

**Utilising Open Educational Resources in support of
curriculum transformation at Africa Nazarene University:
A participatory action research approach**

by

Tony John Mays

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Declaration

I declare that *Utilising Open Educational Resources in support of curriculum transformation at Africa Nazarene University: A participatory action research approach* is my own work and that all sources that I have used or quoted have been indicated and acknowledged by means of complete references.

A handwritten signature in black ink, appearing to read 'T J Mays', with a large, stylized initial 'T' and a flourish at the end.

T J Mays

05 May 2017

Date

Abstract

This thesis, *Utilising Open Educational Resources in support of curriculum transformation at Africa Nazarene University: A participatory action research approach*, derives from a multi-year project implemented by OER Africa, and funded by the Hewlett Foundation, to explore the potential of Open Educational Resources (OER) in support of pedagogic transformation in African universities. The project involves four institutions: Africa Nazarene University (ANU) in Kenya, the Open University of Tanzania (OUT), and the Universities of Pretoria and the Free State (UP and UFS) in South Africa. This study centred on ANU only in the period 2013 to 2016, with a focus on the period 2015-2016, and was timed to inform ANU's new strategic planning process from 2017.

The wider project adopted a participatory action research process in its engagement with the four core institutions. Within this over-arching project methodology, this study made use of an analytical autoethnographic approach to capture and analyse data and to make recommendations, to acknowledge the researcher's dual role as both a co-participant and an institutional project lead. The approach was informed primarily by hermeneutics and systems thinking and involved multiple in-country engagements with ANU and the triangulation of information derived from document review, observation and iterative focus group discussions and individual interviews. An OER Maturity Index and Planning Tool was also developed and used to inform planning and reflection and to provide a barometer of changing attitudes and activities regarding engagement with OER.

Initially the engagement focused on developing a supportive policy and capacity-building environment for individuals to integrate OER into specific Open, Distance and e-Learning (ODEL) courses and to publish revised course materials under an open licence. However, as the initiative progressed, it became apparent that there was need to revisit the institution's overall business model considering increased competition, new regulatory requirements and a growing demand from students for more flexible forms of provision. In fact, the key finding of this study is the suggestion that engagement with OER is unlikely to move from being an individual to an institutional focus *unless* such engagement is aligned with the overall vision, mission and business model of the university.

Key words: Open Educational Resources (OER); curriculum transformation; participatory action research; autoethnography; open, distance and e-learning (ODEL); hermeneutics; systems theory; open licence; OER Maturity Index; business model

Acknowledgements

This study was undertaken within the ambit of the candidate's work for the OER Africa initiative of the South African Institute for Distance Education (see www.oerafrica.org and www.saide.org.za).

Initially, *OER Africa* adopted an expansive partnership strategy to advocate publication and use of OER in Africa. However, the organisation subsequently determined that its best course of action, over the next few years, would be:

to support a small selection of HEIs which are committed to transforming teaching and learning practices, in the context of the information society, through Action Research and Critical Practice, to build evidence that OER practices which can both lead to and support transformation, can be successfully mainstreamed and institutionalized. (OER Africa 2014, p. 3)

Africa Nazarene University (ANU) in Ongata Rongai, Kenya, accepted the invitation to be one of these institutions. Moreover, in the spirit of openness implied by engagement with OER, the institution agreed to a request that the engagement with the institution should be both informed by and documented as a doctoral study, as this tied in with the institution's own desire to document the history and outcomes of the engagement. In line with postgraduate policies within Kenya generally and within ANU in particular, the proposal for the study was tabled simultaneously with my Unisa promoter, Prof L.J. Van Niekerk, and with the Director of Research at ANU, Prof L. Ethangatta, as well as with the National Commission for Science, Technology and Innovation in Kenya.

My thanks go to my promoter Prof L.J. Van Niekerk for supporting and encouraging me through the process and for having the knack of making just the right observation and suggestion at just the right time to guide my thinking.

My thanks go to my colleagues at Africa Nazarene University for their openness to discuss difficult issues in a challenging context, as well as for their warm hospitality during my many visits.

My thanks are also due to my colleagues at OER Africa. Our regular meetings by Skype and face-to-face, in which we shared ideas and emergent learnings, were invaluable touchpoints for reflection and provided ideas for different ways to engage.

Completion of this study has helped me both to consolidate and expand thirty-one years of experience and reflection on distance learning provision, and more recently the roles that Open Educational Resources and supporting Open Educational Practices can play in opening up such provision. However, this study is but a milestone on a learning journey that I realise will continue for the rest of my career.

Acronyms and abbreviations used in the study

| | |
|-------|--|
| ACDE | African Council for Distance Education |
| ADEA | Association for the Development of Education in Africa |
| ALARA | Action Learning, Action Research Association |
| ANU | Africa Nazarene University |
| AVU | African Virtual University |
| BEd | Bachelor of Education |
| CAMS | ANU's bespoke management information system |
| CC | Creative Commons (an open licensing system) |
| CCBY | Creative Commons licence which allows users to retain, reuse, remix and/or redistribute the resource with no restriction other than to acknowledge the original source |
| CHE | Council on Higher Education (South Africa) |
| CoL | Commonwealth of Learning |
| CPD | Continuing Professional Development |
| CUE | Commission on University Education (Kenya) |
| DE | Distance Education |
| DEASA | Distance Education Association of Southern Africa |
| DETA | Distance Education and Teacher's Training Association |
| DHET | Department of Higher Education and Training |
| DVC | Deputy Vice Chancellor |
| eNAZ | ANU's moodle-based learning management system |
| HEI | Higher Education Institution |
| HEMIS | Higher Education Management Information System |
| HEQC | Higher Education Quality Committee (of the CHE South Africa) |
| HoD | Head of Department |
| HR | Human Resources |
| ICDE | International Council for Open and Distance Education |
| ICT | Information and Communication Technology/ies |
| IDL | Institute of Distance Learning |
| IGNOU | Indira Ghandi National Open University |
| IKS | Indigenous Knowledge Systems |
| IODL | Institute for Open and Distance Learning |
| IPR | Intellectual Property Rights |
| ISO | International Organization for Standardization |
| LLL | Life Long Learning |
| LMS | Learning Management System |

| | |
|---------|---|
| MDGs | Millennium Development Goals |
| MOOC | Massive Open Online Course |
| MoU | Memorandum of Understanding |
| NACOSTI | National Council/Commission for Science, Technology and Innovation [in Kenya] |
| Nadeosa | National Association for Distance Education and Open-learning in South Africa |
| NOUN | National Open University of Nigeria |
| NPO | Non-Profit Organisation |
| OA | Open Access (can be freely accessed but no rights to share or change) |
| OC | Open Content (openly licensed content that was not necessarily designed for educational purposes e.g., photographs) |
| OCW | Open CourseWare |
| ODeL | Open, Distance (and) e-Learning |
| OECD | Organisation for Economic Cooperation and Development |
| OEP | Open Educational Practices |
| OER | Open Educational Resources |
| OUT | Open University of Tanzania |
| PAR | Participatory Action Research |
| PGCE | Postgraduate Certificate in Education |
| PQM | Programmes and Qualifications Mix |
| QA | Quality Assurance |
| RPL | Recognition of Prior Learning |
| RSA | Republic of South Africa |
| Saide | South African Institute for Distance Education |
| SAQA | South African Qualifications Authority |
| SDGs | Sustainable Development Goals |
| SMS | Short Messaging System (text messages for cell phones) |
| TEPD | Teacher Education and Professional Development |
| TESSA | Teacher Education in Sub-Saharan Africa |
| TVET | Technical and Vocational Education and Training |
| UKOU | United Kingdom Open University |
| UNESCO | United Nations Educational, Scientific and Cultural Organisation |
| Unisa | University of South Africa |
| WIL | Work-integrated learning |

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Chapter 1: Overview of study

A child already possesses in its soul the faculty of speech even though its external organs are as yet incapable of giving it proper expression. The infant must be given the names of all things in his environment, not just 'tree', but 'oak tree' and 'blue gum tree' and so on. The child's absorbent mind will learn these things naturally. The same can be said for all the various aspects of his mental life. In a child there is a creative instinct, an active potency for building up a psychological world at the expense of his environment. These are *sensitive periods*, special sensibilities that a creature acquires in its infantile state. We, in our schools, discovered that they are also to be found in children and can be used in teaching. We must have infinite trust in the child's natural powers to teach himself. (Montessori, as cited in Moll et al., 2001, p. 196)

1.1 Background and context

If, as Montessori (as cited in Moll et al, 2001, p. 196) claims at the start of this chapter, we must "trust in the child's natural powers to teach himself", then a key role for a teacher must be to ensure that the child's environment is filled with stimulating resources that provoke curiosity and learning. Indeed, more recent work by Sugata Mitra (2007) and his famous hole-in-the-wall project, in which young children worked out how to use a personal computer on their own – and then taught other children, raises questions about what else children, or even adults, could learn largely independently of direct contact with a teacher, if they had open access to appropriately designed educational resources – Open Educational Resources (OER).

This is an important consideration given that higher education systems globally are under pressure to cope with increasing demand for access to educational opportunities to address the lifelong learning needs of citizens operating in a global knowledge economy, while at the same time fiscal subsidies per capita in higher education are decreasing (The World Bank, 2010). In response to these competing pressures, HEIs are increasingly engaged in finding ways to offer learning opportunities in more flexible and affordable forms. They capitalise, where possible, on the affordances of Information and Communication Technologies (ICT) (The World Bank, 2016) to offer block release, part-time, workplace-based, distance and/or online learning programmes. What all these different approaches have in common, is the need for appropriate learning resources on which to base the learning.

The authors of the influential NMC Horizon reports (Johnson, Adams Becker, Estrada and Freeman, 2015; Johnson et al., 2016) not surprisingly predict that OER will therefore assume an increasingly prominent role in the provision of educational opportunities.

This study is about how OER can be utilised to support more flexible curriculum provision at the Africa Nazarene University (ANU) in Kenya. ANU has already experienced and responded to the demand for more flexible provision by offering a range of study alternatives; however, it has experienced challenges in ensuring affordable but sustainable provision across these different modalities, and in assuring the quality of the underpinning learning resources and their regular revision and improvement. This challenge provides a rationale for the study as well as related research questions, based on exploring whether and how engagement with OER can assist ANU to achieve its vision and mission to continue to contribute to opening access to affordable quality education opportunities to the citizens of Kenya.

This chapter outlines the purpose and nature of the study by exploring the following issues (Figure 1.1):

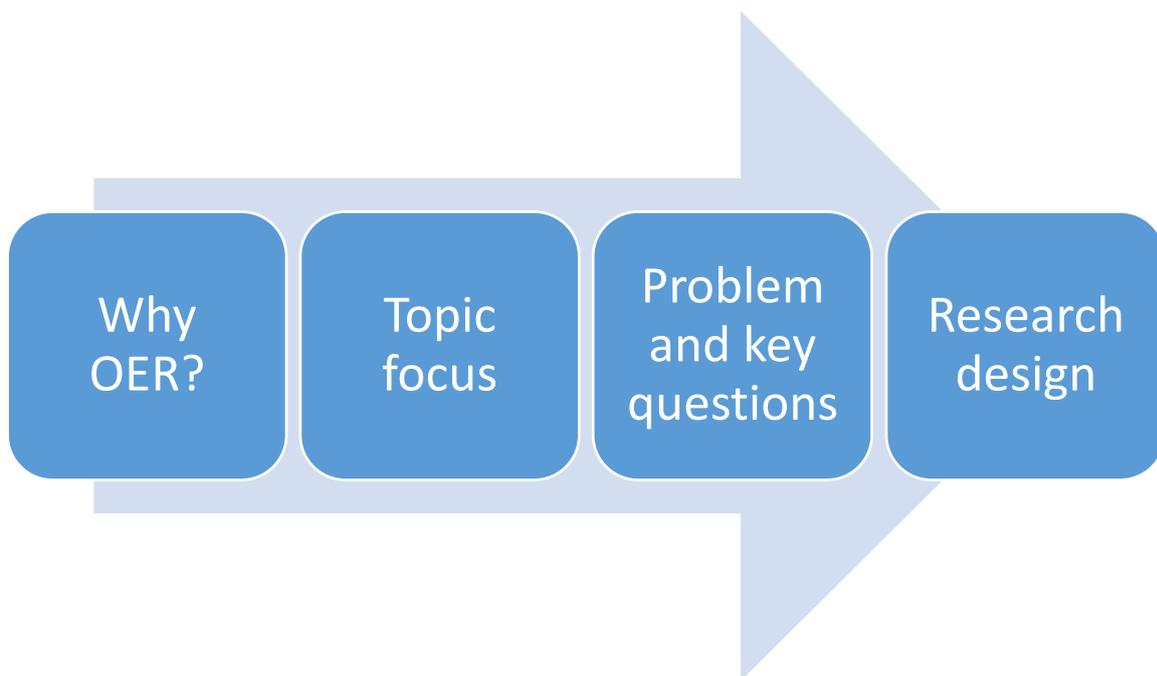


Figure 1.1: Overview of chapter 1

This section begins with a discussion that was initiated as a paper for the launch conference of the South African Educational Research Association (Mays, 2013a) and incorporates ideas from work published more recently (Haßler & Mays, 2014; Mays, 2014b), as well as work in progress. These publications together reflect the candidate's continuing interest not only in promoting the use of OER as a pragmatic response to everyday teaching and learning challenges, but also in trying to understand the ways in which OER can support curriculum transformation more broadly considering the much-needed expansion of higher education systems in sub-Saharan Africa.

The promotion of educational research in sub-Saharan Africa is also an important sub-theme given that it is estimated that Africa contributes only 0.03% to world knowledge (Kabanda, 2010); that the research output that is shared originates mostly from just three countries: predominantly South Africa, and to a considerably lesser extent, Egypt and Nigeria. Moreover, this research output is generally not commensurate with the relative levels of economic development (Adams, King, & Hook, 2012). In addition, Africa has typically had the lowest participation rate in higher education in the world (at 5%, in comparison with a global average of 26%, according to Altbach, Reisberg and Rumbley, 2009, p. vi). There is, therefore, need to grow both the overall size and the knowledge development capacity of Africa's higher education systems. This study therefore had a dual purpose: first, it sought to inform engagement with OER in support of curriculum transformation in response to changing student demands and demographics and the need to expand the capacity of higher education provision, and second, it tried to do so in ways that also stimulated other research outputs, including collaborative publication of lessons of experience.

