Editorial policies

Open Praxis is a peer-reviewed open access scholarly journal focusing on research and innovation in open, distance and flexible education. It is published by the International Council for Open and Distance Education—ICDE.

The aim of Open Praxis is to provide a forum for global collaboration and discussion of issues in the practice of distance and e-learning.

Open Praxis welcomes contributions which demonstrate creative and innovative research, and which highlight challenges, lessons and achievements in the practice of distance and e-learning from all over the world.

Open Praxis provides immediate open access to content on the principle that making research freely available to the public supports a greater global exchange of knowledge.

Open Praxis is a quarterly journal published in January–March, April–June, July–September and October–December.

Research articles and innovative practice articles are subject to double-blind peer review by a minimum of two Reviewers.

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www.openpraxis.org
http://dx.doi.org/10.5944/openpraxis
ISSN 2304-070X

Journal history


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Student support services in open and distance education

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Currently, when open, distance and flexible education is increasing worldwide, a reflection and analysis of lessons learned about how to support students' learning and which support services could institutions provide seems appropriate.

Beyond the effort to increase students' retention or to reduce drop-out in open, distance or online education, support services should facilitate more meaningful learning experiences for all. With the purpose of contributing to this goal, this issue of Open Praxis focuses on innovative and effective student support services in open, distance and flexible education. The call for papers included aspects such as the following:

- Distance learning students’ needs and justification of support services in open and distance education.
- Innovative services to promote students’ retention, performance and occupational guidance.
- Role of technologies for student support services. Possibilities and limits.
- Successful and relevant experiences of student support services in distance learning higher education institutions.

The call was open to research papers focused on theoretical foundations, concepts, analysis and results of studies regarding student support services in open and distance education, referring to aspects such as students’ needs in distance education; need for student support services; overview or comparative analysis of services with a focus on innovative and effective ones; evaluation of student support services; support services for entry and first year students; services for after completion of distance learning programs; use of technologies for students’ support; etc.

Also innovative practice articles were expected, providing a description and analysis of concrete innovative and effective experiences of student support services in open and distance education: information services; guidance and counselling; library services; retention programs; student support services based on technologies; e-mentoring; peer to peer support services; etc.

Seven papers have been finally accepted, four of them with a research approach and three of them with a practical approach. They cover some of the topics addressed in the call for papers, from organizational perspectives to individual case studies.

In the first paper, Alan Tait (From place to virtual space: reconfiguring student support for distance and e-learning in the digital age) provides a historical overview that leads to a shift from geographical approaches to student support in open universities to a pedagogical approach, facilitated by digital technologies. This shift places the focus on the integration of support with teaching, instead of considering support services as separated structures within institutions. This insight and reflections will be useful for open and distance education universities stepping towards digitalization.

Jacklyn J. Thompson and Stella C.S. Porto (Supporting Wellness in Adult Online Education) address a not so analysed aspect in distance education: wellness and health promotion in online education, considering physical and emotional aspects. Literature review and examples of good practice in this field lead to a set of recommendations for different stakeholders: from organizations to students themselves, of special interest if we are concerned with this sometimes disregarded needs in online education.

DOI: http://dx.doi.org/10.5944/openpraxis.6.1.111
Javiera Atenas, Leo Havemann and Ernesto Priego (Opening teaching landscapes: The importance of quality assurance in the delivery of open educational resources) introduce a cross-wise topic in the process of distance education: the use of OER as a means to support learning. Their survey-based study highlights academics’ opinions about using OERs and repository managers’ opinions about developing good ROERs. A conclusion, in agreement with Tait’s proposal in the first paper in this issue, refers to the need for integration among teaching and support services, repositories in this case.

Closing the research articles section, Steven J Greenland and Catherine Moore (Patterns of online student enrolment and attrition in Australian open access online education: a preliminary case study) present a study about a main concern in distance education: drop-out. Through analysing enrolment and withdrawal data on a specific study program, they observe different patterns and propose to monitor data in order to inform teaching practice and manage different support strategies to increase retention.

The innovative practice section is opened with a case study written by Kjirsten Keane and Miriam Russell (Using Cloud collaboration for writing assignments by students with disabilities: a case study using action research). They describe a experience of telecollaboration with a student with a physical disability derived from a cerebral palsy, following the steps of action research and thoroughly explaining the process and results. Concerned with accessibility issues and within the frame of universal design, they reflect about the support that cloud services provide in this case.

Maureen Andrade (Course-embedded student support for online English language learners) expands on language acquisition, transactional distance, and specially self-regulated learning, theories that underpin the embedded course model, where support is internal to the course and not an external and optional service. Referring to English courses for non-native speakers of English online students, she describes the experiences and the support strategies that promote self-regulated learning.

Finally, Phalachandra Bhandigadi and Ishan Sudeera Abeywardena (Virtual tutorials in adult ODL: A WizIQ case study of Wawasan Open University) explain the introduction of virtual learning environments in their institution, evolving from more traditional tutorial support based on regional centers to the use of a technological platform than can supply support to all the students. They analyze the experience and highlight advantages and lessons learned with the use of this support tool.

The diverse contributions that conform this special issue focused on student support services in open, distance and flexible education share two common ideas: the evolution towards integration of support services with teaching and the possibilities that technologies provide to support all the students, aiming to general and specific needs.

We expect that the diverse reflections, cases and recommendations presented in this issue are welcomed by our readers and provide useful insight for improving student support services in educational institutions that develop open and distance education.

Special thanks from Open Praxis to the authors and reviewers who have contributed to this issue.
From Place to Virtual Space: Reconfiguring Student Support for Distance and E-Learning in the Digital Age

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Abstract

This article examines the impact of digital technologies on student support in distance and e-learning, drawing on the case of Open University UK. Giving a historical perspective on the use of technologies in learning over many centuries, it argues that the dominant paradigm of geography -which has defined the structures for student support services in second generation distance education- has now been overtaken in digital distance and e-learning contexts by the more powerful affordances of learning design. The article examines in detail the issue of student drop-out as the major challenge for student support in distance and e-learning, and argues that educational mission, not mode of delivery, is the more powerful explanatory driver. The article proposes that student support should now be understood as integrated with teaching and assessment, not separately organised structurally and professionally.

Keywords: e-learning; distance education; learning analytics; learning design; online learning; student drop-out; student support

Introduction

This article seeks to put perspective on the ways in which support to students should be reconceived in the digital age for distance and e-learning (ODL), using the case of the Open University UK (OU UK). Despite information and communications technology (ICT) having over the last 20 years had a very substantial impact on ODL, many assumptions and understandings about student support have survived in whole or in part from the 1980's and are still being actively promulgated or unreflectively reproduced. In particular this is true in the disaggregation of student support from learning and teaching. The need for such reassessment is due both to the fact that while practice has moved on, scholarly analysis has not adequately done so, and secondly that practice itself in some second generation distance teaching institutions has not yet fully made the far-reaching changes that the digital revolution offers.

In 2002 I was guest editor of a special issue on student support in the *International Review of Research in Open and Distance Learning*. In the Editorial for that issue I attempted to assess continuity and disjuncture in ODL and in particular in student support after the first 10 years approximately of the digital revolution in our field (Tait, 2003). I concluded that there were a number of continuities, in particular the continued relevance of Moore's theory of transactional distance (Moore, 1993) and the role of the tutor in supporting students. I also commented that the impact of ICT -as we then termed the digital technologies- on e-learning systems might make them "qualitatively improved albeit not qualitatively different," although I emphasised the impetus given to the then increasingly influential notion of constructivism in the ways in which ICT made learner-to-learner as well as student to tutor interaction easier. I also commented that "In terms of learning skills, the term 'connectivity' might cover not only technical access, but the development of the broader range of literacies to function effectively within the community of e-learners," presaging the innovations now grouped under the term "connectivism."
In the same year Thorpe asked pertinent questions about the conventional boundaries between learner support and the then still new practices of computer-mediated communication. In particular she noted presciently that, where computer-mediated communication is designed as an integral part of the course, the separation of learner support and teaching breaks down (Thorpe, 2002).

More than a decade has passed since those assessments, and the changes made possible and driven by technologies adapted for learning offer qualitatively different opportunities and demand new solutions to the question as to how we incorporate student support into learning design in online learning contexts.

From place to virtual space: diminishing the constraints of place and time

It is important to place the changes for learning driven by the digital revolution in a longer term perspective, and then more specifically to link these to the student support dimensions of distance and e-learning. There is a significant continuity in the distancing of learning and human experience from the limits of the local from the very beginning of history which is relevant to the contemporary issues to which student support in distance and e-learning should respond. We can start by tracing the impact on human relations in early Babylonian records of harvests, sacrifices, and geography from the 3rd millennium BCE. These texts began to distance human beings from oral culture and dependence on memory, as they provided records from one year to the next which could be used for learning about and management of, amongst other things, agriculture and ceremonies. They offered the beginning of “data,” manipulated arithmetically, systematically providing information for record. They distanced people from the constraints of the moment by providing abstracted “facts” from experience. While these were predominantly local records, in ancient Egypt in contrast we saw the creation of libraries, in particular the famous library of Alexandria in the 3rd century BCE, a great collection of major texts for consultation by scholars, drawing not on the locality but on the whole world of knowledge as it was understood at that time. The Middle Ages in Europe saw the artisan production of books, moved from one monastery or court to another. This began in a limited but significant way to accelerate mobility of knowledge, and further distanced a small number of the élite from the constraints of the local. The invention of movable print by Gutenberg in Germany in 1439 began the process of much wider availability of text, and its mobility in book form, to a more literate population in Europe, accessing foundational societal texts such as the Christian Bible, along with religious and political argument, drama and poetry, travel books, etc. from across the continent as a whole.

The stage coach and, in the 19th century, the railway provided accelerators to mobility of print, and supported pioneering forms of interaction with learners separated from their teachers. These technological advances led to the initiation of correspondence education with the “affordance” of the postal system, recorded in a course as beginning in Boston, Massachusetts as early as 1728, while the railway in the UK offered from 1840 or so the further possibility for Pitman’s first course with its speedy and reliable distribution of teaching materials and return of assignments (Holmberg, 2005, p. 13). Both courses, separated by more than a century, taught shorthand, and were in other words practical and vocational courses to support students’ livelihoods. The enormous expansion of the reading of fiction later in the 18th century, supported by more industrialised processes of print production and distribution, gave widespread access to the lives of others, developing understanding that lives from backgrounds other than one’s own had value. This, it has been argued, led amongst other things to the conceiving of human rights, which later included education, in revolutionary France (Hunt, 2007). The introduction of an efficient public postal system in the UK from the mid 19th century led to the widespread practice of lengthy and frequent letter writing to
friends, colleagues and family geographically separated, representing culturally the forerunner to Holmberg’s propositions for empathetic and didactic conversation in correspondence teaching (Holmberg, 1983).

The telephone, more and more widely available during the 20th century, with its initiation of synchronous conversation across enormous distances, accelerated the access from the local to much wider experience on a regular basis, and from the 1980’s began to be adapted for telephone teaching in distance education contexts. The advent of the radio and then the television gave access every day to a realm of global experience mediated by professional broadcasters, so that daily experience was lived not in one place any longer but at a number of levels, local, regional, national and international, which is the contemporary experience for the majority in developed countries today. This has been radically accelerated in the 21st century by the Internet, with its provision of resources from all around the world.

This summary history provides a brief account of the ways in which technologies of text, print, transport, electricity, radio wave and the digital have provided escape from the restriction of human experience to the local and the synchronous to the much wider global and asynchronous dimensions to which we are now accustomed. It is a huge cultural change, accelerated by the digital revolution in the last 30 years in ways that have been dramatic and challenging, that have provided wonderful and rewarding opportunities for many, and new forms of oppressive hierarchy for those who have not been able to move at the speed of what is now the majority (viz. the digital divide). Asynchronous access to the non-local represents of course the distinguishing features of contemporary distance and e-learning, as they were of correspondence education some 175 years ago. These technological developments with their incorporation and adaption into educational systems have all begun with minorities of their population as users, and have all been resisted culturally by those who found their own definitions of learning and educational systems disrupted.

Such a summary also makes clear that technology has been closely associated with changing the human experience of learning and education systems for millennia. The educational system of the last 50 years in particular depended on technologies as much as those which we pioneer today, albeit different ones. The residual sources in distance and e-learning literature that continue to resent the disruption of e-learning are prisoner to the assumption that the technologies of the 1980s were features of an imagined natural world. In some senses this is understandable: the speed and the far-reaching implications for education of the digital revolution have surprised those of us who did not grow up with it. But in others ways the digital revolution represents, as I hope I have demonstrated, a strong continuity in the ways in which technologies have for thousands of years changed human experience and offered access to new ways of learning for individuals, at the same time changing institutions and educational systems.

This long-term process has been termed “disembedding” by Giddens (1990), who elaborates it as being:

The lifting out of social relations from local contexts of interaction and their restructuring across indefinite spans of time-space.

Disembedding makes it possible for the individual to “leave” her or his community in a metaphorical sense, as many have privately done over the last 300 years through reading. Leaving home for university was a physical act of leaving the local for wider perspectives. Distance and e-learning now provides social mobility in much more organized ways out of the local without actually leaving the community. The ambivalence of such journeys away from original community for the socially mobile individual is recorded in fiction such as Hardy’s *Jude the Obscure*, and may well be familiar to readers of this article personally or in the lives of their students. The downside of social mobility of course is that it leaves the residual community impoverished in the absence of its more
enlightened and enterprising members. This is the broad context in which I propose we examine change in the support of learners in distance and e-learning systems.

**Student support in distance and e-learning**

From the historical perspective we can place student support within the generations of distance education, using the technologically-led approach of Nipper (1989), the institutional history analysis of Peters (2004), and the pedagogical frames of analysis of Anderson and Dron (2011). First generation or correspondence education was notable for its lack of student support. There may have been, as some have argued, a behaviourist background to this, assuming that the learner would be guided autonomously through the materials (Anderson & Dron, 2011, p. 2). There may also, in at least some of the private correspondence schools, have been an interest in recruitment rather than student success, which led to student support being conceived simply as an expense, not as a necessary investment. In reaction to this the Open University UK, which created from 1968 onwards one of the first second generation multi-media learning and teaching systems, invested very substantially in student support (more detail is given below). Analysis as to what role student support played within the pedagogy of second generation Distance Education included the recognition of the humanity of the individual learner, and the identification of the affective dimensions of the learning experience, along with the cognitive and systemic dimensions (Tait, 2000, p. 289).

The tutor’s role in second generation distance education was developed particularly powerfully from 1971 on, within the OU UK and elsewhere, as central to the student support system, in order to provide individual support to students both subject specific and supportive of progress and success. The tutor’s role at the OU UK can be summarised as including:

- Providing individual support through teaching and grading of assignments, the core vehicles for learning;
- having a key role therefore within the assessment scheme in the ultimate recognition of learning through credit and qualification;
- paying particular attention to the progress and success of individual students, both through response and intervention;
- providing opportunities for social learning where possible in groups, and a dimension of the local and familiar through a face to face contribution to learning;
- providing support with regard to administrative and other systemic issues.

Such approaches were later termed “constructivist,” in particular in the role that the tutor played in relation to the creation of meaning for individual students in the mediation of the learning materials. The deployment of part-time tutors allowed the necessary scale of open university operations to be realised, with centrally produced teaching materials supported by a cohort of local part-time tutors whose task was not the construction of curriculum but the support of learners through the modules. Significant in the construction of the learner support system of the OU UK, as with other major open universities, was the creation of a range of study centres where support was delivered on as local a basis as possible, together with a regional centre infrastructure to support them along with other devolved operational tasks (Tait, 2004). Core to the concept of support to students was the need to be near, and in the pre-digital period of distance education near necessarily meant geographically near (see Figure 1).

This structure for large scale distance education necessitated the separation of the curriculum creation system from the student support system. While there were systemic connections through the invited presence of regional staff at central meetings, these worked weakly before the digital
era, as geographical distance made it impossible for the centralized curriculum creators to be closely into touch with the day to day lives of the students on their courses distributed across the UK and Europe. While the affordances of the digital era now make this division unnecessary, the pace of institutional change means that the regional structure is still in place, and some of contemporary literature on student support which separates it from the rest of the learning and teaching system remains unrevised. Student support now has the imperative to become an integrated part of the overall curriculum design and learning and teaching system, and no longer a separate subsystem in its concerns, professional sub-groupings and scholarly literature.

This is borne out by an examination of the four historical phases of the Open University UK’s main support models. These main phases have included:

1. 1971–1976
   i. The local educational counsellor embedded in one of the 260 or so study centres in the UK, and linked to the student for her or his undergraduate career, supporting progress and course choice.
   ii. The module tutor, responsible for face to face and correspondence teaching, on as local a basis as possible dependent on cohort size and geography.
   iii. Support of Regional Centre staff to both counsellors, tutors and a subset of students (e.g. students with disability; students with low educational qualifications; students with specific difficulties).
   iv. Compulsory one-week residential schools on many modules, including all first year modules.
2 1976–2000

i  The tutor-counsellor, with an integrated role for first year students of subject expert tutor at the same time with an educational counsellor role, the latter extending through the student career. Based in 260 local study centres in UK.

ii  Subsequent modules also have subject expert tutors, with face to face tutorial and day schools on as local a basis as possible (in perhaps 12–50 centres in UK, depending on size of student cohort).

iii  Support of Regional Centre staff to tutor-counsellors and tutors and a subset of students as above. Development of Regional Centre based educational guidance team to take on more of student advisory role.

iv  Residential Schools, as above.

3 2000-present

i  Subject based tutor for each module. No continuity of support through qualifications to individual students.

ii  Support of Regional Centre staff to tutors. Development of Regional Centre based educational guidance team to take on more of student advisory role.

iii  Sharp decline in the residential school requirements, with most degree pathways no longer having any.

4 From 2014 (planned)

i  Tutor for each module, as locally based as possible with continued optional face to face meetings in majority of modules.

ii  Student support teams, nationally based on qualification basis, to provide enhanced subject and qualification based expertise by phone and email, irrespective of geography in England (with an additional national dimension for Scotland, Wales and Ireland). The teams will have integrated subject, qualification and guidance focuses specific to a qualification group and over the duration of the study for that qualification. It is intended that some elements of continuity of concern can be provided through expert use of student records.

We can see in this account of the 4 models of development a number of features:

- the early move to integrate subject expertise with educational counselling and guidance in the first year;
- the importance of geography rather than subject as an organising principle from 1971 to 2013;
- the removal in 2000 of the notion, core until that point in the emerging accounts of student support at the OU UK and more widely, of the whole student, whose career through a qualification needed support on an individual basis, not just a module by module basis;
- the almost total decline of residential schools being seen as part of the norm of the student experience within an undergraduate qualification;
- the move from 2014 from geography as an organising principle to subject and qualification, delivered from one point wherever the student lives. Geography as an organising factor is for the most part removed, and the separation of student support from core subject based teaching ends. The division of labour in second generation distance education in the OU UK at least -which demanded that student support be separately organised -substantially finishes, as ICT makes place largely irrelevant.

This last phase can be linked to the changes arising from the “dance” of technology and pedagogy, with the movement from instructivism, through the current dominant models of constructivism to the affordances now able to support connectivism, as Anderson and Dron have noted (ibid.).

