ODeL Research: Beyond the Usual Suspects

August 2022

2022 Open Distance and e-Learning (ODeL) Conference
University of South Africa (UNISA), South Africa

Dr Tony Mays, Education Specialist for Open Schooling
Commonwealth of Learning (COL)

Hello. My name is Tony Mays. I am the Commonwealth of Learning's Education Specialist for Open Schooling and also the managing associate editor for its Journal of Learning for Development.

I am honoured to be invited to make a presentation to you today.

The Commonwealth of Learning, or "COL", was founded some 35 years ago and is hosted by the Government of Canada.

COL is the world's only intergovernmental organisation solely concerned with the promotion and development of distance education and open learning.

The recent pandemic demonstrated how ODeL approaches can contribute to building more resilient education systems.

However, when people think about ODeL, they tend to think about the different implications for teaching and learning, especially in relation to the move to online learning …rather than, for example, the implications for ODeL research or for ODeL researchers …

Education is by nature multi-disciplinary and so the research needs, and interests, of educators can be expected to be similarly diverse.

Distance education practitioners, as a subset of educators more generally, can similarly be expected to have such diverse needs and interests, including exploring and understanding the changing issues and challenges associated with the disciplines they explore using ODeL approaches.

But ODeL practitioners also need also to grapple with the challenges of research in this field itself.

In some courses and institutions, we might be working with many thousands of students and other stakeholders, whom we may never meet in person and who may be scattered across the world. We need to be as meticulous in planning our research as those working in more traditional environments, but we need also to think through some of the unique challenges of our own environment …

… for example, with modern technology we can reach our learners and other stakeholders in various ways, but how can we be sure that the person completing our survey, or engaging in our

online interview or focus group discussion, is really who they say they are; and that they truly represent an appropriate sample of what is probably an extremely diverse population?

In a 2015 study exploring research publications in distance journals, Bozkurt and colleagues provide a useful history of research in distance education. They found that their own study confirmed a trend that had been identified in earlier studies, namely published research being skewed towards teaching and learning processes.

They also observed that most published research had focused on higher education provision and that there might be need for more research into schooling provision given the increasing use of e-learning (a trend that was subsequently further accelerated when the pandemic closed school campuses).

A subsequent study by Bozkurt and Zawacki-Richter (2021) came to similar conclusions and identified the need to identify a proactive research agenda.

A review of some recent articles in distance journals and other publications suggests that they may involve rigorous but fairly straightforward literature reviews, although sometimes also more complex selections and meta-thematic analyses of the literature (e.g. Prinsloo & Kaliisa, 2022), which inform conceptual discussions.

Frequently, however, a review of the literature is used to identify issues and questions and then this is augmented by analysis of digital data on an LMS, online surveys, online interviews and/or focus groups. There is nothing wrong with this, of course, provided the issues mentioned earlier are addressed in the planning.

However, what constitutes a valid base for a literature review related to ODeL? Using a citation network analysis methodology, Weller and colleagues, in 2018, identified 8 areas in which much literature has been cited without any reference to other related areas which would seem, intuitively. to be linked, and often also without reference to earlier related research.

This confirms my own observation that much contemporary discussion about online forms of provision does not acknowledge distance education, and earlier resource-based learning. I am wondering if these silos arise because of an expectation that we should cite literature only from the last 5 years to so?

Another issue I have observed is that using data collected from and through the "usual suspects", recommendations are often made about how practice can be improved, but we rarely learn whether the feedback loop was indeed closed back into improved practice as suggested.

Sometimes institutional constraints militate against more longitudinal studies of this nature which may require engagement over 2 or 3 years. It would also be of interest to see evidence of longitudinal cohort analyses to track student retention, success and subsequent other achievements (this can be a challenging but illuminating process as the South African Department of Higher Education and Training (DHET) can attest to) and then how such information has been used to improve practice.

With respect to research methods, in 2021 Wyse and colleagues observed that practitioner-researchers need to find more opportunities for both experimental design and action research in educational research generally,

reflecting Bozkurt and colleagues' earlier suggestion, in 2015, that researchers should make use of a wider variety of research strategies from different fields of practice to explore distance education or open and distance learning provision.

