Centre for Research in Education and Educational Technology (CREET)

Leverhulme Doctoral Scholarships in Open World Learning Topics selected for 2017

We strongly recommend that you also familiarise yourself with the original Leverhulme Open World Learning (OWL) application, as this sets the scene and the wider research context, and how your proposal contributes to the aims of OWL. In particular, it would be useful to indicate in the proposal whether your research focusses on (a combination of) people, places, practices and/or properties of OWL. Furthermore, please indicate whether you are aiming to conduct your research on the enablers, disablers, or equilibrium forces within OWL. Please indicate clearly in your research proposal which topic you have selected (e.g., Topic 4 Digital technology and educational futures). For 2017, the following topics are available:

1. Big data and open learning
2. Curating the OER archive
3. Digital games and openness
4. Digital technology and education futures
5. Educator roles in open online courses
6. Human wellbeing, open education and technology
7. Impact of open educational resources
8. Investigating children’s use of open digital narratives
9. Making meaning online: computer-mediated communication for language learning
10. Mobile literacies for effective open learning
11. Open educational practices and women’s empowerment in LICs
12. Open science and citizen inquiry
13. Professional learning through work in an open world
14. Rethinking student feedback in an open world
15. Social networking in language learning and teaching
16. Surveillance, privacy and learning analytics
17. The role of open practices in enhancing teacher education in LICs
18. Understandings of cultural openness in education and enterprise
19. UNITE: yoUng citizeN scientisTs in an opEn world
20. Eyetracking for researching online reading and translation.
21. What is the role of open education in widening participation in Higher Education?
22. Challenges and benefits of studying interdisciplinary and/or multidisciplinary qualifications
1. Big data and open learning
Vast amounts of data are collected and stored in MOOCs, OERs, PLEs and social media. Big data and learning analytics in particular holds tremendous opportunities to push the boundaries of learning science while at the same time making a real difference in the learning experience of people across the globe. Advanced learning analytics techniques and approaches may unpack the complexities of learning and provide practical real-world solutions and applications. Research questions include:

- How can we personalise learning and teaching to meet each learner’s need?
- How can we make learning design fit-for-purpose?
- How to provide smart emotional feedback just-in-time?

2. Curating the OER archive
Open Educational Practices (OEP) have changed teaching approaches radically as they encourage the production, use and reuse of Open Educational Resources (OERs) which can now be shared and collected in unprecedented ways. This means that, for the first time in history, we have an abundance of multimodal records of educational practices that not only have a pedagogical impact but also a great historical relevance for the field. This project seeks a conceptualisation of OERs as indexes or relics of pedagogical performance that can contribute to our cultural heritage in the education field; it also aims at conceptualising the OER repository as the archive of both educational artefacts and time based practices. This conceptualisation draws on current debates in the art world, which is also grappling with a similar abundance. Our role as open educational practitioners becomes akin to that of the art curator or, more specifically, to the emerging figure of the performance curator (Ferdman, 2014), in that we manage, preserve and study these resources, whilst at the same time making them available and visible to the public in deliberate ways.

3. Digital games and openness
Digital games are one of the most active and profitable industry sectors. The learning value of good games is not any longer contested. International initiatives (e.g. US Department of Education) perceive games as opportunities to reinvent education and bring learning practices closer to diverse audiences. Yet, little is known about how this technology could benefit open learning, for example, how games could be used to engage hard-to-reach audiences in lifelong learning endeavours. This studentship may explore a number of questions:

- How could digital games inform the design and delivery of OERs?
- What OERs could be designed to exploit the engaging qualities of games and make game-based learning explicit and applicable to real life situations?
- How could free online and mobile games be used to develop self-regulatory lifelong learning skills and how learning analytics could be of use?

4. Digital technology and education futures
Schools should be preparing all learners for a world that has been transformed by digital technology – both in terms of the content of the curriculum and the pedagogical approaches that they adopt. They should be open to all learners, from all backgrounds. How can we help schools move to more open forms of assessment, curricula and pedagogy in order to meet the diverse needs of young people and society. Research questions include:

- What might open forms of assessment look like?
• What impact would more open curricula and pedagogies have on learner engagement and outcomes?
• Who would benefit (and who would lose) from greater openness in approaches to schooling?
• How could open schooling be implemented in practice?

