Widening participation in higher education through open educational resources

Book Section

Collaborative Learning 2.0:

Open Educational Resources

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Information Science
REFERENCE

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Cover Design: Nick Newcomer, Lisandro Gonzalez

Published in the United States of America by
Information Science Reference (an imprint of IGI Global)
701 E. Chocolate Avenue
Hershey PA 17033
Tel: 717-533-8845
Fax: 717-533-8661
E-mail: cust@igi-global.com
Web site: http://www.igi-global.com

Library of Congress Cataloging-in-Publication Data

Collaborative learning 2.0: open educational resources / Alexandra Lilavati Pereira Okada, Teresa Connolly, and Peter J. Scott, editors.
p. cm.
Includes bibliographical references and index.
Summary: “This book offers a collection of the latest research, trends,
future developments, and case studies pertaining to collaborative learning”--Provided by publisher.
ISBN 978-1-4666-0300-4 (hardcover) -- ISBN 978-1-4666-0301-1 (ebook) -- ISBN 978-1-4666-0302-8 (print & perpetual access) 1. Group work in education. 2. Internet in education. 3. Open learning. I. Okada, Alexandra. II. Connolly, Teresa, 1960- III. Scott, Peter J.
LB1032.C563 2012
371.39’5--dc23

2011052549

British Cataloguing in Publication Data
A Cataloguing in Publication record for this book is available from the British Library.

Chapter 1
Widening Participation in Higher Education through Open Educational Resources

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ABSTRACT

This chapter examines the role that open educational resources might play in widening participation in higher education. It begins by highlighting the perceived importance of widening participation in higher education throughout the world and how that is defined, followed by the role that openness plays more generally in higher education, and then discusses the many ways in which open educational resources may help in opening up higher education by widening the audiences for them. It goes on to set out a conceptual framework for analysing both widening participation activities and open educational resources. It concludes that openness, as exemplified by open educational resources, is beginning to influence educational opportunities around the world, but that care is needed in setting out the contexts in which such activity is taking place.

INTRODUCTION

Higher Education is widely seen as important for economic and social development and that increasing access to, participation in, and successful educational attainment and employment through higher education are all enormously important for all countries. As noted in the 2009 World Conference on Higher Education Communiqué (UNESCO, 2009):

In the past ten years, tremendous efforts have been made to improve access and ensure equity. This effort must continue. Access alone is, however, not

DOI: 10.4018/978-1-4666-0300-4.ch001

enough. Much more needs to be done. Efforts must be made to ensure the success of learners. […]

ODL approaches and ICTs present opportunities to widen access to quality education, particularly when Open Educational Resources are readily shared by many countries and higher education institutions. (p 3)

Similarly an earlier OECD (2006) report is clear about the benefits of educational attainment to learners and nations:

A well educated and well-trained population is important for the social and economic well being of countries and individuals. Education plays a key role in providing individuals with the knowledge, skills and competencies to participate effectively in society and the economy. Education also contributes to an expansion of scientific and cultural knowledge. The level of educational attainment of the population is a commonly used proxy for the stock of "human capital", that use the skills available in the population. (p7)

While it follows that widening participation in higher education has both a social and an economic dimension, as noted in this quote, the levels of educational *attainment* and personal *achievement* in a particular population may hide great inequalities in the chances and opportunities to do so throughout all sectors in society. Inevitably the chance to participate in higher education is currently constrained firstly by the absolute *availability* of places for study within a country (the absolute number of higher education institutions and the capacity of those institutions to teach students). It is constrained secondly by the *accessibility* of opportunities (study may involve the use of new technologies, be taught in a second or third language for the student or involve significant travel). Thirdly there is a question of *affordability* of the provision (study may involve great costs to the student and/or the state). And lastly there is the *acceptability* of the opportunities on offer (the provision may be of poor quality or it may be in subjects students do not want to study or may be of little interest to employers). Nevertheless, even where provision is available, accessible, affordable and acceptable it may not be taken up by some less privileged groups in society for other social and cultural reasons or they may not achieve the rewards by attaining the hoped for knowledge and skills often recognised through qualifications.

WHAT IS MEANT BY WIDENING PARTICIPATION?

