

Towards a Policy of Access and Inclusion in Education: Digitalization for All

University of the Future Project, Hagen, July, 2017

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This paper attempts to set out the nature of the challenge of the digital revolution for access and inclusion in post-secondary education. We examine these issues in the context of the enormous ambition of governments around the world expressed in the United Nations Sustainable Development Goals (SDG's), in particular SDG 4 "To ensure inclusive and equitable quality education and promote lifelong learning opportunities for all." The central tenets of this goal are to be realized during the next 15 years at the same time as the digital revolution continues to reconceive and reshape many sectors of activity, including education, on a global scale. The digital revolution has the potential at one and the same time to make it easier and more difficult to achieve the different dimensions of SDG4. This chapter considers this apparent paradox and will also provide commentary on aspects of Quality and Lifelong Learning highlighted by the UN as central.

The emergence of Lifelong Learning as a priority marks a significant change from the priorities expressed in the previous UN Millennium Development Goals, which governed the period 2000-2015. In the former MDG's the major policy goal for education was universal primary education, which was in the event significantly improved though yet far from universal. The emergence, or better said reemergence of Lifelong Learning as a global priority, represents the highlighting of post-secondary education as a core priority in terms of national economic development, as well as for social and personal development. Higher education is expected to lay a foundation for economic productivity by providing skills and knowledge for a high-quality workforce (OECD, 2003). By so doing, Higher Education is contributing meaningfully to the economic development of the country and student employability. It must be acknowledged however firstly that the linkages between Higher Education and economic development while widely observable in richer countries are not automatic. Some countries have significant numbers of unemployed or underemployed graduates, whose personal wellbeing is ill-supported as well as representing a poor social and personal investment in the absence of their contribution to economic development. The fulfilment of SDG4 will in a nutshell move middle income countries and even some poorer countries from elite to mass Higher Education systems, as has already been achieved in most of the richer countries.

While equity in education is about fairness and inclusion, the term access denotes the methods and the underlying assumptions necessarily deployed in opening up opportunities to education for people who are excluded. Therefore equitable access to education is about removing barriers so that people from diverse backgrounds can have equal chances of accessing educational opportunities, and it is also committed to historical remedy for those who have been wittingly or unwittingly excluded in the past (Chisolm, 2008; OECD, 2007). Hence educational policies of many countries in the world propose a major and radical increase in

post-secondary and higher education and lifelong learning, on the basis of inclusive and equitable practices.

Despite caution about the automatic linkage Higher education participation rates are plausibly considered to be one of the necessary conditions, if not guarantees, for economic growth and social development. They are closely linked to increased health outcomes, gender equality, and improved children's education. In developed countries, the higher education participation rate is often more than 50 percent and can reach 85%, whereas in some developing countries in Africa, the participation rate is less than 5 percent (Alsbach, et al. 2009). To support the sustainability of economic growth, higher education institutions are expected to provide education to significantly increased numbers of people, and indeed the envisaged increase in Higher Education places in the SDG period lies in the range from the current 260 million to 400 million by 2030. It is not realistic to imagine this being achieved only by the enlargement of student numbers on present campuses, or through the building of new campuses. Digitally supported distance and online learning will need to play a complementary role, supporting a much wider range of participants than middle class urban school leavers, in order to provide space for post 21 year olds already in the workforce, rurally based populations and women with work and family responsibilities in particular. The social good that is represented by Higher Education is one that should extend far beyond the elite in the future.

At the same time we find ourselves some 20 years into the digital revolution, making its impact felt in schools, colleges and universities in many countries, both in online, blended, distance and campus based teaching. While this is now becoming increasingly embedded in many institutions and systems, offering an exponential increase in resources, flexibility and access, major cohorts of the population are falling further behind in many countries. These are in particular the poor, the rural, the elderly and the disabled.

This problem is even more acute in places of limited resources especially in developing countries where they are still battling with the low participation rates in higher education; lack of infrastructure to support digitization; high costs of connectivity and internet access; massive demands for higher education; and lack of human resources capacity to address development needs for the knowledge economy. Internet penetration ranges from less than 1% in Eritrea to Iceland with more than 95% (Internet Society 2017), so populations on a much wider scale find themselves falling further and further behind. Rather than digitalisation acting as an accelerator for their development, it is currently an accelerator for global inequity, and a major barrier for those people who need it the most. The glaring global inequities for individual opportunity lie underneath the migration of younger able people out of their own countries, to the loss of their societies, and meeting the increasing resistance of the Global North.

