8. Transformation of Teaching and Learning in Higher Education towards Open Learning Arenas: A Question of Quality

Ebba Ossiannilsson, Zehra Altinay and Fahriye Altinay
There is increasing discussion and academic debate about changing and improving learning and teaching praxis as widespread and increased digitization continues to impact life of individuals and society, both locally and globally. Widening the access to higher education is high on the global agenda not just in the field of education but also from the perspective of employment opportunities, entrepreneurship and innovation in the labor market. An open education for all learners is key to maximize the impact of education on society and to ensure its success and sustainability. Opening up education requires a change in attitudes and mindset that emphasizes flexible growth instead of fixed traditions. Enhancing quality in open education requires a system-based approach in which contingency provides for the integration of digitization and technology in both management and leadership. An open education pedagogical approach, or a more self-directed approach is likewise essential to foster openness in both praxis and culture.

This chapter analyses the role of open educational practice and culture by discussing the opportunities and dilemmas encountered in this rapidly evolving age of technology-enabled learning, as well as the key issues that must be addressed in opening up education.
Introduction

Widening the access to university education is high on the global agenda not only in terms of education-specific programme, but also as part of employment, entrepreneurship and labor market policies. UNESCO, for example, has stated that increasing access to learning is vital for our future and prosperity as the number of students in tertiary education worldwide is projected to reach over 260 million by 2025 (UNESCO, 2015). It is widely recognized that free access to learning resources is a basic requirement for education to be both successful in its reach and financially sustainable (UNESCO, 2010, 2015). Lifelong learning and increased access to higher education therefore are and must remain at the top of universities’ agendas around the globe. In practice this goal is feasible only if we truly open up education and provide high-quality and easily accessible open educational resources (OER) and massive open online courses (MOOC) for all worldwide. Technologically, this is more possible today than never before because of the ever-growing access to the internet and smart devices. However, it will only be possible if the paradigm and full meaning of opening up education by offering it to anyone, anywhere, at any time, and on any device is embraced (European Commission, 2013; UNESCO, 2015). In the digital age, the diffusion of knowledge has changed fundamentally, which has led to the demand for changes in higher education practices. The diffusion of knowledge has become a strategy for open education in terms of access, processes, recognition and validation. However, the success of open education comprises several critical factors such as equity, access, and quality (UNESCO, 2015). Research has shown that additional critical factors for the success of open education are student engagement and involvement, evaluation at all levels, theoretical frameworks and codes for praxis teacher training, quality standards, learning, and content design (Aksal, 2011; Gazi, 2011).

Opening up education means rethinking the numerous dimensions that are familiar in traditional educational structures and patterns. It requires, at the very least, a changed mindset that emphasizes growth instead of fixed traditions. Enhancing quality in open education requires a system-based approach in which contingency provides the integration of digitization and technology in both management and leadership.
An open education pedagogical approach, towards self-directed learning is also essential to foster openness in both praxis and culture. Accordingly, the strengths, weaknesses, threats and opportunities involved in mainstreaming open education, open educational systems, as well as technological systems need to be evaluated. Research on the improvement of the quality of open education is a significant element of that process.

This chapter focuses on the role of open educational practice and open educational culture. The aim is to discuss the opportunities and dilemmas encountered in opening up education in this rapidly evolving age of technology-enabled learning. We will also discuss the key controversies and issues that must be addressed. Firstly, open educational practice is discussed. The following section then discusses open educational resources (OER) and massive open online courses (MOOCs), followed by a description of the transforming process. Some examples of success stories are then provided. Finally, conclusions and recommendations are suggested.