5. Educator roles in open online courses
What roles do educators play in massive open online courses (MOOCs)? How can they be most effective in supporting learners to achieve their learning goals? In these open online settings, teaching is carried out by a team of educators, including academic lead, course presenter, moderator, facilitator and the learners themselves. These roles are still being developed, and there is a pressing need to identify evidence-based good practice. The successful candidate will use data from a range of MOOCs to answer the questions above, and will have opportunities to work with the FutureLearn Academic Network, an international team of MOOC researchers.

6. Human wellbeing, open education and technology
Educational technologies might contribute to learning and teaching in many ways and this theme provides an opportunity to use primarily quantitative or qualitative methods or a mixture of the two. Our particular interest is in working with a student who will engage with a theoretical framework that highlights factors that contribute to the production of human wellbeing and various contributory factors such as softer skills. The approach is flexible with respect to territory or technology and we would welcome applicants who might have the capacity to network with policy-makers and practitioners either in country or in international organisations. The overall question is: How can educational technologies in the international development context enhance human capabilities and promote human welfare but this can handled in many ways ranging from econometrics, randomised experiments through to more qualitative approaches.

7. Impact of open educational resources
OERs are well established with over twelve years of implementation, but often research into their impact on learning is missing from project reports. We are interested in examining a range of aspects of OERs: models of OER adoption, the range of impacts on learners, how an open licence affects usage beyond just free and online, the relationship with formal study. We are particularly interested in gaining good quality quantitative measures of impact. This study would relate to the OER Research Hub (http://oerresearchhub.org/)

8. Investigating children’s use of open digital narratives
An OU team has developed a free iPad app called Our Story (OS) which allows children to easily create digital narratives with their pictures text and sound. This Ph.D. will be concerned with investigating the use and effects of OS. There are various possibilities. Using contacts in India, the way this could provide a beacon that emphasises children’s autonomy and creativity. The ways that open access to this and other apps can provide better support for children with learning disabilities. And using OS to provide an impetus to healthy eating with young children.

9. Making meaning online: computer-mediated communication for language learning
The introduction of online tools into language learning and teaching has opened up new opportunities for communication and interaction. There has been a clear increase in multimodal communication
(Kress & van Leeuwen 2001) as well as a shift in modes, with e.g. written (and often asynchronous) communication taking over some of the functions of spoken language, and pictograms replacing body language (Hampel 2014). This research will explore the impact of computer mediation on communication in online language teaching and learning settings, focusing for example on how conventionalized forms of meaning-making are challenged or on how learners can be supported to develop the multiliteracy skills (Cope & Kalantzis 2009) necessary to communicate successfully in out-of-class online environments.

10. Mobile literacies for effective open learning
Mobile devices remain underexploited for learning that involves advanced uses of device and application features, and where new literacy practices are evolving as a response to diverse forms of learning mobility and open learning. Parry (2011) highlights the new “sense of space” in an age of context-aware, ubiquitous and wearable computing, and augmented reality. Development of mobile literacies may, however, depend on access to economic resources and to social networks enabling informal learning. Research questions include:

- What conceptions of mobile literacy are appropriate in relation to current and future technologies?
- What are the implications for teachers and for learners, including those who have unique abilities or face particular challenges?

11. Open educational practices and women’s empowerment in LICs
Women’s empowerment is one of the Sustainable Development Goals defining the development agenda until 2030. Open educational practices (OEP) are already helping to increase educational and social inclusion in the developing world and have great potential to increase women’s empowerment. However, discrimination, isolation, lack of autonomy and financial power, and lack of access to education, the Internet and IT equipment can prevent women benefiting from OEP. Possible research questions in this area include:

- How might barriers to participation in open practices for women in LICs be removed?
- How might capacity building through OEP increase women’s empowerment in LICs?