Traditionally, academics have been recognised and rewarded for publishing in their disciplines, rather than for publishing about how they teach in those disciplines. However, with the growing trend towards constructivist teaching and learning approaches and the ability to use technology to improve student engagement and to foster greater interaction and communication, there is need to re-theorise and rethink the ways in which we teach (Laurillard, 2002, 2006, 2012). This includes thinking about how we might make use of OER to improve both access and success.

The notion of OER was originally coined in a UNESCO Forum on Open Courseware for Higher Education in Developing Countries held in 2002 and then formalised in a subsequent discussion as follows:

Open Educational Resources are defined as 'technology-enabled, open provision of educational resources for consultation, use and adaptation by a community of users for non-commercial purposes.' They are typically made freely available over the Web or the Internet. Their principle use is by teachers and educational institutions to support course development, but they can also be used directly by students. Open Educational Resources include learning objects such as lecture material, references and readings, simulations, experiments and demonstrations, as well as syllabuses, curricula, and teachers' guides. (Wiley, 2006, cited in Butcher, 2011, p. 23)

In subsequent years, these initial ideas have become part of a global discourse (Butcher, 2011, p. 23). Indeed, the Paris Declaration that arose from a multi-national OER conference hosted by UNESCO (UNESCO, 2012) argues that governments should not only promote engagement with OER but also require that resources developed using public funds are openly licensed. Policy in several countries and even some cities already requires this (Cape Town City Council, 2014; OER Africa, 2012).

But what are OER and why might HEIs engage with them?

1.1.1 What are OER?

Littlejohn and Pegler (2015) observe that the open access publishing movement has adopted the terms *gratis* and *libre* to differentiate two main kinds of openness:

Gratis refers to resources which are available free of charge to users, easily discoverable and openly accessible;

Libre refers to openness to more extensive reuse, with freedom to build on and change resources based on permissions granted by the resource creator in the form of open licences. (p. 47)

Whereas the default position for created works is all rights reserved copyright, resources shared as OER remain the intellectual property of their developers who add licence conditions to allow others to know how the shared resources may be used. The most widely used open licences taxonomy in the education sector are the Creative Commons (www.creativecommons.org). The Creative Commons enable copyright holders to add a range of licence conditions to their works, of varying degrees of openness, which may include restrictions such as no commercial use or no derivatives, through to no restrictions at all, equivalent to works being in the public realm. A recent innovation was the addition of a creative commons zero licence which can be used to ensure that once formal copyright expires, the work ends up being available to the public for use and re-use, rather than defaulting to a state rights-reserved copyright. The more open end of the spectrum of licences allows users to make changes to the original work. This possibility begins to address a second question.

1.1.2 Why engage with OER?

Butcher (2011) argues:

The transformative educational potential of OER revolves around three linked possibilities:

1. Increased availability of high quality, relevant learning materials can contribute to more productive students and educators.
2. The principle of allowing adaptation of materials provides one mechanism amongst many for constructing roles for students as active participants in educational processes, who learn best by doing and creating, not by passively reading and absorbing.
3. OER has potential to build capacity by providing institutions and educators access, at low or no cost, to the means of production to develop their competence in producing educational materials and carrying out the necessary instructional design to integrate such materials into high quality programmes of learning. (p. 13)

As noted by the candidate in his contribution to the South African Council on Higher Education *Distance Education Good Practice Guide* (CHE, 2014), and building on Brown and Adler (2008), Caswell,

Henson, Jensen and Wiley (2008), CHE (2007), Haßler and Mays (2014), Mays (2014b) and Strydom and Mentz (2010), working with academics on adapting OER for a better fit with the particular needs of particular programmes for particular audiences often enables a way into meaningful pedagogy discussions which might otherwise prove more difficult when working with academics trained in a purely disciplinary way.

However, in a background paper to a review undertaken by University of Stanford staff for OER Africa, Papachristou and Samoff (2012) found that:

To date, the major education journals have published very few articles directly concerned with open educational resources. Nearly all of the publications ... appeared in specialised journals with more limited circulation. Some were self-published or available only as theses ... [and] Infrequently visible in the published research were critiques of OER initiatives or implementations and more generally, a critical perspective on the role and utility of open educational resources. (p. 2)

In addition, Conole (2012) in an online article observes that the explosion of access to sources of information and the multiplicity of ways in which to engage, remix and share it are resulting in new and more open ways of working generally. She argues:

Firstly, adopting more open practices will mean being 'open' in as broad a sense as possible. Secondly, it supports and enables dialogue around learning and teaching ideas and designs. Thirdly, one of the key aspects of social and participatory media is their ability to harness the power of collective aggregation, which has the potential to provide cumulative benefit for both learners and teachers. Fourthly, there are evident benefits of sharing good practice and peer critiquing, which supports good digital scholarship (Weller 2011). Fifthly, adopting open practices will encourage serendipity, lateral thinking and new perspectives, hence fostering creativity. (p. 6)

Publishing teaching materials as OER thus opens these materials to public scrutiny in the same way that we have become accustomed to when seeking to validate research outputs – teaching and research are potentially coming closer together, as Laurillard (2002, 2006) suggests. But what constitutes “research” and where are the boundaries between teaching, supervision of postgraduate students and research, for example? The Frascati Manual (OECD, 2002) distinguishes between three forms of research and development activities – basic research, applied research and experimental development. From the definitions supplied in the manual, it seems clear that research and research-informed teaching can be seen as different but related: development of a good course, and in distance and blended education, the materials to support it, requires high level use of a number of typical research competences (framing questions, surveying and evaluating literature, and designing and trialling different approaches) and results in a product that is often more time-consuming and

cognitively challenging for academic staff than a typical journal article or small-scale empirical experimental investigation, but which probably receives less recognition. This takes us back to Boyer's (1990) reconsideration of the priorities of the academy, preference for the term 'scholarship' and call to broaden our understanding of scholarship to encompass not only discovery, but also integration, application and teaching. A research-based approach to teaching, supported by a move towards openly licensed resource-based forms of learning, could potentially help us to achieve more with less. As Downes (2007) notes, however, sustainable models for working with OER require that we think differently not only about resources themselves but also about how we work together to support learning, teaching and research. This then moves us into the realm of Open Educational Practices (OEP) which calls for a willingness to share intellectual property.

1.1.3 Research potential of OER

As observed by Mays (2013a), there is considerable need and scope for research related to OER so that we can understand the phenomenon better. Two possibilities are summarised below.

Building OER knowledge globally

Contact North (2012) has called for a little circumspection about the claims made about the potential of OER.

However, Kernohan (2012) reflects on three years of The Higher Education Academy /JISC engagement with the OER movement and concludes that at least in the context of the UK:

We now know that OER release is sustainable in a variety of contexts and settings; we now know that end user OER engagement is aided by working with user communities during the design and release process; we are investigating ways in which OER practice can support institutional strategic goals - we have some evidence but are gathering more. A number of high-level studies have been commissioned which focus on, or consider issues around, Open Educational Resources (OERs). (Presentation Slide 4)

Increasingly these initiatives are being aggregated in a shared online repository – the OER Knowledge Cloud (<https://oerknowledgecloud.org>). It seems important that Africa's voice should be heard in this discussion and this doctoral study hopefully contributes to this.

Ensuring an African contribution

The South African Institute for Distance Education (Saide) has promoted the use of open learning principles and distance education methods to support quality provision of education and training to more people since its inception in 1992. With financial support from the Hewlett Foundation, Saide initiated OER Africa in 2008, working from a base in Nairobi, to support higher education institutions across Africa in the use of OER to support teaching and learning.

To facilitate broad uptake and use of the concept of OER in Africa's education systems, OER Africa's approach involves "establishing, encouraging, and promoting African communities of practice for OER that support the entire process of educational design and implementation" (OER Africa, 2017a, paragraph 1).

OER Africa's African Teacher Education OER Network (OER Africa, 2017b) already works very closely with the Teacher Education in Sub-Saharan Africa (TESSA) project (TESSA, 2017), as well as with the Distance Education and Teacher Training in Africa association (DETA) (DETA, 2017).

One of the reasons for choosing to work with Africa Nazarene University (ANU) in this initiative was its commitment at the outset to networking and sharing learning experiences openly with other institutions, creating the possibility for a more systemic impact.

1.1.4 What kinds of research might we contribute?

This brings us back to the central concern of the study: can OER make a difference to teaching and learning and under what circumstances?

Clearly there are different levels at which we might engage to collect and analyse data. For example:

Information analytics

Data on who accesses published OER, and what they access, can be collected and collated automatically. This provides insight into what resources are being accessed and from where. Analysis of such data can help us make more informed choices about what resources to share and how to share them with different users. This analysis could also provide indicators for more intensive follow-up investigation, such as case studies.

Case studies

An increasing number of institutions have initiated OER projects. One way of learning from these multiple experiences is to encourage the development and sharing of reflective case studies.

A case study is a specific instance that is frequently designed to illustrate a more general principle (Nisbet and Watt, 1984: 72), it is 'the study of an instance in action' (Adelman *et al.*, 1980). The single instance is of a bounded system, for example a child, a clique, a class, a school, a community. It provides a unique example of real people in real situations, enabling readers to understand ideas more clearly than simply by presenting them with abstract theories or principles. Indeed a case study can enable readers to understand how ideas and abstract principles can fit together (ibid.:72-3). Case studies can penetrate situations in ways that are not always susceptible to numerical analysis. (Cohen, Manion, & Morrison, 2000, p. 181).

There are already a few examples of case studies of African experiences of working with OER which provide some insight into challenges, solutions and processes for successful integration of OER in diverse contexts (e.g., Komba & Mays, 2014; Mawoyo, 2012; Moore, Preston, & Butcher, 2010; Omollo 2011a, 2011b; Omwansa, 2015; Ooko & Mays, 2015). As we develop more such case studies it should be possible to begin to conduct meta-studies across them to identify recurring and cross-cutting issues leading to more generalizable guidelines and conclusions.

There is also a clear synergy between OER and distance education provision, given that the provision of quality resources for independent learning is one of the two key legs, along with decentralised learner support, for successful distance education practice. An example of a recent case study that makes this link within an African context is provided by Barlow-Zambodla and Ferreira (2012). Their case study illustrates several quality criteria proposed by the National Association for Distance Education and Open Learning in South Africa (see www.nadeosa.org.za) and published in book form as Welch and Reed (2005). It demonstrates the benefits and challenges of offering a rural, community-based, open and distance learning programme targeted at improving household food security. The programme explored in the case study incorporated OER and has been published as OER for others to adapt and use.

Process-based research related to the OER life cycle

In undertaking new research, it is standard practice to survey the literature to ascertain what has already been done to work out how a unique contribution might be made. A similar process is well-established in the field of distance provision where it may be possible to find existing resources that could be adopted or adapted, instead of creating all the learning resources *ab initio* at great expense (COL, 2005; Mays, 2014b; Randell, 2006). Glennie, Harley and Butcher (2012, p. 287) point to the extensive literature on resource-based learning, which can be drawn upon in this regard.

The advent of OER makes the possibility of remixing and adapting resources for teaching and learning much easier, and this process, which has come to be known as ‘the OER life cycle’ (Wiley, 2008), can be illustrated diagrammatically (see Figure 1.2). The processes that institutions go through in their engagement with OER could lend themselves to and benefit from research within the broad framework of decision-oriented evaluation, for example. This kind of evaluation research may be undertaken at any point in a change process: needs assessment, programme planning and input evaluation, implementation evaluation, process evaluation, outcome or product evaluation (McMillan & Schumacher, 2006, pp. 444-446).

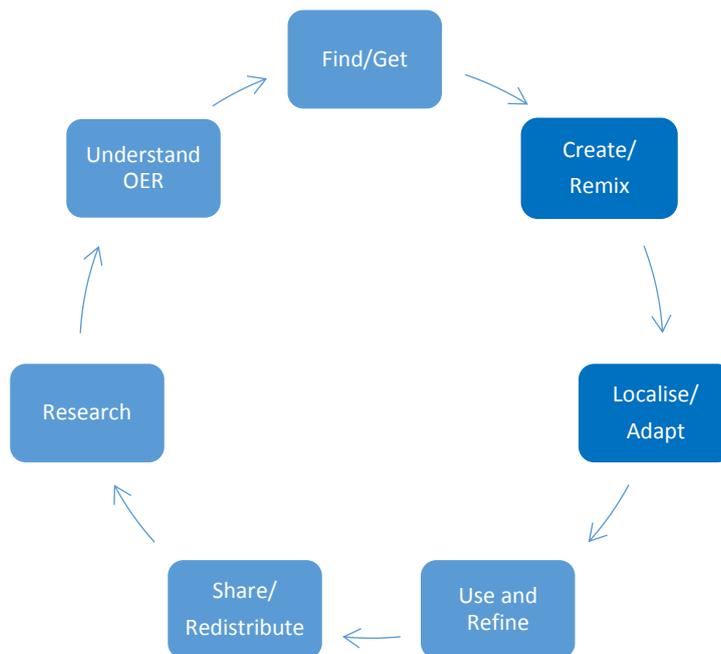


Figure 1.2: OER life-cycle
 (Source: Welch, 2012, p. 1 (reproduced with permission))

The formal conceptualisation of and engagement with OER is relatively recent but the growth in participation over the past ten years indicates that OER is a not a passing phenomenon and therefore is worthy of research attention.

1.1.5 Transboundary evaluation research

Work in OER frequently crosses multiple boundaries, such as student/staff, academic staff/support staff, teaching/technology, disciplinary knowledge/pedagogical knowledge, and institutional/national. This presents challenges for the design of meaningful research projects and points to the need for robust frameworks and iterative processes (Harley, 2011).

1.1.6 A question of scale and time

More than a decade after the coining of the term OER, hundreds of institutions have shared thousands of resources. We are beginning to see the emergence of structured educational opportunities premised on the use of OER to provide curriculum resources, complemented by a variety of optional support and assessment possibilities to suit various kinds of both informal and formal lifelong learning, for example:

- African Virtual University (AVU)– <http://www.avu.org/>
- Coursera – <https://www.coursera.org/>
- MOOCS – <http://mooc.ca/>
- OER Universitas – http://wikieducator.org/OER_university/Home
- Peer to Peer University – <https://p2pu.org/en/>

The potential now exists to move beyond small scale case studies and projects involving just one or two initiatives for short periods, to engage with large scale studies over extended periods. This study to explore the impact of mainstreaming OER use at ANU represented one such opportunity, contributing to a larger project involving three other institutions – the Universities of Pretoria and the Free State in South Africa, and the Open University of Tanzania. It was also appropriate to undertake the research now, because ANU had been introduced to the concept of OER and was needing to think through how it might utilise OER as part of a much broader strategic planning process.