Widening participation is a relatively new term used within higher education. More frequently references are made to widening access, as in the earlier quote from UNESCO, but many may think they are synonymous. At the same time there is often discussion in national and regional policies about improving life long learning and work place learning, and greater use of open and distance learning, whereby people are not just relying on their initial higher education experience (usually following on directly from their secondary school education) for the acquisition of knowledge and the development of skills. This plethora of terms, and the initiatives they represent, is all part of a trend around the world to find new ways to expand the ability and provision of higher education to aid social and economic development, as set out in the OECD report.

Thus a number of trends can be indentified for higher education over the past 100 years, such as:

- An increase in the diversity of higher education institutions with different missions (e.g. focussing on just science or part time students) and modes of teaching (e.g. classroom based on campus, work based alongside employment, distance teaching).

- An increase in the number and nature of the subjects taught reflecting greater depth and specialism in those subjects, e.g. biological sciences, and as the knowledge and skill base grows new subjects created by new technologies requiring new professions, e.g. computing.
- An increase in the number and type of postgraduate qualifications e.g. MBAs, taught doctorates, to follow on from an undergraduate education.
- An increase in the use of technology to support teaching and of technologies that people need to be trained to use more effectively.
- An increase in the number and range of educational articles, text books and other resources, largely coming from educational publishers, although relying very heavily on the higher education academy to write.

This is not an exhaustive list but it does indicate that higher education is not fixed and changes to meet the needs of the context it is working within.

Nevertheless, the expansion of provision noted above is primarily about increasing access to higher education so that a higher proportion of a nation's citizens can successfully attain a higher education qualification to improve the contribution they will make over their lifetime to society and the economy. For many countries increasing the proportion of the population that attends a higher education institution is the highest priority and that is usually through the selection of those with the highest attainment from secondary education. For other countries there is already a significant proportion of the population accessing higher education and more attention is given to who it is within the nation's population that is attending higher education. For instance, The Higher Education Funding Council for England states on their website:

Widening participation addresses the large discrepancies in the take-up of higher education opportunities between different social groups. Under-representation is closely connected with broader issues of equity and social inclusion, so we are concerned with ensuring equality of opportunity for disabled students, mature students, women and men, and all ethnic groups. (HEFCE, 2010)

So, widening participation is also about who is participating and not just how many are participating. This definition also identifies that a number of factors may be involved in determining why some people are excluded from participating in higher education. While it may be simple to use socio-economic class as a major measure of potential exclusion it is another matter to disentangle the wide variety of reasons that effectively lead people to both be excluded or feel excluded.

Within the literature related to widening participation in higher education some or all of the following have been claimed to be barriers to higher education for particular groups and communities engaging with the available provision (after Lane, 2009):

1. Geographical remoteness, even in rural areas of small countries, where there are few or no campus based opportunities for higher education study;
2. Cultural norms, with some ethnic cultures not supporting the education of women;
3. Social norms, whereby some family groups or communities do not apparently value education as highly as others, so discouraging engagement;
4. Prior achievements, such as prior qualifications being used as a filter to access a scarce resource (higher education) or as a filter to maintain an individual institution's social and cultural status;
5. Individual or household income, where the relative cost of accessing higher education

by certain groups is very high, particularly if it means giving up paid employment to study;

6. Digital divide. Computers and the web offer many freedoms but they still cost money to access and confidence to use effectively. People with less money may not easily afford such technology and even find that the absolute cost to them is higher than other groups because they are seen as a greater financial risk to a technology provider;
7. Physical circumstances. There may not be any easy places to undertake the learning due to lack of a home, space in a home or having a particular type of home such as a prison. Similarly, people with certain disabilities may need specialist equipment or support to enable them to participate effectively;
8. Individual norms, where a person is constrained by social and cultural norms - attitudes and beliefs - that they are not capable or not good enough to study at this level.
9. Learning styles where some people find it easier or harder to learn from reading or lectures or practical experiments without specialist support or more flexible teaching strategies

This is a formidable set of barriers to participation in higher education but it is also necessary to tease out some of the key elements of higher education systems to understand the role that open educational resources may play in widening participation.