How can we resolve the twin pressures of exploiting the opportunities for improvement of access, increase of scale and quality of learning and teaching offered by the digital revolution, and ensure access on as equitable as possible a basis on global and national terms? This paper attempts to offer understanding and guidelines for governments and institutions faced with such challenges.

We recognise first of all that education has been radically disrupted by technology. While it is wise to have an open and critical evaluation, there can be no legitimate strategy of turning our

backs on the digital revolution. Its potential is barely revealed for education, and institutions and the staff working in educational institutions have much yet to do to realise it. The potential advantages of the digital revolution in education can be summarised under two broad headings, namely resources for learning, and communications networks.

Access to resources for learning, both formal and informal, have been revolutionised by the internet. There are a multitude of resources that can support programmes of study, than change the role of teaching from the provision of content to the guiding of learners into and through resources. The Open Education Resource (OER) movement that seeks to resist the commercialisation of education by making access available to commonly produced and owned textbooks and courseware represents one significant and growing strand. Open Education Practice refers to the innovative practices pioneered by educators in the curfation of OER's, and the pedagogical strategies developed for learning and student support. MOOCs are one example of a huge range of courses freely available to more than 60 million learners worldwide. The openness of material such as Wikipedia and other open repositories, newspapers and journals, freely available reports , open books of every variety etc. makes it possible for students to find for themselves data , explanations and theories rather than depend on teachers or courses to instruct them, A core skill to be learned as an outcome of study of course is the evaluation of resources, as there is much that is misleading or indeed false as well as a treasure house of valuable materials.

The digital revolution has also provided a sea change in our ability to communicate with each other, both individually and in groups and networks. Historically email has linked many millions of people over the last 20 years, and this is now accompanied by messaging platforms as well as Facebook, Linked in and Twitter, to name the dominant channels at the time of writing. It has led to what has been termed 'the networked society'. It makes not only possible but easy the sort of collaborative international working that this chapter and others represent, in real time. Learners can and do communicate with their teachers on a flexible and informal basis, providing both cognitive and affective advantages over meeting only in lectures or seminars. It is also true that learners communicate easily with each other, one to one but also in learning communities, providing support to each other. There are of course challenges in offensive or even dangerous behaviour online, but it would be hard to find many who are regular users who can desire or indeed imagine going back to the restrictions of pre-digital modes of communication alone.

Recommendations for national policy

The United Nations, the African Union, the Europa Union and many other international organisations recognise the importance of digital education in expanding access and increasing participation in higher education. That is why many governments including those in developing countries have supported through the SDG's the imperative of increasing enrollment in the Higher Education sector. Many of them have drawn up policies to address issues of access and equity in their country. Policies serve an important role in this regard because they are developed to provide a guide and respond to the national economic needs and social development goals of a country (Kozma, 2005). Without national policies and frameworks, it is unlikely that digital education innovation will be sustained and resources made available.

Like all innovation, the digitization of education has potential for being good and also being bad. To mitigate against some of the risks related to the digitalization of education, strategies for digital inclusion must also be developed. The imperative to fully engage with digitalization is therefore conceived as central to the next period, despite risks to access. To ensure equitable access to open education, national policies should be developed to include issues pertaining to technology access, inclusive student support systems, financial and human resources and a conducive environment that is flexible and recognises the benefits of using technology for teaching and learning (ICDE, 2015). In summary national policies should:

- Create a conducive environment for the necessary scale of opportunity
- Ensure access to resources to support the digitalization of education
- Recognise the benefits of technology for teaching and learning
- Develop learner support mechanisms for different types of students including students with disabilities
- Ensure that learners and teachers are equipped digital skills and competencies
- Support motivation and enthusiasm in teachers and learners for the potential of ICT for education
- Ensure that the population is proportionately represented in educational programmes
- Improve relevance of education programmes, and of employability and sustainable livelihood of its graduates
- Advocate for hardware, software and networks at affordable prices in all regions of each country
- Provide resources for ICT infrastructure development
- Ensure a secure ICT environment that develops trust in the online world
- Provide guidance on the role of the education institution in responding to the national economic needs and sustainable development goals
- Ensure that strategies are guided by open education principles of access, equity, flexibility and learner-centredness
- Develop a sustainability plan to support the digitisation of education
- Address key barriers to digitisation of education
- Support the continued development of open education practices such as OER, favouring them for funding and as an approach to pedagogy, publishing, partnerships and collaboration, and resource development
- Provide support and resources for the development of digital education

In addition, educational institutions will need to develop their own institutional strategies for delivery of such goals, but also to work collaboratively and in alliance with a wide range of groups, including community and social groups, employers, the private sector and governments. The market will deliver solutions but a wider social and educational agenda will need to be advocated for and constructed in order that solutions are delivered for the majority and its constituent minorities. Such an agenda has been proposed in Europe and has resulted in a 'Digital Education Agenda' (European Union 2017). The resulting report refers in addition to the importance of open education practices, of reform of accreditation and quality assurance and of the need to develop the professional competences of teachers in this field. The digitalisation of education responds to the perceived benefits of enhancing teaching and learning through

delivering knowledge flexibly and efficiently to make way for a favourable policy environment (Cross & Adam, 2007).

Policy recommendations for institutional policies

To achieve sustainable development goal, higher education institutions need to adapt and reform in order to increase the relevance and quality of their educational input to students and the labour market, (Hooker, 1997). The implications of digitization of education impacts directly on the services that educational institutions are providing and therefore changes their role as we know them. It is envisioned that in the future, educational institutions will develop a new set of practices as providers of specialized services such as content development; tuition and guidance, assessment and credentialing (Muñoz, Redecker, Vuorikari & Punie, 2014). To support this new role, institutions need to redefine their roles and develop networks that will assist universities to reach their goals. According to Pavlova (2013), higher education needs to be transformative by being more concerned with “why we are teaching than with how or what we teach” (p. 735). The “why” question challenges universities to adapt and reform in order to increase the relevance and quality of their educational input.

The abundance of open learning resources also enable self-directed students to design their own learning pathways that will give them control to choose what they want to learn, how they want to learn it and where and when they want to learn. Therefore, there is an urgent need for education systems to transform in order to support the new sustainable development agenda. Institutions should:

- Manage transition through the articulation of a visionary direction of what an institution will look like in a digitised education environment
- Develop a strategic plan for sustainable digitised education system
- Develop sustainable business models for digitised education system
- Identify systems that needs to be in place to support a digital education system
- Establish partnership with other education stakeholders such as industry, government, private providers and communities.
- Develop systems for accreditation and quality assurance for digital education
- Create and optimize the use of open educational content for teaching and learning
- Provide guidance and raise awareness about digital education
- Provide training for students and lecturers on pedagogical methods for digitally supported teaching and learning
- Learn to cooperate and collaborate in addressing these significant but fruitful challenges

Implications for the future

Given the importance of digitalisation of education for economic and social development, it is crucial that governments create a conducive environment to ensure that higher education is accessible to all its citizens thereby contributing to economic development and social cohesion.

The nature of education is future-oriented because its role is to equip students with knowledge, skills, and attitude that it is hoped that will be useful in future. That is why most education policy goals aim to increase the number of people who are knowledgeable, skilled and capable of developing the economy of the country (OECD, 2003). Since policy makers are concerned with planning, futures research is useful because it channels the thinking to new possibilities and gives nations and organizations an opportunity to deal with perceived changes effectively (Manermaa, 1986). Based on future research studies on education, Blass, Jasman and Shelley, (2010), Muñoz et al. (2013); Nasruddini, Bustami and Inayatullah, (2011); and Redecker et al. (2011) developed the following scenarios on how education in the future will be structured:

- Many of the institutions will be using blended learning methods to deliver knowledge
- There will be a proliferation of openly available quality education resources to choose from (Redecker et al., 2011).
- “Education will be commodified to small, transferable module that can be combined with web-based learning to accumulate to degree awards” (Blass et al., 2010).
- Higher education institutions will have strong partnerships with industry, professional bodies, public and private sector to offer a wide range of qualifications (Nasruddin et al., 2011).
- Students will design their own learning pathways by choosing different learning resources from different educational providers to suit their need (Nasruddin et al., 2011); Muñoz et al., 2013).
- Curricula will be open as a means to foster key skills and the validation and recognition mechanisms will reflect both formal and informal learning (Redecker et al., 2011).
- Universities will serve multiple purposes and there will be different players in education which will involve content developers, tuition facilitators, assessors, validators and accreditors (Redecker et al., 2011; Muñoz et al., 2013).

Conclusion

To ensure that no student is left behind, strategic and operational policies need to assess and address problems that may hinder access to digital education for all. Educational policies are usually guided by international trends, global drivers, social and economic needs for the country as well as institutional imperatives. Importantly of course, policies are context specific. Policies for digital education in developing countries may prioritise certain areas that may not be prioritised by developed countries. However, education like all sectors of activity in 21st century society is being transformed by the digital revolution and therefore demands new and different ways of doing things.

References

- Altbach, P.G.; Reisberg, L. & Rumbley, R.E. (2009). *Trends in Global Higher Education: Tracking an Academic Revolution*. A Report Prepared for the UNESCO 2009 World Conference on Higher Education. <http://unesdoc.unesco.org/images/0018/001831/183168e.pdf>
- Blass, E. Jasman, A. and Shelley, S. (2010). Visioning 2035: The future of the higher education in the UK. *Futures* 42, 445-453.

- Cross, M. and Adam, F. (2007). Digital education Manifesto, Report from the Maltese Presidency of the EU
- Global Education Monitoring (GEM) Report (2016). *Education for people and planet: Creating a Sustainable Futures for all*, UNESCO Publishing. Retrieved from <http://unesdoc.unesco.org/images/0024/002457/245752e.pdf>
- Hooker, M. (1997). The transformation of higher education. In Diane Oblinger and Sean C. Rush (Eds.) *The Learning Revolution*. Bolton, MA: Anker Publishing Company, Inc.
- ICDE (2015) Online, Open, and Flexible Higher Education for the Future We Want: Policy challenges – a report by the International Council for Distance Education for UNESCO. Available at https://oerknowledgecloud.org/sites/oerknowledgecloud.org/files/DISCUSSION_PAPER_Paris_Forum_Final_Version.pdf
- Internet Society (2017). Global internet penetration. <https://www.internetsociety.org/map/global-internet-report/>
- Johnson, L., Adams Becker, S., Estrada, V., and Freeman, A. (2015). *NMC Horizon Report: 2015 Higher Education Edition*. Austin, Texas: The New Media Consortium. <https://files.eric.ed.gov/fulltext/ED559357.pdf>
- Kozma, R.B. (2005). National Policies that connect ICT-based education reform to Economic and Social Development, *Human Technology*, 117-156.
- Mannermaa, M. (1986). Futures research and social decision-making: Alternative futures as a case study, *Futures*, 658-593.
- Muñoz, J.C. ; Redecker, C, Vuorikari, R. & Punie, Y. (2013). Open Education 2030: Planning the planning the future of adult learning in Europe, *Open Learning*, 28(3), 171-186.
- Nasruddini, E. Bustemi, R. Inayatullah, S. (2012), Transformative foresight: Universiti Sains Malaysia leads the way, *Futures* 44, 36-45
- Organisation for Economic Co-operation and development (OECD) (2003). Education Policy Analysis – 2003. Retrieved from <http://www.oecd.org/edu/school/educationpolicyanalysis-2003edition.htm>
- Pavlova, M. (2013). Teaching and learning for sustainable development: ESD through technology education. *International Journal of Technology and Design Education*, 23(3), 733-748.
- Redecker, C., Leis, M., Leendertse, M., Punie, Y., Gijbbers, G., Kirschner, P., Stoyanov, S. and Hoogveld, B. (2011). *The Future of Learning: Preparing for Change*. European Commission Joint Research Institute for Prospective Technological Studies EUR 24960 EN Luxembourg: Publications Office of the European Union.