality of attainment between BME and White students.

Keywords: attainment gap; learning analytics; academic engagement; academic performance; retention

Making sense of students' interactions with Interactive Media Objects

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Currently, Interactive Media Objects included in OU modules do not provide any analytics about how students interact with them. They are a 'black box' in that we know when students enter an Interactive Media Object (IMO), but no information about students' patterns of engagement with the objects is recorded.

However, recording interaction data from IMOs is not necessarily useful: the intention should be to measure what counts as opposed to counting what can be measured. Generally, IMOs are developed with one or more Learning Outcomes in mind. We describe initial stages in a project aiming to establish if it may be possible to relate students' engagement in the form of interaction data (e.g. click data) to developments in their understanding related to the relevant learning outcomes. The project is intended to be an exploratory study intended to establish the nature of more detailed investigations which could follow.

Keywords: interactive media; evaluation; learning; learning outcome

Reflective writing analytics - Validating machine learning approaches

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Reflective writing is an important educational practice to train reflective thinking. Currently, researchers must manually analyze these writings, limiting practice and research because the analysis is time and resource consuming. This presentation shows results from an empirical study evaluating whether machine learning can be used to automate the manual analysis of reflection in writings. The study investigated eight categories that are often used in models to assess reflective writing, and the evaluation is based on 76 student essays (5,080 sentences) that are largely from third- and second-year health, business, and engineering students. To test the automated analysis of reflection in writings, machine learning models were built based on a random sample of 80% of the sentences. These models were then tested on the remaining 20% of the sentences. Overall, the standardized evaluation shows that five out of eight categories can be detected automatically with substantial or almost perfect reliability, while the other three categories can be detected with moderate reliability (Cohen's κ ranges between .53 and .85). The accuracies of the automated analysis were on average 10% lower than the accuracies of the manual analysis. These findings enable reflection analytics that is immediate and scalable.

Keywords: reflective thinking; learning analytics; automated content analysis

Role of technology in fostering self-regulated learning strategies of finance professionals during times of uncertainty

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Uncertainty is an inherent characteristic of the finance sector as evidenced by the current political upheavals such as Brexit, or economic ambiguities such as the impending threat of a trade war, or accelerated technological developments such as bitcoin technology. Within the finance sector lack of surety could relate to a myriad of external factors such as political events, technological development, economic regulations, or any other organisational changes. Griffin et al. (2007) assert that proactive work behaviour (PWB) assumes greater importance during periods of uncertainty when it is impossible to predict the workplace situation, and hence role requirements are not formalised. The notion of continuous renewal and upgrade of knowledge through proactive work behaviour seems relevant to the ever-changing dynamics of financial organisations. Research shows that there are various manifestations of PWB (Ashford and Black, 1996, Claes and Ruiz-Quintanilla, 1998) such that it is an umbrella term that encompasses: Self-Regulated Learning (SRL), Job Crafting, and Innovative Work Behaviour.

Using the theoretical lens of self-regulated learning (SRL) this research examines how finance professionals self-regulate their learning during periods of uncertainty and how technology can be used to foster this behaviour. This paper presentation reports the findings from remote moderated usability tests carried out with 16 finance professionals to capture the role of technology in fostering self-regulated learning behaviour of finance professionals during times of uncertainty. The methodological implications of using a user-centred design model, practical implications of designing a mobile app that can support professional learning of finance professionals, and the research implications for using technology to foster self-regulated learning behaviour are discussed. The timeliness of this study is in sync with the dynamic political landscape (e.g. Brexit) and rapid technological advances in the Fintech sector, which calls for continually adapting to changing work practices to be relevant to the evolving times.

Keywords: Self Regulated Learning; Professional Learning; Uncertainty; Finance Sector; TEPL

Speaking the Future: A Critical Futures Studies approach to the Technologies of Learning in Post-Compulsory Education

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The research presented provides a unique means to investigate the stories about our relationship with technology, learning and the future of post-compulsory education.