**Open Educational Practices**

Learning and teaching praxis has to be changed, innovated, and improved because widespread and increased digitization and opening up education continue to impact human life and society both locally and globally. According to Castaño Muñoz et al. (2015) and the European Commission (2013, 2014), there is an urgent need to embrace access, equity, quality, recognition, validity and entrepreneurship in learning and education in the digital society of the twenty-first century. Both argue that the main reasons are that in global society, it is necessary to foster competitiveness and collaboration in education and in the labor market. Barber, Donnelly and Riezvy (2013) predicted an “avalanche” in higher education, similar to that occurring in most areas of society where the internet has had an impact, such as in the film and music industries as well as financing and banking. They indicated that it is difficult to say exactly when this avalanche will occur, but it is sure to be sooner than many imagine. However, some researchers have argued that the avalanche has already happened (Sangra, 2014; Weller, 2014) but that the transformation and adaptation to this open paradigm in
education is lacking. In addition, Barber, Donnelly, and Riezvy (2013) stated that it is essential to understand what lies ahead for the higher education sector and prepare for it in terms of theory, practice and the growth of the appropriate mindset (Dweck, 2006). Hence, today we must configure the type of higher education that we want future, new and emerging technologies to serve. Open online learning should be the means to serve great ideas rather than being an end in itself.

Opening up education requires the adoption of practices and cultures that foster academic research and collaboration to enhance learning and teaching. There are several definitions of open education, but that developed by the Open Education Consortium is the most frequently used globally and is the most relevant for the present study (Open Education Consortium, 2016). According to the Consortium, open education is:

[...] a mode of realizing education enabled by digital technologies that are accessible to as many people as possible. It offers multiple ways of learning and sharing knowledge and a variety of access routes to both formal and non-formal education.

Furthermore, the Open Education Consortium (2016) has defined open education as comprising the “resources, tools and practices that employ a framework of open sharing to improve educational access and effectiveness worldwide”.

UNESCO (2015), the Open Education Consortium (2015), and the European Commission’s Institute for Prospective Technological Studies (JRC-IPTS) (Inamorato dos Santos, Punie and Castaño Muñoz, 2016) argued that open education combines the traditions of knowledge sharing and knowledge creation with twenty-first century technology to create and embed a vast pool of openly shared educational resources, thus harnessing today’s collaborative spirit to develop educational approaches that are more responsive to learners’ needs. However, the idea of free and open sharing in education is hardly new. The Open Education Consortium (2016) emphasized that the most basic characteristic of education is sharing, which is the foundation philosophy of education:

[Sharing is probably the most basic characteristic of education: education is sharing knowledge, insights and information with others,
upon which new knowledge, skills, ideas and understanding can be built. Open Education seeks to scale educational opportunities by taking advantage of the power of the internet, allowing rapid and essentially free dissemination, and enabling people around the world to access knowledge, connect and collaborate. Open is key; open allows not just access, but the ability to modify and use materials, information and networks so education can be personalized to individual users or woven together in new ways for large and diverse audiences.

Because the current provision of higher education is limited by educational institutions’ capacity, it is inherently available only to a portion of any society, and a significant part of any population is inevitably left out. However, education is an essential tool that individuals and society can use to solve the challenges of the present and seize the opportunities of the future. The digital revolution offers potential solutions to these limitations by giving a global audience unprecedented access to free, open and high-quality educational resources. Education and the opportunity to learn are the rights of everyone in contemporary society (Gaebel, 2014). By providing free and open access to education and knowledge, societies can enable people to fulfil these rights (Gaebel, 2014; Inamorato dos Santos et al., 2016; UNESCO, 2015).

In an open world, learning needs to reflect the strengths of the institution in accessibility, design and pedagogy. Accordingly, to meet the requirements of open education, the theories and practices of learning and teaching are changing as increased digitization shapes not only how we learn and act but also how knowledge is constructed. Significantly, contextualization and interconnections affect how learners construct and relate to knowledge, and sharing knowledge through social interaction and negotiation has become crucial. The real change, according to Sangra (2015), is in the nature of knowledge. Knowledge today is created by flexible, collaborative networks in dynamic and at times unstable environments. Such collective interactive processes between individuals within frameworks of contextualization shape the process of learning, that is, how to learn, change, construct, and relate to enormous amounts of information in order to meet learners’ expectations and needs in a meaningful way. Socially constructed meaning requires the incorporation of social negotiation and mediation from multiple perspectives to reach meaningful learning and the
desired knowledge that is available in the large amounts of information surrounding today’s learners (Courtney and Mathews, 2015).