1.1.7 OER and curriculum

The candidate proceeds from an understanding that curriculum development is concerned with asking and seeking answers to a wide range of questions related to why, what, how, when, where and whom to engage with in the teaching and learning process (Mays, 2004, 2008, 2014b, 2016c, 2016d), an approach that is also reflected in a recent CHE publication for which the candidate was the lead author (CHE, 2014).

In principle, OER should be able to contribute to the process of making curricula more responsive, by increasing both access and quality in an affordable way and opening the possibility of exposing students to a wider range of voices than they might otherwise have engaged with. Whether OER can be used to support curriculum transformation in this way, and what is needed to make it happen, have therefore become important questions to explore. However, it is important also to acknowledge that curriculum development and practice happens in contexts that may or may not be conducive to such innovation.

Kenya higher education context

As noted by Ooko and Mays (2015), Nyaigotti-Chacha (2004) traces the advent of higher education provision in Kenya back to 1922:

Higher education in Kenya can be traced back to 1922 when the then Makerere College in Uganda was established as a small technical college which was then expanded to meet the needs of the three East African countries i.e., Kenya, Uganda and Tanganyika and Zanzibar, as well as Zambia and Malawi. In the 1940s and early 50s it is only this college that was providing university education in East Africa. This lasted until 1956 when the Royal Technical College was established in Nairobi. In 1963, the Royal Technical College became the University College, Nairobi, following the establishment of the University of East Africa with three constituent colleges in Nairobi, Dar es Salaam and Kampala (Makerere). The University of East Africa offered programmes and degrees of the University of London till 1966. In 1970, the University of East Africa was dissolved to create three autonomous universities of Nairobi, Dar es Salaam and Makerere. The University of Nairobi was thus established as the first university in Kenya. (Ooko & Mays, 2015, p. 4)

Through a process of establishing additional public universities, supporting double intakes and allowing the establishment of middle level colleges and new private universities, the scale of higher education provision in Kenya began to grow rapidly. By 2003, Ngombe could report as follows:

Kenya has 6 public and 13 private universities with an enrollment of about 50,000 students. Roughly 80% are enrolled in public universities, while 20% of the total university student population attends private universities.

More than 60,000 students enroll in middle-level colleges. The middle-level colleges cater to a variety of post-secondary career courses leading to certificate, diploma, and higher diploma awards. By 1990, Kenya had about 160 middle-level colleges; by 2000 it is estimated that the country had more than 250 of them. (Ooko & Mays, 2015, pp. 4-5)

Ten years later, the Universities Act 2012 was promulgated to help improve the quality of university provision and the country's higher education regulator – the Commission for University Education (CUE) – then published guidelines to enforce the new Act (CUE, 2014a). The final Universities Regulations were gazetted on 12 June 2014 and are currently in force (CUE, 2014b). It is important to note that while the regulations and standards make mention of distance learning, no mention is made of OER and the guidelines provided for practice are based primarily on the assumption of conventional campus-based provision. According to the International Consultants for Education and Fairs (ICEF) monitor (ICEF, 2013), further expansion of the Kenyan higher education system is set to continue.

These measures in Kenya have been taken to increase participation in higher education by 10 000 students a year to improve on the low 3% participation rate among 18 to 24-year-olds prevailing towards the end of the first decade of the 21st century (Otieno and Ngolovoi, 2009). However, with many countries recognizing that to participate effectively in a global knowledge economy participation rates need to rise significantly (South Africa's new target is 25% (DHET, 2013); Singapore's is 40% (University World News 2012), it is not surprising that Kenya, like many other countries, has begun to explore the possibilities of open and distance learning, as attested by a recent Government Gazette notification (Ministry of Education, Science and Technology, 2014) regarding the possibility of establishing an Open University in Kenya.

There are already large-scale open universities in Nigeria, South Africa, Tanzania and Zimbabwe, and the governments of Ghana and Mozambique also recently committed to establishing open universities. Open universities offer more flexible routes into and through higher education using distance and e-learning¹ methods to free students from the necessity to attend campus-based

¹ There is much debate about the hyphenation and capitalisation of 'e-learning' and other electronic terms (e-books, e-tutorials, etc.). In this thesis, the Oxford Dictionary convention of hyphenating these terms is utilised, based on the understanding that the 'e' (a contraction of 'electronic') contributes to a compound noun (i.e.

sessions for extended periods as with traditional contact provision. An increasing number of these institutions also integrate OER into their learning resources and share their own learning resources under open licences. Examples of this include the African Virtual University, National Open University of Nigeria and University of South Africa. However, Open, Distance and e-Learning (ODEL) provision in Kenya continues to face some challenges that have prevented provision from moving to large-scale (Nyerere, Gravenir, & Mse, 2012). ANU, through its memorandum of understanding with OER Africa, therefore, was interested in the potential of OER to support and exemplify its own provision.

The role of Africa Nazarene University

As reported in Ooko and Mays (2015):

Africa Nazarene University (ANU) is a Private Christian University and an Institution of the International Board of Education of the church of the Nazarene. ANU was established in 1994 and granted its University charter in 2002. ANU's main campus is situated 24km from Nairobi, in Ongata Rongai. It has Regional Centres also in Nairobi, Meru, Kisii, Machakos and Eldoret. ANU offers flexible modes of study including campus-based, school-based, evening programs and distance learning (p. 6)



Figure 1.3: Administrative building of ANU

'electronic-learning') and should thus be hyphenated. The candidate opines that consistency of convention is primary.

Africa Nazarene University was established in accordance with the provisions of irrevocable Public Charitable Trust. The instrument through which the Trust accomplishes its tasks is the Constitution of Africa Nazarene University. The Constitution outlines the establishment of the university whose purpose is:

- to provide post-secondary education by offering university courses leading to award of certificates, diplomas and degrees;
- to provide education for Christian ministers and laymen who are called to Christian service;
- to offer courses of study which satisfy the requirements for licensing and ordination in the Church of the Nazarene;
- to provide graduate Programmes for those who will profit from such studies;
- to provide training in skills which will enable such trainees to provide a living for themselves and contribute to the public good; and
- to instil the moral values and ethical priorities of a Christian perspective. (ANU, 2012, p. 2)

The University is guided by and conducts all its affairs in accordance with the Christian doctrinal basis of the Church of the Nazarene as set forth in its official manual. The vision of ANU is to be:

A light to the people of Africa through higher education grounded in the Wesleyan – Holiness Tradition; the University of choice for Christians desiring academic excellence; a community which will produce individuals of character and integrity of heart, and a place where lives will be transformed for service and leadership to make a difference in Africa and the world. (ANU, 2017, webpage)

The mission of ANU is to:

Provide a holistic education that develops individuals academically, spiritually, culturally, and physically, and to equip them with excellent skills, competencies and Christian values, which will enable them to go into the world well prepared to meet the challenges of their time. (ANU, 2017, webpage)

The mandate for HEIs formed by the Church of the Nazarene:

is to inculcate the value and dignity of human life, and provide an environment in which people can be redeemed and enriched intellectually, spiritually, socially and physically, that is, made holy, useful to the master and prepared to do any good work. (2 Timothy 2:21)

Africa Nazarene University's philosophy is based then on Christian principles, which are in harmony with the doctrine of the Church of the Nazarene. Therefore, the operations of Africa Nazarene University are guided by tenets, which accept that:

- a Christian Philosophy of education rests upon an understanding of holy living;
- education is one of the pillars of Christian life that is essential for discipleship;

- education is the process of enabling a student to be transformed into an integrated, intelligent individual that Christ wants him/her to be;
- The integration of faith and learning nurtures students toward intellectual maturity and moral integrity while at the same time instilling the desire to become life-long learners. (ANU, 2012, p. 3)

The aims, directional objectives and functions of the University as contained in the Trust Deed and the Charter are as follows:

Aims

- a) Teaching, challenging and inspiring students to seize the opportunities while in the University in preparation for effective Christian living.
- b) Inculcating students with the value and dignity of human life and the need for providing an environment in which people can be redeemed and enriched spiritually, intellectually and physically.

Objectives

- a) To develop students for effective Christian living.
- b) To develop a community of scholars.
- c) To develop students for leadership service.
- d) To develop in students an appreciation of African Culture and Heritage.
- e) To equip students with the necessary knowledge and skills required in addressing the contemporary issues of both the Christian faith and sound government.
- f) To instil in the students those values that will help them stand up against discrimination on the basis of race, denomination, gender, or irrelevant handicaps.

Functions

- a) To provide resources for university education, training and research and for the establishment of faculties, departments, institutes and other institutional arrangements as the University Council may determine.
- b) To participate in the discovery, transmission and preservation of knowledge, thereby stimulating and encouraging the continued ethical, intellectual and cultural development in Africa.
- c) To conduct examinations for and award degrees, diplomas, certificates, and other awards of the University.
- d) Training and producing teachers for various educational institutions and by life examples uplifting the general quality of life of students and those whom they will serve.
- e) To create and maintain an environment conducive to mental, spiritual, physical and social development.
- f) To determine who may teach, who may be taught, what may be taught and how it may be taught.
- g) To carry out any other functions as may be permitted and approved by the council.

- h) The mandate, vision, mission, core values, aims, objectives and functions of the University help to cast the direction for the future of Africa Nazarene University. (ANU, 2012, pp 3-4)

Within this broad framework, the university seeks to offer educational opportunities that are of high quality, accessible and affordable, but also sustainable. Before the start of this study, ANU had already noted an increasing demand for more flexible provision, initially from working adults, and had begun to explore these possibilities through evening classes, school-based learning (for teachers who attend concentrated campus-based contact sessions during school holidays), and through distance learning. In seeking to plan appropriately for growth in this area, the university entered a Memorandum of Understanding with OER Africa to help explore how OER might support the expansion of quality ODeL provision.

The Institute of Distance Learning (IDL) at ANU, which was the initial focus of engagement with OER Africa, was established to assist mature and self-motivated learners, often those already in the workplace, to further their studies without the constraints of attending campus-based lectures on a full-time basis.

The Director of the IDL at the start of this study, provided an oral synopsis of key stages in the introduction of distance provision and the formation of the IDL as follows:

- 2009 development of a proposal for distance provision and the formation of IDL
- 2010 initiative launched *ab initio*
- Development of planning forms/course outlines for courses for which there was demand for distance provision
- Development of learner and facilitator (lecturer) guides
- Development of draft learning manuals (as part of an iterative process; and trialled with contact students)
- Ongoing research into ODeL practice that feeds into staff development workshops, typically lasting 3 days and for which CPD participation certificates are awarded (increasingly attended by staff from other universities)
- Development of collaborative links with other ODeL practitioners such as African Council for Distance Education (ACDE)
- Development of a moodle platform – eNAZ – which was not fully operational initially due to insufficiently reliable connectivity and power.
- Of the approximately 4000 students enrolled at ANU in late 2013, approximately 500 were studying through distance provision using a combination of printed materials, email and

contact provision (typically 1 day revision, 3 days examinations, 1 day registration/re-registration/system orientation and 1 day orientation to work of next trimester). These contact classes happened on campus in the Helstrom Building and typically involved 15 to 30 distance students working with a facilitator. (Mays, 2013, p. 13)

In addition:

ANU had adopted the use of CAMS (an academic management system) and Moodle (a learning management system configured for ANU as 'eNAZ') to enable distance learners to register and contact lecturers for tutorials, discussions and completion of continuous assessment processes online. (Ooko and Mays, 2015, p. 7)

Distance learners could enrol at the beginning of any month of the year and pay their tuition fees monthly. However, they became active learners only in the trimester following their registration.



Figure 1.4: ANU IODL facilities, September 2014

At the start of the engagement in 2013, the IDL comprised a Director, who provided leadership on distance pedagogy generally and, for the previous three months only, an educational technology specialist. There were plans to expand the IDL facility on the third floor of the Helstrom building to create workspaces for visiting students and facilitators, to display IDL artefacts and achievements and

to establish a computer lab dedicated to ODeL staff training, which indeed happened during the period of the initial engagement. During 2014, the newly renamed Institute of Open and Distance Learning (IODL) therefore moved from a single shared office into a dedicated working space. The space was made available by the University, which also supplied the computers for the ICT lab. Other set-up costs were covered by a donation from funding raised by a visiting academic (see Figure 1.4).

The following courses were offered through distance learning mode at the time of the study:

1. Bachelor of Commerce
2. Bachelor of Business and Information Technology
3. Bachelor of Computer Science
4. Bachelor of Mass Communication
5. Bachelor of Christian Ministries
6. Bachelor of Education
7. Bachelor of Counselling Psychology
8. Bachelor of Dryland Natural Resources Management
9. Bachelor of Theology
10. Bachelor of Peace and Conflict Resolution Studies
11. MBA
12. Master of Arts in Religion

Courses were generally offered through a blend of learning strategies, including use of:

- Self-instructional material
- Email/Online eNAZ/CAMS
- Face-to-face sessions at centres
- Cell phone
- CD Rom.

The student population of ANU grew steadily from 63 in 1994 to over 1000 in 2008 to close to 4 500 in 2014 when this study formally began. More than half of the then enrolled students were pursuing non-traditional learning pathways through evening classes, school-based learning and distance learning. There were about 700-800 registered distance learning students by 2014 (although there were also about 2000 school-based teacher education students who might reasonably have been classified as distance learners and who subsequently were re-classified in this way). ANU had planned a 20% annual growth rate over the 5-year period 2012 to 2017 and increasingly to make use of resource-based e-learning to offer a range of modes of provision.

The National Open University taskforce mentioned in Section 1.1.7 above had already visited ANU and had indicated interest in further follow-up discussions. In addition, ANU had openly shared its lessons of experience regarding open and distance learning with other institutions, including Daystar University, which had expressed interest in utilizing distance education and open educational resources.

Despite these achievements, at the time of this study, ANU was struggling to motivate and support staff in the development and renewal of the learning resources underpinning the various modes of provision and lacked the budgetary capacity to support this kind of iterative process. It was therefore considered that OER might be able to contribute.

ANU and OER Africa therefore signed a memorandum of understanding (MoU) that committed the two organisations to working together to support ongoing design, development and implementation of ODeL programmes at ANU; integration as appropriate of OER into both ODeL and face-to-face programmes at ANU; showcasing of emerging best practices at ANU to be shared with the broader higher education community within and beyond Africa; lobbying the broader higher education community within and beyond Africa regarding the merits of collaboratively creating and sharing intellectual capital in higher education as a mechanism to improve quality and enhance long-term cost-effectiveness; mobilizing release of OER in areas of prioritized strategic importance for African (and global) higher education; and, where appropriate, jointly preparing new project and funding proposals.