An observer of the Open University UK would however at this point in 2014 notice very little radical structural change. The regional office structure is still in place and the student support teams will be allocated to them, not on the basis of their regional identity however, but on workload.
balance with responsibility for national not regional student cohorts. We can see, like fossils embed-
ded in a cliff, the organisational history of student support in the university’s contemporary structures. The professional sub-group which has identified itself as “Student support” will in the future need to integrate with those involved in curriculum design and delivery, with theories of student support now being subordinated to those overall of learning design.

**Drop-out and distance and e-learning**

Central to continuity in any discussion of student support in this field is that of student progression and student success, and their companion student drop-out. The issue of drop-out in distance and e-learning in particular has long been the subject of significant attention, both from those within the field and those sceptics from outside. Data within distance and e-learning institutions is often poorly managed, with definitions being inadequate and sometimes self-serving (i.e. drop-out counted from registration for final assessment rather than from registration from course; or module-only pass rates being counted rather than qualification achievement rates). Institutions often prefer to talk about recruitment rather than student achievement. At the same time, what counts for student success and failure is not always clear in lifelong learning contexts, especially in low cost fee environments. While it seems reasonably safe to say that module non-completion would count as failure, the extent to which students who do not complete qualifications may nonetheless have achieved enough important personal as opposed to institutionally defined goals for this to count as success, is much more difficult to ascertain (c.f. any discussion on learner outcomes from MOOCs).

A superficial approach to drop-out ascribes higher levels of drop-out to this mode of learning i.e. that distance learning is in itself a mode of learning and teaching that delivers poor quality results for poor students. A subset of this argument is that the move from second generation distance education to on-line learning has made this worse. The facts might at initial glance support such a conservative and backward-looking analysis. For example, in the UK context, the Higher Education Statistics Agency (HESA) reports drop-out in 2010/11 after the first year of study for full time students in the UK of 7.4%; part-time students 35.1%; and for the Open University 44.7% (HESA, 2013, Tables 3A and 3E). But if we dig further into the statistics, cause and effect are revealed to be a more complex set of phenomena.

Reported in the same HESA tables are the following more detailed data (table 1):

<table>
<thead>
<tr>
<th>Country/Institution</th>
<th>Young</th>
<th>Mature</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>United Kingdom (total)</td>
<td>6.3%</td>
<td>11.6%</td>
<td>7.4%</td>
</tr>
<tr>
<td>University of Bolton</td>
<td>14.8%</td>
<td>15.6%</td>
<td>15.2%</td>
</tr>
<tr>
<td>University of Highland and Islands (UHI)</td>
<td>14.6%</td>
<td>11.8%</td>
<td>12.7%</td>
</tr>
<tr>
<td>University of Cambridge</td>
<td>1.6%</td>
<td>6.8%</td>
<td>1.8%</td>
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</table>

Source: drawn from HESA, 2013, Table 3A

*Open Praxis*, vol. 6 issue 1, January–March 2014, pp. 5–16
free school meals (a poverty marker) have odds of entry to the Universities of Oxford or Cambridge of 2000-1, where from a private fee-paying school the odds are 20-1 (Social Mobility and Child Poverty Commission, 2013, p. 5). It is clear that for the University of Cambridge, as is evident from the same report for the most highly selective universities in the UK more generally, the aim to recruit is least ambitious in terms of wanting to expand opportunity beyond its hitherto traditional audiences of the intellectual élite, which it can be discerned substantially overlaps with the social elite. Social justice is not evident in the outcomes of its recruitment strategy. If we compare universities such as those in Bolton or the University of Highland and Islands (UHI), we can surmise that a range of other factors are in play. For example, neither university asks for top grades in most subjects as a condition of admission. Bolton has a significant multiethnic ambition and achievement, on a scale entirely different from Cambridge or Oxford, and has a clear aim to include its local population in higher education. The UHI, on the other hand, has the challenge of geography, offering a range of flexible opportunities to students living in the Highlands and Islands of the north of Scotland. Far from being necessarily being denigrated for their drop-out, these universities should in the first place be congratulated on their educational ambition and their commitment to inclusion and social justice.

Further data from the same tables make clear that the most significant marker in terms of higher drop-out is whether the student is full or part-time. As is well understood, part-time students have a range of challenges, including most of all the need to balance work, family and study in ways that are much less likely to impact on the lives of full-time students (even in these days when many full-time students work part-time). Other factors that are significant in the same tables from HESA (2013) include: relative poverty of neighbourhood; age (with mature students doing worse than school leavers); and previous educational experience. Thus we see the variables are not to do with mode in itself, but with the lives of the students, and derive primarily from their social, cultural and financial capital.

If we focus on part-time students as the most relevant category for distance and e-learning, the Higher Education Funding Council for England (HEFCE, 2009) reported on part-time student completion for the years 1996–97 (table 2).

It has been overlooked in some accounts of qualification completion at the OU UK (see Simpson, 2013, p. 7) that the Funding Council had earlier in the same report qualified those figures by stating that

(…) around half of part-time entrants in the years 2003–04 to 2006–07 in this OU population begin first degree courses, and half begin modules for institutional credits (…) If it is assumed that a similar split between first degree and institutional credits occurs in the earlier years of the OU time series, and that a large proportion of those embarking only on institutional credits do not intend to and do not gain a first degree, the true underlying rates of first degree completion for OU entrants are likely to be double the results reported in the following sections of this report (HEFCE, 2009, p. 13).

If this were true it would mean that the OU UK completion rates were ahead not behind the part-time completion rates in the rest of the sector. We can at least say that the true figure of

<table>
<thead>
<tr>
<th>Table 2: Part-time student completion UK 1996/1997</th>
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<tr>
<td>Part time completion 1996–97</td>
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<tr>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>UK Higher Education Institutions (non OU)</td>
</tr>
<tr>
<td>OU</td>
</tr>
</tbody>
</table>

Source: drawn from HEFCE (2009) p14
qualification completion for the Open University in the period reported on lies in the range of 22–44% of students. But, as we see that even the Funding Council has difficulty establishing accurate data, this above all reinforces the danger of making over-simple assertions about facts, let alone causes. We should also make clear that entry requirements of the OU UK are categorically different from the rest of the sector. Some 45% of first year undergraduate entrants have one A level or less, that is less than the standard entry requirement for higher education of two A levels (Open University, 2013). This means that simple comparison with the rest of part-time Higher Education in the UK is misleading. The Open University UK has deliberately from its inception in the first year of teaching in 1971 sought to have an admissions policy that is at the very opposite end of the spectrum from, for example, the University of Cambridge; that is, to include those who want to study, not select those it chooses to study. The difference in drop-out rates in the UK across the range of full-time study programmes, part-time study programmes and those which use distance and e-learning is not the mode, it is argued here, but the nature of the educational enterprise. It lies in summary in the nature of the university’s mission: the risk the institution chooses to take in teaching students in pursuit of inclusion and social justice.

Reforming student support in the digital age

None of this however takes away the need to challenge and reflect on the quality of the support students can have in an institution: if we allow students to take risks with their time, money and self-esteem we have an obligation to help them achieve their goals as effectively as possible. The account above of why there is variation across the sector of full-time, part-time and distance and online modes should not be allowed to hide poor practice, or excuse a lack of focus on the centrality of student success to institutions that base their identity above all on their teaching mission. We need to examine evidence from students such as that gathered by Street (2010), which indicate their understanding of the major causes of failure to progress in online learning. These include (Street 2010):

- time pressure
- self-management
- family
- logistics and support (including technical support)
- curriculum relevance

Inadequate educational preparedness would also surely need to be added as a factor. It is this set of barriers to success, lying both within and outside the institution’s direct control, that have to be acknowledged in any account of how students should be supported. It is noteworthy that the issues that lie within the institution’s control do not suggest separation of teaching, curriculum and student support. The reform of student support needed for today’s distance and e-learning does not lie in the reform of student support as we had it, but, as the case of the Open University UK demonstrates, in its reformulation for a digital era.

Third generation distance education: the integration of student support with teaching

The impact of ICT has profound implications for the integration of teaching and student support. The substantial demise of geography as an organising principle represents one dimension. The ability for learners to source and create content rather than having content delivered represents another. This latter cannot be overestimated as a radical change for pedagogy, and thus for student
support. In second generation distance education content had to be delivered as students did not have access to academic libraries or to lectures. The Open University used the metaphorical figure of the lighthouse keeper as its notional learner: teaching had to be delivered in ways that permitted the person in the lighthouse to study successfully without coming off the rock on which the lighthouse stood.

The advent of the web permits a whole range of innovative and supportive teaching approaches, pioneered in computer-mediated conferencing reported as early as 1989 (Mason & Kaye, 1989). In addition the affordances of the web permit:

- the use of video embedded in course materials, supporting a wider range of learning styles and being effectively integrated with teaching and assessment;
- the development of computer-based conferencing beyond text to include oral and visual dimensions, invaluable in, for example, language teaching and practice-based programmes;
- the development of virtual scenarios, including science laboratories and health settings, to support real-life skills taught at a distance;
- the development for the first time of team and presentation skills in distance and e-learning environments. These skills are needed for remote use in many professional contexts;
- the creation by students of social media such as wikis, blogs, podcasts, and videos, and the use of peer-to-peer learning.

Over and above all else, the need to move the preparation of teaching materials from content provision to the design of learning pathways where students are more responsible for finding and evaluating sources, and creating resources, is most significant. The skills needed for effective performance in these areas are needed by graduates in all subjects for personal, citizenship and livelihood goals. Whatever the difficulties of access, it is unthinkable that institutions should not seek to educate their students in these practices. Distance and e-learning is particularly well established to lead in this field (see Blashke, Porto & Kurtz, 2011, for an account in one Masters Programme).

Creelman and Reneland-Forsman (2013) identify the most significant contribution to reduction of drop-out in distance and e-learning lying in the effectiveness of learning design, supporting the notion that the dominant factor does not derive from the mode of study being full-time, part-time or online. They observe that, on a dual-mode campus, some examples of drop-out in an on-campus programme are worse than on a parallel e-learning programme. Learning design in online contexts has the potential to integrate the learning and teaching strategy with learner support in ways that have significantly more potential than the division of labour that separated them in second generation distance education. As institutions pull themselves out of constructivist and towards connectivist pedagogy, the ways in which support to students can be given changes. As responsibility is more and more shared with and between learners, diminishing the hierarchy of subject expert, so the new practices of learner analytics are being developed as the back-system to diagnose and identify when and how learners might need support, deriving from learning within, not separate from, the module or programme. The idea that intervention might follow the identification, for example, that a student has not submitted an assignment, is not new. It has however far more effective possibilities in the digital era, of real-time data collection and intervention. The use of big data practices drawn from commercial and customer-service settings allows an online learning system in real, not postal time, to “live with” a student as s/he completes online assessment tasks, and respond with offers of help where the student is not achieving learning outcomes. There has been widespread use in Higher Education for some 10 years of Student Lifecycle and Relationship Management Systems to provide systematic support for managing the quality of large-scale campus operations (JISC, 2008). More recently Learner analytics have begun to demonstrate in ODL contexts how
they can follow a student as s/he engages with learning materials, and alert a tutor to the fact that the student has not yet engaged with part of the course within the expected timeframe. Learner analytics can remind students of core concepts later in the course, and help reinforce their learning. In summary, learner analytics embed learner support within the learning design of the course, making it easier for the learner to engage with an integrated system that is readily available and immediately relevant to the learning task in hand. Accounts and theories of student support thus become embodied in accounts of learning design, rather than stand-alone parts of distance and e-learning.

Conclusion

The adoption of contemporary technologies by distance education, I have argued, is not at all new, and in particular the development from second generation distance education of the 1980’s to the adoption of ICT in e- or online learning in the 21st century is not by this fact alone breaking new ground. Student support which sought to enhance the learning experience and diminish drop-out was constructed with the use of technologies in second generation distance education as much as it is now in third generation systems. Further, drop-out does not derive primarily from mode of study but from the nature of the risk embodied in the educational mission of the institution to include a wider range of students. The ways in which student support was organized in second generation distance education, where geography was of necessity a primary organizing factor, have however to be reconceived in order through the deployment of ICT to be able to reintegrate student support with curriculum and assessment. The classic accounts of distance education systems, which separate subsystems for learning materials and student support, now have to be revised (see Rumble, 1997, p. 6). It is in this imperative, exciting and creative task that the future of an improved vision of student support lies, integrated with curriculum and assessment, in the larger field of learning design. This will make significant demands of second generation institutions, which will need to demonstrate the institutional resilience identified as essential in managing the fast moving environments of technology change and policy (Weller & Anderson, 2013). If second generation institutions do not take advantage of the revised framework in which student support should now be conceived, this absence will provide a window of opportunity where new entrants to e- and online learning will leapfrog their predecessors with an improved student experience.

Acknowledgments

Thanks to Lisa-Marie Blashke, Anne Gaskell and Roger Mills for support in informally reading this paper.

References


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Supporting Wellness in Adult Online Education

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Abstract

Online education cannot continue to grow at the current pace while ignoring a crucial component of campus support, wellness for adult online learners. This paper brings awareness to the concept of wellness as an important student support service in adult online education. It includes a summarized review of relevant literature and identifies specific wellness concerns of adult online learners. The paper also provides examples of how three American higher education institutions are addressing the issue of wellness promotion in online learning. It identifies areas for improvement in current wellness initiatives and offers recommended strategies for supporting adult online learner wellness to professional organizations, institutions, instructors, and distance learners.

Keywords: adult learners; health promotion; online learning; retention; support services; wellness

Introduction

There is clear evidence that online learning or e-learning, is growing at a considerable pace, as nontraditional learners with multiple responsibilities choose flexible, anytime, anywhere learning formats over face to face education to attain post-secondary certificates and degrees (Allen & Seaman, 2010). A report from the National Center for Education Statistics found that students 30 years and older, who are often married with children and have part or full time jobs, make up the largest percentage of students enrolled in online courses (U.S. Department of Education, 2008). As difficult economic conditions create competitiveness in the job market, it is expected that enrollment of older, reentry learners in online distance education will continue to grow (Allen & Seaman, 2010). There is also evidence that younger adult students are considering online education, with the expanding options and promised lower costs of some new program offerings (Aslanian & Clinefelter, 2012; Layne, Boston, & Ice, 2013).

Consistent with relevant literature, we identify nontraditional students as older learners, often with multiple roles and responsibilities. Studies show that nontraditional students are less healthy than traditional students (Quintiliani, Bishop, Greaney, & Whiteley, 2012). For example, the National Center for Health Statistics (2012), found a direct correlation between an increase in age and an increase in obesity in the United States. In addition, they found the likelihood of meeting federal physical fitness guidelines declines with increasing age (Centers for Disease Control and Prevention, 2012). Further, one of the greatest challenges of being an adult learner is juggling the multiple roles of being a spouse, parent, colleague, and student. These converging responsibilities can be a source of stress and may be overwhelming to the point of poor academic performance or dropout (Müller, 2008; Ryan, Shocet & Stallman, 2010). In their section on Kember’s Model of Student Completion, Moore and Kearsley (2005) offer this about Extracurricular Concerns: “A variety of extracurricular concerns—such as employment (e.g., job stability, workload), family responsibilities, health, and social interests—can adversely affect completion of distance education courses” (p. 161). Student support, retention, and satisfaction are all well researched topics in the field of...
distance education, and various support services and resources are often available to promote retention and satisfaction, however wellness promotion is one component of student support in adult online education that is overlooked as a potential strategy to increase retention and satisfaction. As online education continues to grow, wellness will surely become a topic of concern.

According to the American College Health Association (2012), the principal purpose of health promotion in higher education is to support student success. There is considerable research about the causal relationship between wellness and health promotion on campus, healthy student behaviors, and student success (American College Health Association, 2012; DeStefano & Harger, 1990; Myers & Mobley, 2004). While wellness promotion and resources are commonplace on American university and college campuses, adult online learners may be unable to access campus wellness services and resources due to physical distance from school; or the institution may provide adult online learners with wellness services and resources that are better suited for traditional students or none at all.

This paper highlights wellness promotion as a relevant topic in adult online distance education and a necessary component of the student support continuum in distance education. The purpose of this paper is three-fold: it identifies the unique wellness concerns of adult online learners and examines a cross section of what is currently being done to promote wellness in adult online education; it identifies areas for improvement in wellness promotion for adult online learners; and it offers discussion and strategies about ways to support health and wellness in adult online education.

Background and Literature Review

There is little peer-reviewed literature about wellness for adult online learners. There are a few significant resources, such as Scheer and Lockee’s 2003 publication, *Addressing the Wellness Needs of Online Distance Learners*, and Jones’ 2006 guide, *Online Student Support Services: A Best Practices Monograph- Health and Online Services for the Online Student*, that specifically address wellness concerns of adult online learners. This section summarizes an extensive literature review, discussing the concepts of wellness and how wellness is addressed on campus and reports on the existing initiatives of wellness and health for online learners within the higher education realm.

Adult and nontraditional students are usually defined by their age, 25 or older, and multiple roles and responsibilities (Hermon & Davis, 2004; Myers & Mobley, 2004; Bauman, Wang, DeLeon, Kafentzis, Zavala-Lopez & Lindsey, 2004). Women make up the majority of adult and nontraditional students (Tweedell, 2010). As noted by Layne et al. (2013) the definition of *nontraditional student* is evolving to include a greater emphasis on shared attributes other than age, and new variations of online learners are beginning to lessen the distinction between traditional and nontraditional students. For the purposes of this paper, *adult online learners* are defined as students who are enrolled in a degree or certificate seeking program that requires a majority of course work to be completed online, usually 25 years old or older, who have additional roles such as being a spouse, parent, and colleague. Adult online learners usually work individually to complete assignments with mostly asynchronous interaction such as email and chats with their classmates and instructors. Adult online learners are often reentry students, lifelong learners, or those who are too busy with other roles and require the flexibility of online education.

**Wellness**

*Wellness* is a concept that has evolved from meaning the absence of illness in the 1650s (Oxford English Dictionary, 2012), to “an integrated method of functioning, which is oriented toward
maximizing the potential of which the individual is capable" (Dunn, 1961, p. 6), to “an active process through which people become aware of, and make choices toward, a more successful existence” (National Wellness Institute, n.d.). Wellness is a varying continuum based upon factors in an individual’s life that affect health and wellbeing, and the individual working towards improving these factors and overall health and wellbeing. Hettler (1976) describes these factors in his six, interdependent dimensions of wellness, including:

- Occupational wellness, or “personal satisfaction and enrichment in one’s life through work” (para. 1)
- Physical wellness or “enhancing the body instead of impairing it” through physical activity, nutritious diet, and limiting the consumption of harmful foods and products (para. 2)
- Social wellness or “contributing to [the welfare of] one’s environment and community” and living in harmony with others (para. 3)
- Intellectual wellness or “growing and stretching our minds" through “creative and stimulating mental activities” (para. 4)
- Spiritual wellness or “our search for meaningful purpose in human service” (para. 5)
- Emotional wellness or “awareness and acceptance of one’s feelings... the degree to which one feels positive about one’s self and life” (para. 6)

**Wellness on Campus**

In the early 1980s, Dr. Bill Hettler began promoting the concept of wellness on college and university campuses as a means to support student success (DeSefano & Harger, 1990). In their 1990 report, DeStefano and Harger describe three years of implementing a successful student and faculty wellness program at Drury College based on Hettler’s work. Since then, research has been conducted that shows the value of providing wellness services and resources on college and university campuses (American College Health Association, 2012; DeStefano & Harger, 1990; Myers & Mobley, 2004). Due to the increased social function of colleges and universities, and in order to maintain competitiveness, wellness centers should “be seen, not as unnecessary luxuries, but as integral components of higher education” (Kupchella, 2009, p. 2).