Engaging learners in multiple perspectives and experiences through the integration of technology has become imperative (European Commission, 2014). Accordingly, in open education, learners gain skills, strategies and knowledge concurrently in a supportive and evaluative environment that develops their professional skills within the frame of lifelong and active learning. Reflective dialogues and collaborative working with others enrich the sense of self-learning. Gaining multiple perspectives on, filtering and internalizing large amounts of knowledge to shape their perspectives requires learners to be aware of changes in the strategies and construction of knowledge (Du, Xu and Fan, 2015). Keeling’s study (2009) stressed that learning is a dynamic process and leads to renewal in higher education. In this respect, there is an intensified need to consider that learners today can learn anywhere at any time. This leads to a debate about the transformation of learning, inquiry and teaching. Open education calls into question changes in learning and teaching processes, while also providing learners with the confidence to construct their own knowledge as culled from a wide range of perspectives that enable learning experiences (Chen and Tsai, 2009). In this respect, the transformation of learning and teaching processes offers advantages for equity, confidence and transparency to attain alternative resources and socially constructed meaning, both of which help tap into human potential.

Compared to the traditional system of higher education, open education plays a key role in offering access, equity and adequacy to learners. Opening up education enhances the ability of education to increase social equitability by providing access to resources at any time and nearly anywhere. Because of its dramatic changes in learning and teaching patterns, open education resources favor increased social cohesion and trust, leading to an equality of access for learners. Due to the fact that equity enhances social cohesion and trust, open educational culture and pedagogy need to reform design, practice and resources to ensure the improved quality of open education. Ensuring a high standard of education for all learners through open education means their inclusion in lifelong learning processes, the attainment of human potential and achievement of meaningful knowledge (Edwards, 2015).
The adoption of open education in different educational systems raises questions about the cultural impact on the expectations and needs of learners and the possibilities for the success of open education both today and in the future. Although digitization offers both promises and perils, such as usability and financial cost, open education has already been accepted as an entrepreneurship strategy, in higher education practice, which is innovative in providing learners with access and multiple perspectives that ensure meaningful learning (Du, Xu and Fan, 2015; Gazi, 2011). Furthermore, open education offers the potential for academic collaboration through experiential and individual learning patterns that are significant for learners in constructing their own knowledge based on cooperation, negotiation and reflection.

OERs and MOOCs are part of the open education movement and will accordingly be defined and discussed in the next section.

**Open Educational Resources and Massive Open Online Courses**

OERs are an important tool in opening up access to education. According to the William and Flora Hewlett Foundation, OERs are defined by the following:

- **Learning content**: Full courses, courseware, content modules, learning objects, collections, and journals.

- **Tools**: Software to support the development, use, re-use and delivery of learning content including searching and organization of content, content and learning management systems, content development tools, and online learning communities.

- **Implementation resources**: Intellectual property licenses to promote open publishing of materials, design principles of best practice, and localization of content.

OERs include educational materials that are in the public domain or have an open license. Anyone can legally and freely copy, use, adapt and re-share these materials. OERs range from textbooks to curricula, syllabi, lecture notes, assignments, tests, audio, video, animations and even entire online courses and assessments (de los Arcos, 2013; Kanwar, Uvalić-Trumbić and Butcher, 2011; UNESCO, 2015). OERs include the open access to content and resources, such as software, audio, text, video
materials and alternative resources ensuring quality and innovation. Opening up access to education has become crucial for enhancing open educational cultures.

Butcher and Moore (2015) and the Commonwealth of Learning (2015) emphasized that OERs have become very fashionable. Some see them as completely revolutionizing how learning materials are implemented in our education systems, while others view OERs from a more pragmatic perspective. The implementation of forms of OERs can reduce costs, but they also raise questions of quality, which opens the way to enhancing quality in design, development and delivery by incorporating the needs and styles of diverse learners. Hence, OERs can have a dynamic effect on both pedagogy and quality. As a form of intellectual entrepreneurship in higher education practices, the delivery of OERs can provide institutional support for open education. However, such support requires a transformation in the adoption and adaptation of open education in a competitive context to ensure its continual improvement.