12. Open science and citizen inquiry
There is an urgent need to find new ways of engaging people of all ages with the practices of science. At The Open University, we have developed a novel approach of ‘Citizen Inquiry’ that combines the mass participation of citizen science with inquiry-based learning. Through our iSpot and nQuire-it projects we are exploring ways to engage citizens in large-scale open science investigations, using mobile devices as science toolkits. Research questions include:

- How can we design online communities of citizen inquiry that are personally meaningful, scalable and sustainable?
- What theories of learning, meaning making, and science inquiry can inform new practices of citizen engagement in open science?
- How can we apply methods of automated reputation management, community support and social media promotion to citizen inquiry?
- How can we harness the power of personal mobile devices as scientific toolkits for learning?
13. Professional learning through work in an open world
Professional learning is a critical component of ongoing improvement and innovation and the adoption of new practices in the workplace. Professional learning often is embedded in everyday work tasks which increasingly are online. However little is known about how professionals self-regulate their learning through regular, on-the-job activities, particularly when work is online and networked. Research is needed to explore how professionals in diverse work contexts learn - individually, in teams and through the collective. Specific tools and learning designs that promote active agency in learning through self-regulation need to be examined, linking with related research in learning analytics. The research outcomes will be of interest to industry and to the Open University, aiming to enable the university to extend reach to support learning through everyday work.

14. Rethinking student feedback in an open world
Providing good feedback in open learning systems such as MOOCs is challenging. Can the feedback available in MOOCs as an example support learners to develop and demonstrate their ability to judge the quality of their own work and those of others against a set of agreed standards? This research will start with an evaluation of feedback given in Open systems. Experiments will be designed to examine the effects of different forms of feedback in a number of open environments and their effects on self-regulation and metacognitive behaviour.

15. Social networking in language learning and teaching
Learning in an open world depends on effective communication that transcends traditional boundaries between languages and cultures. English may function as a lingua franca, but this approach has its limitations and works against linguistic diversity as well as negating the rich linguistic repertoires, semiotic resources and new media literacies that many learners could potentially exploit to enhance learning environments and experiences. Research in this area may, for example, use ethnographic approaches (including virtual ethnography) to observe and understand evolving practices in order to draw conclusions about optimising learning environments for future learners in borderless, open education. The focus can be on detailed experiences of individuals and groups, or on broader issues affecting larger populations of learners and potential learners.

16. Surveillance, privacy and learning analytics
The concept of ‘Big Data’ has emerged as a label which refers to the deployment of learning analytics in the context of open access learning. The benefits primarily concern the enhanced personalisation of the learning experience for the learner and increased insight into learner behaviour for the provider. However there remains an ethical question concerning whether learning analytics co-opt individuals into the de facto surveillance of their learning activities. This studentship may explore a number of issues:
- Consent, control and fair information processing.
- The distributive justice consequences of learning analytics
- The use of privacy by design in learning analytics innovations
- Enhanced marketization as a consequence of learning analytics use

17. The role of open practices in enhancing teacher education in LICs
Research in this area would explore how open practices and mobile technologies support and capture trajectories of teacher development in LICs. Research in this area could focus on: how can OER and
MOOCs (in programmes such as TESSA and TESS-India) enhance the quality of teacher education in LICS and contribute to sustained, contextually appropriate pedagogic change? How can open practices facilitate the developing of international networks and a community of practice for teacher educators? How does engagement with open practices shift teacher educators’ conceptions of knowledge, learning and their own role and identity?

18. Understandings of cultural openness in education and enterprise
In Higher Education and Enterprise alike, there is apparent consensus around the desirability of cultural openness. However, while educators tend to view this in terms of equal opportunities and global citizenship, employers are understandably more focussed on how cultural openness contributes to managing a multicultural workforce, leading transnational enterprises and fulfilling the export potential of a company. Is there a mismatch, or does common ground exist? This project explores understandings of cultural openness in Higher Education and Enterprise and Industry via (i) an analysis of the public discourse of cultural openness in both sectors (ii) questionnaire surveys and (iii) interviews with key players.

19. UNITE: yoUng citizeN scientisTs in an opEn world
This research project will be located within the Children’s Research Centre and will focus on supporting young people (aged 7-18 years) in learning how to conduct systematic, ethical and critical research and using their new skills to collaborate on networked citizen science investigations into issues that are important to their current lives and their lives in the future. The young peoples’ investigations will inquire into local concerns such as recycling practices within a town, or international issues such as air pollution in London and Mumbai, and will utilise a variety of data collection tools e.g. probes that measure air quality and/or interviews that explore the opinions of local residents. The focus will be on facilitating online collaborative networks of young researchers (from schools and youth groups etc.) where data is pooled with a view to addressing a shared research question. The PhD research will be carried out with a view to evaluating the effectiveness of the project in terms of young people’s participation in society, their engagement in science, and the extent to which young citizen science can inform policy at local, national and/or international level.