Most American colleges and universities provide students with an array of campus wellness services and resources. Campuses may be equipped with doctors and nurses, laboratories, pharmacies, student gyms, and other services to support student wellness. According to Jones (2006), there are six categories of wellness frequently addressed on campus, including: general health and wellness; addiction and substance abuse; sexual health; diet and nutrition; mental health; and safety and violence.

**Wellness in Online Distance Education**

The need for a student support framework in online distance learning is an accepted standard in the distance education community. Institutional student support services in adult online education are commonplace, although most are still utilitarian. Services, such as, admissions and recruitment (Simpson, 2004); advising and orientation (Brindley, 1995); employment placement (Brindley & Ross, 2004); library services (George & Frank, 2004); and technical support make up support systems for adult online learners.

Our observation is that most online program administrators are apparently not concerned or focused on the need for wellness services as something of significance for the adult online learner population. This is evident in the lack of attention paid to the topic of wellness in adult online education in research and literature and the poor follow through and lack of effort by institutions to
provide wellness resources to adult online learners. Possible reasons for this are that wellness is thought to be common sense, and that adults are able to take care of themselves; that adult online learners do not desire a close relationship with the distance education provider; or that there are few differences in wellness needs between adult online learners and telecommuters or workers who are sedentary for many hours a day.

As discussed herein, such reasons can be rationally contested, and wellness in adult online learning should receive greater attention from institutions and from students themselves. Although wellness may be common sense for most adults, frequently it is not practiced without guidance and resources. It is apparent from the current statistics about adult obesity and physical fitness, that adults need support to live healthy lifestyles. Moreover, despite the notion that adult online learners do not desire a close relationship with the institution, according to LaPadula (2003), approximately one-third of respondents requested some type of social or wellness service be provided by the institution, and Aslanian and Clinefelter (2012) found about half of online students consider student support and coaching important services. Further, adult online learners have specific wellness needs that differ from those of telecommuters and other sedentary workers.

Wellness Concerns for Adult Online Learners

As noted by Quintiliani et al. (2012), adult learners are less healthy than younger students. Adult online learners are susceptible to specific health issues. The following wellness concerns for adult online learners can be identified, including:

- Too many commitments, “multiple responsibilities” (Müller, 2008)
- Too much stress (Edwards-Hart & Chester, 2010; LaPadula, 2003; Müller, 2008; Ryan, Shocet & Stallman, 2010; Scheer & Lockee, 2003)
- Other emotional hurdles, like isolation, being overwhelmed or anxious (Müller, 2008)
- Diet, nutrition, and exercise (Hudd et al., 2000; Jones, 2006; Ryan et al., 2010; Scheer & Lockee, 2003)
- Prolonged sitting
- Unseen factors

Multiple commitments, stress, and emotional hurdles. The increased pressures of multiple responsibilities and scheduling conflicts of adult online learners described by Müller (2008) can be a source of stress. Online learning is also time consuming, and some adult online learners may be ill-equipped with the necessary time management skills and/or underestimate the amount of time needed to complete course work, potentially causing overlapping responsibilities or poor quality course work, which may also be a source of stress. Ryan et al. (2010) describes the high levels of stress experienced by university students and explains that high stress can lead to poor student performance. Further, stress from course work may exacerbate existing or underlying psychological conditions (Ryan et al., 2010).

Multiple responsibilities can also lead to online learners feeling overwhelmed, anxious, and guilty about balancing heavy course loads along with work and familial obligations (Müller, 2008). Multiple commitments may also contribute to poor wellness lifestyle habits, for example, not getting enough sleep, exercise, or both, as well as poor eating habits (Hudd et al., 2000). Such associations have not yet been made directly in the literature, given the little focus on wellness for online learners.
Diet, nutrition, and exercise. As Hudd et al. (2000) found, the busy lifestyle and stress of being a college student contributes to poor eating habits and lack of exercise. Along with the sedentary nature of online distance education, this combination can lead to poor physical wellness among adult online learners. A Center for Disease Control Report, *Health, United States, 2011*, indicates approximately 69 percent of Americans 20 years or older are overweight and about 36 percent are obese. The same report notes about only half of Americans 18 and older meet federal physical activity guidelines. With the exception of Blank’s report, which studied nontraditional students on campus, there is no research regarding the diet and nutrition of adult online learners. However, the papers from Jones (2006), Ryan et al. (2010), and Scheer and Lockee (2003) all suggest that adult online learners are concerned with their physical wellness.

Ergonomics. Due to reports like Punnett and Bergqvist’s (1997) on the effects of prolonged computer work, ergonomics is a significant consideration in the workplace to prevent repetitive strain injuries (RSI), also known as cumulative trauma disorders (CTD), and other musculoskeletal related disorders or vision problems caused from prolonged or incorrect use of computer, keyboard, and mouse, such as sitting, typing, or reading on screen. A 2002 study from Blatter and Bongers found that computer users began to feel discomfort in their necks and backs after four to six hours of computer use, and the longer and more frequent the computer use, the more likely the user was to experience chronic discomfort in these areas. Some workplaces utilize preventive strategies such as providing ergonomic equipment like chairs, headsets, footrests, or special keyboards, or they may provide guidance on how workstations should be arranged or other training on the proper use of equipment to prevent these types of health problems. However, there is little research about ergonomics and distance learning. As described in Spencer (2006), adult online learners spend many hours per day using the computer to complete course work. This number is doubled or tripled if the online learner’s career also involves prolonged use of the computer, which is a trend in many professional activities. Further, the anytime, anywhere flexibility of online learning lends itself to the use of unconventional learning places, like the kitchen table, sofa, bed, or other workspace that may be convenient or comfortable but not ergonomically sound.

Prolonged sitting. Much of the time adult online learners spend completing course work on and off the computer is also time they spend sitting. This is in addition to time spent sitting at work, commuting, and relaxing. All of this time adds up to a significant amount of sitting for adult online learners. This is particularly troublesome due to recent studies that identify prolonged sitting as a serious health risk and predictor of increased mortality and chronic disease (Patel, Bernstein, Deka, Feigelson, Campbell, Gapstur, Colditz, & Thun, 2010). Patel et al. (2010) found sitting for longer than six hours was related to increased mortality, specifically cardiovascular mortality. Pronk, Katz, Lowry, and Payfer (2012) found reducing sitting time improved mood and decreased back and neck discomfort, and they recommend utilizing a sit/stand device for continuous computer use.

Unseen factors. Adult online learners are often isolated from classmates and instructors, and they may slip through the cracks of traditional student and social support systems, putting them at risk to suffer from silent or hidden conditions or abuse without being able to visually communicate to others their need for help. Many unhealthy conditions, for example eating disorders, drug and alcohol abuse, some mood disorders, and domestic violence have symptoms that can be seen by others who might offer assistance or support. For example, a student on campus with an eating disorder may be identified by her appearance, while an adult online learner with the same eating disorder may go unidentified by support systems, because she is never seen. Unseen factors are amplified by the lack of emotional venues available to adult online learners.
A Sample of Wellness Support in Online Higher Education

The following examples in higher education were chosen, because they were mentioned in reviewed literature as examples of best practice of wellness support in distance education.

At George Mason University (GMU), students have access to free and low cost healthcare services and wellness resources, for example counseling, immunizations, and prescription management via the University’s Student Health Services department (http://shs.gmu.edu/services/distance.php). With several on campus clinic locations as well as web-based wellness resources, the Student Health Services department serves GMU students both on and off campus. The University also offers health services specifically for its distance learners, such as after-hours nurses, a number for a “Patient Care Advocate” that offers “no medical advice” but can help distance learners find and coordinate health care services. Additionally, the site offers various online wellness resources for students, including smoking cessation aids, links to student health insurance providers, and a student health magazine. Although the site does not necessarily focus on distance learners’ specific wellness needs, such as time management, stress management, and ergonomics, George Mason’s Student Health Services for Distance Education is still impressive, because it specifically targets distance learners by giving them their own virtual space, and the Patient Care Advocate could be extremely helpful to busy adult online learners who need assistance finding resources and coordinating care.

The Ohio State University (OSU) in Columbus offers Student Wellness Centers both on campus and online. The virtual Student Wellness Center at OSU offers links to definitions of nine dimensions of wellness, including emotional, career, social, spiritual, physical, financial, intellectual, aesthetic, and environmental, as well as links to various educational resources on wellness topics such as, alcohol, tobacco, and drug prevention, finances, diet and nutrition, relationships and sexual health, sexual violence, and stress and sleep (http://www.swc.osu.edu/). The website also lists the hours for the campus wellness center, statistics about Ohio State University student health, and a list of upcoming campus wellness events.

Located in Phoenix, Arizona State University (ASU) has a distance education division (ASU Online). ASU offers a comprehensive approach to addressing online wellness. In accordance with this mission, the site offers resources on alcohol and drug prevention, body image and eating disorders, depression and suicide, diet and nutrition, general health information, healthy relationships, safe and healthy spring break, sexual violence, sleep, and stress management. The site offers links to two student health groups, The Well Devils, and the Health and Counseling Student Action Committee. The site also links to social networking sites, Facebook, Flickr, and Pinterest. In addition to its own site, ASU (2010) utilizes an Online Wellness Center managed by a third-party contractor, Wellsource (https://students.asu.edu/wellness/online-wellness-center). Wellsource provides health risk assessment and computer assisted wellness services (Wellsource, 2012). Unfortunately, there does not appear to be any specific services or resources targeted to adult online learners; however, the broad amount of information and resources available likely serves the basic needs of a variety of students.

There are clearly areas for improvement in wellness promotion in adult online education. There is little peer-reviewed research about the topic and few standards, guidelines, or best practices models from distance education organizations. Although some institutions do provide wellness services, these are usually of broad scope and do not match the specific wellness needs of adult online learners or simply referrals to campus based resources that distance learners are unable to access. Additionally, other institutions have implemented wellness initiatives but have not followed through with their efforts, leading to broken or outdated web links to wellness resources.
Recommendations

We have used the literature review to develop a set of recommended strategies to support wellness in adult online education. We have identified distinct players involved in the implementation of such strategies, including, professional organizations, institutions, instructors, peers, and individuals. A combination of support from these players is necessary for sustained outcomes in learner wellness.

Strategies for Professional Organizations

Professional organizations within the distance education community should invest in research and promote discussion and awareness about wellness in adult online education. These influential organizations should offer best practices models and guidelines for supporting wellness. Furthermore, they should encourage proper implementation and follow through by online distance education providers.

Institutional Strategies

Institutions must take on the responsibility of supporting wellness in adult online education. Institutions should address policy and systems by adapting a wellness policy that promotes “early intervention” and “universal prevention,” (Ryan et al., 2010, p. 8). Institutions should create some entity or hire a contractor to oversee adult online learner wellness and provide services and resources. As Jones (2006) suggests, there is no single model for virtual campus wellness. Rather, each institution’s model should be based on the demographics and targeted needs of their unique student population (Jones, 2006). The questionnaires authored by Scheer and Lockee (2003) can be used as starting points for institutions to determine the wellness resources most likely to be used by their adult online learners. A survey by Ryan et al. (2010) found that adult online learners are most likely to use resources related to work-life balance, time management, stress, and diet and exercise.

Ratey and Loehr (2011) discuss the positive effects of exercise on adult cognitive processes and offer compelling arguments for comprehensive workplace wellness programs. It is recommended that institutions familiarize themselves with the overwhelming benefits of physical activity and consider mirroring workplace wellness programs and strategies, specifically those that increase adult distance learners’ physical activity. There is already evidence in primary education of the positive impact of exercise on grades and behavior by participants of the Spark Movement, an initiative to increase physical activity in schools inspired by Ratey’s research (TEDx Talks, 2012).

Moore and Kearsley (2012) write that a “student support service has to be proactive and reactive” and identify problems early to effectively intervene (p.170). Institutions should use data and automation to generate alerts concerning students’ performance, which could signal problems. These alerts would generate automated action or contact from advising and/or instructors to unveil further information of reasons for changes in online behavior. Wellness recommendations and services could help support students during stressful situations, which frequently affect academic performance. Academic analytics can be used to support wellness initiatives at the institutional level, as well as provide further information about the effectiveness of such services (Diaz & Brown, 2012).

Of the literature reviewed, personal counseling was the most recommended wellness resource. Scheer and Lockee (2003) recommend that personal counseling should be provided to adult online learners. A study from LaPadula (2003) found about one-third of respondents were interested in receiving personal counseling. Müller (2008) suggests mental health counseling to help students with the social effects of online education, especially isolation.
Since research shows that most adults use the Internet to obtain health and wellness information (Weaver, Mays, Weaver, Hopkins, Eroglu & Bernhardt, 2010), institutions should offer an online wellness portal (Scheer & Lockee, 2003). Jones (2006) suggests that institutions use a variety of media, such as text, video, and interactive applications, to present web-based wellness resources. ASU's Wellsource, mentioned above, exemplifies this mixed-media approach.

As illustrated by George Mason University, institutions should consider implementing a referral or case manager service to help busy adult online learners identify nearby health care services and coordinate care. It is also recommended that institutions facilitate peer-to-peer wellness support networks via social networking tools such as Facebook and Pinterest.

Institutions play a critical role in raising awareness of instructors and advisers when it comes to wellness. Further, they must offer training to instructors and support staff on how to support wellness at the virtual classroom level. For example, institutions should provide instructors with various templates so instructors use correct guidelines and resources. This support to instructors from the institution is necessary for effective initiatives, since not all instructors will have the same level of knowledge and awareness of wellness.

**Strategies for Instructors**

The instructor also plays an important role in supporting wellness among his/her students. There are several ways instructors can support wellness in adult online learning, however these activities are likely ill-fated without the institutional support and guidance described above. Examples of instructional support include monitoring student performance (preferably using institutional alert systems and data), encouraging and offering opportunities for physical activity during normally sedentary course work, and being good stewards of wellness concepts.

Moore and Kearsley (2012) suggest closely monitoring student output and reaching out to students if there are significant decreases in their productivity. If an adult online learner is consistently completing timely, quality assignments, and suddenly there is a notable decrease in punctuality or quality without communication, the instructor should send the student an email to show concern about the student's progress as well as determine the cause of the poor performance. This type of early instructor intervention can increase motivation and ease stress and isolation of the online learner. If a wellness concern is found to influence the student's poor performance, the instructor should be empathetic, offer reasonable extensions to complete course work, and refer the student to the institution's wellness services. Such monitoring has become more common through collection of data from institutional learning management systems and other digital systems. Instructors can also utilize these learner analytics to identify at-risk students.

Additionally, instructors can use instructional design to scaffold wellness promotion into courses. With institutional guidance, instructors should be aware of opportunities to address wellness dimensions whenever possible. For example, to address the health risks associated with prolonged sitting, instructors might encourage students to complete a physical activity, such as taking a walk, while listening to audio files of course readings.

Furthermore, distance education instructors must be good stewards of wellness concepts by practicing healthy lifestyles and encouraging their students to be well. Instructors should pay attention to the wellness images they portray and work towards setting positive wellness examples. Institutions can support this approach by raising awareness about instructor wellness. In addition, instructors should be amiable and approachable enough to reduce unnecessary stress on adult online learners.
Peer-to-Peer Strategies

Support from peers is critical to adult online learner wellness. There are various ways these learners can offer each other support to improve wellness. Some examples include support groups via social networking sites or discussion boards. Peers can also support one another by email, phone, and audio and video chat. The institution can encourage such peer support through awareness and by creating online environments where peers can connect with others beyond classroom discussion. This sense of community is essential to improving wellness.

Personal Strategies

Ultimately, the adult online learner must take responsibility for his own wellness. The individual must consider wellness a priority and be motivated to practice a healthy lifestyle, despite the stressful and time consuming nature of online distance learning. The adult online learner must resolve to avoid harmful substances and behaviors, make healthy decisions, such as eating a lean, nutritious diet, and participate in physical and spiritual activities even when the learner’s schedule is already full. Such attitude should be embodied by all the institutional initiatives mentioned earlier.

Summary of Recommendations:

- Invest in wellness research
- Develop and publish professional wellness guidelines and standards
- Encourage implementation and follow through by colleges and universities
- Create entity to oversee wellness and provide resources
- Measure wellness needs of students
- Provide personal counseling to all adult online learners
- Develop useful virtual wellness resources
- Implement a wellness referral or case management program
- Train instructors and support staff on wellness
- Support learners’ awareness about their own wellbeing

Final Remarks

In addition to highlighting wellness as a significant concern in adult online education, this paper identified specific examples of adult online learner wellness needs, described areas for improvement, and offered recommendations and strategies to support wellness in adult online learning. The issue of adult online learner wellness must be addressed to improve the quality of online distance education and continue to scale distance education at its current pace. With student retention and course completion as chief concerns among distance education providers, and health a common reason learners withdraw from online courses (Müller, 2008), there is clearly opportunity for improvements in wellness services in adult online education.

Openings exist for further research on wellness for adult online learners. A 2012 EDUCAUSE focus session on learning analytics acknowledges the importance of students’ “dispositional data...[as the] ability to self-regulate can tell us a lot about their wellness and ability to learn, and there are techniques to pick this up” (Essa, A., as qtd. in Diaz & Brown, 2012, p. 13). Once distance education organizations and institutions adapt professional wellness standards and implement wellness programs, research can be completed to determine the effects of supporting wellness in adult online education. It is anticipated that this research would confirm that supporting wellness for adult online learners causally contributes to higher course completion and learner satisfaction.
rates, along with lower withdrawal rates, and fewer repeated classes would mean learners would take less time to complete their degrees. The behaviors of distance education instructors and tutors, such as poor ergonomics and prolonged sitting, are similar to the students they teach and support. The wellness risk factors associated with online instruction should also be researched to provide institutions with holistic ways to support faculty. Further research in this area could improve job conditions and satisfaction among distance education instructors and tutors.

After exploring the current landscape of wellness services for adult online learners, it is clear much more could be done to provide these students with proper wellness resources. Wellness concepts can be applied no matter what form of learning is being pursued, and the correlation between improved health and improved student performance and attendance translates to online learning. The online distance education movement cannot continue to grow at this rapid pace, while ignoring a critical component of student support, wellness for adult online learners.

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Opening Teaching Landscapes: The Importance of Quality Assurance in the Delivery of Open Educational Resources

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Abstract

Scholars are increasingly being asked to share teaching materials, publish in open access journals, network in social media, and reuse open educational resources (OER). The theoretical benefits of Open Educational Practices (OEP) have become understood in the academic community but thus far, the use of OER has not been rapidly adopted. We aim to understand the challenges academics face when attempting to adopt OEP, and identify whether these are related to or stem from the functionalities afforded by current repositories of OER (ROER). By understanding what academics and experts consider good practices, we can develop guidelines for quality in the development of ROER. In this article we present the findings from a study surveying academics using OER and experts who develop and/or work with ROER. We conclude by suggesting a framework to enhance the development and quality of ROER.