The research questions how the philosophical (technological) archetypes and personal dispositions of the interview participants are manifested in their narratives. The resulting data about the future of technologies in post-compulsory education provides an actionable map of the phenomena from the data (viewpoint) of two diverse stakeholder groups; the practitioners and the futurists.

Causal Layered Analysis (CLA) was selected as the analysis tool for its versatility and flexibility to look past the themes that emerge in the data and critically question the belief systems that support and create an individual's narratives. CLA provides researchers with a unique post-structuralist method of interrogating the dispositif and dispositions that frame how we construct our narratives about the technologies of learning.

New possibilities open up when the inherent structures that underpin what is presently acceptable is exposed and opposed. In essence to ask "will this way of thinking" achieve the results we (society) need to solve the issues that are on the future horizons of education.

The direct benefit of this research is to enrich our understanding of how individuals think about the future of the technologies of learning. In an addition, the research supports the field of technology-enhanced learning and in general, the philosophy of technology by offering a unique, critical futures studies approach to view technologies of learning through the lens of Causal Layered Analysis.

Finally, this research also demonstrates that technology is already influenced by the social field (dispositif) in which it is situated and impacts the user's habits (dispositions), pre-constructing a narrative that could be seen as the 'habitus of technology'.

Keywords: Causal Layered Analysis; Philosophy of Technology; Technology-enhanced learning; dispositif; dispositions

The Transformation by Innovation in Distance Education (TIDE) project: Improving the Quality of Distance Education in Myanmar

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The DFID funded SPHEIR 4-year Transformation by Innovation in Distance Education (TIDE) project is working collaboratively with Higher Education institutions across Myanmar to develop capacity and improve learning opportunities through the development of open educational resources (OER) on environmental science topics (Department for International Development, n.d.). This lightning presentation gives a brief overview of the project and the results of work to date.

Keywords: Myanmar; Distance Education; Open Educational Resources (OER); Open Practice

References

Department for International Development (n.d.) Transformation by Innovation in Distance Education (TIDE)
Available at:
<https://www.spheir.org.uk/partnership-profiles/transformation-innovation-distance-education>

Tools and Technologies for Advancing Professional Development

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A large number of professional development studies have focused on the possible impact of professional development activities to improve practice and learning; for example, the impacts of the professional development on the learner (Buczynski & Hansen, 2010; Desimone, 2009; Ingvarson, Meiers, & Beavis, 2005). Other studies have looked at developing and implementing evaluation models to improve practice and learning (e.g. Guskey, 2000; Van Veen, Zwart, & Meirink, 2012). However, these approaches tend to focus on the end outcome of a process rather than a continue cycle for improvement, change and reflection. As Merchie et al. (2018) state, investigators and practitioners have been working towards making more innovative, thoughtful and informed ways to develop relevant, updated and personalised professional development initiatives that goes beyond processes (Desimone, 2009; King, 2014).

Professional development can be viewed from both a top-down, organisational perspective and also from a bottom-up, life-long learning view. This presentation will show how these perspectives can be related through 3 key factors: Context, Philosophy and Delivery (CPD), which through a connection of top-down and bottom-up, leads to what we describe as the CPD2 cycle. A number of different delivery tools, methods and approaches have been used in the CPD2 cycle through the work of colleagues at the OU, such as games-based learning, evidence cafés, tricky topics, social media, video conferencing, personalisation and multimodal delivery.

In this talk, we will focus on games-based learning, social media and multimodal delivery as examples of technologies that have produced positive impacts on professional development and professional digital learning.