As discussed by Lane (2008a), there are many elements within a system of higher education and educational resources, both technologies and content, are only a small part of the system. Equally Lane (2008a) also discusses the issues surrounding different modes of teaching. In particular he talks firstly about a more traditional, campus-based, 'closed', University, in the sense that the educational resources are more available to registered students than other learners because there are various technological, regulatory and participatory barriers to people accessing most of these educational resources, as the resources are within the University and generally only easily accessible to staff and students of that University. In contrast a more 'open' University using distance teaching methods has many more content based resources that are often made more widely available to a greater number of people (including other University libraries) through broadcasting and co-published.

The issue of openness in education has for many years been largely confined to open and distance teaching based universities but has come to the fore in recent years as exemplified by movements such as the open access publishing of research articles (Suber, 2010), major publications such as the book on Opening Up Education edited by Ilyoshi and Vijay Kumar (2008) and activities like the Cape Town Declaration on Open Education (2007). All indicate a (renewed) interest in how some of the products of education, and particularly higher education, may be made more accessible and available to more people around the world through the use of new technologies and potentially new systems of teaching and learning.

To some degree this discussion is returning to the issues outlined many years earlier by Ivan Illich in De-Schooling Society (Illich, 1971) where he argued:

A good educational system should have three purposes: it should provide all who want to learn with access to available resources at any time in their lives; empower all who want to share what they know to find those who want to learn it from them; and, finally, furnish all who want to present an issue to the public with the opportunity to make their challenge known. (Chapter 6)

Illich does not define resources in quite the same way as we think today (and he is talking more about schools than universities), but implicit in this quote is that people should be able to partici-

pate in the exchanging and sharing of knowledge and skills but not necessarily within the confines of an educational institution. Therefore for him, participation is much more widely defined than is traditionally the case in higher education. It is participation in a wider, more open, educational process of exchanges and sharing rather than participation being about attendance at a more closed institution where such exchanges and sharing is restricted often just to those participating in an individual class.

In one sense distance teaching universities practicing open and distance learning potentially benefit more people as they do offer an alternative, non presence based, method to gain higher education credits and qualifications, one that is not tied to regular and frequent attendance at a campus for classroom based teaching. Similarly, their programmes are also usually modular and allow for accumulation and transfer of credits, and a greater range of nested exit qualifications than at other Universities, allowing there to be graded levels of achievement and attainment. Nevertheless, while openness is a necessary factor for widening participation in the higher education system as a whole it is not necessarily a sufficient factor for widening participation in higher education institutions.

A CONCEPTUAL FRAMEWORK FOR ANALYSING WIDENING PARTICIPATION IN HIGHER EDUCATION

Having discussed widening participation in higher education in more detail I now want to return to some key concepts which may be useful in analysing both widening participation policies and practices and then the role of open educational resources in them (which I discuss in more detail in the next section).

Widening participation inevitably focuses on how to get new learners to experience and benefit from higher education (by *achieving* their own goals and gaining recognised *attainments*) but often does not focus as much on how institutions and teachers influence the way higher education is perceived through the assumptions they make and the messages they convey. For instance, while qualification frameworks provide benchmarked outcomes for students, the perceived competition for students means that it can be difficult for students to combine studies at more than one institution to get a particular programme of study, while the focus on major qualification downplays the value of part study of courses that meet students' particular educational or professional development needs. Equally it is necessary to question whether being a registered student at an accredited higher education institution for part or all of a major qualification is the only way of defining participation in the exchange and sharing of knowledge at higher education levels.

To examine all these points I have introduced a conceptual framework that, as already outlined, views participation in higher education to be limited by the *availability* of opportunities to participate (usually taken to be number of places available within HEIs); by the *accessibility* of those opportunities (where factors may inhibit participation such as through a disability or ability to perform effectively due to the medium of instruction being a second or third language); by the *affordability* of those opportunities (this could be due to the direct cost of the opportunity in terms of fees and indirect costs such as living expenses); and lastly by the *acceptability* of the opportunity (a more subtle issue exemplified by the mode of instruction not suiting a students learning style or cultural norms making the study of certain topics difficult).

I believe this same framework can also be applied to the educational resources that form part of higher education provision: (1) the extent or *availability* of educational resources (how many of them in what forms, both formal, non-formal and informal); (2) the degree of *accessibility* to

those resources (where can they be found and by whom), and (3) the *affordability* (in terms of indirect costs of accessing them even though they are freely available once accessed) all can contribute to the level of use of those by learners (the degree of participation). But equally the *acceptability* of the resources can influence not only participation in the exchange and sharing of knowledge but the way the experience of participation is valued.