The Open Education Consortium (2016) highlighted that through OER, students could obtain the following:

- Additional information, viewpoints, and materials to help them succeed.
- Workers can learn something that will help them on the job. Faculty can exchange material and draw on resources from all around the world. Researchers can share data and develop new networks. Teachers can find new ways to help students learn. People can connect with others they wouldn’t otherwise meet to share information and ideas. Materials can be translated, mixed together, broken apart and openly shared again, increasing access and allowing new approaches. Anyone can access educational materials, scholarly articles, and supportive learning communities anytime they want to. Education is available, accessible, modifiable and free.

MOOCs offer another innovative way of opening up education to meet the dimensions of quality emphasized by the European Commission (2013, 2014), the Commonwealth of Learning (2015), and UNESCO (2015). MOOCs were first launched in 2008 by Downes and Siemens, but the term “MOOC” was developed by Cormier (2014). According to Downes (2012), every word represented in the acronym for massive open online courses is negotiable. Massive means that the courses are
scalable and their participants can range from hundreds to several thousands. The degree of openness is debatable and mainly concerns access, and the so-called freemium modes, there are no prerequisites or costs, at least not in the beginning. Openness also means that MOOCs are based on freely available resources, often with open licenses as provided for by the Creative Commons (CC). Online means that the courses are delivered via the internet on any kind of device. The word “course” means that the online offering has a beginning and an end; the duration is usually four to eight weeks. The word “course” also implies that there are learning goals and a variety of forms of assessments. However, MOOCs do not provide certification or credits; nonetheless, participants are rewarded with a badge or badges. Recent developments have meant that learners can gain premium advantages, such as guidance and certification, for additional fees.

However, there is an ongoing debate about the quality of MOOCs. Some have argued that MOOCs are revolutionary educational and learning modes. Others have argued that, unlike the first MOOCs, which were based on connectivism (Downes, 2012; Siemens, 2005), the current courses are somewhat traditional, and are based on a series of video recordings.

According to Bonk et al. (2015), MOOCs are a relatively recent online learning phenomenon that were developed from the earliest examples nearly a decade ago. They have generated a considerable amount of media attention and attracted significant interest from higher education institutions and venture capitalists who see them as a business opportunity (Daniel, 2012; Haggards, 2013; Shan, 2015). However, many MOOCs do not always conform to the previous definition of OERs because most MOOCs are released under restrictive licenses. In addition, they are rarely available and most MOOCs are in English.

Both OERs and MOOCs extend learning alternatives beyond traditional boundaries and support the creation of opportunities to gain knowledge in the context of global education (Mapstone et al., 2014; Yuan and Powell, 2013). Therefore, higher education practices should foster OER and MOOCs as initiatives to improve access and transfer knowledge based on the access and equity policies that serve diverse communities.
Transformation of Learning and Teaching in Higher Education: Theory and Practice

Higher education must play an essential role in transforming learning that it is free and open to all (The Open Educational Working Group, 2014). In this respect, professionalism is important for learning and teaching in higher education. Bucklow and Clark (2000) emphasized that changes and developments in learning and teaching in higher education must ensure the quality of students’ learning experiences. Therefore, merging theory and praxis through transformation to enhance the quality of student experiences is essential in higher education. Communication and information technology allow higher education institutions to implement transformation in group learning, the global delivery of materials, and student interactions over the internet.

In the era of professionalism, what to know, how to know, and who you know play enormous roles in higher education (Siemens, 2005). Siemens argued for the importance of applying the theory of connectivism, as well as how to build and maintain professional and personal learning networks. In the changing context of higher education, accepted and traditional modes of thought need to be reconsidered. Evidence shows that linear education has failed to enhance the quality of learning and teaching. Learning and teaching are enriched through opening up a wide range of resources (Wood et al., 2011). Devlin and Samarawickrema (2010) pointed out that effective teaching in the changing context of higher education demands paying attention to the quality and effectiveness of learning and teaching.