**Keywords:** Open Educational Practices; Open Educational Resources; Quality Assurance; Repositories

Introduction

The learning and teaching landscape is changing dramatically. Academics are requiring new literacies in order to develop digital pedagogies and, more recently, to engage with open educational practices (OEP). Academics today are expected to engage not only with the traditional classroom technologies but also with a kaleidoscope of interconnected digital, open and social practices.

Open Educational Practices (OEP) are defined by the International Council for Open and Distance Education (ICDE) as “practices which support the production, use and reuse of high quality Open Educational Resources (OER) through institutional policies, which promote innovative pedagogical models, and respect and empower learners as co-producers on their lifelong learning path” (n.d.). For Ehlers & Conole (2010) “quality and innovation are inherent characteristics of open educational practices, as education changes to be a social practice, reflective and participative, where learners generate content and validate them in peer-interaction and teachers are facilitating rather than directing learning processes” (p. 9). The critical function of the OER movement is to stimulate academics to share information and knowledge within educational communities, as this supports learning and contributes to bridging demographic, educational, economic and geographic barriers: “OER may ultimately be the genuine equalizer for education and for empowering social inclusion in a pluralistic, multicultural, and imperfect world” (Olcott, 2012, p. 2).
According to Alevizou (2012),

while the origin of the OER movement is located on the emphasis of entitlement (of access to, and adaptation of, free pedagogical material), the new wave of policy and advocacy initiatives focus on transparency enabled by the adoption of open educational practices (p. 3).

For Ferguson & Shum (2012),

while OERs greatly improve the quality of material available online to learners, this wealth of resources can leave learners adrift in an ocean of information, struggling to solve ill-structured problems, with little clear idea of how to approach them, or how to recognise when they have made progress (p. 316).

Scholars are being asked to share the teaching materials they produce, to publish in open access journals, to network with others in social media, and to reuse OER (Weller, 2011). However, we have noticed that searching and retrieving OER from repositories can be a challenging task as materials are difficult to locate, retrieve and sometimes impossible to download to be adapted, translated or updated. The theoretical benefits of open practices have become understood in the academic community but thus far, the use of open content for teaching and learning has not been rapidly adopted. We aim to understand the challenges academics are presented with in attempting to adopt open practices, and identify whether these challenges are related to or stem from the functionalities afforded by current repositories of OER (henceforth referred to as ROER).

ROER have been cast in a leading role thus far in the OER movement, as they have enabled resources to be collected and “shared”—at least in the sense of being uploaded. In the words of Windle et al. (2010):

To date the OER movement has mostly focused on the input or sharing aspect of this equation. A relatively large amount of funding has been made available for the creation of repositories, and the movement has had some success in encouraging individuals to share their resources. Much less is known about the reusability or reuse of the resources that have been accumulated. Who is reusing the resources? How much is being reused? What is being reused? Why are they reusing? What makes it easier or more difficult? (p. 14)

For Misra (2013, p. 25), “there are literally millions of open education resources currently available on the Internet. But what differentiates them from one another? How can educators determine whether the resources are high quality?” In this study we report the views of two different samples of experts in OER and academics on the opportunities and challenges of using ROER by understanding what academics and experts consider good practices. We aim to develop guidelines for repository developers, for them to consider the users’ needs to support quality assurance and to encourage academics to embrace the use open educational resources.

Our goal is to help improving the adoption of open educational practices by suggesting a model to enhance the development and quality of ROER.

Background

The concept of OER was defined by UNESCO in 2002 as: “the open provision of educational resources, enabled by information and communication technologies, for consultation, use and adaptation by a community of users for non-commercial purposes” (p. 27). The OECD (2007) also define them as “digitised materials offered freely and openly for educators, students and self-learners to use and reuse for teaching, learning and research” (p. 10). More recently, UNESCO (2011) refers to OER as

learning resources that include curricula, teaching materials, interactive, digital books, videos, multimedia, podcasts and other materials designed for educational purposes and that can be shared on a network, which is available to teachers, academics and students, and can be accessed without having to pay for subscriptions or licenses (p. 5).
OER in order to be fully open should be licensed under Creative Commons; as Jacobi & Woert (2013) mention “Creative Commons licences enable copyright holders to distribute their work on free conditions and in a low threshold manner.” Creative Commons licenses are at the heart of growth for the user use of OER as those facilitate the adaptation and modification of the resources (Rolfe, 2012; Bissel, 2009). For Downes (2007)

In the system implemented by Creative Commons (widely thought to be representative of an “open” license) authors may stipulate that use requires attribution, that it be non-commercial, or that the product be shared under the same license. So while “open” may on the one hand may mean “without cost,” it doesn’t follow that it also means “without conditions.”

For McGreal (2004), OER focuses mostly on teaching concepts that facilitate access to open knowledge, and the importance of the creation of ROER is related to the current need to preserve and improve access to knowledge in public education. It is important that teachers understand the social responsibility of sharing teaching resources and collaborate in the construction of learning materials to be able to compete at an equal level with the industrialised model of private education, because the students of private institutions tend to have a better access to learning resources.

The value of ROER in the context of the new digital learning landscape is that they facilitate knowledge transfer and the collection and preservation of the information by providing spaces for academics to retrieve and share open resources, by facilitating the access to materials that can be reused, translated and adapted according to their pedagogic needs.

We have identified in the literature a series of indicators for quality assurance, which recommends that in their development, ROER include models to facilitate the search, retrieval, access and download of the OER stored in the platforms as those should allow the users to search, share, reuse and collaborate. Previous research suggests that the ROER should include a set of featured resources to promote the content to the users (Hylén, 2006; Pegler, 2012). Also, it is recommended that user evaluation tools are incorporated into repositories as this is an inclusive and collective method to ensure quality (Downes, 2007; Clements & Pawlowski, 2012; Richter & Ehlers, 2010). Is also recommended that ROER include systems for peer review, to ensure a fair process of review of the content (Larsen & Vincent-Lancrin, 2005; Schuwer & Wilson, 2010; Windle et al. 2010).

Regarding the question of how to describe the resources, the literature recommends that all the repositories are clear about attributing the authorship of the resources (Browne et al., 2010; Kanwar et al., 2010; Petrides & Nguyen, 2008). It is also suggested that the resources are clearly described by the use of keywords (Davis et al.; 2010; Richter & McPherson, 2012). The inclusion of metadata models such as Learning Object Metadata (LOM) or Dublin Core is also suggested to ensure the interoperability of the repositories (Kanwar et al., 2010; OECD, 2007; Barker & Ryan, 2003). However, the question of exactly who can or should catalogue resources remains open.

The use of ROER can create a sense of community of practice. As open platforms, they can allow educators to collaborate and interact by evaluating resources and by sharing content they know other might be looking for. In order for OER to be found, repositories need to be planned and designed to simplify access to resources and to facilitate retrieval. Therefore they need to clearly state the condition in which content licensed and the authorship of these resources, in order to provide enough information about the materials to facilitate it selection, and ensure that the original file can be downloaded to be adapted and reused (Arnold, 2011; Backall, 2007; Tuomi, 2006).

Other authors suggest that the interface of the repositories should allow navigation in multiple languages (Richter & Mcpherson, 2012; Pawlowski & Hoel, 2012; OECD, 2007). Furthermore it is suggested that tools for social media are included to facilitate the sharing of the resources (Jacobi & Van der Woert, 2012; Alevizou, 2012; Kanwar et al., 2010).
It is suggested in the literature that ROER clearly specify the type of Creative Commons License (Hylén, 2006; Pegler, 2012) for each one of the resources to ensure the fair use of the content and to ensure that the resources can be reused or adapted by the users, (Wiley & Gurrell, 2009; Jacobi & Van der Woert, 2012; OECD, 2007; Bissell 2009). Finally, to accomplish the mission of facilitating the reuse, adaptation or translation of the content, the literature remarks the importance of allow the users to be able to download the source code or the original files (Wiley, 2007; Tuomi, 2006; Petrides & Nguyen, 2008; Andrade, Caine & Cameiro, 2011).

**Methodology**

The study focused on obtaining feedback from academics using OER to teach and from experts who develop and/or work with OER repositories as educational technologists and librarians. In order to be eligible to participate in the survey academics had to be employed part or full time in a higher education institution teaching face to face, remotely or in blended mode. The overriding research question for this study was in which ways OER repositories can be enhanced to increase and improve their adoption for teaching practices in Higher Education.

One sample of academics who teach in Higher Education and one sample of experts in educational technologies were surveyed through two mechanisms, respectively:

- A Google online form to survey academics who teach, distributed to 350 participants
- Personal interviews with 20 experts, conducted online

The Google form was sent out via Twitter and other social networking sites such as LinkedIn and Facebook, obtaining responses from a pool of 350 people from around the world. Respondents who did not meet the selection criteria were excluded—the sample is composed of academics who teach in Higher Education and excludes those who work in Higher Education (HE) but do not teach or who teach in other contexts. We obtained responses from 217 academics from 35 different countries. The survey was piloted once with 20 academics from the UK, Australia, Spain, Italy, Brazil, Mexico, Canada, Chile, Croatia and Germany and was tested four times.

Our sample was composed from academics who teach at many subject fields (see figure 1) and also for academics who teach face to face, at a distance, in blended environments or at a combination of them (see figures 1 and 2).

The general objective of the academic survey was to obtain the following information:

a. How many within the surveyed group were using OER repositories  
b. How they found them and used them  
c. How they search, find and select content; what challenges they face  
d. Their opinion on how the repository should work

Academics were asked three questions:

1. How would you describe your experience in finding and selecting Open Educational Resources?  
2. According to your experience, which are the advantages and benefits of using Open Educational Resources?  
3. Which are the challenges and barriers you have encounter when using Open Educational Resources for your lectures?

Personal interviews were conducted online with 20 international experts in order to compare the feedback obtained from the lecturers. The interviews were designed to obtain specialised feedback.
on how experts think users are employing OER and what can be done to improve the current state of repositories.

The general objective of the interviews was to obtain the following information:

a. How experts see the current technical development of OER repositories
b. How they think users select content within the OER repository
c. How they think they could be improved
Apart from an initial question requesting personal and professional background information, experts were asked six questions:

1. According to your experience, should the metadata required by OER Repositories include pedagogic objectives? If so which type of pedagogical elements should be included?
2. According to your experience, what are the technical elements that can make an OER repository a successful one?
3. How do you think that educators search for teaching materials?
4. What are the main criteria that educators use to evaluate OER?
5. How do educators select the resources or the repositories they use?
6. Do you think that the current OER repositories are “good enough” or are there room for improvements and standardisation?

The sample of academics was self-selecting and the general aim was to survey academics that could be found online.

We have aimed at presenting the survey and interviews findings in qualitative, narrative form.

The sample of 20 experts in OER was selected from participants in the 2012 World Open Educational Resources Congress (Paris, 20th-22nd June, 2012) and from authors of articles reviewed for this study.

A review of the academic voices in the use of OER and ROER

Participants were asked whether they have used OER. Of the 217 academics who responded to the survey, the majority had some experience of using OER, with text-led resources proving the most commonly used, but showing that video and multimedia resources are also well used across the sample, with some use of animated resources (see figure 3).

When asked about their experiences in finding and selecting OER, respondents’ opinions varied quite widely though some issues came up frequently. Generally speaking, the group was divided
between those who described the experiences in a broadly positive light, those who were more negative, and those who felt they did not yet have sufficient experience to form a judgement. Positive comments included “As more institutions open up their content it is getting easier to find more reliable sources,” “A great experience,” and “would like my teachers have used more resources like these.”

The issue of time was mentioned frequently by respondents whether they were positive or negative about their experience overall; one described it as “Easy when dedicate time,” while others stated, “it takes some time to identify good resources from the mass, but then it starts to become easier” and “You need to spend time. Researching, analysing, proving, evaluating, choosing, deciding and archiving.” Another respondent observed that “it is necessary to spend time researching and evaluating the quality of the resources,” and added, “You can find a lot of resources but not all have the same quality. Maybe it’s necessary to filter before making them public. Or define a rating system in order to classify previously.”

The same issue of dedicating time to search and selection of OER was often mentioned in much more negative light: “difficult since it takes me a lot of time” is representative of several similar responses in this more negative category, with one respondent stating “It is difficult so I often make up my own rather than take the time to search.” Other responses related to time taken, but focused on other interesting aspects such as pedagogical value of found resources, for example, “In some cases, it is difficult to find appropriate OER that suits with your teaching aims” and “The problem is to find OER for my teaching content.”

Most reported that they selected the resources using their own personal criteria such as relevance to a specific course or class, although many others answered that they selected resources based on trust in either the author of the materials, the institution where the resources were created, or in a given repository.

Respondents identified numerous benefits flowing from OER use. In contrast to the aforementioned problem of time taken to select OER, some academics perceived OER use as time saving, describing them as “useful free, easy, open reliable tools,” pointing out “it’s about not (re)inventing the wheel,” and also citing the “ability to share and remix sources.”

The notion of using an OER to increase coverage of a topic was also mentioned. One academic stated OER can “save time and provide different expertise to mine” while another recommended use of OER to complement their own teaching “so that students generate arguments or questions.” Another approved of the “Broad range of approaches and positions” available from OER.

Open and free availability was also highlighted as a key advantage: “Cheap, easy access to you and to students, the possibility of sharing on-line and with the digital community through social networks”; “it gives the possibility of free and any-time, any-place access.” One academic examined this point in depth, stating: “As an instructor: FREEDOM from the textbook. As a student: reducing the cost of higher education. As an institution: re-imagining higher education for the future. As an advocate: participating in the Openness Movement has been the most profound experience of my career.”

Others regarded the social element of OER use as a pedagogical benefit, for example, “OER creates a community of learning and changes people’s perceptions of learning as a more social activity” (see figure 4).

As well as issues relating to searching for and finding OER already discussed above, the respondents tended to make frequent mention of several other barriers to OER use. Many respondents seemed to feel they lacked relevant experience or training to find and select OER effectively, making comments such as “Don’t know where to find materials,” “challenging without guidance,” “not easy, just beginning.” One academic felt that “Teachers’ general understanding of the importance of open
education” was the main barrier. Another stated “more institutional support to adopt open content and open software” was needed. The skills of academics were highlighted again by a respondent who stated, “From my point of view, the challenges posed by OER have to do with adaptability and knowledge of computer and software that each teacher has. The greater your use of ICT, the smaller your difficulty to adapt and use resources positively,” and another mentioned that “repurposing is hard and time consuming.”

External technological barriers were also mentioned, such as “connectivity at institution level (issues of security, proxies, etc.), and personal resistance of some people to new communication uses and tools” and “IT Connectivity issues and policy (eg. sites blocked for a long time).”

Language barriers were another frequently cited area affecting retrieval, use and reuse of relevant resources. In one academic’s view, “the language barrier is still an embarrassment.” Respondents struggled with both the language of the resources and the language of the repositories. English language resources were specified as being prevalent in repositories, but usually unsuitable for speakers of other languages.

Academics also expressed a general anxiety around the quality of the resources sourced from ROER, mentioning “Evaluating usefulness and quality” and also “pedagogical adequacy.” As one respondent stated, “The quality assurance of OER is the challenge and the barrier at the same time.”

Another problem for several respondents was resource licensing, including the issue of restrictive licenses: “There are some really good materials released but with great restrictions” and also more generally, “The various licenses and formats" represented a barrier for one. Another respondent stated: “Currently, OER are stored in content silos. Open licenses are not a sufficient guarantee of openness. Everyone expects that OER are interoperable, discoverable, remixable, and accessible. I think Semantic Web technologies can be used to achieve these characteristics” (see figure 5).

Overall, respondents were positive about the value of OER, but saw room for improvements. A respondent who felt that OER repositories do not assist in finding resources, stated “Repositories are typically awful, I try to find open information via Google,” while another mentioned, “I passively
consumes via blogs and Twitter,” indicating that some academics are making use of alternative resource discovery strategies (see figure 6).

**A review of the experts voices on the use and improvement of ROER**

We aimed at understanding how experts conceived the development of ROER to enable and facilitate access to resources. We needed to understand their views in three key points:

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*Figure 5: Barriers faced by the Academics using OER*

*Figure 6: Characteristics of a good repository according to the Academics*
• Which type of information ROER should provide to the users
• How this information should be included to the platform
• Which are the technical characteristics that might lead to the successful development of ROER.

We asked the experts if they believed in the possibility of developing standards to improve the current designs and implementation of ROER. Their opinions were both interesting and passionate, as even when they were pro or contrary to the idea, they proposed models that can enable a better development of ROER.

As one of the experts mentioned “the repositories are all over the place and do a bad job of promoting themselves” and for the experts is not also about the platform is about the information those provide as ROER “should have at least: detailed description of content, goals and objectives and teaching methodology.”

First we asked them if they considered it was necessary to include metadata systems such as Learning Object Metadata (LOM) or Dublin Core in the repositories and their opinions were quite negative. They valued the importance of use of descriptive languages in the repositories, but considered that it can “be quite a complex process as if a resource is too narrowly defined it can have a restrictive effect” also “OER repositories should require the barest minimum of metadata. Every additional field makes it less likely OER will be deposited and released” one of the experts mentioned that “Metadata was the death of learning objects.”

Regarding pedagogical information, their opinions were quite diverse. One suggested that the resources should be carefully described at their pedagogical level: “quite extensive but I would start along the lines of reflective, directed etc; and then maybe move into approaches such as social-constructivist, behavioural, emotional etc; and then think of the media, reading, case study, lesson plan, quiz etc.” Another argued that the description needs to kept at a minimum: “content used—interaction types—skill levels” would be about right as a minimum.” Others suggested that adding pedagogical objectives might be useful and “helpful in order to guide users interested in reusing the content” by adding “detailed description of content, goals and objectives and teaching methodology.” In general the suggestion from the experts is that the authors themselves need to provide enough information to describe and therefore discover the resources.

Thirdly, we asked the experts about the main criteria they considered educators use to evaluate OER. First, they mentioned that “trust is the key. If trusted colleagues recommend something then it will be used or if a trusted organisation puts its stamp of approval on it.”

Respondents also agreed that “user friendliness, subject relevance, origin of the producing/offering institution, number of clicks,” are as important as specifying authorship and usage rights by making the resources “useful and applicable,” but also their important its “adaptability and perceived quality.”

One of the experts mentioned that academics “look for how well they meet the goals of the course or the principles of what they want to teach. I think a certain synchronicity with their current approaches would make sense mostly,” while others mentioned “professional discernment,” “previous experience,” “recommendations from peers” and “word of mouth.”

The experts were asked if they think that the current OER repositories are “good enough” or if there is room for improvements and/or standardisation. One respondent mentioned that “finding and previewing OERs could be easier and more elegant to aid the user experience,” and that “quality assurance of OER is a vital area to develop and the key to mainstream uptake. If academics feel they can trust a search service to find quality resources then they will use it (especially if it has the blessing of a national educational body).”
Some of the experts were not so positive: "I do not think standardisation is the answer. On the contrary, diversity is what makes it fun and interesting. But definitely there is a lot of room for improvement. We need to be able to index and find resources more easily and to involve users more easily, too." Also, some mentioned that users need more training in using and finding resources as repositories are "good enough, we need more content but crucially it's more about practice, and educators need to think about using OER and feel encouraged to do so."