20. Eyetracking for researching online reading and translation.
The use of eyetracking software to research technology-based activity by language learners and users has undergone significant advances in recent years. It can be used to measure attention to, engagement with and response to onscreen texts and has particular applications in translation research. Translators, more than any other language users, make frequent, intensive and often simultaneous use of a range of digital technologies. Their work is conducted almost entirely online and the tools they employ include online dictionaries corpora, and term banks; translation memories (CAT tools) and project management software. Translation enables and promotes openness by making knowledge available across language boundaries. The focus of research in this area would be to lay bare the perceptual and attentional processes involved in reading and translating texts online.

21. What is the role of open education in widening participation in Higher Education?
The Open University (OU), as a provider of open and distance education, offers a range of flexible routes into higher education (HE). This flexibility is necessary to meet the needs of adult learners, particularly those from ‘Widening Participation’ backgrounds, who, having missed out on ‘traditional’ undergraduate study at 18, choose to engage with part-time HE later in their lives.
However, the OU, like all distance education providers, struggles to retain its students through to qualification. Opening up flexible study routes seems insufficient to remove the obstacles faced by WP students. Learners who withdraw, or who achieve less well, are disproportionately likely to be from groups characterised as WP: those from poorer socio-economic backgrounds, with low prior educational qualifications, with disabilities, or from black and minority ethnic (BME) communities. This studentship will develop research questions around the challenge of:

- opening up HE opportunities for WP students through free resources/courses
- supporting adult WP students to succeed in distance education
- ensuring OU teaching and assessment is inclusive of all learners

**22 Challenges and benefits of studying interdisciplinary and/or multidisciplinary qualifications**

The Open University offers a unique qualification where students have the opportunity to construct a personalised degree from a range of modules across a wide range of subject areas, enabling them to develop personal interests and/or career-related skills in a ‘multidisciplinary’ way (known as the BA/BSc (Hons) Open degree). Other institutions also offer Combined/Joint Honours degrees, and some also offer specific modules covering interdisciplinary approaches.

Despite the many benefits of studying in a multi- or interdisciplinary way, students are faced with specific challenges relating to studying across different subjects (which may have different assessment, referencing, writing styles, academic literacies), particularly when transitioning between subjects and levels.

This studentship may develop research questions covering a number of areas:

- The challenges of delivering multi- or interdisciplinary qualifications within a university system based on traditional disciplines.
- Analysis of student satisfaction and student performance data sources across the sector to compare the behaviour of students on interdisciplinary qualifications with those on subject-focussed degrees.
- What pedagogical theories could be applied to studying in a multi- or interdisciplinary way?
23 Potential supervisors include

- Dr Anne Adams, IET
- Dr Inma Álvarez, WELS
- Prof Paul Anand, Economics
- Dr Tita Beaven, WELS
- Dr Shonil Bhagwat, Social Sciences
- Dr Victoria Cooper, WELS
- Dr Liz Chamberlain, WELS
- Dr Bea De Los Arcos, IET
- Dr Robert Farrow, IET
- Prof Regine Hampel, WELS
- Prof Martin Weller, IET
- Dr Freda Wolfenden, WELS
- Prof Stephen Bax, WELS
- Dr Severine Hubscher-Davidson, WELS
- Dr Tim Lewis, WELS
- Prof Jane Seale, WELS
- Prof Allison Littlejohn, IET
- Prof Patrick McAndrew, IET
- Prof Patricia Murphy, WELS
- Dr Leigh-Ann Perryman, IET
- Dr Jane Roberts, IET
- Prof Jonathan Rix, WELS
- Dr Bart Rienties, IET
- Prof Eileen Scanlon, IET
- Prof Mike Sharples, IET
- Dr Mark Smith, Politics and International Studies
- Dr Ursula Sticker, WELS
- Dr Thomas Ullmann, IET
- Prof Peter Twining, WELS
- Dr Christothea Herodotou, IET
- Dr Sally Jordan, Science
- Prof Agnes Kukulska-Hulme, IET
- Prof Denise Whitelock, IET
- Dr John Butcher
- Professor Peter Taylor
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