Digital media and open educational resources have extended the limits of both learners and teachers, thus renewing the context of higher education (Ponti, 2014). The use of digital media and open educational resources provide self-directed and choice-based learning (Creelman, Ehlers and Ossiannilsson, 2014; Ossiannilsson, 2016). Hence, learners can control and orchestrate their own learning (Ossiannilsson, forthcoming). Downes (2016) stressed the possibilities of personal learning and just in time learning, before striving for personalized learning in an already fixed system. Ossiannilsson has argued for the same possibilities, introducing the concept of just for me learning through open education. Edwards (2015) underlined the importance of openness in decreasing
the barriers to education. Openness in this respect means openness in all fields of learning, that is, anyone, anytime, anywhere, and anyhow can learn with any device (Castaño Muñoz et al., 2013). Focusing on openness helps prevent the monopoly of educational institutions and increases the possibility of collaborative peer learning through the co-production of knowledge.

Lifelong learning, continuous learning, upgrading skills and continuous professional development have become important in Europe because they facilitate economic growth and promote the full involvement of individuals in society. Castaño Muñoz, Redecker, Vuorikari and Punie (2013) emphasized that technological development and open education systems can create transformation in higher education. Even Weller (2011) emphasized the crucial shift towards digital scholars in educational settings to create an impact in terms of how technology can transform scholarly practice.

The Open Education Consortium (2015) advocates core values that enhance quality in open education including a global focus, openness, equity, collaboration and multiculturalism. The European Commission’s Joint Research Centre (JRC) and the Institute for Prospective Technological Studies (Inomorates dos Santos et al., 2015) summarized quality in open education as comprising the following:

- **Efficacy**: fitness for purpose of the object and concept being assessed.
- **Impact**: a measure of the extent to which an object or concept proves effective, impact depends on the nature of the object or concept itself, the context in which it is applied, and the use to which it is put by the user.
- **Availability**: a pre-condition for efficacy and impact to be achieved; availability is thus also an essential part of the element of quality. In this sense, availability includes concepts such as transparency and ease of access.
- **Accuracy**: a measure of precision and the absence of errors in a particular process or object.
- **Excellence**: compares the quality of an object or concept to its peers and to its maximum quality potential.

As illustrated in Figure 1, these features of quality are iterative and interrelated. If these features of quality are fulfilled, learners can orchestrate their own learning and take ownership of it. Ownership is
one of the most important features of motivation and learning in open learning arenas (Ossiannilsson, forthcoming).

Figure 1. Quality dimensions in open education that enable learners to take ownership

In addition to the movement towards increased openness, the paradigms within the educational sector need to be reconsidered. All paradigms, from curriculum design, learning pathways and styles, offers, services, delivery to assessments must be revisited. The means of recognition and validation also require reconsideration as the lines between formal and informal learning become more and more blurred. Through increased openness, linear education will give way to learning environments that facilitate, promote, and value rhizomatic learning and serendipity. Weller (2014) argued for the “battle for openness”, raising the question “How open is open?” He stated that we have thus far only embraced openness inside an already close organizational structure. Hence, Wheeler (2015) argued that there is an urgent need to leave the comfort zone in teaching and learning. Cormier (2015) stated that it is time to leave the curriculum per se and have society itself serve as the curriculum to facilitate not only personalized learning but also personal learning (Downes and Ossiannilsson, forthcoming). Extending this viewpoint, Ossiannilsson (2015) argued for the need to take seriously the consequences of open learning landscapes and embrace choice based-learning so that learning
is not simply available anytime, anywhere, anyhow, and to anyone, but also can include learning *just for me*. In this way, learners take ownership of their personal learning.