Regarding the technical elements that can make a ROER successful, they highlighted that repositories should be accessible for the users. One of the experts suggested that they need to be "open—searchable (full text) via Google. Approachable—plenty of advice and support available. Well promoted." Another expert mentioned that repositories should have “flexible search parameters. Ability to feedback on the usefulness of an item. Break down the elements of the OER to understand what it involves. Easy to download in multiple formats.”

Flexibility and openness seems to be the most important concepts for the development of repositories of OER, as they should contain “a good search facility, some pleasant browse options, in fact it is particularly important to offer discipline/subject based browse options.” According to our analysis of the answers of the experts, we identified a series of criteria that can lead, according to their opinions, to the development of successful repositories (see figure 7).

Conclusions and recommendations

Experts and academics experience of OER repositories should ideally be in agreement with the theory underpinning OER, with these factors together ideally driving technical development and innovation. Our goal is to improve and increase the adoption of open educational practices by suggesting enhancements to OER repositories sourced from a synthesis of the feedback provided by both academics and open education experts.

The use of OER repositories and OER in Higher Education teaching requires a series of literacies and skills. A digital lecturer is not a “virtual” scholar, but a professional who delivers teaching both face to face and online, who uses technologies for teaching and is also a researcher who uses digital resources to understand the world (Anderson, 2009; Borgman, 2007; Weller, 2011).
This study sought to assess the level of engagement with OER practiced by a sample of lecturers, and simultaneously to gather specialised feedback from a sample of OEP experts. The qualitative data we obtained revealed some disconnect between the experiences of those who use them to teach and those who make them available.

As Andrade, Caine & Carneiro (2011) write, “for higher education and adult learning, there is a prevalent notion that there are no specific quality assurance processes in place for OER” (p. 9), and we believe that the importance of quality assurance cannot be underestimated and should begin from the detailed detection of the desirable features in ROER from the point of view of both teaching and OEP specialists. Stella (2010) has indeed argued that “the OER movement would benefit from an exploration of current international quality assurance mechanisms and general guidelines and, potentially, from linking with quality-assurance agencies” (p. 5).

Digital practices in searching for content have changed dramatically. From the very analog library catalogue cards to the online public access catalogue used in almost every library nowadays, the form in which we search and access information has changed (Deegan & Tanner, 2001; Vandendorpe, 2009). The availability of resources has increased, and information about almost any subject can be found online. The amount of open data, open literature and open science grows every day as more and more researchers open their intellectual production, share their research outputs via blogs and conferences which are broadcast live.

Moreover, user-interface design has come a long way since its early days. Back in 2000 W. Y. Arms wrote that “during the past few years, the quality of user-interface design has improved dramatically. It is now assumed that new users can begin productive work without any training” (Arms, 2000, p. 160). Thirteen years later, we are witnessing that many repositories leave much to be desired in their functionality and user-interface design, and that many academics find them difficult to navigate without previous training.

Much was written at the beginning of the last decade on the importance for librarians and information professionals to develop digital skills through education and training (Carpenter, 1999; Spink & Cool, 1999; Kenney & Rieger, 2000; Deegan & Tanner, 2001), but as many educational technologists experience in their daily work there is a need for additional training for lecturers in digital skills, including the discovery and use of OER: “Training and didactic and technical support for instructors are also extremely important. Assistance in finding suitable OER, developing the curriculum, adapting OER, and carrying out their new role are crucial for success.” (Jacobi & Woert, 2012, p. 19). McGreal (2011) also points out that “in order to take full advantage of Open Educational Resources (OER), instructors, developers and learners should become familiar with the repositories that house them along with some training in how to make optimal use of them” (2011, p. 1).

The abilities that academics are expected to have are, to some extent, the same ones now expected of students; however, in reality there is little support for them to develop these digital skills and much less support in developing open literacies. Engaging with open practices requires expertise, support, time and commitment and universities need to provide both the support for developing the expertise and the time for academics to explore this new world as in general academics are positive and committed to embracing new practices, but they are also scared and worried, as new technologies are not their natural environment.

Collaboration, Searching, Repurposing and Translation were the top four features experts considered could make ROER successful. These signify key abilities of digital scholarship and represent a fairly recent new paradigm, at least in some disciplines, in the way academics think about scholarly outputs and teaching resources. We believe that lecturers cannot merely be expected to “naturally” develop and harness these abilities. Ongoing training and support as well as institutional methods of encouragement (such as policies) might be required. Moreover, as more users develop
advanced OEP skills and values, critical assessment and quality assurance of OER are more likely to follow.

Acknowledgements

Thanks to Mehmet Izbudak, Academic Teaching Development Coordinator, SOAS, University of London; Andreas Link, Vice-President of the Learning Agency Network; and Abel Caine, Programme Specialist for Open Educational Resources (OER), UNESCO.

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Patterns of Student Enrolment and Attrition in Australian Open Access Online Education: A Preliminary Case Study

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Abstract
Swinburne University of Technology has experienced tremendous growth in open access online learning and as such is typical of the many Australian institutions that have ventured into online tertiary education. While research in online education continues to expand, comparatively little investigates students’ enrolment and attrition.

This research examines commencing enrolment and associated student withdrawal data, as well as performance scores from eight units forming a Marketing Major for an open access online undergraduate degree. Since data were collected over a five year period, trends and patterns within a substantial online undergraduate program can be explored.

The paper discusses the challenges of analysing enrolment data. Initial findings suggest that retention strategies should be designed according to the stage students are at in their studies. Furthermore, the research informs the prioritisation and development of more effective enrolment and performance data reporting capabilities, which in turn would benefit student management and retention.

Keywords: attrition; retention; open access; student management; online marketing education

Introduction
Mirroring global trends, the past decade has seen a dramatic growth in open access online education in Australia and the Asia Pacific Region (Greenland, 2011). In this paper student enrolment and attrition data from Swinburne University of Technology (SUT), a pioneer in Australia’s online tertiary education sector, are used to illustrate the overall year-on-year exponential growth in online student numbers. In this regard, SUT reflects the national growth in the online education scenario and the experience of many of Australia’s online tertiary providers.

While the increasing number of online students corresponds with a growing volume of related research there is a paucity of work that specifically focuses upon online student enrolment and withdrawal rates. This research therefore sets out to redress this imbalance and explores SUT student enrolment and retention rates to see if any observed patterns can be used to inform student management and/or an institutional retention strategy.

Online student enrolment growth has been exponential for SUT (Figure 1) and especially so for the Marketing Major, which is one of SUT’s largest online undergraduate degree programs. However, the number of students dropping out and not completing online units of study (or subjects) has also been significant and greater than that experienced in on-campus units. For example, SUT’s reported attrition rate for 2011 was 13.72% for its domestic commencing on-campus bachelor students (Australian Government Department of Industry, Higher Education Statistics, 2012a), which is substantially less than the approximate 20% attrition identified for the same period in our preliminary findings for SUT’s online students. This is especially evident for the introductory or level-one subjects, which typically experience the highest attrition rates of more than 20%. Even a slight improvement in online student retention will therefore have a significant impact upon program profitability and sustained viability.
The analysis of enrolment and withdrawal data on the SUT Marketing program presented in this paper forms part of a larger funded study—another component of which is an ongoing investigation of student motives for withdrawal. This aspect of the research involves telephone depth interviews with students who dropped out and did not complete SUT units between 2012 and 2014. Combining knowledge of patterns of unit attrition with an understanding of the drivers of withdrawal facilitates effective student management and retention strategy development. Top-line findings from the ongoing study investigating motives for withdrawal are also discussed in the conclusion.

The Swinburne Context

SUT’s portfolio of undergraduate unit of study commencing enrolments (CE) has grown from a tiny 13 CE back in 2000 to over 30,000 CE in 2012 (Figure 1). These numbers traverse some 60 plus units of study. A unit of study is defined as a 13 week course encapsulated into one “study period” (SP). Students may enrol in multiple units of study per study period (up to four units) in each one of four study periods per year (SP1 to SP4). In order for a student to gain candidature for an award of a Bachelor degree, they normally complete 24 units of study, over two to ten years.

Swinburne’s growth in open access online education (as outlined above) was achieved in partnership with Open Universities Australia (OUA) “a national leader in online higher education” (OUA, 2013). OUA is a collaborative venture with several Australian leading universities, of which SUT is a shareholder and provider partner. Some 20 Australian higher education / tertiary providers offer online units of study and / or full award programs with OUA.

Figure 1: Growth of open access online education within Swinburne University of Technology (SUT), Australia
The dynamic between providers sees many award programs being delivered collaboratively, i.e. anywhere from two to sixteen providers may be contributing to one undergraduate program. In essence OUA can be described as an online educational brokerage and is therefore not the same as the Open University of the United Kingdom for example, which is a university in its own right. In 2005, SUT commenced delivery of undergraduate Marketing units in partnership with OUA as part of a Marketing Major (MM) for the online delivered Bachelor of Business degree.

In 2008 the MM comprised several units of study delivered through a combination of SUT units of study along with several other Australian university providers in the OUA stable. By 2012 the MM comprised nine units, all accredited and delivered by SUT, eight of which were taught by the Marketing teaching team, with one unit taught by the Statistics team. Over the five year period the data were collected, the MM went through several modifications and unit frequency schedules. For example, initially units of study were delivered once per year in any one of the four back-to-back 13 week study periods (in alignment with the OUA standard undergraduate schedule). In 2012, due to the significant increase in commencing enrolments (Figure 2), the level one open access introductory MM unit of study “Introduction to Marketing” was delivered across all four study periods. The majority of other MM units of study ran two out of the four study periods, sequenced appropriately to allow for smooth student study progression.

It is important to be familiar with the difference in enrolment requirements for SUT’s open access online units of study as compared with its on-campus delivery. For example, students enrolling through “OUA” can and often enrol for individual units of study as they do not have to enrol in a whole program, i.e. degree outcome. Furthermore, provided students enrolling through OUA withdraw by the pre-census withdrawal deadline they may do so without full financial or any academic penalty. Within this scenario, students enrolling via OUA have the flexibility and freedom to be able to dip into and trial units and taste them, unlike their on-campus counterparts. In a recent longitudinal study by Boston, Ice and Burgess (2012, p. 5) one of their main conclusions was that students’ enrolments in online study was found to “be more exploratory than in the traditional university.” In other words students found the flexibility of online learning an enabler affording them the chance to try out study options before committing to full programs. Boston et al.’s (2012) conclusion may also provide some insight for the number of students we observe withdrawing from online units in our context. For example, some students appear to be sampling in the open access level-one units, prior to committing to a course of study. In addition, students studying via OUA with our University, have “open access” to all first year, level one units of study, i.e. no entry requirements or restrictions to trial. Consequently and observationally units of study delivered in partnership with OUA tend to have significantly higher official withdrawal rates compared to on-campus units where students must commit and enrol onto full degree programs.

Moore and Signor (2014, p. 366) related the importance to educational providers of how attrition rates “are often associated with quality learning outcomes” by both the Australian Government, and the sector itself. This can be evidenced in part through two perspectives: 1) the annual reporting requirements of Australian higher education providers to the government on student enrolment, attrition, retention, and progression rates; and 2) through the annual Australian publication of “The Good Universities Guide” (2013), which refers to student attrition as one of its “quality” factors in rating higher education providers. This publication is widely available to prospective students to help determine which educational provider they may wish to study with.

There are several bodies of literature within the online education space that should be highlighted in context within the discussion around attrition and retention. As a preliminary study into patterns of student online enrolments and attrition, this study does not explore engagement techniques specific for online students. However it is noted that many studies with a focus on this aspect have
been published and may shed light on attrition rates, for example “emotional intelligence” as a factor (Berenson, Boyles & Weaver, 2008); “communities of practice” (Wenger, 1998; Stacey, Barty & Smith, 2005); and “social presence” (Leong, 2011).

Despite rapid growth of research into open access online education, compared to traditional classroom teaching (accessed through selected entry i.e. universities’ entry requirements) the topic remains largely under explored and there are numerous fruitful avenues for further research. One area with few studies relates to the secondary data sources of enrolment, attrition and performance data.

This research investigates the trends in these data for eight MM undergraduate units of study, delivered by the Marketing teaching team over a five year period (2008 to 2012), as well as discussing the challenges that such an analysis presents.

**Contextualising the growth of online education in Australia**

Open access online education in a global context has seen real growth in participation and up take by both students and educational institutions alike in response to social and political policy aspirations (Brown & Adler, 2008) and earlier demands for equity and access to quality educational opportunities (Dowd, 2003). Australia is no different in these endeavours; for example, Moore and Signor (2013) reported on the Australian Government’s political agendas of both credentialing higher numbers of students within the 25–34 year-old age bracket and the government’s “uncapped student demand scenario” (p. 2750). Both of these agendas have had notable impact on Universities within Australia and how they respond to fulfilling these objectives. Universities in the Australian context have limitations regarding their “bricks and mortar” investment in campus development due to funding and the paradoxical geographical placement of its students across vast states and territories. In addition the previous Australian Government (2007–September 2013) undertook to invest in a national infrastructure rollout of broadband technologies across the country to support access for business and education. As a result of these environmental shifts in the higher education sector, observationally there have been “recent and significant shifts in several Australian universities’ vision and mission statements to further embrace online education in order to attract working Australians” (Moore & Signor 2013, p. 2750). Swinburne University of Technology has certainly embraced this “paradigm shift” with its 2012 private start-up venture “Swinburne Online” in parallel but distinct from its partnership with OUA.

In addition, helping to situate the Australian experience of rapid growth in online education over the last decade within the global scene is Hart’s (2012) literature survey and review. Hart’s (2012, p. 19) review presented clearly focused discussion on the proliferation “over the last eight years” of online educational courses within an American setting. Hart found persistency, i.e. leading to retention, on behalf of the student could be measured by many factors. It is becoming clearer therefore, that we are all in flux as the global trend in the shift to online education is gaining momentum and quality student outcomes are expected.

Contributing to this changing education environment we see and can begin to understand some of the rapid growth we have experienced in our online Marketing units’ student cohorts. For example, the Australian Government Department of Industry, Higher Education Statistics (2012b) reported OUA’s official number of individual students enrolling in online higher education to be well in excess of 58,000 individuals (a reported increase of 7.3% on OUA’s 2011 enrolment data). Noteworthy is, that each individual is likely to be enrolling in multiple units of study across the four study periods. Unfortunately this level of granularity in the data is not available and is considered “commercial-in-confidence” at this time.
With the observed growth in the choice of online study by students comes the importance for learning institutions to both scrutinise and question their secondary data resources. We believe that these data resources hold valuable and insightful information for learning institutions to better their administrative and educational operations within the online learning environment for students.

**Research objectives and methodology**

The research data were extracted from records of SUT unit enrolment and withdrawal statistics, as well as the associated unit results reports. In both instances data were available for each study period. Units examined in this preliminary phase of the research ran from Study Period (SP) 1 2008 to SP2 2012 (i.e. across 18 study periods in total).

While the data examined are fairly simplistic in nature, a number of challenges were encountered in their retrieval. At SUT the annual unit enrolment and withdrawal statistics were recorded in Excel spread sheets. However, the related unit results data were recorded in Word tables compiled for each study period. Furthermore cells in these results tables contained more than one data item. Consequently the unit student performance statistics could not be simply copied and posted into the file containing the unit enrolment and withdrawal data. The incompatibility and formatting issues associated with the two different data sets meant that compiling the different statistics into one data resource required manual data entry and many hours to copy, record and back-check the various and numerous data items. The data file was initially entered into an Excel spread sheet before transferring to SPSS for analysis.

Withdrawal details comprised student numbers withdrawing before the unit census date (pre-census), which allows students to withdraw without financial or academic penalty and usually occurs in week four of a study period, as well as student numbers withdrawing after the census withdrawal deadline (post-census), which allows students to withdraw without academic penalty but losing unit fees and usually occurs in week seven of a study period. Withdrawal or attrition rates were then derived by expressing the number of attriting students as a percentage of the total number of students enrolled onto a unit. Student result or performance details comprised numbers of students attaining particular grades for each unit as well as the overall grade point average (GPA).

**Findings**

Student enrolment data for the SUT online Marketing Major that runs for Open Universities Australia support the widely reported global increase in online education, for example Hart (2012) and Greenland (2011) and confirm that the tremendous growth rate has also been experienced in the Marketing discipline. Between 2008 and 2012, a period when on-campus SUT Marketing student numbers have remained fairly stable, online unit enrolments experienced a more than five-fold increase (Figure 2). Please note that the 2012 data only relate to two study periods in the first half of the year and traditionally the third study period experiences the highest enrolment for each year due to OUA marketing schedules.

Unit student withdrawal rates were observed at 20.6% for the level one introductory unit and showed consistent decline with advanced unit level: a mean withdrawal rate of 13.3% for level two units and 11.4% for level three units. This finding suggests that students who progress beyond introductory stages are more likely to complete their higher-level studies, a finding consistent with research by Boston *et al.* (2012). By definition, the drop-out of less committed / capable students at early stages implies a more committed / capable student cohort in advanced stages. However further analysis of declining withdrawal rates in latter units of study forms another research
For example, level two and three units generally have smaller cohorts and this may also impact upon student success.

As might be anticipated, given the associated financial penalty, pre-census withdrawal rates were much higher than post-census withdrawal rates, which was fairly consistent at an average of approximately 5% across all four study periods. Pre-census withdrawal rates, however, do vary by study period and were notably higher in the second half of the year especially so in SP4 (Table 1).

Table 1: Mean overall withdrawal rate (pre and post-census) for 2008–2012 Marketing units by study period of unit delivery

<table>
<thead>
<tr>
<th>Study period</th>
<th>SP1</th>
<th>SP2</th>
<th>SP3</th>
<th>SP4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-census mean withdrawal rate</td>
<td>8.2%</td>
<td>8.0%</td>
<td>9.5%</td>
<td>12.3%</td>
</tr>
<tr>
<td>Post-census mean overall withdrawal rate</td>
<td>5.5%</td>
<td>5.5%</td>
<td>5.2%</td>
<td>4.1%</td>
</tr>
<tr>
<td>Mean overall withdrawal rate</td>
<td>13.7%</td>
<td>13.4%</td>
<td>14.7%</td>
<td>16.4%</td>
</tr>
</tbody>
</table>

commences at the end of November / start of December each year and it therefore seems likely that other personal commitments during the seasonal festive period take their toll on academic studies (this avenue of study is currently being investigated in another component of this research).

Since 2008 the overall average SUT online Marketing unit withdrawal rate showed constant decline (Figure 3). (NB. The 2012 data is inconclusive since it reflects only two out of four study periods).

The decline in withdrawal over time could be because later level two and three units did not run in 2008—by 2010 level three units were up and running so the initial high attrition rate may be because units were predominantly level one units in 2008! Nevertheless new online set ups should be aware that they may initially experience higher drop-out rates. Also retention does appear to improve as the institution becomes more familiar with and more adept at retaining students. Another plausible interpretation is that students have become increasingly savvy in their online learning capabilities during this period (2008 to 2012) and / or SUT has progressed along a learning curve in terms of its online education abilities, which has facilitated improving retention and attrition amongst its online students.