After initial engagements in 2013 and 2014, ANU agreed in September 2014 to become one of four institutions to participate in the OER Africa Participatory Action Research (PAR) initiative which informed the research question and approach discussed below.

1.2 Research topic

After careful consideration and discussion with both the Unisa-appointed supervisor and colleagues at ANU, the following title was chosen for the study:

Utilising Open Educational Resources in support of curriculum transformation at Africa Nazarene University: A participatory action research approach.

This focus allowed for exploration of the potential impact of OER on curriculum transformation as well as the actual impact within the timeframe of the study, while also acknowledging that change is a process that needs to be negotiated.

1.3 Research problem and questions

The potential of OER to support curriculum and pedagogic transformation seems clear, especially in the context of expanded ODeL provision, and yet engagement with OER has not been mainstreamed in most institutions.

The overarching question for this study, as for the wider project of which it was part, was therefore:

What conditions are necessary for successfully mainstreaming the use of OER in support of curricular and pedagogic transformation in a mixed mode higher education institution such as Africa Nazarene University?

In trying to formulate possible responses to this central question, it was necessary to explore the following sub-questions:

1. What kinds of pedagogical transformation are envisaged at ANU and within what timeframes are these changes expected to be introduced? How does this align with the OER community's understanding of the transformative educational potential of OER?
2. To what extent can the use of OER constitute an effective catalyst in driving or supporting these envisaged pedagogical changes?
3. In what ways can a focus on pedagogical transformation serve to embed effective OER practices into mainstream institutional activities and systems, rather than these practices operating parallel to the mainstream?
4. What opportunities already exist within ANU that can be used to drive this kind of pedagogical transformation and how can these opportunities most effectively be harnessed?
5. What policy, procedural, systemic, cultural and logistical challenges and barriers inhibit these changes within ANU?
6. What strategies need to be implemented to overcome these challenges?
7. What levels of institutional political support or championing are needed for changes made to become institutionalized?

From this range of sub-questions, two key theoretical frameworks were identified for review in the literature:

1. Curriculum transformation through OER
2. Managing curriculum transformation through OER.

As noted, the substantive literature on OER use and uptake is still quite limited, although growing. It was hoped that the proposed study would make the following contributions:

1. A deepened understanding of how OER practices can support sustained transformation of teaching and learning in a mixed mode African university such as ANU.
2. Accumulated understanding of how OER practices and policy can support transformation of teaching and learning in a mixed mode African university such as ANU that is widely shared, is incorporated into advocacy and stimulates further research output.

1.4 Overview of research design and methodology

The candidate was employed by Saide (initially as a full-time employee working on OER Africa as one of several projects and subsequently on a contract basis having taken up employment on a full-time basis with the University of Pretoria), but as noted there was a formal Memorandum of Understanding (MoU) between Africa Nazarene University and Saide's OER Africa initiative. The MoU included the promotion of research outputs emanating from the work done together. Permission was sought and gained from ANU to undertake the research on the understanding that drafts of chapters would be shared for comment during the process and that a final copy of the thesis would be made available to the ANU library (see Appendix 1.2).

As noted previously, the study was part of a larger project involving OER Africa's engagement with three other institutions. It was part of ANU's request in supporting the research that the researcher provide a historical account of the engagement between OER Africa and ANU and in fact the engagement had to be an evolving journey of development in which short-, medium- and long-term goals were constantly reviewed and, where necessary, updated. However, in terms of the larger project, the candidate was NOT a neutral observer of events but rather an active co-participant in shaping the shared goals and the journey towards achieving these goals. The process reported here therefore privileges the candidate's reflection on and interpretation of events. However, a conscious effort was made to triangulate the data by reference to actual products and an active attempt to capture the voice of ANU staff during site visits and online discussions – including where these voices differed from the candidate's opinion and interpretation.

As explained in detail in Chapters 2 and 4, the approach taken was primarily qualitative, although a survey instrument was used as a barometer of changing perceptions and there was also an element of financial analysis. The overall design of the larger project was based on a participatory action research approach and therefore determined the nature of the candidate's engagement with ANU. A dominantly qualitative approach seemed most appropriate, given the need to understand the thinking underpinning different educational approaches and practices.

The candidate had funding to visit the institution 2-3 three times per year and hence had an opportunity to engage in structured and pre-planned individual and focus-group interactions and to organise impromptu engagements and document collection in person.

The candidate also had email contact with ANU IODL staff and had previously employed tools such as Dropbox and Google Drive to share documents and Google Docs to co-author documents when this became necessary.

Although OER is still a new field of enquiry, there are a few dedicated research chairs around the world exploring this issue and a growing number of peer-reviewed articles exploring different aspects of the phenomenon. In addition, there is a rich and growing literature on resource-based learning, open and distance learning and online learning which were pertinent to the study.

In addition, the research was based upon a funded project that would have run in any case over the projected life span of the study and for which permission to undertake complementary doctoral research was sought and granted from the institution concerned as well as from the project leader.

All participants in the study were informed that their engagement would form part of the study, but no participant has been identified without their express permission to be so identified, except where tacit permission is clear from, for example, publication of an open resource. Ethical clearance was obtained from three sources (Appendix 1): ANU, Unisa and the National Council for Science, Technology and Innovation (NACOSTI) in Kenya.

Traditionally, the candidate has made use of the Harvard style of referencing but in completing the thesis, the referencing system was changed to that of the American Psychological Association (APA 2010) due to the growing number of ODeL journals that make use of this referencing style.

1.5 Philosophical assumptions of the study

Cohen et al. (2000, pp. 3-34) explore the nature of research as inquiry and identify three broad paradigms within which a researcher might work: normative, interpretive and critical. From their discussion of the nature of these three approaches, an interpretive approach seemed most consistent with the intention and goals of the wider project of which this study formed a part.

As discussed in the previous section, the over-arching design adopted for the wider project was based on a participatory action research approach. However, documenting this process in ways that would provide insights into the questions identified above, and fulfil ANU's desire for a historical narrative of the ANU-OER Africa engagement, suggested a broadly ethnographic approach which is concerned with "how people make sense of their everyday world" (Cohen et al., 2000, p. 24).

These topics are explored in more detail in Chapters 2 and 4.

1.6 Trustworthiness and generalisability

Inevitably, in a qualitative and interpretive approach as outlined above, the questions asked, the data collected, the way in which that data is interpreted and then recommendations are formulated are influenced directly by the ontological and epistemological assumptions of the researcher. It is therefore important to foreground these assumptions wherever possible, to triangulate sources of data (e.g., exploring an issue through observation, interview and document review) and to ensure that findings and recommendations are provided to the community of enquiry involved in the participatory action research process for review and comment (Okeke & van Wyk, 2015). All the candidate's engagements with ANU accordingly resulted in a formal report that was tabled for comment and modified where changes were indicated. In addition, the various chapters that constitute this thesis were shared for review and comment prior to being finalised. It is felt therefore that the study provides a trustworthy and reliable perspective on the engagement with ANU, including the perspectives of that community. As noted, this study explored one of four institutional engagements within the OER Africa PAR project. It should therefore be read in conjunction with the publications resulting from these other engagements to identify cross-cutting issues that might be more generalizable.

The study built on work that had already been done and informs work that will continue to be done as part of a larger funded project. It has benefitted the candidate, but hopefully and more importantly, also the focus institution and the larger project of which this engagement formed a part. The candidate was keen to work with ANU, because it was still at the beginning of its journey into a move away from campus- and lecture-based provision, so there was an opportunity to help shape future practice. Furthermore, because the institution had already committed to, and in fact practised, collaboration with other providers, there was the possibility for a wider systemic impact. The research design and methodology outlined here are explored in more detail in Chapter 4.

1.7 Key concepts

In this study, key concepts are understood as follows:

Open Educational Resources (OER) are resources of various kinds that have been employed for educational purposes and shared under an open licence such as the Creative Commons.

Distance Education (DE) is the provision of educational opportunities in ways that do not necessarily require the educator and the learner to be in the same space at the same time; it implies a commitment to the provision of learning resources appropriate for independent learning; to

decentralised learning and learner support; and to provision of an equivalent learning experience and a reasonable chance of success across diverse contexts for a distributed and heterogeneous student body; distance provision can support open learning principles, but not all distance provision is open.

Open (and) Distance Learning (ODL) is the provision of distance educational opportunities in ways that seek to mitigate or remove barriers to access and success such as finances, prior learning, age, social, work or family commitments, disability, incarceration or other such barriers. Being “Open” indicates a commitment to overcoming any unnecessary barriers to access learning, including but not limited to support for learners with disabilities, as well as processes for recognition of prior learning (RPL), and implies further a commitment to progressively opening student choice regarding what, how, where, when and through what modality to learn and be assessed.

e-Learning indicates that the curriculum is communicated and mediated primarily through digital means; e-learning can happen in both off-line and on-line learning conditions and both on- and off-campus.

Open, Distance and e-Learning (ODEL) is the provision of open and distance learning in forms in which e-learning – learning via various forms of electronic technology – is a key component or even the primary means of mediating the curriculum.

Curriculum refers to the totality of actions and experiences that help shape what learners learn and we can distinguish between the curriculum as planned, as practised and experienced as well as the null curriculum which relates to all that was consciously excluded.

1.8 Chapter outline

Following guidelines provided by Mouton (2001, pp. 122-125) and influenced by Trowler (2015), each chapter in the thesis seeks to build on what has gone before to evolve a coherent unfolding argument.

Chapter 1 provided the background and context for the study and a rationale for the formulation of the research problem and questions. It then included an overview of the research design and methodology that is elaborated in more detail in Chapter 4. The discussion in Chapter 1 also explains the selection of literature for review in Chapters 2 and 3.

Chapter 2 then explores the philosophical underpinnings of the whole study and how this influenced the candidate’s theorising of curriculum transformation through OER. The chapter identifies hermeneutics and systems theory as key underpinning constructs and includes a reflective attempt to surface the candidate’s own assumptions and how these influenced his engagement with ANU and with the research process.

Chapter 3 then explores how curriculum transformation of the kind discussed in Chapter 2 might be managed in an ODeL context. The Chapter draws heavily on systems thinking, identified as a core construct in Chapter 2. It notes the tensions between policy and practice premised on full-time contact provision and the more flexible forms of provision increasingly demanded by students, and seeks to identify some of the key issues that need to be addressed.

Chapter 4 then outlines in more detail the methodology pursued, distinguishing between the project methodology and the study methodology and why these are different but complementary. It explains the instruments and processes used and defines the research community. It also explains how data was collected, analysed and used. Finally, the chapter explores shortcomings and sources of error and how the impact of these was mitigated.

Chapter 5, consistent with the process of hermeneutic enquiry discussed in Chapter 2, presents the findings of the study in the form of a series of conversations over time. It reflects on findings before and during the study and identifies some of the activities already agreed to for the period immediately following conclusion of the study.

Chapter 6 then provides an interpretation of key learnings in relation to policy, theory and practice. It explores gaps, anomalies and/or deviations and the significance thereof. Chapter 6 concludes the study with recommendations which draw on all that has gone before and which seek to inform ANU's strategic planning process from 2017 onwards.

Extensive appendices are also provided which include evidence of the ethical clearance process and an elaboration of instruments and processes developed during the study and referred to in the main body of the discussion.

Chapter 2: Theorising curriculum transformation through OER

Teachers often agree that their students do not know the factual information required for passing through the school system and passing standardized tests, but they throw up their hands in desperation, blaming uninterested parents, boring textbooks, overcrowded classrooms, drugs, self-esteem programs, television, poor preparation, and ineffective previous teachers, or any other convenient target. However, these teachers continue to use the same methods of teaching and evaluation that have dominated curriculum development for over one hundred years ... Is the problem that educators have not perfected the modern methods? Or is the problem that the modern methods and strategies are no longer appropriate in a postmodern era? (Slattery, 2006, pp. 48-49)

2.1 Introduction

The questions posed by the postmodern curriculum theorist Patrick Slattery at the start of this chapter provide a useful departure point for the discussion that follows about the need for and nature of curriculum transformation in a particular context and are picked up again towards the end of the chapter.

Within Kenya, the demand to expand access to higher education has in recent years seen the establishment of universities in every district. However, many of these new institutions emerged from a college rather than a higher education background and this gave rise to concerns about the quality of provision and hence tighter regulations about who could offer higher education. These regulations included minimum requirements for provision and the expectation that all potential university lecturers should have a doctorate and publications before they could be appointed (CUE, 2014a, 2014b). Tellingly, however, the policy guidelines did not establish any requirements regarding curriculum and pedagogic preparation for effective teaching.

Because of the proliferation of institutions, ANU found itself operating in a much more competitive environment in which potential students had a much wider range of options about where and how to study. To respond to this changed environment, ANU committed considerable resources to the expansion of access to and use of ICT and greater flexibility in modes of provision which subsequently embraced conventional contact, part-time study, workplace-based provision and ODeL. However, the institution acknowledged that maintaining the quality of provision was difficult and there was need to provide staff with ongoing professional development to be able to teach effectively in different modes, using different technologies and resources. At the learning resource level, there was concern at the time of this study about the use of “yellow” (outdated) notes for lectures, the rising cost and difficulty of access to standard textbooks, dated distance learning materials of variable quality (but no

budget to improve them) and limited effective use of the eNAZ learning management system by many staff.

The kind of pressure for more flexible forms of provision that ANU had experienced, and the increasing demand for access to higher education opportunities from outside the traditional 18-24 age group, is consistent with worldwide trends. In 2009, Altbach et al. predicted that:

The student experience in the 21st Century will likely be characterized by more years of engagement with education over the course of a lifetime, as well as greater options in terms of what, when, and how to study. In most parts of the world, students will increasingly need to finance their studies from personal resources ... Students and their families will require more detailed and comprehensive information on the relative merits of different study options as the higher education sector expands and evolves in many countries and the incidence of cross-border delivery grows. Finding ways to protect students' rights and enhance their roles in governance and decision making will be especially important if higher education is to respond effectively to changing student profiles and needs the world over. (p. 107)

More recently, Blumenstyk (2015) provides the following insights into challenges facing higher education in the USA: student debt has risen to USD 1,2 trillion; of the 19,855,203 students participating in post school education in the Fall of 2013, 9,5 million received Pell grants to support their studies; this is not surprising given that the cost of books and supplies had risen four times the rate of inflation since 1990; and in 2012 a quarter of all students were taking one or more of their courses through distance education (and most usually online) despite the higher drop-out rates associated with this form of provision.

In addition, Brüssow and Wilkinson (2010) suggest that many students are not adequately prepared for learning in a higher education context and require careful scaffolding and support and deliberate strategies to ensure students are actively engaged in the learning process in increasingly autonomous ways. This then suggests that academics need to give special attention to *how* they teach to find a suitable balance between structured and emergent learning.