So how does openness help change the availability, accessibility, affordability and acceptability of educational resources? And equally, who are main stakeholders in the development and use of OER and what do they stand to gain in terms of widening the audiences for and engagement with those OER?

HOW MIGHT OPEN EDUCATIONAL RESOURCES HELP WIDEN PARTICIPATION IN HIGHER EDUCATION?

The existing paradigm for widening participation is about improving attendance and achievement at higher education institutions by expanding provision of places and opportunities. What new paradigm might open educational resources (OER) offer? The word paradigm can invoke many meanings but the one used here is that of a dominant worldview – a set of experiences, beliefs and values – by which individuals, institutions and societies understand and act. If OER are to create a paradigm shift for widening participation and be a new paradigm we need to examine first in more detail what the current paradigm is.

Much of higher education is based upon the primacy of a teacher as an expert teacher, if not subject specialist, who primarily engages with a relatively small cohort of students, with the size of cohort largely determined by the size of the classrooms or lecture theatres which can accommodate the cohort but also by the amount of time and effort that the teacher can apply to the assessment and support of that cohort, including being a facilitator or guide to appropriate literature and educational resources. Therefore there are physical constraints in terms of accommodation and human constraints in that there is usually one teacher involved at a time. While a number of teachers may teach a course, more often this is done as separate classes, and true team teaching is much less common. Much of this has arisen from custom and practice based on philosophical views as well as the organisational constraints I have already noted.

Consider also how universities make educational resources available to learners. In a traditional, campus-based, or 'closed' university, the educational resources are only available to registered students within the perceived walls of the University, and yet most learners are outside these walls, and only a few in their hinterland served by extra mural activities. Universities also limit the number of students they enrol because they have capacity constraints in terms of both physical space and human teachers, and determine the students' entry through selection methods such as previous educational achievement. Students are largely registered in whole programs and not individual modules. Further, most universities serve full-time students. Part-time students must structure their time around the institution's schedule, which can be difficult for those who work or have family and other commitments. The students must come to the campus to participate in the educational experience. The methods of teaching used are also very limited (and limiting): Students attend professors' lectures, along with some seminars, workshops, and laboratory, or other practical activities. Educational resources are housed in a physical library or bookstore. Moreover, learning is assessed primarily through examinations and similar means.

This picture may be extreme for effect, but in short, the experience of a traditional university is an individualised process where individual lecturers and professors devise, specify, and deliver the

courses studied by individual students even though present as groups in a classroom. The students are therefore largely guided by the views of a single source even though they may read the views of others in assigned texts.

In contrast, and as noted earlier, open and distance teaching universities have been founded to open up higher education to greater numbers and teach and support students in a greater diversity of ways by enabling study to be possible almost anywhere and at anytime to suit more the organisational needs of the students rather than the organisational needs of the higher education institution. The aim is to increase flexibility for their students, but by and large open and distance teaching universities also select their intake as much as campus based universities; or where there have open access policies may still have constraints on the number of students they can serve through the needs of certain technologies or a lack of sufficient tutors. So while different types of institutions or different modes of teaching can expand provision and open up some resources to a wider audience it is still largely a closed context in which knowledge exchange and sharing happens.

The advent of digital technologies and the internet in particular, is changing this dynamic because it helps remove some of the many barriers to knowledge exchange and sharing. Thus online digital content is much more accessible and available than analogue content while new technologies are enabling new forms of synchronous and asynchronous communication between people in different places and times.

As significant as these hard or commercial technologies has been the emergence of soft or social technologies such as new forms of licensing for digital technologies (open source software) and content (open educational resources). This 'some rights reserved open licensing' placed on new and previously 'all rights reserved' copyrighted content enables the free copying, sharing, reuse and remixing of that content within pre-defined guidelines (thus addressing the affordability and up to a point the acceptability of the resource for the user). This open licensing development has been central to the emergence of OER which goes well beyond just the issue of open access to the resource, where the creator still tries to control all uses of the material, to one of not just accessing as is but of being free to adapt that work. The overriding philosophy of open educational resources is that you want people to take it away and do things with it and also potentially return it to the 'commons' thus expanding the opportunities for exchange and sharing noted by Illich. In principle this gives both learners and teachers, individually and collectively, freedom to experiment as they can decide when to access it, whether they want to alter it, how they learn from it and so on, because of the potentially non-destructive, replicable and recorded nature of the original material and all versions they make of it.