A negative correlation (-0.329) significant at the 0.05 level (2-tailed) was observed between the pre-census withdrawal rate and grade point average (GPA): A higher pre-census withdrawal rate
correlated with a significantly lower GPA. This result suggests that students are more likely to perform poorly on units with a higher proportion of drop-out at the pre-census stage. This finding in the Marketing discipline’s online units also has some affinity with Boston et al.’s (2012, p. 5) longitudinal finding that “the ability [for students] to maintain an adequate GPA was, not surprisingly, found to be a meaningful predictor of retention.”

**Discussion and conclusions**

The research confirms the tremendous growth in online undergraduate Marketing students over the past five years. The significant numbers of online Marketing students mean that any small reduction in attrition achieved, especially at the pre-census stage, can have a very positive impact upon student retention and thereby greatly enhance university revenues. Furthermore the apparent correlation between GPA and attrition suggests that reducing attrition rates may also have a positive impact upon student performance and therefore satisfaction. In this regard the Australian publication of “The Good Universities Guide” (2013), is correct in highlighting student attrition as one of its “quality” factors in rating higher education providers.

The exploratory analysis presented in this paper reveals that online student retention and attrition vary according to unit level. Hence retention strategies should be specifically developed and designed according to unit level and the stage that students are at in their studies. For example, open access level one units are likely to have a set of unique strategies compared to level two and level three units. This observation forms the basis for future investigation by the authors.

The findings also have implications for how online units are managed in terms of teaching resource allocation. Given the high anticipated withdrawal rates associated with online units, when allocating unit teaching resources SUT has operated with an arbitrary 10% anticipated drop in student numbers that commence online units—to date this has not varied by unit level. Clearly the anticipated withdrawal rate and associated resource allocation should vary and be adjusted by unit level and perhaps also by study period. For example, setting the anticipated drop-out rate to 20% for the level one introductory Marketing unit, compared to 13% for level two and 11% for level three units. Once the recording and management of withdrawal information systems are improved and implemented the anticipated withdrawal rate could reflect the actual rate experienced in the previous iteration of the specific unit in question.

The study may also inform e-learning teachers, as well as service providers in terms of prioritising the development of more effective enrolment and performance data reporting capabilities. To facilitate future evaluation of unit attrition rates, as well as effective unit management to optimize student retention, student records should capture and present data in a user friendly format. Such a system should capture on a unit basis for each study period not only student enrolments and withdrawals, but also student performance statistics. Monitoring these data should help to identify units with higher or lower attrition and performance rates—in doing so examples of best practice may be identified, as well as those units in need of attention. The historical records can then also provide the benchmark data by which subsequent unit attrition may be monitored and the effectiveness, or otherwise, of implemented retention strategies evaluated. Improving the manner in which both results data and withdrawal data are recorded and compiled will therefore facilitate future analysis and the design of strategies for improving student retention.

These exploratory findings provide benchmark data by which the success or otherwise of future actions that aim to improve student retention can be evaluated. They also highlight the need for further investigation into motives for withdrawal and as to why retention rates vary between units. This will help to develop best practice approaches for improving retention.

*Open Praxis*, vol. 6 issue 1, January–March 2014, pp. 45–54
As mentioned in the introduction, the data presented in this paper form part of a larger ongoing study. Further research is currently being conducted to try to more fully appreciate factors driving pre and post-census attrition. While this data set is still being captured initial analysis of 50 in-depth telephone interviews with students who withdrew from Marketing online units (irrespective of level of study) in 2013 is proving insightful, especially for the planning and development of retention strategies. Analysis of interview data collected thus far indicates that the top five reasons for online student withdrawals in approximate order of frequency of mention are:

1. Work related factors such as being too busy with general and unexpected work commitments;
2. Personal reasons relating to health, family commitments, bereavement and relationship break up;
3. Learner technology problems relating to computer and hardware issues, as well as internet connectivity;
4. Learner contexts; student ability and competence in the online environment;
5. Poor study and time management skills;

Understanding any evolving patterns of online student attrition in conjunction with appreciating the reasons for dropping out (Angelino, Williams & Natvig, 2007) will provide SUT, and indeed other institutions, with powerful information that can be used to manage and effectively maximise student retention.

Finally, this research is specific to one online Marketing Major, but underlines the potential for, as well as some of the challenges of, using enrolment and withdrawal data to inform teaching practice. Further research involving a wider range of units, might seek to confirm or otherwise the tentative findings and patterns discussed in this exploratory study.

Acknowledgement

The authors would like to acknowledge funding received from Swinburne University of Technology internal competitive grants: 2012: Taxonomy and Evolution of Online Student Drop-out; and 2013: Understanding Drivers of Online Student Attrition.

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Using Cloud Collaboration for Writing Assignments by Students with Disabilities: A Case Study Using Action Research

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Abstract

Though separated by geographical distance, a student with disabilities, his advisor, and his writing coach consorted in the Cloud using Google applications to achieve a writing goal. Our scenario demonstrates how emerging technologies can bridge transactional distance and “virtually” supplant face-to-face conferencing around a college writing assignment. Individual levels of technical acumen with digital technology evolved to bridge the psychological and communication space between the student and his instructors. As a result, the telecollaborators developed an efficient coaching process adaptable for all students who need assistance in revising college writing assignments at a distance. Action research frames our discussion of the Cloud collaboration and provides a scaffold for student autonomy. The advantages as well and disadvantages of Cloud collaboration are outlined with reference to the National Institute of Standards of Technology definition of Cloud Computing and the Seven Principles of Universal Course Design.

Keywords: transactional distance; cloud collaboration; telecollaboration; students with disabilities; college writing; action research

Introduction

The use of Cloud technology in higher education continues to grow. Cloud Computing is defined as “a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction” (Mell & Grance, 2011, p. 2). The use of this often free technology to facilitate student-faculty communication and improve writing skills at the college level continues to be explored. The active involvement of all telecollaborators, including a student with disabilities, his advisor, and his writing coach, in our exchange prompted an identification of our methodology as participatory action research because the effort evolved as co-research contributed by and for those who are helping and being helped (Wadsworth, 1998). Views of the process will be shared by Keane (advisor) and Russell (writing coach) in a framework of action research developed by Lewin (1946). Lewin viewed action research as spiral of steps, “each of which is composed of a circle of planning, action and fact-finding about the result of the action” (p. 38). Step-by-step, the triad progressed toward their goal of helping a student with disabilities write an individualized degree planning essay.

Cloud-based technology can bring students and faculty together in a personalized and motivating learning environment: an ambitious, but attainable goal. To this end, we sought answers to the following questions: Are there particular ways in which neurologically impaired students may benefit from instruction delivered via the Cloud? Is there potential for Cloud-based technology to bridge the transactional distance gap with students without disabilities?
Limitations particular to any disability impact telecollaboration processes with students who have disabilities. In this study, the student’s limitations stemmed from cerebral palsy, a condition that affects him physically. He received assistance from Empire State College’s Office of Disability Services in identifying technologies that would fit his specific communication needs. However, the student also worked independently, through trial and error, to find free or low cost applications to assist with his schoolwork.

All students at Empire State College design an individualized degree plan with their advisor, typically as part of a two-credit semester-long course called Planning and Finalizing the Degree. Students must complete a major essay in accompaniment with the individualized degree plan, and segments of the essay are broken down into module assignments. Once the student with disabilities had begun his Planning and Finalizing the Degree course, his mentor and writing coach joined him in moving forward to find telecollaboration options to assist him. Ultimately, the student settled on the Google suite to aid his communication as well as his writing. Through his instigation, the student’s advisor and writing coach became familiar with Google Cloud capabilities. Technical challenges were faced and surmounted during the learning process that evolved to build early metaliteracy skills for the triad. As Mackey and Jacobson (2011) redefine metaliteracy, “it places a particular emphasis on producing and sharing information in participatory digital environments” (p. 63).

Embrace the Cloud

This promising practice reviews our telecollaboration process, along with the technical challenges and learning that resulted from the effort. It is important to note that the particular writing assignment in our case provided an exceptional opportunity to explore the Cloud. Because the essay content was dependent upon the student’s course preferences and career goals, only minimal grading and judgment occurred; there were no wrong answers. Also of note, there was an ongoing observation of a significant reduction in transactional distance between telecollaborators (Moore, 2007). In addition, the virtual exchange evolved into a new and more productive realm by the student himself despite, or perhaps because of, his disabilities.

As presented in Smith (2007), Lewin’s 1946 Action Research chart provided a step-by-step process used to help the student with disabilities reach his writing goal. As the triad continued their collaboration, the following steps emerged to illuminate the case history:

I. Identifying an Initial Problem

The student with disabilities, who had been working with his advisor on conceptualizing and revising a major essay assignment, requested additional help from the College’s writing coach. Not unlike many of today’s students, he conducts most of his communication outside of a classroom, untethered by a computer. Although it was necessary to use his computer to read content and submit assignments, he routinely dictated assignments on his mobile phone using a speech to text program. For this student, recording content verbally was a standard practice, as he is disabled with spastic cerebral palsy, a neurological handicap that affects his speech intelligibility and slows his typing speed considerably. Despite his technology use, he continually requested phone conferences with both his advisor and writing coach in order to gain reassurance and direction.

II. Fact Finding

Most modern students who are learning at a distance will submit drafts of essays or papers attached to emails or posted in online courses to later be downloaded by the instructor who writes and saves...
Using Cloud Collaboration for Writing Assignments by Students with Disabilities

III. Planning

Without any formal training in the workings of the Cloud, the triad applied action research to determine the best mode of collaboration to assist the student in revising his essay. Synchronous conferencing using Google Voice was preferred over previous land-line conference calls because the audio fidelity provided through computer speakers, headphones, microphones made the student’s speech more intelligible. As a result, there was a noticeable reduction in the number of times he was asked to repeat his questions and answers.

IV. First Action Step

The student’s role was essential in determining what technology would work within the limits of his disability. Following his lead, the triad downloaded the Voice feature of the Google suite to accompany the review of a draft document shared by the student in Google Drive. After an initial review, the advisor began the process of providing feedback on content and helping the student to clarify his argument. The writing coach joined the process by annotating the document with inserted comments that focused on the writing mechanics. The triad began to communicate asynchronously as well as synchronously. Attention focused on one document in Google Drive, which could be updated at any time by any member of the triad. Google Voice provided a way to discuss the essay when viewed by all parties in real-time, emulating face-to-face conferencing.

V. Evaluate

Working with the document in Google Drive while also utilizing Voice allowed each participant to view revisions, make comments and edits while also providing real-time audio clarification. In addition to the advantages of immediate feedback on details of composition, communication on the Cloud allowed personalities to emerge along with expectations and preferences.

The student was challenged to examine and revise his work more thoroughly through the use of the combined technologies. During the synchronous conferences, the student easily identified correct spellings and sentence structure errors that were highlighted by the advisor and writing coach. However, since his typing was labor-intensive and notably slowed by his handicap, the writing coach would occasionally assist by recording his dictated narrative changes. Consequently, they discovered that the student was an able creator of more advanced level writing that was previously masked by his typing errors. Transactional distance (Moore, 2007) had been breached to the extent that he would transfer his words to the page quickly through another’s typing. This practice promoted Mezirow’s idea that “insistence upon reciprocity and equality often represents positive movement toward greater autonomy and self determination” (1981, p. 3). In addition, the
Voice tool allowed the participants to establish a caring tone that promoted greater acceptance of the student’s emerging capabilities, allowing the participants to establish a “feeling of trust and caring in the affective domain” and forestalling attention fatigue (Kuh et al., 2006; Russell, 2012, p. 23; Zull, 2004).

**VI. Amended Plan**

To increase the strength of the essay and bearing in mind the role of the advisor and coach as the “guide on the side” vs. “the sage on the stage,” the student’s autonomy was consistently encouraged (Knowles, 1984). Facilitative dialogue, in the Moore (2007) spirit, allowed the student to decide which courses matched his learning goals within the guidelines for his degree. In addition, the writing errors were addressed collegially. Instead of the didactic observations like, “wrong tense,” and “fix this,” the writing coach highlighted writing weaknesses, prompting facilitative questions such as “where would you like to start today?” “why is this highlighted?” and “which comments can we resolve?” Together, the triad decided when the document was complete and satisfactory for final submission.

**VII. Second Action Step**

Taking earlier problem solving experiences into account and applying a heuristic approach, the triad identified three gears that worked together to enable smooth Cloud conferencing. First, the technical features had to be accessible to the participants. Google accounts were an obvious necessity; including team participants in one another’s Google contact list was also required. While it was easy to download Google Voice and place a call, all Voice and Chat settings had to be in place prior to conferencing. If headsets were used, they needed to be plugged in properly and turned on. It was essential to locate and check related computer settings frequently. Despite user preparation, the Google technology itself wasn’t always reliably cooperative. The triad occasionally resorted to three-way phone conversations using cellular devices and land-lines. In spite of these challenges, the triad became enthusiastic advocates of using of the Cloud to close the transactional distance gap.

Second, and equally important, was the student role as the focus of the revision efforts. The triad became metaliterate learners together as the following process was established to ensure that the goal was reached:

1. student submitted the document to be revised and edited;
2. advisor and writing coach placed proactive comments on document and returned to the student to make changes;
3. student made appropriate edits and notified the coach when the document was ready for another review;
4. a synchronous conference was scheduled where the student took the lead, guided by facilitative questioning and immediate feedback from the writing coach and advisor.

Lastly, the quality of the dialog present in the interactions, whether by voice or asynchronous comments, had to be conducted collegially with attention to the affective domain (Aragon, 2003; Ghosh, 2011; Oliver & Herrington, 2003; Pickett, 2001; Rovai, 2007). Although most would agree to the premise, avoiding negatives took more consideration than generally assumed. For example, the writing coach could initially highlight and insert a comment such as: “comma needed after introductory phrase.” However, for most punctuation and writing style errors, merely highlighting the error was sufficient for the student to recognize the lapse in self-editing, allowing him to make the revision
autonomously. Persistent errors could be analyzed in later Voice conferences to determine if the error occurred due to a lack of knowledge or if it was merely a typo. Generally, the writing coach used comments and questioning, never personally editing the document, but functioning as a facilitator of the student’s learning.

Discussion

Despite challenges, study participants enthusiastically advocate use of the Cloud to close the transactional distance gap. While Gorsky and Caspi (2005) examined Moore’s (1991) theory and found it tautologically lacking in both reliability and construct validity, Moore’s view of transactional dialog continued to develop and remains valid as scaffolding support for learning in Cloud conferencing. Covili (2012) observed, “Collaboration involves much more than simply working together on a project with others. Collaborative activities ask students and teachers to engage with one another, learn from one another, and rely on one another as an integral part of their education” (p. 7). When students and instructors are able to gain a foothold in the appropriate Cloud application, the advantages overcome transactional distance to the point where Cloud conferencing becomes preferable to face-to-face conferencing in achieving individual student goals. Sonwalkar (2008) described a lack of harmony between overall course structure in higher education and the capabilities of technology. Course design had not yet evolved to the point where it could maximize the many instructional uses for technology. Severance, Hardin and White (2008) also supported Sonwalkar’s claim in their finding that virtual learning environments (VLEs) failed to individualize learning to the extent possible. Adaptive learning, which aims to meet the needs and interests of individual learners, offers a system in which course design and technology coexist. The writing task accomplished in our action research offers an ideal modern example of adaptive learning in an online environment. The advantages of our telecollaboration experience clearly meet the Seven Principles of Universal Design (see Table 1), a set of standards developed by researchers at NC State University to increase usability for the disabled and generally benefit all individuals by making environments, products, and communications more accessible (Burgstahler, 2001; The Center for Universal Design, 2008).

The Student View

An ethnographic interview examined the student’s experience through questions created by the writing coach. The student was pleased to share his successful experience with a larger community of learners. The results of the interview revealed that the student would use either his smartphone or Google Voice on the computer to collaborate during our synchronous collaborations. To compose text, he dictated his written assignments to his smartphone either by voice or typing. At times, he favored typing because “sometimes it’s difficult for me to be understood” in his speech to text program. In addition, he prefers the prediction feature of his smartphone because it “gives instantaneous corrections as a function of the keyboard settings.” After reviewing his written work via Google Drive on his smartphone screen, he can review the text on his computer to see “if the wording is correct.” In order to self-edit, he would either email himself a written paragraph or cut and paste it into a document, a function supported by Holmes and Silvestri (2012).

He stated,

At first I copied and pasted an email to myself, but I started using Google Docs around the time we started collaborating, leading to the second way to use Google Drive app on the phone. This app sends the text directly to Google Docs. Google is now my first choice.
Because the student’s seemingly basic errors previously masked his true abilities, his stronger writing skills were not revealed until he connected visually and verbally in Google Cloud space with his writing coach and advisor.

Thanks to Google talk it has been easier to communicate with others. I first noticed this while working on the rational essay with Dr. Russell. She mentioned to me the level of clarity in my speech was much higher, than me speaking on the phone. This process allowed me to work independently and use Dr. Russell’s skills when I felt like I needed them.

Google technologies have made it easier for me to communicate with my advisor outside of the Planning and Finalizing course, as well as on assignments in other subject areas. I worked on a final essay for a Human Services course (again with Dr. Russell) using the technology and plan to use it again in my future classes. My Human Services instructor and I connected with Google for other assignments as well.

For educators who are most comfortable with traditional keyboard functioning, it may be discomforting to imagine students composing their work orally. While there may always be a need for print editing, an approach using voice dictation worked best for the student in our case with neurological impairments.

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Going forward, I feel Google talk will help others a lot. Especially students who have similar difficulties as I did. If Google docs and Google talk can become as successful for others like it was for me, it will be great for disabled students. The biggest problem has been that many instructors aren’t as open to the idea as perhaps they should be. I’ve asked instructors to join me in using the technology and have been refused. They often only want to stick with the way that they are doing things now and not try something new. One of my professors doesn’t even realize that when I call him on his phone, I’m using Google chat to talk with him. He’s already involved with the technology that way.

Conclusion

Emerging Cloud technology in our case provided a vehicle for a student with disabilities to gain writing skills, achieve more confidence and autonomy, and develop a strong relationship with his advisor and writing coach. Such technology may provide faculty members with a new window into the capabilities and writing processes of students with disabilities. We also support the use of Cloud computing as a saver of documents, not only because it automatically saves and tracks each change every few seconds, but for the accessibility it offers to individuals and groups of people anytime and anywhere the Internet is available.

The question remains: What elements are missing in a Cloud conference that requires essay revision and editing compared with face-to-face? While physical presence is missing, Google tools attaches photos to correspondence, providing a consistent image presence. In addition, distractions present in side-by-side conferencing are eliminated because the participants have total control over their own environment. Kaplan and Berman (2010) noted “the environment must not interfere with whatever purposes brought one to the setting” (p. 49). This non-adaptive technology is quickly emerging as an effective practice in personalizing instructor feedback for all online students. Ice et al. (2007) found that additional auditory feedback enhances “teaching presence and a student’s sense of community” in distance education (p. 3). Students in online courses indicated their preference for audio feedback along with an increased ability to understand previously lost nuances, improved retention, and awareness that the instructor cared for the student’s success (Ice et al. 2007). The significant increase observed in speech intelligibility using Google Voice compared with cell or land-line phone communications noted in this study should direct future research inquiries.