This is the focus of discussion in this chapter.

2.2 Towards a theoretical framework

Our analysis takes as a starting point an important notion from Hitchcock and Hughes (1995:21) who suggest that ontological assumptions give rise to epistemological assumptions; these, in turn, give rise to methodological considerations; and these, in turn, give rise to issues of instrumentation and data collection. (Cohen et al., 2000, p. 3).

The central argument of this chapter, following Mays (2004, 2014b, 2016c) and CHE (2014), and echoing the lead quotation from a research perspective provided above, is that tacit or expressed assumptions about the nature and purpose of the curriculum and its underpinning pedagogy, influence teaching and learning approaches and in turn the ways in which resources are selected and used. Often our practice is informed by habit and the tendency to teach the way we were taught and/or the way we have taught in the past. Unless we consciously examine the assumptions that underpin the choices we make in practice, we are likely to keep doing the same things in the same ways. For example, a Geography teacher dreads teaching the concept of map scales because her learners always struggle with the concept. She then teaches map scales again in the same way as she has always done; and her learners again struggle to master the concepts involved. This becomes a self-fulfilling prophecy: map scales are assumed to be difficult to teach and to learn, and experience then confirms these assumptions.

This chapter proceeds from the belief that if we question our assumptions and consequently change our practices, then we might have a more positive experience (Kok & Blignaut, 2010; Wessels, 2012). This chapter's argument is strongly influenced by a series of curriculum workshops that were held in 1996 (Lockett, 1996). These workshops built on the thinking of Jürgen Habermas (1929-) and explored the ways in which assumptions about the purpose and nature of education were likely to influence practices in teaching. However, assumptions about education themselves derive from other assumptions about being, knowing and doing, and how these cohere in a worldview.

In a fascinating thesis, Vidal (2012) argues the need to develop a personal comprehensive and coherent worldview. His thesis begins with a reflection on the nature and methods of philosophy, proceeds into an analysis of different viewpoints and evidence on the origin of the universe, and concludes with reflections on possible future cosmic evolution. He suggests some useful criteria for assessing the pros and cons of different worldviews and applies these criteria to three dominant worldviews, namely religious, scientific and philosophical. Each of these worldviews privileges either objective knowledge (noting that the nature of what might be considered an objective reality susceptible to scientific investigation becomes somewhat less certain when things become very big or very small) or subjective or inter-subjective knowledge and understandings. His thesis leads to the following useful heuristic for assessing a worldview:

- Is your description of the world consistent with your values?
- Do you connect your values with concrete decision making and action?
- Is your model for action efficient?

- Do you critically analyse your worldview with objective, subjective and intersubjective criteria?
- Do you join issues and review all major positions on ideas related to your worldview?
- Is your worldview consistent with and working with other branches of knowledge?
- Is your second-order philosophising ultimately working for first-order philosophising or synthesis? (Vidal, 2012, p. 34)

These questions underpin the thinking process in the first part of this chapter, which represents an elaboration of the candidate's ongoing reflection (Mays, 2004, 2008, 2014b, 2016c).

Schulze (2009), for example, notes the increasing prevalence of constructivist approaches, but cautions against a radical constructivist orientation, which could lead to extreme relativism. However, it is worth noting that recent work in neuroscience suggests that no two people will experience and understand the same stimulus in quite the same way, even though they might agree on its key characteristics, leading to variations in functional plasticity that defy any simple cause-effect relationship (Salla & Anderson, 2012). From a curriculum design perspective, this raises the question of how we ensure a coherent learning experience across a programme comprising multiple modules developed by multiple academics and studied by a diverse group of learners. The last national review in South Africa by the Higher Education Quality Committee of the Council on Higher Education (CHE 2010) suggests that South African HEIs are not doing particularly well in this respect. This has led to a renewed focus by the CHE on Quality Enhancement focusing on teaching and learning and is complemented by a similar focus by the South African Department of Higher Education and Training (DHET) for targeted funding to support teaching and learning innovation. A more recent initiative, for which the researcher was the initial project lead, focuses on the potential of data analytics to inform decisions made about teaching and learning (see www.siyaphumelela.org.za). Recent research involving real-time data analytics supports the argument cited earlier for an increased focus on getting students actively engaged in the learning process and actively building a learning community (Dietz-Uhler & Hurn, 2013; Mattingly, Rice, & Berge, 2012).

Stigler and Hiebert (1999) suggest, however, that there is often a gap between the theories we espouse and the theories we enact in practice, resulting in a gap in student performance against intended learning outcomes. They compare teaching and learning approaches in Germany, Japan and the USA and note the ways in which the teaching system, and established cultural practices within the system, limit the choices and decisions that teachers make. They argue for a commitment to continuous improvement through professional reflective practice. Teachers do not simply transmit a

curriculum; they shape it in the practice of teaching and should therefore be conscious of the decisions they are making and why they are making them (Carl, 2009).

In framing this discussion, the candidate has found the Four Pillars from *Learning: The Treasure Within*, the Report of an International Commission chaired by Jacques Delors, compelling. The four pillars are:

- Learning to know
- Learning to do
- Learning to live together; and
- Learning to be. (International Commission on Education for the Twenty-first Century, 1996, p. 37).

2.2.1 Ontological assumptions – assumptions about being

Ontology is the study of being or existence. Ontologists want to know what we mean when we say something exists (Stevenson, 2005, p. 7).

If we consider the writings of philosophers such as Plato, Aristotle, Thomas Aquinas, Spinoza and Descartes, as well as African philosophy on the nature of being (for example Deacon, 2002; Wiredu, 2002), we can discern four broad ontological positions as summarised in Table 2.1 below.

Table 2.1: Assumptions about being

| | The nature of being is pre-determined/ there is a purpose | The nature of being is not pre-determined/ there is no purpose |
|-----------------------------------|--|---|
| There is an objective reality | Quadrant 1 | Quadrant 2 |
| Reality is a subjective construct | Quadrant 3 | Quadrant 4 |

In quadrant 1, there is belief in an objective reality that exists independently from us; we were created as part of this reality and we come to such knowledge of that reality as fulfils the purpose of that creator or guiding force.

In quadrant 2, there is also belief in an objective reality that exists independently from us; we may have been created as part of this reality or we might have come to exist because of countless random happenings, but there is no overall guiding purpose; nothing is pre-determined for us.

In quadrants 1 and 2, by implication, it is possible to learn the truth about what exists independently of us by means of authorised teachings and/or scientific research, which is often quantitative and experimental in nature, and is broadly labelled as objectivist or positivist in approach. In this approach, there is a distinct attempt to separate the researcher and his/her subjective opinions from the researched. In this approach also, the curriculum is likely to be quite rigidly determined in terms of what is taught, how it is taught and how learning is assessed. While this is particularly the case of quadrant 1, quadrant 2 may be more open about what is taught and assessed.

In quadrants 3 and 4, the nature of reality is subjective in the sense that no two people experience existence, or have a relationship with their creator, in quite the same way. Everyone's perception of reality is uniquely constructed (if in fact an external reality exists at all – 'reality' could well be a figment of our collective imagination). In quadrant 3, the individual nonetheless sees his/her life guided by an external or communal purpose and/or a god/spirit/ancestor – it is deterministic in nature. By contrast, in quadrant 4 there is no such guiding purpose or entity and everyone therefore makes his/her own subjective choices – it is non-deterministic in nature.

In quadrants 3 and 4, of necessity, we need to interpret what others perceive to be true using qualitative research approaches.

From a curriculum perspective, it is logical to expect greater flexibility about what is taught, how it is taught and how it is assessed based on more learner-centred decision making about what it is important to know and how best to learn it. Whereas the candidate is more inclined to quadrants 2 and 4, ANU's faith-based vision and mission places it more in quadrants 1 and 3, creating a space for discussion. Clearly, however, there is a distinct inter-relationship between being and knowing.

2.2.2 Epistemological assumptions – assumptions about knowing

There are different positions on how we come to 'know' something. Stevenson (2005, pp. 16-27) explains that in the Western philosophical tradition, these approaches include rationalism (building for example on the thinking of Descartes), empiricism (building on the thinking of Aristotle, Bacon and Locke), idealism (building on the thinking of Plato, Kant and Hegel) and ideology (building on the work of Marx for example).

Jansen (2007) suggests that rationalism assumes that we can come to know something without the need for direct experience. We can reason our way to an understanding and this process is superior to other forms of knowing, as its knowledge claims hold across time and space, unlike the potentially fallible and misleading information provided through the senses.

Empiricism, in contrast, is based on a belief that knowledge comes only from experience and is mediated through the senses. This kind of knowing is not influenced by theory and a clear distinction is made between objective facts and subjective values.

Idealism is based on the conviction that we can come to know things only in our minds and that knowing is not limited by experience. We are part of a unified reality that transcends our individual experiences. Kant distinguished between the way in which the world appears (*phenomenal*) and the way in which it 'actually is' (*noumenal*). He argued that we cannot know the *noumena* directly, but we can form an idea of it based on the way we perceive the phenomenal world. Hegel subsequently

modified this thinking by placing it in historical context, noting the ways in which the shared ideas of humanity evolve over time.

In similar historical context, ideology is a system of beliefs or ideas that tends to reinforce the values and practices of a particular class or group of people in a particular place and time (Stevenson, 2005, pp. 183-196). Cohen et al. (2000) observe that for some critics both positivist and interpretivist approaches are flawed in that they ignore the political and ideological context of educational research and practice. Critical theory, which draws on the thinking of theorists such as Marx, Habermas and Freire explores the political, ideological and power relations which shape behaviour and social interaction with an explicit emancipatory agenda.

Different techniques for acquiring and testing knowledge across these ways of knowing are (Copi, 1978; Sefotho, 2016; Stevenson, 2005):

- Methodic doubt – a deliberately sceptical use of doubt as a path to increased certainty, which in turn informs processes to ensure validity and reliability in research
- Argument, possibly taking the form of Socratic dialogue, and embracing two main forms:
 - Deductive – a process of determining what is true based on what is already known to be true, drawing a logical conclusion based on proven premises (an approach that is central to the ‘scientific’ method)
 - Inductive – a process of generalising from available evidence things that may or probably will be true, but which may be proven to be untrue as new evidence emerges (an approach that is frequently used in quantitative studies, where an argument is inducted from a sample to a whole population, and central to qualitative studies which require constant re-interpretation)
- Dialectic – a back and forth process of comparing different ideas and arguments that cannot be proven to be unequivocally true (an approach that is central to Marxist critical theory and to political debate more generally).

It is suggested that assumptions about being will influence assumptions about knowing along a continuum of possibilities as illustrated in Table 2.2.

Table 2.2: Relationship between assumptions about being and knowing

| Assumptions about being | Assumptions about knowing |
|--|--|
| <p>There is an objective reality which is fixed and unchanging and pre-determined by God/Fate/Destiny who defines purpose: <i>Determinist paradigm</i></p> <p style="text-align: center;">↕</p> <p>Existence is subjective, fluid, neither pre-determined nor predictable and there is no overarching purpose: <i>Non-determinist paradigm</i></p> | <p>Knowledge is certain, objectively determined and unchanging: <i>Positivist paradigm</i></p> <p style="text-align: center;">↕</p> <p>Knowledge is uncertain, fluid and dynamic: <i>Interpretivist paradigm</i></p> |

The notion of a continuum of possibilities seems more useful than that of a dichotomy.

In a religious context, that which it is important to know will usually have been pre-determined, but in a secular context all such religious and metaphysical speculation must usually yield to that which can be explained through scientific laws and objective, observable facts. There is a clear separation between researcher and researched in the research process. This has come to be known as a positivist paradigm.

At the other end of the continuum, the subjective and intersubjective meaning that individuals and communities assign to their experiences is emphasised. Jansen (2007) explains that in the human social milieu, inter-subjective meaning-making is considered essential to achieving understanding. ‘The facts’ do not speak for themselves, but rather need to be interpreted and hence this approach has come to be known as an interpretivist paradigm. There is no separation between the researcher and the researched in this paradigm, as meaning-making is a shared process that is influenced by custom, tradition, history and their associated theoretical assumptions.

A researcher may find that some aspects of a phenomenon may be understood better from a positivist perspective informed by deductive reasoning and quantitative analysis, while other aspects may require an interpretivist perspective informed by inductive reasoning and qualitative analysis. This has led to an increased number of “mixed mode” research initiatives: for example, a researcher might explore the actual incidence of a phenomenon using the former approach and explore possible reasons why using the latter approach. This mixing could be considered a pragmatic response to what some researchers have termed the ‘paradigm wars’ (Burke Johnson & Onwuegbuzie, 2004).

Quine (1951), in a way that resonates with the candidate’s own assumptions, appears to argue in favour of mixed approaches because of the uncertainty involved in claiming to know something:

For my part I do, qua lay physicist, believe in physical objects and not in Homer's gods; and I consider it a scientific error to believe otherwise. But in point of epistemological footing, the physical objects and the gods differ only in degree and not in kind. Both sorts of entities enter our conceptions only as cultural posits. (p. 41)

What then are the implications for educational practice?

2.2.3 Educational assumptions

Barrow and Woods (1982) suggest that the notion of education has normative implications – it assumes something worthwhile should be achieved and that this achievement should be enabled in morally justifiable ways. They then go on to explore the contention of the influential education theorist Paul Hirst, that the kind of knowledge of importance to formal education has the following four characteristics:

1. It involves central concepts that are peculiar to the form.
2. The form of knowledge has a distinctive logical structure.
3. The knowledge is testable in some way against experience.
4. This testing is according to criteria and processes appropriate to the knowledge form. The knowledge is then captured symbolically, again in a manner peculiar to the form of that knowledge.

Using this heuristic, Hirst (as cited in Barrow & Woods, 1982) identified distinctive disciplines, e.g., Mathematics, Biology and Philosophy, as well as fields of knowledge that draw upon multiple forms of knowing, e.g., Geography (which draws on the natural sciences to aid understanding of geomorphology, mathematics for the interpretation of map scales, history for a better understanding of human settlement and so on).

The first two of Hirst's four characteristics seem acceptable to help delineate a field of knowledge. For example, we can identify core concepts, such as gravity in Science, number in Mathematics, God in Theology and grammar in Language, as well as characteristic ways of reasoning, for example the concept of proof in Mathematics, the balancing of equations in Chemistry and the importance of hierarchies and systems in understanding Biology (see for example Orr & Schutte, 1992). The last characteristic, for distinguishing a form of knowledge, also seems a reasonable criterion (for example, Science typically makes use of an experimental protocol; in Home Economics, the proof of the pudding is in the eating; and in a Language essay we will likely make use of a rubric illustrating appropriate selection and use of content, organisation, vocabulary and language register for example).