As evidence of this need, a study in 2021, by Yavuz and others, on the trend in distance education research during the pandemic period, suggested that most of the publications in the sample selected were single-author, quantitative using a questionnaire, and analysed using a descriptive-quantitative method.

Given the foregoing discussion, we will now look at a few examples of recent research which used approaches and methods that went beyond the usual suspects.

For example, earlier this year, Bozkurt (explored the impact of the Coronavirus on teaching and learning.

The researcher applied an exploratory approach involving systematic review and bibliometric analysis methods to analyse published scholarly documents on the subject in question.

Unlike traditional review techniques, however, this study also used data mining and analytic approaches … specifically text mining … and social network analysis … to visualise the large volume of data. Thus, multiple data analysis approaches were then used to triangulate the data … which, it is suggested, served to increase both the validity and reliability of the research findings.

Technology is of course a recurring focus for ODeL research and is now ubiquitous – even in the home!

In a study in 2020 to explore the efficiency of employing distance learning technologies in the pedagogic preparation of teachers, Medynska and colleges used a quasi-experimental approach in three phases:

The first stage (preparatory) included: - the selection, justification and theoretical understanding of the problem and the topic of the research; - development of the program and methodology for the experiment; and development of distance courses by using active training methods as the focus of the research.

The second stage (and main) included: - making pre-experimental measurements; - the realisation of the experiment through distance courses for the chosen disciplines and post-experimental calculations.

The third (and final) stage included: - pre-experimental and post-experimental data processing; - interpretation of statistical rates; - comparison of results obtained and expected; - development of recommendations and presentation of the research results.

They concluded, p. 346:

> "Electronic distance learning allows students to obtain necessary knowledge individually by using the most appealing informational resources. Modern capacities of applications and new programs have allowed … the learning process [to be] more intensive and exciting for a student. In this way, continuity and systematicity of individual work are reached. In addition, it helps increase the teacher's control efficiency because a graduate can experience necessary consultations and answers on questions promptly, [and] submit completed tasks not losing the time on meetings with a teacher. The quality of educational material also increases."

With respect to technology, in the world outside of education, digital simulations are now routinely used for anything from learning to fly an aeroplane to learning to perform micro-surgery at a distance.

It is not surprising therefore that there is growing interest in the use of simulations in education provision.

For example, earlier this year, Marvez and colleagues explored the challenge of providing meaningful feedback to learners in an on-line simulation by using machine learning models and natural language processing approaches to enable more personalised support. The study found that the automated feedback was fairly accurate for the relatively modest sample used and the data was promising enough to warrant a larger-scale investigation. It implied that the greater the sample, the more accurate would be the automated feedback.

Staying with technology-enabled or enhanced learning, it seemed that take-up of MOOCs saw something of a resurgence during the pandemic, including by our pets it seems!

It is interesting to reflect on what people were saying about MOOCs before the pandemic. An interesting piece of research in 2016 by Walji and others sought to explore student engagement using four sources of data:

- Platform activity data (e.g. whether educator emails promoted increased engagement by learners)
- Interviews with educators
- Learner post-course surveys; and
- Selection and analysis of in-course comments from learners.

They concluded that there is much value in looking beyond the data analytics available through the platform. Their more varied investigation enabled them to discover the value of having a small group of core highly engaged learners who may enable more 'vicarious' learning among other learners – something that would not have been picked up had the focus been only on the system data analytics.

I have a particular interest in Open Educational Resources (OER) and how these get shared and re-used.

Again, earlier this year, Baas and colleagues used a qualitative descriptive study approach, drawing upon cultural-historical activity theory to understand the complexities associated with the role of "brokers" in creating sustainable collaboration on OER across 15 higher education institutes in the Netherlands.

Data was collected from - project documents, process reports, reflections reports, and a retrospective focus group – so again data was drawn from multiple sources and interpreted in multiple ways. The findings show that brokers engaged in a wide variety of actions, and that a small-scale, personal, and content-oriented approach to encourage teachers to engage with an OER repository and the online community of users was perceived as most valuable.

As COL has noted in several presentations, technology has become central both to what and how we teach but also to how we gather and interpret data. So, for both teaching and learning research in ODL, we need to address issues related to continually striving to bridge the digital divide, to ensure quality in all that we do, and to build the capacity of our staff both as teachers and as researchers.

Thank you.