The use of Google Apps during the six-month period of our study with a student with disabilities broadened the scope of our practice. The potential exists to facilitate the building of writing skills more efficiently than they would be otherwise (Denton, 2012). However, further comparison studies of similar Cloud tools are needed to continue to establish validity. Google Hangouts, now available for small groups for planning and document creation, provide synchronous collaborative opportunities (Covili, 2012; Greene & Ruane, 2011). In addition, the use of Voice Comments attached to text comments inserted in writing documents serves to personalize feedback. As Cloud telecollaboration continues to benefit individual students, users can expect to find more positive results for teaching and advising, along with expanded applications for collaboration with colleagues and faculty.

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*Open Praxis*, vol. 6 issue 1, January–March 2014, pp. 55–63


Course-Embedded Student Support for Online English Language Learners

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Abstract
This paper describes an embedded approach to learner support in online English language courses. The support model is based on language acquisition, transactional distance, and self-regulated learning theories. Based on these theories, courses were designed to provide the interaction necessary for academic English language gains, decrease the transactional distance between the teacher and learner, and assist learners in developing the ability to control the factors that affect their learning; in other words, to be self-regulated learners. The latter is critical for those who lack the autonomy needed for successful distance learning. In this paper, three course activities are described and analyzed to demonstrate how the embedded support model responds to the needs of diverse learners and assists them in achieving identified outcomes. The courses were designed for off-site international students enrolled in traditional English-speaking higher education institutions.

Keywords: distance learning; English as a second language; ESL; online English learning; student support

Open, distance, and flexible learning aims to increase access to higher education. It is “a proven means to provide higher education for all, to develop the skills of practitioners in their work place and to provide rapid educational interventions on a large scale” (International Council for Open and Distance Education & European Association of Distance Teaching Universities, 2009). Demand for higher education is increasing. Tertiary level education enrollments worldwide increased by 53% from 2000 to 2007 (Altbach, Reisberg & Rumbley, 2009). Distance learning is an increasingly viable means to provide access to a variety of post-secondary degree-seekers. For learners to take full advantage of distance education opportunities, however, particularly globally mobile learners seeking education from institutions outside their own nations, mastering academic English is often a needed prerequisite.

Higher education institutions in English-speaking countries are accustomed to admitting non-native English speakers (NNESs) and screening them to determine their English proficiency levels. Many provide pre- or post-admission English language coursework or other forms of support to help NNESs develop needed academic English and cultural skills (Barrett-Lennard, Dunworth & Harris, 2011). Similar screening and support provisions must occur for learners enrolled in distance coursework and degrees. A strong foundation of academic English is critical to learner achievement in both face-to-face and distance learning contexts. Even with this foundation, NNESs may struggle to adjust to linguistic and cultural demands in their new learning environments (Galloway & Jenkins, 2009; Sherry, Thomas & Chui, 2010).

Determining how to offer distance language learning coursework and support has historically been a challenge (Hurd, 2006). One consideration has been how to replicate the interactivity required for language learning, specifically opportunities for input and output (Krashen, 1985; Long, 1996; Swain, 1995). When learners are in environments in which the target language is not used on a daily basis, these opportunities are limited. Additionally, language learners accustomed to teacher-centered approaches may find distance courses particularly challenging due to the transactional distance, or
the gap, between the learner and instructor (Moore, 2013). This can be overcome through course structure and student-instructor dialogue. Finally, learners must possess a degree of autonomy or self-regulation to be successful (Andrade & Bunker, 2011). Autonomy does not imply complete independence but is characterized by collaborative control, in which the teacher and learners manage the learning process together (White, 2003). Self-regulation, or controlling the factors that affect learning, provides a framework for how learners can develop greater capacity for autonomy and managing their own learning. Developing this ability is the primary purpose of embedded support for online English language learners.

To address these challenges, two traditional higher education institutions in the United States designed intermediate-advanced level English language courses for global learners wanting to complete online degrees or transfer to campus to complete degrees. Course designers incorporated activities to address the interactivity, transactional distance, and self-regulation needs described. Thus learners are able to acquire desired language skills and learning behaviors for immediate and future academic success. Related literature and a brief overview of the three theories are next provided. Then specific support activities are described and analyzed to illustrate the embedded support model.

**Literature Review**

Online language learner support focuses on helping learners be self-directed (Garrison, 2003; White, 2003). This can occur by incorporating learner training and strategy development into courses (White, 2003). Effective strategy use accompanied by self-efficacy and a specific purpose for learning is characteristic of successful online English language learners (Xiao, 2012). These traits—purpose or motive for learning, goal-setting, and methods of learning or strategy use—are dimensions of self-regulated learning (SRL) and can be embedded into a course to improve learner achievement. Achievement promotes feelings of self-efficacy. Other forms of support involve social networking among enrolled students (Dettori & Torsani, 2013). The social aspect of distance language learning is critical in terms of learner support and has implications for instructors as well. When instructors have high transactional presence, or are available and connected to learners, the latter are intrinsically motivated (Belaja, Sai & Lin, 2012). These studies demonstrate that a common theme in distance language learner support research is strategy training and use, social interaction and community, and motivation, all of which are foundational to SRL.

SRL entails individuals taking responsibility for the factors and conditions that affect learning (Dembo, Junge & Lynch, 2006); it consists of six dimensions—motive, methods, time, physical environment, social environment, and performance (Dembo et al., 2006; Zimmerman, 1994). These provide course designers and teachers with a framework that encourages learners to identify motive or reasons for learning, practice and apply strategies or learning methods, manage time and set priorities, ensure that the physical environment or study location is conducive to learning, and self-monitor and evaluate performance. The social environment dimension of SRL involves viewing help-seeking as a positive behavior, determining when to seek help and from whom, and evaluating the results. It does not encourage dependence, but rather good judgment about when, why, and from whom to get help. For language learners, the social environment is particularly significant as it provides interaction opportunities from which they can ascertain their abilities to communicate orally and in writing and make adjustments as needed. Although the quality of distance courses is often a concern (Allen & Seaman, 2013) and a lack of socialization a primary criticism, the latter can be more effective in an online course than a face-to-face course as students can be required to participate in discussion boards, meet with peer tutors or mentors, and work on group projects. These approaches are particularly effective for purposes of language acquisition.
Distance English language learners have specific cultural, educational, and linguistic profiles and needs that must be considered related to strategy and content instruction. These include values, expectations about learning, previously established academic behaviors, beliefs about the role of the teacher and student, and views about effective language learning. In particular, they have distinct needs in terms of the conditions required for effective language acquisition. As indicated, the latter involves input in the form of listening and reading and output in the form of writing and speaking. Opportunities for input and output are critical, particularly for learners in non-English-speaking environments. Learners must interact with a variety of interlocutors to recognize when adjustment in vocabulary, grammar, and syntax is needed in order to be understood (Swain, 1995). “Receiving negative feedback leads learners to consider alternate ways to express their ideas and supports hypothesis testing” (Andrade & Bunker, 2009, p. 56). Language acquisition entails developing communicative competence, which consists of four components: grammatical (syntax, vocabulary, grammar), sociolinguistic (appropriate language use in a particular context), discourse (connecting ideas), and strategic (navigating communication breakdowns) (Canale & Swain, 1980). To develop this competence, a balance of four strands (Nation, 2001) must be included in online course design.

- Meaning focused input: reading and listening for purposes of comprehension
- Meaning focused output: speaking and writing for purposes of communication
- Language focused instruction: deliberate study of the language (grammar, vocabulary, and pronunciation) to understand how linguistic features function
- Fluency development: listening, reading, writing, and speaking practice using familiar vocabulary and structures

As learners strive to develop their English language proficiency, SRL components built into a course can enhance this process. The structure of the SRL activities and the dialogue provided by the teacher and among learners increases learners’ capacity for autonomy, or their ability to be self-directed. Dialogue also provides communicative language practice. The theory of transactional distance explains how structure, dialogue, and autonomy interact with and affect each other. When structure in the form of lesson material, activities, assignments, due dates, and media presentations is set and learners have limited choice, autonomy is low. Autonomy is also low when dialogue or interaction among the teacher and learners in the form of discussion boards, announcements, real-time communication, email, or assignment feedback is extensive. As the amount of structure and dialogue in a course decreases, autonomy increases. The teacher can facilitate higher and lower amounts of structure and dialogue to increase learner autonomy. These transactional components have direct relevance to support in distance language learning contexts; they allow teachers to provide appropriate levels of support while helping learners develop SRL behaviors and increase autonomy. This occurs through the process of collaborative control (White, 2003).

The model of self-regulated distance learning demonstrates how the three theories —language acquisition, transactional distance, and SRL— work together to help learners increase their commitment, English proficiency, SRL behaviors, and autonomy (Andrade, 2012; Andrade & Bunker, 2009, 2011). As learners engage in structured language learning tasks in a course, exercise autonomy in their selection of SRL activities, develop SRL behaviors in each of the six dimensions, engage in dialogue with the instructor and other learners, and monitor their performance, they not only potentially improve their English skills but their overall academic effectiveness. Online learning research demonstrates that self-monitoring; in other words, the performance dimension of SRL, specifically the inclusion of student reflection on learning within a course, provides distinct advantages over courses lacking this component (Means, Toyama, Murphy, Bakia & Jones, 2010). “Overall, the available research evidence suggests that promoting self-reflection, self-regulation
and self-monitoring leads to more positive online learning outcomes. Features such as prompts for reflection, self-explanation and self-monitoring strategies have shown promise for improving online learning outcomes" (Means et al., 2010, p. 45). The following section explains course features that simultaneously provide language acquisition and learner support, and in particular, encourage "self-reflection, self-regulation, and self-monitoring" (Means et al., 2010, p. 45).

**Embedded Support in Practice**

Based on language acquisition, transactional distance, and self-regulated learning theories, and consistent with the model of self-regulated distance learning (Andrade & Bunker, 2009), I next examine three course features that utilize an embedded support approach. The latter is characterized by support that is internal to a course rather than external such as the availability of learning assistance centers or peer tutors, academic advisement, or technology help desks, all of which are often optional. The embedded support components help learners develop and apply SRL behaviors to improve their academic English skills and course persistence. They also provide learners with the skills needed for sustained academic success. The outcomes of the course components have been reported in other research and include examining student learner journals for evidence of SRL behaviors, review of completion rates and final grades, interviews of students a year after course completion, and exploring the effect of teacher dialogue on SRL development (e.g., Andrade, in press; Andrade & Bunker, 2011). Findings from this research and student self-report data from journal entries are included as part of the following discussion.

As noted earlier, these support components are integrated into English language learning courses at the intermediate and advanced levels. The courses focus on helping NNESs develop academic English reading, writing, listening, and speaking skills. The learners are from a variety of countries in world regions such as South America, Oceania, Asia, Europe, and Africa. Some of the learners will complete online degrees while others will seek admission to a face-to-face institution in an English-speaking country. Course size ranges from 15–25 students. The courses are offered by two different institutions—both of which are traditional and have a specific mandate to extend educational opportunity to learners in developing nations who may not have access to higher education. Thus, the courses are offered to learners at minimal cost and have minimal admission criteria.

A key aim of the activities is socialization, as related to the SRL social environment dimension. This area is considered of general importance to distance or e-learning. “Structured learning activities and opportunities for socialisation are seen to be key for all e-learning—as indeed they have always been for open and distance learning students even when the current extensive range of digital media was not available” (Gaskell, 2012, p. 101). The social aspect of distance learning is even more significant when considering that it creates linguistic interaction opportunities (historically, a major challenge for online language learning), encourages learners to problem-solve independently and in collaboration with peers, and overall, to control the factors that affect their learning, as next described.

All of the course components discussed are situated in SRL theory. The first focuses on helping learners understand and apply SRL and its six dimensions; the other two are applications of specific SRL dimensions. Each activity is described followed by an analysis of benefits and limitations.

**The Dimensions of Self-Regulated Learning**

The SRL dimensions course component is designed to serve as the backbone to the course. It begins with a diagnostic survey in which students identify their strengths and weaknesses as...
language learners. Based on the results, they then select one SRL activity each week from a list of choices (Andrade, 2012; Andrade & Bunker, 2011). The activities are directly related to the six dimensions. Table 1 provides activity examples.

<table>
<thead>
<tr>
<th>SRL Dimension</th>
<th>Name of Activity</th>
<th>Description of Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motive</td>
<td>Setting goals</td>
<td>Two-part activity in which students identify their values; then identify related short, intermediate, and long-terms goals.</td>
</tr>
<tr>
<td>Methods</td>
<td>Using the textbook</td>
<td>Students identify the parts of textbook, purposes of the parts, and how to effectively use them.</td>
</tr>
<tr>
<td>Time</td>
<td>Evaluating use of time</td>
<td>Students record their activities for 24 hours and categorize them to determine their time use.</td>
</tr>
<tr>
<td>Social Environment</td>
<td>Preparing for a tutor appointment</td>
<td>Students apply a 5-step process to prepare for weekly live interactive tutoring sessions.</td>
</tr>
<tr>
<td>Physical Environment</td>
<td>Classifying distractors</td>
<td>Students analyze their study locations to determine effectiveness in terms of time of day, distractors, and types of tasks best accomplished in a location.</td>
</tr>
<tr>
<td>Performance</td>
<td>Submitting weekly reflections, mid-course and final self-evaluations</td>
<td>Students analyze weekly what they learned from the SRL activity and summarize their findings in a journal; they synthesize and review goal progress and SRL behaviors in mid-course and final evaluations.</td>
</tr>
</tbody>
</table>

After completing an SRL activity, learners are guided through an analysis of the value of the activity, and then summarize their experience in a weekly journal submitted to the teacher. The teacher comments on the depth and detail of the reflection as well as the learners’ writing skills, thus language acquisition and SRL development are integrated and reinforced. Students regularly express appreciation for the activities. One indicated the following related to goal-setting: “From doing this activity, I learnt that getting goals is very important for our learning. When we get goals of our learning, we would have more energy to achieve our goals. It gives fresh impetus to us.” Similar sentiments are typical for the other SRL activities. These are found in the weekly learner journals and midterm and final self-evaluations (Andrade & Bunker, 2011). Self-selection of activities supports the development of autonomy and learner responsibility.

In terms of limitations, success of the approach depends on teacher understanding and support. Dialogue helps learners see the purpose of the activities and facilitates depth of reflection and writing skill development (Andrade, in press). When teachers fail to facilitate SRL behaviors, learners disregard the activities. Teacher training related to the theoretical underpinnings of the course design and techniques for response can address this challenge. Structure pertaining to the SRL materials, activity self-selection, due dates, and assignment point values must be accurately set up in the learning management system. Issues with this in some iterations of the course resulted in students considering the activities to be optional (Andrade, in press). An additional limitation is the number of activities. These can be expanded on to reflect multiple aspects of each dimension (e.g., see Andrade, 2012; Dembo & Eaton, 2000; Dembo & Seli, 2008), extend learner choice, and encourage autonomy.
Peer Tutoring

Peer tutoring provides learners with opportunities to practice the language as most of them reside in non-English speaking countries. This interaction entails weekly technology-mediated interactive video sessions with a native-English-speaking counterpart at the home campus. Tutoring assignments related to lesson content are set each week and involve discussing the lessons and readings, reviewing writing drafts, composing timed writings and getting feedback, asking grammar questions, reading aloud for help with pronunciation, and addressing individual questions about course logistics, assignments, or technology.

One of the multiple benefits of this assignment is to address the social environment dimension in that learners begin to understand that seeking help is a positive behavior, and become more responsible for identifying and addressing their own learning needs. Peer tutoring also decreases the transactional distance between the learner and the teacher (in this case, the tutor), and provides an additional source of dialogue. As such, learners feel connected to the sponsoring institution, broaden their cultural horizons, strengthen their linguistic skills, and receive feedback on their oral skills and written work. The sessions also provide feedback for the teacher as the tutor passes on information shared by the students related to their experience in the course.

Limitations include difficulty setting up appointments, missed appointments, lack of student preparation, and time zone differences. To address preparation, an activity in the social environment dimension focuses on tutorial preparation steps. Another limitation is tutors’ tendency to award full points for assignments although a rubric is provided which aims to discriminate among performance levels. To address this, the teacher must provide expectations and training. In some courses, the teacher has a live interactive appointment with the students at midterm in which progress is reviewed. Teachers are also encouraged to have regular technology-mediated office hours. However, students tend to form a greater connection with the peer tutor than the teacher because they interact with this person weekly. They view the tutor as instrumental in addressing their concerns and providing help. This tends to relegate the teacher to a secondary role. Initially, some students do not distinguish between teacher and peer tutor roles, but this is easily sorted out. Although many students approach the peer tutoring assignment with trepidation due to a lack of confidence in their English skills, this soon becomes one of their favorite parts of the course as attested to by midterm and final performance reports.

Peer-to-Peer Discussion Boards

Peer discussion boards are designed to help learners teach each other. The assignment is structured in terms of topics and guiding questions, number of required posts, and deadlines. Discussion board participation is graded and rubrics provided to make expectations clear. Teachers can divide the class into small groups or allow the entire class to participate together. Learners can be appointed to act in the role of the teacher and facilitate the discussion by posing questions, encouraging participation, and refocusing the discussion.

Discussion boards provide socialization, thereby addressing a common criticism of online learning. They simulate classroom interaction, promote peer support, and offer social networking opportunities. Discussion boards have distinct advantages for English language learners by providing them with time to reflect, carefully compose a response, and engage in authentic communicative situations (Canale & Swain, 1980). They are applying the writing skills they are learning, and developing fluency using known vocabulary and grammatical structures (Nation, 2001). Teacher and peer facilitation of learning in this way supports collaborative control (Andrade, 2013; White, 2003). As such, discussion boards facilitate SRL development and capacity for autonomy as learners seek
help from each other (cf. social environment), share methods of learning, and strengthen their motivation and commitment to the course by forming connections.

Limitations to this assignment potentially include sporadic participation, superficial responses, and the use of informal English rather than formal academic language. Generally, these issues can be addressed by explaining the assignment purpose, providing clear expectations (reflected in a grading rubric), and skilled facilitation. The teacher should allow learners to answer each other’s questions rather than immediately responding and thereby creating a teacher-centered environment. Teacher posts must also be limited in frequency to encourage learner discussion. Another issue is that if the assignment is due at the end of the week, learners often do not participate until just before the deadline, thus negating the value of on-going discussion. This can be averted by requiring a certain number of posts at specific times throughout the week.

Conclusion

Open learning is aimed at social equity (White, 2003). Delivery methods such as online learning make it possible for greater numbers of learners to access educational opportunity and improve their lives. Successful completion of these courses is critical. Students must have a positive online experience and possess tools for success. In many cases, academic English skills are a critical prerequisite for other educational opportunities and global mobility. The online English language courses described, characterized by embedded support to help learners develop self-regulation while acquiring needed linguistic skills, is an effective approach to student support. The course components described are easily implemented and can result in increased learner self-regulation and success when guided by appropriate amounts of structure and dialogue.