However, as Barrow and Woods (1988) point out, the third characteristic is problematic: how does one test against experience the notions of God, morality, appreciation of fine arts or a Geometric proof? More importantly, assuming we can differentiate discrete forms of knowledge in some way, how do we decide what is and is not important to include in a curriculum?

Luckett (1996) points to the work of Jürgen Habermas in response to the latter question to identify three broad paradigms for making decisions about what and how to teach (and by extension what and how to research in education):

1. Transmissive/traditional/technical: the focus here is on the selection of knowledge that it is considered important to learn (but of course what is selected and what is omitted will reflect the assumptions and values of the selector) and then using the most expedient means to pass on that knowledge to the next generation. The purpose of education then is to develop citizens with shared knowledge, skills, attitudes and values; people who fit in.
2. Transactional/Translative/Hermeneutic/Practical: the focus here is the kinds of knowledge that can be agreed by consensus to be useful to address a current need or challenge (and of course the selection of content and method will change if it does not seem to meet the purpose). The purpose of education then is to develop citizens who can contribute to and find a place in society and who can adapt to change.
3. Transformational/critical/emancipatory: the focus here is on recognising that the current selection of what is considered to be valid knowledge and the ways to mediate it reflect the beliefs and values of those in power and will tend to maintain the *status quo* rather than lead to a more equitable society. There is need therefore to identify and value alternative ways of knowing that may help us to make society better. The purpose of education then is to make citizens critically aware of how those in power abuse that power to protect their own interests and therefore education should enable us to challenge authority in pursuit of personal freedom and a fairer dispensation.

We can add a fourth paradigm to this set:

4. Transcendental: unlike the previous three paradigms, which share a communitarian agenda, this fourth paradigm focuses on the individual and realising his/her individual needs and aspirations. The purpose of education then is to help individuals realise their individual potential.

These four paradigmatic lenses arguably map to underpinning ontological and epistemological assumptions along a continuum of possibilities in the following way (Table 2.3).

Table 2.3: Relationship between being, knowing and the purpose of education

| Assumptions about being | Assumptions about knowing | Purpose of education |
|--|--|--|
| <p>There is an objective reality which is fixed and unchanging and pre-determined by God/Fate/Destiny who defines purpose: <i>Determinist paradigm</i></p> <p style="text-align: center;">↕</p> <p>Existence is subjective, fluid, neither pre-determined nor predictable and there is no overarching purpose: <i>Non-determinist paradigm</i></p> | <p>Knowledge is certain, objectively determined and unchanging: <i>Positivist paradigm</i></p> <p style="text-align: center;">↕</p> <p>Knowledge is uncertain, fluid and dynamic: <i>Interpretivist paradigm</i></p> | <p>Transmission</p> <p style="text-align: center;">↕</p> <p>Transaction</p> <p style="text-align: center;">↕</p> <p>Transformation</p> <p style="text-align: center;">↕</p> <p>Transcendence</p> |

As noted previously, it should be observed that the double-headed arrows indicate continua of possibilities rather than discrete points. While researchers and teachers may move along the continua at different times in different contexts, they are likely to have a dominant approach. The framework that is emerging does not, however, provide insight into the way/s in which it is assumed we come to acquire educational knowledge. For this, another set of lenses is required, what Higgs (1995) refers to as *metatheories* – theoretical frameworks that guide determination of the issues to be analysed and the adequacy of this analysis. Higgs (1995, pp. 3-17) identifies six such metatheories:

- Logical empiricism
- Critical rationalism
- Critical theory
- Phenomenology
- Hermeneutics; and
- Systems theory.

In later work with a colleague, Higgs and Smith (2000, 2002, 2015) expand this set of metatheories to include:

- African philosophy
- Feminism
- Existentialism
- Postmodernism
- Nihilism.

What then are the key assumptions and practices associated with these metatheories and which were considered most appropriate lenses for this study (Higgs, 1995; Higgs & Smith, 2000, 2002, 2015)?

Logical empiricism

This metatheory arose from the work of a group of philosophers who came to be known as the Vienna Circle. The approach holds that the only way we can come to know something is by applying logical reasoning to the information we gain through our senses. This approach seeks to avoid any bias from the researcher and seeks to focus only on 'objective facts' that can be verified by scientific methods. In terms of the earlier discussion, this approach aligns most clearly with the positivist end of the epistemological continuum. However, while this approach has helped educators gain a better understanding of the physical and inanimate world, it is more difficult to apply to the human social sphere in which people are not always logical, and in which non-tangible thoughts and feelings make causality hard to determine.

Critical rationalism

This metatheory, based primarily on the work of Karl Popper, also suggests that scientific methods are central to the process of knowing, but contends that even when we are following a scientific process, what we choose to research, how we choose to go about it and how we interpret our findings is influenced by our philosophical assumptions. Central to the approach is the notion of falsification. In an infinite universe, we can never really prove something to be unequivocally true in all possible times and conditions, but we can prove something to be false. The difference then between scientific and non-scientific thinking is that in the former case, we are dealing with statements/ideas that can be proven to be untrue. Again, this approach inclines more to the positivist end of the spectrum. In the human sphere, it is a very useful approach to challenge unclear thinking or conclusions drawn from incomplete or wrong evidence, but it seems less useful as a lens to guide forward planning.

Critical theory

This metatheory is most closely associated with the writings of Karl Marx, and was promoted further by philosophers such as Horkheimer, Adorno and Habermas and more recently Apple. This approach contends that human beings should be free agents, able to communicate freely with their fellow human beings. Any kind of domination or tendency to curb that freedom is wrong. However, the views and values of those who have power in society, such as employers and politicians, will tend to dominate over those who do not have such power. It is therefore important to surface the underpinning assumptions and purposes of those in power. Although inclining to opposite ends of the positivist-interpretivist spectrum, and often in contention, critical theory and critical rationalism share a common concern that researchers should make explicit their underpinning theoretical assumptions.

Phenomenology

Associated originally with the work of Edmund Husserl, this metatheory is concerned about the layer of theoretical assumptions and constructed ways of knowing that may become a barrier between us and our experience of phenomena. It urges us to truly see what is, before we rush to interpretation and judgement. The more conscious we can become of our own assumptions and biases, the more easily we can set these aside to experience reality. This seems a useful caution for researchers generally and reinforces the notion that research can never be truly objective in the sense required by logical empiricists.

Hermeneutics

Originating from the study of religious texts and the problem of competing interpretations, this meta-theoretical perspective has been developed by philosophers such as Hegel, Schleiermacher, Dilthey, Heidegger and Gadamer, to provide a lens that can be applied more generally. The approach contends that what we truly want to understand is human in nature and involves human interpretation based on both past and current experience. We therefore need to surface our various understandings, and where they come from, and maybe come to new understandings by this sharing process, which often needs to be repeated multiple times. Recent emphases on notions such as communities of inquiry and communities of practice seem to draw logically from this approach which, in the latter examples, inclines more to the interpretivist end of the knowledge continuum.

Systems theory

This metatheory is associated with the work of theorists such as Bertalanffy, Wiener, Churchman, Parsons and Luhman. It seeks a better understanding of how systems behave by exploring, in a scientific way, the complex inter-relationship between the various sub-systems and the whole in terms of purposes and processes and the interplay between them. It helps us to understand the whole in relation to its parts and vice versa. The approach tends towards the positivist end of the knowledge continuum. It is very useful as a way of visualising and understanding 'what is' but needs to be coupled with another approach to address 'what might be'.

African philosophy

African philosophy is concerned to understand the complex current reality of Africa in relation to its role in the history of human development, the diverse systems of indigenous beliefs and practices and the challenges arising from the enduring legacy of colonialism. Despite the diversity of thought across the many cultures and peoples of the continent, it seems true to say that in general, whereas Western thought has tended to place the individual at the centre of life, African philosophers such as Appiah, Bodunrin, Hountonji, wa Thiong'o and Senghor, have emphasised the importance of the community,

and not just the immediate community but the whole community of current and past lives as well as the natural environment. In this sense, African philosophy could be said to share common assumptions with Eastern philosophies such as Buddhism.

Feminism

Feminism assumes that women have innate worth and unique contributions to make in a social landscape that has tended to be dominated by males and male thought. It goes beyond notions of equality to celebrate the unique contributions that women can make in a world in which acts of war, violence and abusive power relationships have tended to be associated with the male gender, while stability, harmony and higher forms of culture have tended to be associated with the contributions of the female gender. Influential theorists include Assie-Lumumba, Odora Hoppers, Greer and Wolf.

Existentialism

Existentialist philosophers are concerned with exploring the question, 'What is the meaning of life?' Existentialist philosophers are found in all societies and cultures and they explore the notion and find meaning in many ways. Influential Western existentialist philosophers include Nietzsche, Foucault, Derrida, Baudrillard, Sartre, Fanon and de Beauvoir. In addition, many African philosophers are also existentialist and some Eastern philosophers, such as the Dalai Lama, could be said to align with this meta-theoretical perspective. As can be deduced from this diversity, existentialists do not conclude that there is any one meaning, but rather that we each need to find our own meaning.

Postmodernism

For the past two centuries, thinking in the developed Western world has been dominated by the notion that advances in science and technology have and will continue to improve the quality of human life. This is a belief system that has come to be known as Modernism. However, while it is true that people live longer and are generally healthier, they appear not to be necessarily happier. While modern ICTs have multiplied our means of communication extraordinarily, we are not necessarily connecting with one another in meaningful ways that make us happier. In addition, modernist 'progress' has come at the expense of unsustainable consumption of natural resources, growing inequality and has left us vulnerable to financial turbulence in global financial markets on the one hand and a growing terrorist backlash from Fundamentalist movements on the other, belying an unquestioned belief in the power of calm rational thought to address all challenges. This has led to the development of a body of thought that has come to be known as postmodernism (although many postmodernists would reject on principle the idea of such a term). Theorists associated with this kind of thinking include Derrida, Foucault, Baudrillard and Lacan. Key issues they ask us to address include how we see ourselves; a more questioning approach to the notion of 'progress' and rationality (as the

only way of knowing); an increased concern with our spiritual, emotional and sexual nature; the power of governments and large corporations to exercise control over individuals; and a rejection of the notion of moral neutrality with respect to scientific and technological advancement.

Nihilism

People whom we might describe as nihilists do not believe there is such a thing as a purpose to life, nor that there is such a thing as a human soul. Since there is no intrinsic or extrinsic meaning, it does not really matter what we choose to do, or whether we choose to do anything. This understanding of existence is brought powerfully to life in Albert Camus' novel, *L'Étranger (The Outsider)*.

All five of the last examples of meta-theoretical assumptions about knowing, fall within an interpretivist paradigm. We might then map the metatheories we have briefly explored in the following way (Table 2.4).

Table 2.4: Relationship between being, knowing, purpose and educational metatheories

| Assumptions about being | Assumptions about knowing | Purpose of education | Educational metatheories |
|--|--|--|---|
| <p>There is an objective reality which is fixed and unchanging and pre-determined by God/Fate/Destiny who defines purpose: <i>Determinist paradigm</i></p> <p style="text-align: center;">↕</p> <p>Existence is subjective, fluid, neither pre-determined nor predictable and there is no overarching purpose: <i>Non-determinist paradigm</i></p> | <p>Knowledge is certain, objectively determined and unchanging: <i>Positivist paradigm</i></p> <p style="text-align: center;">↕</p> <p>Knowledge is uncertain, fluid and dynamic: <i>Interpretivist paradigm</i></p> | <p>Transmission</p> <p style="text-align: center;">↕</p> <p>Transaction</p> <p style="text-align: center;">↕</p> <p>Transformation</p> <p style="text-align: center;">↕</p> <p>Transcendence</p> | <p>Logical empiricism</p> <p>Critical rationalism</p> <p>Systems theory</p> <p>Phenomenology</p> <p>Hermeneutics</p> <p>Critical theory</p> <p>Existentialism/</p> <p>African philosophy/</p> <p>Feminism/</p> <p>Post modernism/</p> <p>Nihilism</p> |

Again, it is worth repeating that a one-to-one correspondence is not implied. Rather, Table 2.4 points to possibilities in a continuum of approaches that resonate with one another and which together are likely to inform one's dominant practices as a teacher and as a researcher.

In the next section, the candidate will reflect upon his own experiences, how these inform the assumptions that shape his own practice and what this means for the approach taken in this study.

2.2.4 Theory in practice – a reflexivity statement

Having selected to pursue a qualitative interpretivist approach in Chapter 1, it behoves the candidate in this section to provide a formal summary of his own experience and assumptions and to articulate

how these shaped his engagement with ANU. Because this section constitutes a Reflexivity Statement (the nature and challenges of this approach are usefully explored in Finlay, 2002), the candidate will shift from third to first person in this section. In this statement, I show how my professional experiences have shaped my thinking and led me to use certain theories, ontologies and epistemologies more than others. These choices directly impact on the theoretical underpinning of this doctoral research.

I completed my schooling and undergraduate studies in the United Kingdom and, like many of my African counterparts of similar age, was the first in my extended family to complete a university education. I graduated with a BA Hons in English from the Swansea College of the University of Wales and then completed a Postgraduate Certificate in Education (PGCE) at Westminster College in Oxford (with specialisations in English teaching, development studies and mathematics education). In the same year I completed these studies, I took up a teaching position at Chilumba Secondary School in northern Malawi, in a post organised through the British charity, Voluntary Service Overseas, where I worked from 1985 to 1988. Chilumba Secondary School is a public school, for which the government provided land, teachers' houses, classrooms, a small library and a basic laboratory. The local community had supplemented this infrastructure by building a hostel and a kitchen. The school did not have electricity in the time I taught there, so the chalkboard, textbooks and everyday objects were the primary teaching tools, although the lab was reasonably well-equipped and the library received a number of donations while I was there as a result of my following up an enquiry that was made to the school. The school catered for both resident and day-scholars, and offered a 'night school' – an after-hours support service for students pursuing their secondary studies through the Malawi College of Distance Education. During my three years with the school, I taught English and Physical Science in the day school and English and Mathematics in the night school. At various times, I was a form master, the librarian (although without any training for this role), a club patron (quiz, drama, chess), head of department (Arts) and Head of the Night School. I was also an English subject examiner for national examinations.

Three key lessons from this experience have stayed with me for the whole of my professional career and continue to influence my engagement with others, including colleagues at ANU: these lessons relate to differentiated learning, teamwork and systems thinking.