While OER offer great scope for widening participation in the wider higher education system globally, this is not without drawbacks. As I noted earlier, much current provision in higher education is still based upon a teacher-centred model. New technologies can give greater freedoms to make the learning more learner-centred. However our experience at The Open University is that self-organising learning opportunities are fine for dedicated individuals but that most individuals and nearly all group-based opportunities need to be mediated or facilitated by key individuals or organisations. With the ever growing quantity of OER becoming available the corollary to a good mediator is good content. The proliferation of material accessible on the web means that there needs to be new forms of quality assurance mechanisms for educational resources based on a mix of professional, peer and user reviews. Such learner-centred quality frameworks for formal educational materials are emerging and need to be built on for materials to be used in informal and formal settings.

What these developments indicate are the different roles that OER can play in acting as a bridge

into higher education. In some cases it provides an insight into the programmes of a university for prospective students with the appropriate entry qualifications (in other words it helps make better choices so that students get on to the courses that suit them best). In other cases it provides an insight into, and opportunity to experience what higher education study might be like, for some of those excluded groups facing a variety of the barriers noted earlier. Initial experiences with OER such as those from MIT's OpenCourseWare (http://ocw.mit.edu), Rice University's Connexions (http://cnx.org) or The Open University's OpenLearn (http://www.open.ac.uk/openlearn) websites also indicates a third role for OER. Some adult learners indicate a strong and often unfulfilled desire to be able to convert or trade-in their non-formal or informal studies of OER for more formal or readily recognised credits, certificates or qualifications given by organisations or their peer community. In other words they do not want to sign up for a full course but still want to get recognition of their achievements.

Up to now I have focussed on what OER might mean for individual universities. I now want to consider the collective marketplace for higher education. Most higher education students today have a relationship with just one university in their life. At that university they have any number of individual relationships with individual professors and fairly small groups of fellow learners. As my earlier remarks suggest, many other potential students are denied access to this because of scarcities in prime resources - lecture rooms and professors. There are now more people than ever wishing to participate in higher education, and increasing numbers of them want that participation to be more flexible to meet their needs. They want to be able to combine modules from different universities. They want to get credit for other types of study and experiences. They want to be full-time at some points in their life and part-time at others. They want to stop and start up again when they can. They may still want to study when they are retired. They may want to be teachers, as well as be taught.

Publicly supported and funded open universities have been in the vanguard of opening up education for more people and giving them more flexibility in their studies. Some private online universities such as the University of Phoenix (http://www.phoenix.edu/) and corporate universities attached to multinational corporations are extending this social economy into a market-based economy.

Open educational resources are working in the other direction, opening up previously closed resources. Closed resources, whether privately or publicly funded, have to be paid for either at, or close to, the point of need. Open resources will probably need to be funded by public or philanthropic monies and effort, but are then free thereafter to all who can reasonably access them. But the dominant market relationship is still the few producers serving up resources to the many consumers.

The really significant development for open education is the advent of Internet-based social networking and collaborative technologies. This enables far more people to be producers of resources and providers of particular services—such as tutoring a specific course for anyone, anywhere. The marketplace is global, not just local or even regional. So, in principle, all can become producers and consumers. However, such relationships can still be largely meeting market needs rather than social needs.

The Internet and OER do not spell the end for traditional universities any more than open universities have done so, or any more than radio has replaced printed texts or television has replaced radio. They both expand the overall market and differentiate it into a greater number of sectors, including the social element of the economy. However, it may be that the Internet and open education, now the smallest sector in the market, will become the largest sector in the education market.

I now look at what OER mean for the main stakeholders in widening participation – higher education institutions, teachers and learners.

WIDENING PARTICIPATION IN OPEN EDUCATIONAL RESOURCES: INSTITUTIONS

As OER have become more popular the claimed benefits of OER have also grown as noted by Hylén (2007):

'The reasons for individuals and institutions to use, produce and share OER can be divided into basic technological, economic, social and legal drivers'.