Although previous research in this area has focused on various aspects of support such as socialization, community, motivation, and strategy use, a theory-based framework that accounts for learner needs and synthesizes multiple approaches is needed. The innovative practice described provides this synthesis by utilizing the six dimensions of SRL and demonstrating how these can be integrated with language acquisition needs and structure, dialogue, and autonomy variables in order to decrease transactional distance and increase online English language learning success.

References


Virtual Tutorials in Adult ODL: A WizIQ Case Study of Wawasan Open University

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Abstract

Wawasan Open University (WOU) was established in 2007 with the sole aim of providing affordable and accessible higher education opportunities to working adults in the fields of business, technology, education and liberal studies. As part of its Open Distance Learning (ODL) delivery, WOU provides tutorial support for students every semester through 5 sessions of 2 hours each. These tutorials are considered to be crucial in the learning process as they provide an opportunity for students to get their doubts clarified by a subject matter expert (tutor) in a synchronous environment. In the initial years, the University used face-to-face and video conferencing modes for conducting tutorials. However, both these modes have their own limitations. As a possible alternative, WOU has since ventured into Virtual Learning Environments (VLE) in the form of WizIQ to remedy some of these limitations. This paper discusses in detail the processes which took place in migrating to WizIQ tutorials and provides some best practices for implementation.

Keywords: open distance learning; students support system; virtual learning environment; VLE; virtual tutorial; WizIQ

Introduction

Wawasan Open University (WOU) is a relatively young not for profit higher education institution in Malaysia. It was established in 2007 to provide low cost, flexible access to higher education for Malaysian adults. The University has committed itself to “the expansion of opportunities in higher education and excellence in teaching so as to increase the level of knowledge and scholarship among all Malaysians.” WOU has been using its flexible modalities to make higher education accessible to all—anytime, anywhere—and to create a lifelong learning community for aspiring individuals regardless of their previous educational, ethnic or socio-economic background. In the last six years nearly 12,000 adult learners have experienced the learning opportunities at WOU.

At present, WOU offers over 40 undergraduate degree programmes in the fields of business, technology, education and liberal studies. It also offers MBA, M.Phil and Ph.D programmes at the postgraduate level. All WOU programs are accredited by the Malaysian Qualifications Agency (MQA) and approved by the Malaysian Ministry of Higher Education (MOHE). Approximately 150 individual courses are offered each semester via Open Distance Learning (ODL) under these degree programs. The total number of new student enrolment per semester is around 1,000 whereas approximately 4,000 students are active in total in a given semester. Nearly 88% of WOU students are working adults between the ages of 21 to 40 years where male students constitute about 57.5% of the total student population.
In the ODL mode of delivery, students are provided with specifically designed self directed course material for self study. There are no lectures to attend. The students submit two Tutor Marked Assignments (TMA) as their course work assessment and face a final proctored exam to pass the course. There is however additional student support provided throughout the semester to ensure the smooth completion of the course.

**Student Support System**

The student support system at WOU can be divided into administrative and academic. The administrative support is mainly provided by the 6 regional support centres (RC) scattered in various parts of Malaysia. The main roles played by these centres include building awareness among the community in the region about the programmes and courses, guide students during enrolment, provide administrative support, and arrange for tutorials.

The academic support at WOU is twofold. The first is a dedicated online Learning Management System (LMS) based on the moodle platform which allows students, tutors and course coordinators to interact in a virtual environment. The LMS provides 24x7 access to course materials, additional learning resources, online activities and discussion forums. The second line of support is provided via face-to-face tutorials conducted once a month during the semester. Tutorials are an important component of any distance programme, as it provides an opportunity for students to get their doubts clarified by a subject matter expert (tutor). Though there is no rule of thumb to say how many sessions are ideal for a course in a semester, WOU has decided on five sessions reflecting the five study units in a course.

The University appoints tutors every semester for the courses being offered. These appointments are based on their academic qualifications and teaching experience with respect to conducting the two hour tutorial sessions. The tutors are provided generic tutoring and counselling training as well as content specific training. A detailed course specific tutor guide is provided to tutors with a set of slide presentations for each of the study units covered in course. The slide presentations provide a structured framework for effective facilitation of a tutorial which takes the form of a discussion than a lecture.

**Issues Faced**

The monthly tutorials are crucial for the smooth delivery of the course. Initially, the University focussed on face-to-face tutoring at the RC. Video conferencing facilities were introduced later on to allow one tutor to cover multiple centres. This resulted in some reduction of costs involved in hiring individual dedicated tutors for each course at each RC.

The existing video conferencing facilities at WOU are unable to cope with the current expansion of the University with respect to bandwidth, support staff and infrastructure requirements for conducting concurrent sessions. As such, WOU has been forced to revert back to the face-to-face method of conducting tutorials. However, this has resulted in a large increase in operational costs. Furthermore, the low student enrolment for certain courses does not financially warrant the appointment of a dedicated tutor. Additionally, it has become a daunting task to locate component tutors in each region particularly for higher level specialist subjects. From the students’ perspective, a major limitation of face-to-face tutorials is the requirement of physical presence at the RC. Given that the majority of WOU students are working adults, this is not a favourable proposition. As such, many students skip tutorial classes especially since attendance is not compulsory. In order to overcome these issues while maintaining a high level of quality student support, WOU has explored an innovative way of providing tutorial support to all students. This paper discusses how WOU has adopted the use of WizIQ to provide tutorial support for its adult ODL students.
Virtual Tutorials in Adult ODL: A WizIQ Case Study of Wawasan Open University

Virtual Learning Environments (VLE) are fast gaining acceptance as a viable method for synchronous / asynchronous teaching and learning. According to Kaley (2004) VLE combine the socio-cultural advantages of place-based learning with the efficiency of remote learning. Some of the key features which allow VLE to be effective include integration, desktop sharing, virtual whiteboards, video recording, video streaming, instant messaging and breakout rooms (Hensman, 2010). When considering the widespread benefits of using VLE, Barajas and Owen (2000, p. 44) argue that “...a strong feature of VLEs is their potential (technology wise) to operate at an international and even at a global level. VLEs allow institutions to extend their reach beyond local and national geographical borders.”

WizIQ is one such VLE which is sparking wide interest in the domain. According to their website wiziq.com, the WizIQ system is described as

The WizIQ Platform includes everything you need to take your teaching online, from a virtual classroom, to functionality to create and deliver courses with assessment tools and content sharing feature. WizIQ provides exclusive features that save time and enhance collaboration between students and teachers. WizIQ also integrates with other Learning Management Systems and websites through well-documented API, allowing anyone, whether a middle school teacher, a private tutor, a test prep company, a university, or anything in between to start teaching online (WizIQ, 2013).

WizIQ is not the only VLE available. There are other solutions both proprietary and open source. During the initial feasibility study, we tested several of these VLE which include Big Blue Button, Adobe Elluminate, Google Hangout and Skype Premium. However, after experimenting with these VLE, we found WizIQ to be the best fit solution for WOU requirements. Similar to Tan (2013), these requirements are as follows:

- Small numbers of attendees;
- Learners who are unable to attend a session on the site and/or at a specific date/time can join in a session no matter their locations and their time;
- Learners may be at different levels;
- 1–2 moderators may lead a session;
- A variety of learning activities to engage learners;
- Supporting group work and discussions;
- One-to-one, one-to-many or many-to-many interactions.

Furthermore, as argued by Van Raaij and Schepers (2008), the ease of achieving the following prerequisites was also considered in the decision to use WizIQ:

- System contains functionalities that increase study productivity, and that its interface is easy to use.
- Teaching staff should feed the system with useful and up-to-date content.
- Course management should stress repeatedly that they find it important that students make extensive use of the system.

WizIQ at WOU

In 2012, WizIQ was first used by the tutors of the School of Science and Technology (SST) who had familiarity and sufficient skills to handle the system. Later on in 2013 the School of Education Languages and Communication (SELC) initiated WizIQ tutorials. The SELC tutors were oriented to
use the system by providing training with some hands on sessions. In an attempt to standardise
the use of WizIQ across WOU, a Standard Operational Policy and Procedure (SOPP) was devel-
oped in 2013. This SOPP provides details about the purpose, scope, definitions / acronyms used,
responsibilities and authority of various stake holders when using WizIQ for conducting tutorial
sessions. The workflow and the stakeholders involved from the scheduling to the delivery of a WizIQ
class are shown in Figure 1.

Figure 1: Flowchart for conducting WizIQ virtual tutorials

Note: ITS- Information Technology Support; CC—Course Coordinator.
As mentioned earlier, the first initiative to use WizIQ by WOU was taken in 2012 for tutoring three courses. This was followed by seven courses in the January semester and 15 courses in the July semester of 2013. This number is likely to increase further in the semesters to come with WOU taking the policy decision to encourage the use of WizIQ for courses with low student enrolment numbers. Furthermore, it is making provisions to provide more information and training in the effort to orient students / tutors to the WizIQ environment. An outline of the activities in the training program is shown in Table 1.

**Table 1: Outline of the activities covered in the training program**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Inputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Log in procedures for tutors/students</td>
<td>Date, time duration, any special instruction to students, profile of the tutor</td>
</tr>
<tr>
<td>2. Scheduling a class</td>
<td>Uploading the materials before the actual class</td>
</tr>
<tr>
<td>3. Preparation for the class</td>
<td></td>
</tr>
<tr>
<td>4. Features and their use</td>
<td>• Teacher’s point of view&lt;br&gt;  a. Chat: Message to group, message to a given individual student&lt;br&gt;  b. Attendance taking&lt;br&gt;  c. Live presentation by the teacher using slides, video, word and pdf documents. Using video with start, stop and start&lt;br&gt;  d. Using white board (many) and writing, drawing etc&lt;br&gt;  e. Consolidation of interaction (chat )&lt;br&gt;• Students point of view (access permission to be given)&lt;br&gt;  a. Chat&lt;br&gt;  b. Audio interaction by students&lt;br&gt;  c. Video interaction by students&lt;br&gt;  d. Using whiteboard</td>
</tr>
<tr>
<td>5. Structuring and Conducting the actual class</td>
<td></td>
</tr>
<tr>
<td>6. Possible scenarios during the class</td>
<td>• Presentation without using any aids&lt;br&gt;  • Presentation with aids&lt;br&gt;  • Start-stop-start&lt;br&gt;  • Consolidation with the help of students</td>
</tr>
</tbody>
</table>

Advantages of WizIQ

**From the Institution’s Perspective**

One of the major advantages of using WizIQ from an institutional perspective is the potential cost savings with respect to hiring tutors. In the July semester of 2013, WizIQ tutorial support was provided for 15 courses offered by the SELC. Table 2 shows a comparison between the numbers of tutors hired to conduct WizIQ tutorials vs. the number of tutors needed to conduct face-to-face tutorials. From this comparison it is apparent that in actual term the University saved the cost of hiring 21 tutors by using WizIQ. Additionally, students and tutors saved the time and cost involved in travelling to the RC.
The use of WizIQ is also advantageous to WOU from an operational and logistical perspective. Table 3 highlights these advantages, identified empirically and supported by professional wisdom, in comparison with face-to-face tutorials and video conferencing tutorials.

**Form the Students’ Perspective**

The use of WizIQ for tutorials benefits the students with respect to four distinct advantages:

- As students of ODL they need not necessarily travel to the University’s RC to attend the tutorials. They can login from any location based on internet availability.
- Every student attending the tutorial via WizIQ is a front row student having equal access to the resources and tutor.
- Even if students miss a particular tutorial session, they can login to the WizIQ system at a later date to go through the recorded version of the session in an asynchronous manner.
- The student can revisit the class recording while attempting the TMA or during revision time in preparation for the exam.

**Lessons Learnt**

Based on the observations made during the initial orientation sessions and the feedback gathered from six tutors, a few key lessons were learnt regarding the smooth running of the WizIQ tutorials.

Initially, the tutors had problems in using the system as they were not familiar with its features. Furthermore, they were unaware of its potential when making the transition from the face-to-face environment. Similarly, students too had problems in getting acquainted with the technology. This was mainly due to the lack of understanding with respect to do’s and don’ts in using the system. Hence the biggest challenge was to train and provide handholding support during the familiarisation period.

Another issue faced by the students was the lack of adequate and consistent Internet bandwidth at their homes to follow a synchronous WizIQ tutorial. This was less of an issue in the cities such as Kuala Lumpur and Penang where the Internet infrastructure is robust but proved to be a significant challenge in the outskirts. As a remedial action, students facing difficulties in terms of Internet connectivity were encouraged to join the WizIQ tutorials from the RC where infrastructure had been improved to provide sufficient bandwidth.

The guidelines in Table 4 are provided to the tutors through the SOPP mentioned earlier for the smooth running of tutorials via WizIQ.

---

**Table 2: Comparison between the number of tutors hired to conduct WizIQ tutorials vs. the number of tutors needed to conduct face-to-face tutorials**

<table>
<thead>
<tr>
<th>Number of RCs covered by a single tutor</th>
<th>Number of courses</th>
<th>Number of tutors appointed to conduct WizIQ tutorials</th>
<th>Number of tutors required to conduct face-to-face tutorials</th>
<th>Number of tutors saved by using WizIQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>One</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Two</td>
<td>4</td>
<td>4</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>Three</td>
<td>4</td>
<td>4</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>Four</td>
<td>3</td>
<td>3</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td>15</td>
<td>15</td>
<td>36</td>
<td>21</td>
</tr>
</tbody>
</table>
Table 3: Relative advantages of using different modes for conducting tutorials sessions

<table>
<thead>
<tr>
<th>Issues</th>
<th>Face-to-face</th>
<th>Video Conference</th>
<th>WizIQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of RC covered by one tutor</td>
<td>One</td>
<td>Five centres (in the context of WOU)</td>
<td>Seven RC. Tutors and students could log in from any place</td>
</tr>
<tr>
<td>Requirements of equipment/ facilities</td>
<td>Very less Computer with projector facilities</td>
<td>High Video conferencing equipment. Leased line connections. Computers with projector facilities at RC</td>
<td>Low Computer with WizIQ software application</td>
</tr>
<tr>
<td>Training requirements</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Probability of attendance of students</td>
<td>Medium</td>
<td>Medium</td>
<td>High</td>
</tr>
<tr>
<td>Cost of travel(tutors and students )</td>
<td>High</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Number of competent tutors required</td>
<td>One per RC</td>
<td>One for a group of RC</td>
<td>One for a group of RC</td>
</tr>
<tr>
<td>Cost of hiring tutors</td>
<td>High</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>Channels for learning</td>
<td>Minimum</td>
<td>Minimum</td>
<td>Multiple</td>
</tr>
<tr>
<td>Facility for recording tutorials</td>
<td>None</td>
<td>Available, provided that the necessary equipment is installed</td>
<td>Available. Recording done automatically by the system</td>
</tr>
<tr>
<td>Scope for revisiting tutorial classes</td>
<td>None</td>
<td>Yes, provided that copies are made of the recording and made available at RC</td>
<td>Yes, without any additional cost towards equipment. Students can view the recording from home</td>
</tr>
<tr>
<td>Scope to consolidate students’ questions and responses</td>
<td>None</td>
<td>None</td>
<td>Yes</td>
</tr>
<tr>
<td>Channel for students’ interaction with tutor</td>
<td>Oral</td>
<td>Oral</td>
<td>Oral and written (Chat)</td>
</tr>
</tbody>
</table>

Conclusion

As ODL practitioners, we at WOU have found the WizIQ system to be very useful in conducting virtual tutorials. It allows the University to provide better learning support to students through multichannel learning without additional technology inputs. We find WizIQ to be a good alternative to replace face-to-face tutorials and video conferencing tutorials wherever the student numbers are small (less than 5 in each RC) distributed among three or four RC. This formula reduces the number of tutors needed to be hired to one; resulting in a more cost effective program. Furthermore, though the technology has the potential to facilitate about 500 students in a single virtual class, it was found to be more effective for smaller numbers due to technological and
Table 4: Guideline for running a WizIQ tutorial

<table>
<thead>
<tr>
<th>Step</th>
<th>Activity</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Login and create a WizIQ tutorial class</td>
<td>Schedule the tutorial class on the system in advance.</td>
</tr>
<tr>
<td>2.</td>
<td>Post the class link on the LMS public forum so that the students can follow and join.</td>
<td>Allow student to register for the class in advance so that class information, automatic reminders and rescheduling notices are sent to the student.</td>
</tr>
<tr>
<td>3.</td>
<td>Request the students to join at least 10 minutes in advance.</td>
<td>Avoid delays caused by last minute entrants.</td>
</tr>
<tr>
<td>4.</td>
<td>Setup your class with teaching notes, slides, TMAs, YouTube videos, etc. well before the class begins. You can use multiple whiteboards in WizIQ for this.</td>
<td>Setup the teaching plan and material in advance to avoid delays in uploading materials during the class. This also helps save internet bandwidth.</td>
</tr>
<tr>
<td>5.</td>
<td>If you are using the PCs at rooms 5 or 15 on level 2 (HQ), you can get a headset on loan from the library. Make sure you do this well in advance. If you prefer to use your own laptop, you may do so.</td>
<td>Encourage the tutors to use the WOU infrastructure to conduct the tutorials. This is due to the conducive teaching environment, lack of distractions, better internet bandwidth and availability of support staff.</td>
</tr>
<tr>
<td>6.</td>
<td>Students attending the class do not need webcam and microphone. Built in speaker is fine, however a good headset will give better results.</td>
<td>To optimise the learning experience.</td>
</tr>
<tr>
<td>7.</td>
<td>Avoid the use of video streaming as much as possible. This will result in better utilisation of bandwidth and a smoother session.</td>
<td>Reduce lag and delays caused by poor internet bandwidth and infrastructure. This is a common issue in many countries in the Global South.</td>
</tr>
<tr>
<td>8.</td>
<td>Ensure that your PC has the latest updates. Update the WizIQ desktop application when prompted. Advise your students accordingly. The PCs in the RC will need to be updated with the latest WizIQ software application accordingly.</td>
<td>Reduce technical issues caused by incompatibilities.</td>
</tr>
<tr>
<td>9.</td>
<td>Your class is recorded by default. You can upload the recording onto the LMS after the class.</td>
<td>Allow the students to re-visit the recording offline.</td>
</tr>
<tr>
<td>10.</td>
<td>The students can join the class from home, the nearest RC or wherever there is internet connectivity.</td>
<td>To provide maximum flexibility, reduce travelling costs and encourage better attendance.</td>
</tr>
</tbody>
</table>

pedagogical reasons. The technological reasons include the scope for student-tutor and student-student interaction through chat, audio/video and pedagogical reasons include minimising the chances of variations in tutors inputs, tutors to have scope to review the recorded sessions, reflect and make changes in the presentation styles and interaction strategies.

Open Praxis, vol. 6 issue 1, January–March 2014, pp. 75–83
Keeping in view the experiences gained in using WizIQ in the last two years, WOU intends to (i) increase the use of WizIQ for conducting tutorials sessions (ii) develop a comprehensive strategy to conduct more face-to-face training and hand holding to tutors and (iii) improve the Internet bandwidth infrastructure required for using WizIQ.

Further to undertake an experimental study to see the effectiveness of WizIQ technology over others with respect to the nature and type learning which occurs among students and experience of students attending to tutorials. It is anticipated that these steps will go a long way in making the effective use of the technology and further improving its optimal use by other Schools of the University and some guidelines emerging for reference for other potential user agencies.

References


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