With respect to differentiated learning, in the last two years of my time at the school, I had a deaf learner in my English Forms 3 and 4 class. This required me to rethink the presentation of every lesson to ensure that this learner could actively participate in the learning. It also required me as teacher to make alternative arrangements with the Ministry of Education for the learner's final examination since

one of the final papers involved making notes from a report presented orally. This experience has stood me in good stead subsequently, both in understanding and practising inclusive education approaches, but also more specifically in a recent project involving the development of a continuing professional development programme for teachers of the deaf (DK & Associates, 2014).

I learned a great deal about teamwork. As Head of Department, I was much younger than the colleagues I was nominally leading; in fact I was only a year or two older than most of my learners. I received mentorship and support from the Deputy Head and Lead Science Teacher; it should be noted that I was asked to teach Form 3 Physical Science based on a basic pass in A-level Physics – it was part of neither my undergraduate degree nor my PGCE. These experiences brought home to me, early in my career, the importance of professional collaboration and cooperation and the power of harnessing diverse talents and capabilities towards achieving a common goal. In the second and third years of my time in the school, the staff achieved together such a high success rate, with so many learners gaining university entrance, that the Minister of Education himself travelled to the school to congratulate the staff. This experience was highly formative, as given the complexity and diversity of learning needs and styles on the one hand and the multifarious ways in which these might be supported through existing and emerging technology on the other, a multi-disciplinary team-based, and community of learning and practice approach, to curriculum and materials development has become standard in the field of ODeL provision (Beetham & Sharpe, 2013; Gunawardena et al., 2006; Kenyon, Kenyon, Mtaka, & Mapingana, 2000; Louw, 2007; Saide, 2015; Sapire & Reed, 2011; Unisa, 2008b).

With respect to systems thinking, the challenges faced by the distance learners to receive materials in full and on time, and the complications involved in providing appropriate support and assessment feedback, has left me with an abiding interest in and promotion of thinking systemically, as discussed in Section 2.3 and as exemplified in Glennie and Mays (2009, 2013).

Subsequent to my work in Malawi, I moved to South Africa in 1989 to take up a position with a Non-Profit Organisation (NPO) called Promat Colleges. Promat Colleges initially focused on providing a learning opportunity towards matriculation for under-qualified teachers and nurses. In apartheid South Africa, it had been possible for black people to enter these professions through various entry level certificate programmes that did not require a matriculation certificate. However, they were subsequently unable to progress in their careers because they could not access higher level professional development programmes for which the matriculation certificate was a pre-requisite. Promat Colleges offered them a focused one-year programme, at subsidised fees, to achieve this qualification. I taught English, Mathematics and Physics at one of the Promat Colleges for two and a half years and then went on to establish a Promat Correspondence College to cater for the needs of

those learners unable to access the full-time programmes. I subsequently assumed responsibility for all the materials development, reviewing and updating not only for the correspondence college, but also for Promat's subsequent partnerships with the Universities of the Witwatersrand and Natal to offer pre- and in-service teacher education through contact-supported distance education.

This experience reinforced the learning from my earlier experiences, but also forced me to engage profoundly with policy, copyright, publication and materials design issues. Over the years, I have written, co-written, edited or supported the development of around 300 distance learning modules and textbooks.

It was the transition into work in distance education that put me into contact with the South African Institute for Distance Education (Saide) (see www.saide.org.za) and the National Association for Distance Education and Open Learning in South Africa (Nadeosa) (see www.nadeosa.org.za), for the latter of which I am a past President and long-standing Vice-President. My work for Saide and Nadeosa from 2000 to 2016 exposed me to engagements at one time or another with many of the HEIs in South Africa, but particularly those involved in the provision of distance education and/or teacher education, and similarly in many countries in sub-Saharan Africa and India. During the completion of this thesis, in March 2016, I moved from Saide to take up a full-time post as Manager of the Unit for Distance Education (UDE) in the Faculty of Education at the University of Pretoria (UP). This experience has further strengthened my systemic understanding of ODeL provision in general, and engendered an even greater appreciation of the central role of the student support administration sub-system.

In terms of the theoretical orientations outlined in the previous section, my worldview could be described as pluralist and eclectic, but I am most comfortable operating in the transactional/pragmatic paradigm, seeking fit-for-purpose solutions to current challenges using hermeneutic processes of inquiry with relevant stakeholders and applying systems thinking. I do not expect that those solutions are always the right ones, and even when they are, that they will necessarily continue to be so – so formative evaluation and reflective practice need to inform the design and implementation of curricula. There is the risk on the one hand of implementing things that are not adequately thought through, but on the other hand teams can sometimes get so bogged down in imagining all the risks of change that they do not innovate and curriculum and practice become ossified (Mays, 2004, 2008, 2014b). From this perspective, I have a very pragmatic regard for OER. My belief that effective teaching always involves active student engagement, necessarily requires learning resources of various kinds to simulate and guide that engagement, and I view it as expedient to adapt a learning resource that exists rather than to create from nothing if one can. I have come to believe that if all educators systematically sourced and adapted OER, and shared back new and adapted resources as a matter of

course, the OER community would be self-sustaining to everybody's benefit (less time, less cost and higher quality) (Butcher & Hoosen, 2011; Haßler & Mays, 2014; Mays, 2013a).

Finally, my aim as a teacher has always been to gradually move the locus of responsibility for making choices from the teacher to the learners about why, what, how and when to learn, and who to involve in the process. This is exemplified in the ways in which I run workshops, for ANU and elsewhere, leaving behind all the workshop resources to be modified and used subsequently for further cascade training as needed. This explicit agenda to facilitate increasing student autonomy underpins the way in which I guide institutions in their curriculum development processes and the ways in which I guide them to incorporate OER to achieve the curriculum purpose and outcomes.

These experiences have shaped my assumptions, which in turn have guided my engagement with many HEIs in many countries, including ANU in Kenya.

Having worked in diverse contexts and taken on diverse roles, I am strongly inclined towards Dewey's (1910) notion that our thinking evolves as we engage with our environment and the people within it. As things happen that challenge my assumptions, I need to engage in a process of "intellection" in which I problematize the issue, use my imagination to hypothesise possible solutions, prioritise the possibilities and test them in practice. I then endeavour to proceed with what works, or seems to work, in that context at that time, without claiming that this is necessarily the best of all possible approaches, nor that the approach taken will necessarily stand the test of time.

More recently, Elkana (2009, pp. 937, 940) sees the "fostering of nonlinear thought" as a critical outcome of a curriculum relevant to the challenges of the 21st Century. The notion of evolving thinking ties in with hermeneutic inquiry, while an understanding of the wider system within which decisions need to be made seems more likely to result in an approach that will indeed work. Hermeneutics and systems thinking, which were briefly outlined in Section 2.3, are the core meta-theoretical understandings that inform my practice and which underpin this study and which will now be explored in more detail.

Hermeneutics

As noted previously, hermeneutics can be traced back to the challenge of differing interpretations of written, often religious, texts and the need for a systematic process to reach understanding. As Danner (1995) observes, however, there is need for a process to arrive at understanding whenever a human being engages with another human being or human artefact: the need is not limited only to printed texts. Danner (1995) reflects on the contributions of three key theorists to our contemporary understanding of hermeneutic enquiry:

- Friedrich Schleiermacher (1768-1834) argued for an interplay between a grammatical interpretation and a psychological interpretation of texts in reaching an understanding.
- Wilhelm Dilthey (1833-1911) emphasised the background of the interpreter in affecting his/her understanding, which might even differ from what the 'author' originally intended – thus understanding may be creative and productive, rather than merely reproductive.
- Hans-Georg Gadamer (1900-2002) took this a step further by observing that all understanding happens in a context – our interpretation will inevitably be 'prejudiced' by our historical understanding of an author or artefact (whether we are consciously aware of this), as well as the projected 'application' of the idea or artefact within the interpreter's current or future context. No two human beings will therefore understand a phenomenon in quite the same way at quite the same time.

Both for individuals and groups of individuals, then, a hermeneutic cycle of enquiry is required in which a 'text' is constantly interpreted and re-interpreted with a view to gaining an increasingly enhanced understanding – "The question 'How to read?' is replaced by the question 'How do we communicate at all?'" (Stanford Encyclopedia of Philosophy, 2005, webpage). The interplay between theory and practice, thought and action, is mediated by language (both internal and external) and requires that we acknowledge the interdependence between understanding the whole and understanding the parts that make up that whole. In a sense, we can never arrive at a definitive true meaning (Kissack, 1995), so the strength of the approach is also its weakness and hermeneutics cannot stand alone as a framework for a research study such as this. In similar vein, a teacher can never be said to have exhausted possibilities for teaching a topic – there will always be a new or nuanced way to understand a play by Shakespeare or a classroom event or the words and actions of an individual learner, hence:

Appreciating hermeneutics as a living tradition is not, in the end, a matter of identifying a theory or a family of theories. It is fundamentally a matter of perceiving a moving horizon, engaging a strand of dialogue that is an on-going re-articulation of the dynamically historical nature of all human thought. (Stanford Encyclopedia of Philosophy, 2005, webpage).

In an interesting paper on the possibilities of hermeneutics for those interested to pursue qualitative, interpretivist inquiry, Kinsella (2006) identifies the following five key characteristics of a hermeneutic approach:

- "Seeks understanding (rather than providing an authoritative explanation)" (Section 2.1)
- Acknowledges that interpretation is situated ("texts are considered through the historically and culturally situated lens of the researcher's perception and experience. A complete

explication of such is impossible and all interpretations, although potentially rigorous, are also necessarily partial” (Section 2.2)

- “Recognises the role of language and history in influencing interpretation” (Section 2.3)
- “Treats inquiry as a conversation which is enriched by hearing and responsive to multiple voices” (Section 2.4)
- Is comfortable with ambiguity (it provides possibilities for consideration rather than “authoritative readings and neat reconciliations” (Section 2.5).

It should be noted that hermeneutics could be aligned with any of the four broad approaches to education indicated in Table 2.3: in the transmission approach it acknowledges that people have different interpretations, but suggests that only one interpretation can be correct; while in the transformational and transcendental approaches it acknowledges that people have different interpretations and suggests that each of these interpretations could be equally valid (although we should be especially critical of the interpretations of those in power). Linking hermeneutics with the transactional approach acknowledges that people have different interpretations, but suggests that it may be possible to reach consensus on a particular interpretation at a particular time in a particular context as a basis for agreed collective action. This is essential in a research project centred on participatory action research.

Systems theory

Systems thinking can be traced back at least as far as the ancient Greeks and Aristotle’s famous dictum that ‘The whole is greater than the sum of its parts’. Trembl (1994, p. 266) notes, however, that it was not until the 16th and 17th centuries and the need to find some way of working with an explosion in knowledge production and dissemination, that systems thinking moved from the philosophers to become adopted by all scientific disciplines. Trembl (1994) argues that it was only from the 1930s, however, that it became possible to talk about a body of systems theory. He provides the following four main roots of modern systems thinking (Table 2.5):

Table 2.5: Roots of systems theory

| Type of system | Examples | Name | Main representatives |
|----------------|--------------|---------------------|----------------------|
| Natural | Organisms | Theory of systems | Bertalanffy |
| Artificial | Machines | Systems engineering | Churchman |
| Formal | Calculus | Cybernetics | Wiener |
| Social | Human beings | Systems theory | Parsons |

(Source: Trembl, 1994, p. 267)

Letseka (1995) cites Bertalanffy (1901-1972) directly to explain why general systems theory has become such an important way of thinking in the modern world:

[m]odern science is characterised by its ever increasing specialisation. This has been necessitated by the enormous amount of data and the complexity of techniques and theoretical structures within every field. Unfortunately, this specialisation has led to a breakdown of science as an integrated realm: the physicist, the biologist, the psychologist, and the social scientist, are so to speak, encapsulated in a private universe, and it is difficult to get word from one cocoon to the other ...

As a consequence it is not sufficient to study isolated parts and processes since the essential problems are the organising relations that result from dynamic interaction of those parts. (pp. 286-287)

Systems thinking became pervasive in management literature from about the 1950s, and by the 1970s management theory was talking about 'open systems' interacting with the wider environment (Lussier, 2000).

Pettigrew and Akhurst (1999) point to the seminal influence of Uri Bronfenbrenner, whose various works from the 1970s to the 1990s help us to understand, in an ecosystemic way, the impact of the social environment on the quality and nature of learning achievement at four levels:

1. *Microsystem*: immediate family and home environment which can have a direct impact on learning
2. *Mesosystem*: system elements which are one step removed from the learner but can have a direct impact on learning, for example immediate neighbourhood, church, learning centre etc.
3. *Exosystem*: the third environmental layer consists of settings that the learner may not experience directly, but which might nevertheless impact on the learner's achievement, for example spouse's place of work, friends of other family members, and governmental and non-governmental organisations working in the area
4. *Macrosystem*: the cultural or socio-political context, consisting of dominant beliefs, values, customs, laws and resources of a particular culture. (Mays, 2004, pp. 167-8).

Distance education interventions, and more recently, minimally mediated online provision such as MOOCs,

...have often been characterised by very low retention and throughput rates often related to institutions' inability to address the **individual** needs of learners. High stop-out and drop-out rates in distance education are often associated with family, workplace, financial and other militating environmental factors which traditionally distance education institutions have not seen as being their concern to address. (Saide, 2000, cited in Mays, 2004, p. 168)

These environmental factors explicitly are NOT addressed in the provision of online learning opportunities in the form of MOOCs, at least those of the xMOOC (unmediated) variety. This speaks fundamentally to the vision and mission of institutions and how this shapes the kind of choices they make. Holmberg (1995) suggested many years ago, that at a fundamental level, the way in which distance education institutions

organise themselves systemically can reveal a student, programme or institutional bias. This will be further explored in Chapter 3.

The emerging theoretical framework of this study within a series of theoretical continua can thus be summarised as in Table 2.6:

Table 2.6: Theoretical framework

| | | | |
|--|--|----------------|--|
| Determinist | X | | Non-determinist |
| Idealist | X | | Realist |
| Positivist | X | | Interpretivist |
| Transmission | Transaction X | Transformation | Transcendence |
| Logical Empiricism Critical rationalism x | Systems theory X Phenomenology x Hermeneutics X Critical theory x | | Existentialism/ African philosophy x / Feminism/ Post modernism x Nihilism |

Such a framework helps make clearer the ways in which theory can inform practice and practice can in turn inform theory, for both teaching and research purposes (Gultig, 2000; Mays, 2008; Slabbert, de Kock, & Hattingh, 2009).