Hylén went on to explore six incentives for institutions to become involved as a provider of OER that can be summarised as:

1. Sharing knowledge is a good thing in itself;
2. It increases the value of existing investment of public money;
3. It can cut costs and improve quality;
4. It can be good for public relations;
5. It provides a chance to explore new global business models; and
6. Open sharing will stimulate innovation.

The availability of OER from HEIs is increasing daily as noted through the OCW Consortium data and through searches of individual repositories and aggregator sites and through the increase in University membership of sites like ITunesU and YouTube EDU. Many of these sites also report increasing traffic and downloading of content but it is not often clear what exactly users are doing with this content, how accessible it is, and how acceptable it is for learning purposes. Similarly, while the list provides a good starting point, it does not fully reflect who are the primary and secondary target audiences for OER and the different motivations that they may offer for institutions as noted for The Open University (McAndrew, 2006; Gourley and Lane, 2009; McAndrew et al, 2009):

- Enhancing the reputation of The Open University.
- Extending the reach to new users and communities.
- Recruitment of students from those who come to see OpenLearn.
- Supporting widening participation.
- Providing an experimental base of material for use within the university.
- Accelerating uptake and use of new technologies.
- Acting as a catalyst for less formal collaborations and partnerships.

In some respects OER have been used as a vehicle to reach out to anyone who wishes to make use of the OER whether or not they directly want to work with The Open University in any formal way. But equally, many new partnerships and relationships are opening up with a wide range of organisations and community groups that offer new ways for their employees or members to gain value from OER (McAndrew et al, 2009). Therefore, on the whole, institutions seem more focussed on widening the audience for their resources rather than explicitly using them as vehicles for widening participation.

WIDENING PARTICIPATION IN OPEN EDUCATIONAL RESOURCES: TEACHERS

Hylén also examined the perceived motivations for teachers to be involved with OER alongside institutions and learners:

1. Sharing knowledge being a basic academic value;

2. The increase in personal reputation in an open community;
3. Being a leader in their field; and
4. There is little value in keeping the resource closed.

Similar to Institutions, the perceived benefits to lecturers or other educators given by Hylén are for the primary authors of OER, not the secondary users of the OER as has been noted for The Open University (McAndrew et al, 2009):

- Investigating the OU approach to teaching a particular topic;
- Downloading OpenLearn OER study units for incorporation into courses, whether online, blended or face to face;
- Using study units as recommended or supplementary reading for an existing course;
- Reworking and localising study units for their own purposes and their own contexts;
- Sharing materials and ideas with other educators worldwide;
- Collaborating with others in developing new OER;
- Experimenting with the available technologies on the OpenLearn platform;
- Contributing to research into the effectiveness and uses made of OER.

So, teachers, as secondary users may be critical in making OER more accessible and acceptable to certain target groups because they adapt and modify them or use them in ways that make them more accessible or acceptable.

Wider availability of OER is, however, of no benefit to those who have few or no means of accessing it. The challenge here is providing a public-wide infrastructure (whether publicly or privately funded) of information and communication networks that everyone can access and derive services from - if, of course, they can privately afford the PC or cell phone that can link to those networks. Although this is a significant barrier for disadvantaged groups or those suffering multiple deprivations within developed countries, and an even bigger barrier for the many more disadvantaged groups in developing countries, it can be partly surmounted by ever more affordable and accessible devices and investment in new infrastructure.

However, such a technological solution does not help with the greater issue of wider access to formal education programs, since at the base of that issue are the social norms surrounding the value placed upon formal education as being superior to non-formal education, and the ways in which systems of education are organised. People may be able to access OER on their own, outside of the constraints of a university, but what recognition and benefits do learners gain from doing so if universities still require high prior achievement for entry, and employers recognise only those achievements made at universities? Further, if they are inexperienced and unconfident learners, without the types of support that university staff can provide for registered students they may not gain much learning benefit from OER.

Much of the digital divide debate that this represents concerns the fact that some groups or people in societies have differing access to new digital technologies, in effect an economic divide created by relative purchasing power; but many have equally raised the issues of usability of the digital technologies and empowerment being other socially dividing factors (Norris, 2001; van Dijk and Hacker, 2003; Nielsen, 2006) while others have looked at this specifically for education (Enoch and Soker, 2008).