Keywords: Professional development Cycle, Games-based learning, Professional digital learning, Multimodal delivery

Transforming classroom observation and professional development with 360-degree video

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360-degree video and mobile VR technologies are creating new opportunities not just for learners but for teachers and researchers. This paper explores how the managed use of 360-degree video has the potential to deliver a step-change in teacher education, classroom observation and educational research. In particular how classroom teaching practice is recorded, watched, shared and integrated into teacher development activities. This presentation reports the findings of challenging pilot that was conducted in Madhya Pradesh, India. The significance of the decision to locate the trial in rural schools in a low- to medium-income country will be discussed along with how 360-degree video was combined with mobile technologies and VR headsets to record and view classroom teaching. Merely demonstrating this was feasible is an important accomplishment. However, the paper will focus on unpacking the overwhelming positive response from teachers to the truly immersive experience to discuss pedagogic and methodological implications. The benefits to pre-service and in-service professional development and potential for utilisation of teacher owned mobile devices will also be discussed.

Keywords: Teacher education; Professional development; Mobile learning; 360-degree video; Mobile VR; India; Classroom observation; Research methods

Using technology-enabled learning networks to drive module improvements in STEM

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This presentation is a follow up to one at the previous CALRG conference and describes the developments in a collaboration of an action research PhD and an OU eSTeEM scholarship project, aiming to illustrate one innovative approach to the integration of theory and practice.

The action research approach is being underpinned by Grounded Theory Method (GTM), in the search for actionable knowledge, which is usable by practitioners whilst being sufficiently theoretically robust. Thus a structured and rigorous action-based methodology is being used, which also aims to make a clear theoretical contribution.

This project investigates how technology-enabled learning networks can be used to achieve practical organisational improvement outcomes. A learning network is defined in this research as a technology-enabled and structured way of collaboratively learning how to problem-solve and improve, connecting together different role players across the various OU organisational boundaries and contexts. The emphasis in this type of 'organisational' learning network is on collaborative and equitable participation, and joint ownership of the unfolding improvement process and outcomes.

In Phase 1, learning networks were hosted in dedicated VLE sites for each of three pilot modules on Tricky Topics, or aspects of academic work that students consistently find tricky or challenging. In Phase 2, in a current module delivery, a second cycle of collaborative action research is following on from the issues raised in the first. Various learning analytics are being interpreted for tutors to assist towards co-construction of issues and a Real Time Student Feedback (RTSF) questionnaire will gain direct feedback from students.

A particular emphasis in this presentation will be on the grounded theory analysis, which aims to organise the evidence and conceptualise the unfolding organisational learning process in a way which can be understood and shared by participating practitioners and interested stakeholders. Improvement actions under trial will be described.

Keywords: learning networks; organisational learning; action research; grounded theory; GTM; scholarship

Virtual simulation games for interprofessional training

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Background: Unlike Education and Business discipline use of virtual simulation to train nurses and social workers have not been widely used but a number of systematic reviews in relation to simulation games indicated their positive impact on learners. It is not clear the reason why then they are not used in interprofessional training at all. The didactic lecturer is still the norm and the only mechanism used to train nurses and social workers jointly about interprofessional collaboration which is expensive and ineffective. Virtual simulation games with a focus on a scenario where both nurses and social worker operate collaboratively could offer effective and immersive interprofessional training and learning. However, we do not know the perceptions of nurses and social workers about using simulation games in interprofessional training.

Purpose: The purpose of the study was to explore both nursing and social work practitioners' perceptions of using simulation games in terms of interprofessional training.

Research Design: The study utilised a qualitative research methodology using three focus group discussions. Both nurses and social workers participated in the focus groups.

Findings: Qualitative data showed that both nurses and social workers perceived that virtual simulation games can be an effective mechanism to deliver interprofessional training. However, they were explicit that virtual simulation games need to consider motivational processing, cognitive impact and extrinsic rewards on learners' motivational development. They expect challenging problem focused scenarios where contents are appropriate to contemporary health and social care practice. Both practitioners felt that they are ready to engage in interprofessional education through virtual simulation games.

Originality: This research study showed that there is a need for virtual simulation games for interprofessional training.

Conclusion: Findings support that both practitioners are ready to engage in interprofessional education through exposure to an experiential format such as problem-focused virtual simulation games.

Keywords: Simulation games; Interprofessional Training; Nursing; Social Work