**Examples of stories, cases, and storytelling**

Latchem, Özkul, Aydin and Mutlu (2006) provided a case study of open education, in which Anadolu University was an example of e-transformation. In Turkey, the concept of open education mirrors leadership in technology development. Scholars associate increased quality with personalized and collaborative learning that is made possible by the development of convenience and flexibility in learning. Strategic planning, quality assurance, faculty development and reflective practice all play an enormous role in e-transformation. In addition, Anadolu University serves as an open education system not only in Turkey but also in Turkish communities across Europe and on the island of Cyprus. Consequently, it has one of the world’s largest student bodies. It offers teamwork and research diffusion activities to provide equity and participation in online education.

Gourley and Lane’s (2009) account of open education in the UK’s Open University offers an insight into open educational resources and how openness can be promoted. The Open University, a pioneer in open and distance learning, now employs broadcasting in multi-directional, multiple-platform communication and collaboration, and new forms of licensing for largely digital content. The launching of open education resources as a business model for its competitive advantage explains the Open University’s efforts to enhance the learning experiences of OER users, their involvement in higher education and networks, knowledge and understanding of OER delivery and the development of sustainable and scalable models of OER delivery.

**Conclusions and Recommendations**

This chapter has discussed the benefits of open learning and education for learners everywhere, providing them with the ability to access high-quality education and training. Education is an essential, shared and collaborative social good. We have focused on the importance of access, equity, quality, entrepreneurship, continuing professional development,
learning and preparing for an uncertain future in the digital society. Research has shown that it is clear that we cannot continue to educate today’s learners using yesterday’s methods for a tomorrow that we do not yet understand (Sangra, 2015; UNESCO, 2015).

Open principles, such as open educational resources, free and open software, open data and open standards, are the keys to the genuine empowerment of faculty and students globally and to making education and opportunities accessible to all. How learners obtain meaningful learning has become part of the opening up debate. Accordingly, education requires new policy reforms which embrace the opening up of educational concepts and debate. Given the rapid changes in learners’ needs in the digital age, there is an intensified need to focus on the renewal of innovation in learning and teaching (European Commission, 2014a, 2014b). The dissemination of learning and knowledge is essential for the reflective experience of constructing knowledge and developing skills in the process of interaction, teamwork and responsibility for personal learning within the framework of the transformation of learning and teaching (Aksal, 2011). Pedagogical innovations such as open education will also promote changes in policies to prioritize human learning and development through access to and equality in learning and teaching. In this respect, significant collaborative efforts have been made to move from a teacher-centered approach to a learner-centered approach within the framework of a lifelong learning perspective. Because of the changes in teaching and learning practices caused by digitization, pedagogical approaches need to include project-based activities, experiential learning and group dynamics to help learners reconstruct knowledge and develop skills and abilities to fulfil their potential. This chapter has reviewed how learning and teaching processes have shifted rapidly to require open education for lifelong learning. It has considered supporting theories and offered the examples of case studies in order to advocate policy and pedagogical reforms based upon open education.

In transforming lives and developing skills, education and the learning environment have important roles in ensuring inclusive and equal learning opportunities and promoting lifelong learning to an increasing number of people. Because education involves transformative and developmental processes, it affects the inclusion, equity and development of learners in the practices of global and
national educational systems. Learning environments need to reflect the values human rights, shared responsibility, inclusion and the protection of human fulfillment (Kuter, Altinay Gazi and Altinay Aksal, 2012).

Access is a compulsory quality indicator of education systems in which all learners have access to education and learning environments anytime and anywhere. In transforming learning and teaching, educational processes need to encourage inclusion and equality for all learners through assuring access. By proposing meaningful learning and professional development opportunities in lifelong learning processes, open education commits to promoting universal access and participation. In ensuring motivation, equality, evaluation of learning progress and creativity, we must rethink learning and teaching environments to enhance the quality of education (Gazi, 2011). Educational quality includes both knowledge creation and creativity in terms of skill development within the processes by which educators plan and restructure learning environments to meet learners’ expectations, including global and local standards in education. Significantly, higher education practices need to include equitable and increased access to quality education and research for the continuous improvement in the quality of their practices. Technology-supported learning environments, such as open education, acquire strength through knowledge dissemination, innovation and collaboration to meet global standards.


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