The economic divide has mainly focused on access to Personal Computers, whether desktop or laptop machines. But with greater types of digital devices (particularly mobile devices) becoming available; with more computing power and accessibility to communication networks; and the ever declining cost of computing and communication services; this is probably not the most pressing long term issue for the educational

divide. The growing availability, affordability and accessibility of digital devices that can be used for educational purposes means that teachers can plan more confidently knowing that their students will not be so greatly disadvantaged and in some cases certain groups, such as the visually impaired, may be better served than with non digital technologies (Cooper, Lowe and Taylor, 2008).

The usability divide or usage gap refers to the technology being too complicated to use at all or requiring sophisticated skills and competences to use for particular purposes. In other words, how adept people are at using the technology and conversely how simple has the technology been made to use by those creating it and then for those using it for educational purposes such as teachers?

WIDENING PARTICIPATION IN OPEN EDUCATIONAL RESOURCES: FORMAL, NON FORMAL AND INFORMAL LEARNERS

The advent of OER has sharpened the debate as to what it means to participate in higher education. Traditionally this has been attendance at a campus based institution taking a formal taught degree course (Bachelors or Masters). As already noted, many distance teaching institutions operate a modular taught degree programme while campus based institutions may offer modular part time routes to an equivalent degree programme but the overwhelming expectation has been that a degree is the finish point and that only accumulating some credit is less valued. For some open universities the ability to take individual modules is seen as offering greater openness and allowing wider participation by people in higher education who may want only part of what many offer as the main attainment.

As noted by Watkinson (2010) in addition to such formal learning (structured periods leading to recognised awards and qualifications) early in the life of learners, universities need to address lifelong learning whereby learners throughout their life may return for further formal learning but equally take advantage of non-formal learning (structured periods that do not lead to academic credit but do have formative assessment) and informal learning (loosely structured periods which rarely include assessment or credit). Open educational resources are ideal examples for informal learning but have value as well for non-formal and formal learning.

While there have always been some educational resources accessible (at cost) to people (e.g. text books, public lectures) these were not always acceptable and understandable to many without a strong prior educational background. The greater quantity and variety of open educational resources means that many more people can access them and also that many may be a bit more understandable to them, particularly if the resources have been devised for self study. However it is still difficult to claim that non-formal or informal study of OER provides a higher education experience since it lacks the direct tuition, support and assessment elements that characterise formal courses. Nevertheless, OER do allow others to self organise study groups and so feel that they are participating in higher education level study, albeit one that is not formally designed and accredited by a higher education institution. Indeed, it can be argued that OER offer a bridge between the informal/non-formal and formal domains by helping people to overcome their concerns arising from individual, social or cultural norms as noted above.

Nevertheless, while the use within e-learning or blended learning schemes has opened up further possibilities for open learning by both increasing the scope for much more non face-to-face two-way interaction and forms of collaboration between groups of learners and their teachers, the acceptability of this mode of teaching and learning is extremely variable, with socially excluded groups or communities being those who do not have much access to such technologies, may find few opportunities available to them in their circumstances and are worried that they cannot cope with the

cots of acquiring and using these new technologies and ways of learning (Kirkwood, 2006a; 2006b). To reiterate, they do not feel included even when people are trying to reach out to them because they lack confidence in their competence to succeed.

CONCLUSION: OPEN EDUCATIONAL RESOURCES ARE NOT ENOUGH

Formal education is a structured set of activities where a key element is the interactions between teachers and learners and between fellow learners; interactions that are supported by educational content (e.g. text books, course notes, assignments, etc.) and learning resources (e.g. whiteboards, laboratory equipment, Virtual Learning Environments, etc.). In this triangular relationship between teachers, learners and resources it is mainly teachers that select and/or develop the set of resources and activities that learners are expected to engage with. As argued by Lane (2008b), teachers attempt to mediate the interactions between the students and the resources (or 'inter-mediate'), acting as an expert and/or a guide to the learning process. Of course this simple model ignores the wider and variable social and cultural settings for these activities, while other people can be part of this strictly educational relationship such as librarians, mentors in work based settings and technical support staff. Nevertheless, such inter-mediation in structured settings is dominated by a largely closed, face-to-face presence model rather than an open and distance model; but it is still a feature of ODL systems. Openness rarely extends to offering completely unfettered choices to the learners on what to study, when, how and where, as, in principle is being offered by OER and some emerging community based operations on the web such as Wikiversity and the Peer-to-Peer University (Thierstein, Schmidt and Håklev, 2009).

Under this view of education, if learners are to effectively engage with formal educational opportunities then that process is normally mediated by the structuring of the educational resource by teachers, the learners own capabilities, the inputs of fellow learners and the interventions of professional teachers/support workers (Lane, McAndrew and Santos, 2009; McAndrew et al, 2009). Openness, in the form of OER, may impact on not only this formal education but also much informal education. Firstly, digital resources and digital environments can substitute for physical resources and physical environments but inevitably they are different and the need to learn and understand how to create, navigate and use such resources must not be underestimated. The digital educational divide can mean that some learners are much more sophisticated users of digital technology for learning than their (subject focussed) teachers, while such fluency (or not) with the technology can exacerbate the educational divide as modes of communication, collaboration and computation multiply or become more sophisticated. Secondly, the very openness of an OER means that learners have much more access to structured content without the other structuring provided by intermediaries such as teachers. While such wider and free access may be good in principle, in practice it may be harder for less sophisticated learners to make good use of them without more direct support from intermediaries.

So, while openness within education and the use of open educational resources have the potential to reduce inequalities in the educational divide it can be argued that it may actually exacerbate the already existing digital divide. In particular the availability, accessibility and acceptability of this mode of teaching and learning is extremely variable, with socially excluded groups or communities being those who do not have much access to such technologies, may find few opportunities available to them in their circumstances and are worried that they cannot cope with these new technologies and ways of learning. In other words it is the social and cultural factors that may be much more important than the economic ones. In such cases of disempowerment there need to be appropriate social and cultural support for the prospective learner to help reduce or remove these disempowering conditions. As Wilson (2008), Selwyn and Facer (2007) and

McAndrew et al (2009) argue, interventions need to recognise and draw upon existing networks within communities, using local champions to develop skills and confidence and allow people to make an informed choice about their learning and their use of digital technologies for that learning.

These developments around openness and in particular open educational resources are leading many HEIs to closely examine their business models and modes of operation in terms of how many people they recruit and teach, what type of people they recruit and teach, the modes by which they provide educational resources and structure educational experiences and what constitutes successful engagement or participation. However to be successful, new policies and practices are required at all levels in the higher education system to address issues of openness and open educational resources in higher education study and the role that can play in increasing and widening engagement and participation. There needs to be better collaboration between the stakeholders if OER are not to be seen as a way of simply widening the audience for HE knowledge rather than widening participation.

FUTURE RESEARCH DIRECTIONS

The use of open educational resources in formal higher education has little direct impact on widening participation in higher education when that is solely concerned with achievement and attainment of recognised qualifications. However the OER movement, like the Open Access movement, is essentially about knowledge sharing and exchange. This greater openness raises questions as to what constitutes higher education knowledge if it is not posited within a higher education qualification framework. Does reading an OER from an HE course count unless there has been some demonstration by the learner that what they have learned is at HE level? The increase in non-formal learning coupled with efforts at recognising prior experiential and certificated learning all point to potentially new ways of classifying participation in higher education. Open educational resources appear to be opening up education in many different ways but much more research is needed on how learning outside of formal education is assessed, recognised and trusted in the ways that formal education currently is by all involved.

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ADDITIONAL READING

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KEY TERMS AND DEFINITIONS

Acceptability: the relative acceptability to a learner of participating in study of higher education resources or systems as determined by cultural and social factors

Accessibility: the relative accessibility to a learner of higher education resources or systems in terms of both technical and logistical factors

Affordability: the relative financial cost to a learner of participating in study of higher education resources or systems

Availability: the relative availability to a learner of higher education resources or systems

Educational Attainment: the level of accredited award or qualification achieved by learners

Open Access Movement: a movement dedicated to the open publishing of research and scholarship papers, particularly if the work has been publically funded

Openness: the degrees of freedom for learners built into an educational system

Widening Participation: the degree to which the population of a country participates in higher education