As noted in Table 2.6, I approached the study from a non-determinist and interpretive perspective. While accepting the notion of an objective reality that is susceptible to scientific enquiry, I also believe that everybody engages with and perceives that objective reality somewhat differently, influenced in part by theoretical assumptions based on experience, history, tradition and context, and influenced by emotional and other non-rational factors, which may often not be explicit. Hence there is need for interpretation and negotiation of shared meaning through hermeneutic processes of enquiry, which inevitably draw upon a range of other theoretical frameworks. In Table 2.6, the relative influence of these other frameworks to the study is indicated by large and small crosses.

The implications of these theoretical underpinnings for the practices of teaching and research are summarised in Table 2.7.

I have found the kind of frameworks outlined in Tables 2.6 and 2.7 to be helpful to provoke discussions with higher education teachers more generally. This can often be done by finding examples of materials in the field that seem to reflect these underpinning assumptions and then debating which seem most appropriate for a specific programme and target audience of learners and why they think this.

Table 2.7: The inter-relationship between theory and practice

| Metatheory | Implications for teaching | Implications for research |
|--|---|--|
| <p>Hermeneutics Orig. 16C interpretation of ancient texts Emphasis on life as a process of interpretation and dialogue: truth as understanding Schleiermacher 1768-1834 Dilthey 1833-1911 Wittgenstein 1889-1951 Gadamer 1900-</p> | <p>Planning: Curriculum as practice/process – based on teacher’s professional judgement and learners’ understanding Emphasis on interaction of individual with environment and therefore always changing; values are situationally relative and subject to change and verification No permanent knowledge or subjects; appropriate experiences that prepare learners for change; problem-solving topics; interdisciplinary, including manual/vocational and life skills Mediating: An integrated model; teachers responsible to ensure meaning for all learners Teacher deliberately and progressively yields control of the learning process to learners Learners actively involved in meaning-making; experiential and inquiry-based learning, learning by doing and problem-solving Constructivist approaches High interaction Subjective meanings from relationships Assessing: Test the ‘how’ Summative and formative Varied strategies Emphasis on feedback and deep learning</p> | <p>Questions: What do you mean/think? How do/can we understand this? What do other people say? What is the significance of the Constitution/Education Policy/National Curriculum? Why are some learners achieving more than others from a similar socio-economic background? Methods: Knowledge is socially constructed and therefore historically and culturally specific Subjective understandings are important Researcher cannot stand outside the researched context Participant-observer Focus groups Iterative processes building on previous learning/findings and use of heuristics Grounded theory approaches Analysis: Knowledge for judgement, deliberation and refinement Triangulation through different sources including but not limited to texts Discourse analysis</p> |
| <p>Systems theory Life is a system of which we are a part: truth as a whole Bertalanffy (1901-) Parsons (1902-) Wiener (1894-1964)</p> | <p>Planning: Curriculum as practice – based on teacher’s professional judgement and learners’ understanding Emphasis on interaction of individual with environment and therefore always changing; values are situational relative and subject to change and verification No permanent knowledge or subjects; appropriate experiences that prepare learners for change; problem-solving topics; interdisciplinary, including manual/vocational and life skills Emphasis on the big picture and connections Mediating: An integrated model; teachers responsible to ensure meaning for all learners Teacher deliberately and progressively yields control of the learning process to learners Learners actively involved in meaning-making; experiential and inquiry-based learning and problem-solving Emphasis on reflective thinkers Connectivist/Constructivist approaches Self as system within systems requiring high interaction and communication Assessing: Test the ‘how’ Summative and formative Varied strategies Emphasis on feedback</p> | <p>Questions: What is the overall goal? What parts of the system are working well or badly? How does this relate to ...? How does the external environment impact on educational achievement? Methods: Knowledge is socially constructed and therefore historically and culturally specific Subjective understandings are important Researcher cannot stand outside the researched context Participant-observer Focus groups Iterative processes building on previous learning/findings Grounded theory approaches Emphasis on systemic linkages and impacts Analysis: Knowledge for judgement, deliberation and refinement Triangulation through different sources including but not limited to texts Diagrammatic presentations of findings</p> |

(After: Lockett, 1996; Mays, 2004, 2008; van Deventer, 1999)

The linking of theoretical frameworks, paradigms and practices in these tables, extracted from the fuller mapping provided in Appendix 2, is my own choice and can be contested. The tables should be read in a cumulative, additive way, emphasising 'and' rather than 'or'. For example, logical empiricism and critical rationalism are still strongly influential theoretical frameworks in contemporary society (but perhaps losing some ground in recent years). Critical rationalism may be linked to the transmission paradigm because of its origin as a reaction to logical empiricism. However, the logical extension of the inability to 'prove' something using the scientific method (Popper, 1935) is to invite diversity of thought and debate and leads to Popper's support for open society principles – so I could equally have placed this theoretical framework in another part of the table.

The overall structure and intent of Appendix 2 and Table 2.7 are extrapolated from Luckett (1996), the work of Higgs and Smith (2000, 2002, 2015), Ornstein and Hunkins (2004) and a (growing) variety of other resources, most notably Appelbaum and Thompson (2002), Bernstein (1977), du Preez and Reddy (2014), Flinders and Thornton (2004), Slattery (2006), Stokes (2002) and Woolfolk (2007).

Such frameworks are more than an intellectual exercise; they must be rooted in what is practical in the context of practice to “ensure ... high quality, evidence-based teaching practices focused on success for every student” (DoEQG, 2013, p. 1). South Africa and Kenya are not alone in being concerned about the performance of their education systems in practice in this regard. There have been numerous curriculum reforms in recent years in many countries, fuelled in part by comparative studies of learner performance in literacy and numeracy (TIMSS & PIRLS, 2017).

However, curriculum reform is a necessary but insufficient intervention for improving learner achievement. No matter how carefully worded and detailed the curriculum as plan, or how detailed the centrally-designed example lesson plan, no two teachers ever teach to that plan in quite the same way, for the kinds of reasons discussed above. They may progress faster or slower than was planned, they may use slightly different examples and they may make use of different resources due to the context in which they are teaching and the needs of their learners. In similar vein, no two learners ever experience what is taught in quite the same way, since each learner encounters the learning environment from the perspective of his or her own unique set of prior learnings and experiences and makes different kinds of associations and connections. There is always, therefore, a variation between the curriculum as planned, as practised and as experienced. In consequence, teachers always have agency in the teaching and learning environment and need constantly to make professional decisions. Oftentimes these decisions are made intuitively, rather than critically and reflectively. It is therefore necessary to explore the concept of curriculum more thoroughly, to understand possibilities for curriculum and pedagogic transformation and the role that OER might play in such a process.

2.3 Curriculum perspectives

As Hoadley (2012, pp. 3-4) notes, curriculum changes and therefore it is important for practitioners to understand the concept of curriculum itself in order better to understand why and how curriculum change happens. She suggests the need to ask the following kinds of questions:

- What is curriculum?
- How does curriculum development happen?
- How is knowledge organised in a curriculum?
- How is curriculum enacted in practice?
- How is curriculum assessed?

These seemed like useful guiding questions and so were adopted to help structure the discussion that follows.

2.3.1 What is curriculum?

Not surprisingly given the foregoing discussion, there are different conceptions about what a curriculum entails, which flow from different assumptions about being, knowing and doing.

Eisner (1985) identifies five main orientations to the development of the curriculum in schools which will tend to influence the practical decisions made about what to teach, how to teach and assess it, how to organise the learning and for whom. The five common orientations he identifies are as follows:

- a) Development of cognitive processes
- b) Academic rationalism
- c) Personal relevance
- d) Social adaptation and social reconstruction
- e) Curriculum as technology.

Development of cognitive processes

This orientation focuses the teacher's and learners' attention on how to learn and adapt to change, rather than focusing on learning large amounts of content. It privileges the use of taxonomies, such as Bloom's, to guide decision-making in the classroom. Subject classifications are valued only in so far as they represent distinct ways of thinking, e.g., the logic and proof of mathematics, the experimental process in the sciences, and the sifting and interrogation of primary and secondary sources of information in the social sciences rather than bodies of factual content such as Fractions, Plant Physiology and Colonial History.

Academic rationalism

This orientation tends to suggest that there are certain key issues that are of concern to all human beings throughout the ages and we should focus on the best work on these issues, bringing our reason to bear. In such an orientation, disciplinary knowledge in mathematics, the physical and social sciences, and the 'great' literature, tend to be privileged over learning of a more practical orientation, such as how to drive or how to cook.

Personal relevance

This orientation suggests that little worthwhile and meaningful learning is likely to take place unless learners are personally invested in the process and able to choose, or at least influence, what and how they learn. It argues, with Montessori and Mitra, that human beings have a natural inclination to learn and that the teacher's role is then to provide the necessary resources and support to make this possible.

Social adaptation and social reconstruction

In contrast to the previous focus on the individual learner, another orientation focuses on the school as a social institution whose primary aim is either to help learners to adapt to the needs of society or to question the way in which society is structured to come up with ways to improve it. In the former case, the content of the curriculum tends to reflect the values and priorities of those in power – schooling to help develop good citizens, good workers and leaders with 'sound' moral values and so on. In contrast, the latter orientation points to growing inequalities, degradation of the environment, rampant and unsustainable materialism, and seeks ways to confront and address such issues.

Curriculum as technology

The fifth orientation suggested by Eisner focuses on curriculum development as a technical process involving making decisions about how to parcel up the learning in coherent blocks or clustered around significant objectives or outcomes and then working out how best to sequence, resource and assess the learning.

As Eisner notes, different orientations towards the curriculum tend to privilege specific kinds of knowledge and ways of knowing over others, affecting decisions made about what is taught, how it is taught and assessed, and the ways in which institutions are organised and resourced. Although curriculum developers may deliberately set out to adopt an eclectic perspective, it is likely that practice will be informed by dominant assumptions. Being aware of these possible orientations is therefore key to reflection and possible change.

In considering the nature of the curriculum that such orientations may give rise to, Graham-Jolly (2003) distinguishes between narrow and broad conceptions of the curriculum. The former focusing on the subjects offered by a particular institution or more narrowly still as a single syllabus and the latter, and more contemporary, perspective which considers at least four dimensions as follows:

1. The **curriculum as product/plan** – what an institution or schooling system sets out to achieve as expressed in formal documents about what should be taught, how and when; how and when learning should be assessed; the nature and extent of ‘extra-curricular activities’; and how the curriculum should be resourced and supported (e.g., supply of appropriate learning resources, minimum expectations for institutional infrastructure, minimum expectations regarding staffing and staff competences, and the nature of institutional culture, management and governance);
2. The curriculum as **practised** – what actually happens in classrooms or outside them as a result of teacher and school choices and circumstances;
3. The **curriculum as experienced** – what each individual learner actually internalises and takes away from the educational experience;
4. The **hidden curriculum** – the things, influenced by the preceding three dimensions, that are learned that were never formally intended (e.g., the teacher who unconsciously asks questions of his/her ‘favourite’ learners; the apparent relative importance of subjects based on their time allocation and position in the timetable).

A fifth dimension can be added to this typology:

5. The **null curriculum** – the curriculum that is not taught: what is left out and why? (Flinders, Noddings, & Thornton, 1986).

What is and is not considered to be part of the curriculum then reflects the choices of curriculum developers and curriculum workers. Bertram, Fotheringham and Harley (2000, pp. 54-55) reflect on the influential work of Basil Bernstein in this regard. Bernstein was interested in the linkages between social relationships, the structure of communication (including the curriculum) and the consciousness and identity of people. He argued that, “How a society selects, classifies, distributes, transmits and evaluates the educational knowledge it considers to be public, reflects both the distribution of power and the principles of social control” (Bernstein, 1977, p. 85).

Implicit in this statement is the notion that the curriculum is not a fixed thing – it is subject to change and contestation – knowledge is foregrounded but since not everything can be addressed choices are necessarily made about what to include and what not to include and how to mediate and assess. These

choices will tend to be strongly influenced, if not dictated, by those who have the power to decide, so it becomes important to make as explicit as possible the decisions made about the curriculum and the rationale thereof.

In 2004, as part of a prior study, the candidate concluded after a review of the literature that the following issues required overt attention in evaluating or designing any programme of study (Mays, 2004):

- View of knowledge
- Understanding of curriculum
- A model (preferably circular and continuous) for how the curriculum is planned, implemented and reviewed; and
- Who is involved in the process
- Opportunities for feedback from learners integrated into the review process
- Opportunities for feedback from educators integrated into the curriculum review process
- Intended outcomes and how these were derived
- Pedagogy to be employed
- Assessment practices and justification thereof
- Resources (including learning support materials) to be used and how these are developed, costed, managed, distributed and reviewed
- Relationship between fundamental, core and elective learning
- How the curriculum and materials development processes [and teaching and learning processes] take cognisance of the following issues
 - Integration
 - Relevance
 - Credibility
 - Coherence
 - Flexibility
 - Standards
 - Legitimacy
 - Access
 - Articulation
 - Progression
 - Portability
 - Recognition of prior learning
 - Guidance of learners
- Balance between centralised and decentralised roles and responsibilities and management and control of decentralised provision; and
- All of these issues needing to be addressed from the perspective of an informed understanding of the nature and needs of the targeted learners. (Mays, 2004, pp. 74-76)

These issues continue to inform the candidate's practice as a curriculum worker.

2.3.2 Foundations of curriculum

In similar vein to Eisner (see Section 2.3.1), Ornstein and Hunkins (2004) suggest four major philosophies and educational philosophies that affect the ways in which curriculum decisions are

made: idealism/perennialism (there are certain unchanging things that everybody needs to know and be able to do to be productive citizens); realism/essentialism (formal education cannot cover everything there is to know so there is need to focus on a few key things and do them well, e.g., back to basics and the three Rs – reading, writing and arithmetic); pragmatism/progressivism (knowledge is uncertain and the social context is constantly changing, so learners need to be able to cope with change and to learn to adapt); existentialism/reconstructionism (tending to reject grand narratives and the notion of privileged knowledge and to focus either on challenging power and seeking to create a more just society – linking to a transformational agenda and critical theory, for example, or privileging a transcendence perspective and informed by a postmodern orientation, for example).

In addition, curriculum decisions are made in a historical context. Four key historical factors that impact on contemporary curriculum practice in Africa are the colonial period (in which curricula from Europe were transplanted to African institutions); the new national period following independence (with calls for transformation of the curriculum that went largely unanswered); the movement towards universal education (which has put enormous pressure on capacity and quality at all levels of national education systems) and the permeability of classroom boundaries enabled by ICT and encouraged by globalising practices.

Further still, developments in the theoretical domains of psychology and sociology impact on the ways in which curricula are planned and implemented.

2.3.3 Curriculum theory

The diversity of factors affecting curriculum decision-making not surprisingly make it difficult to articulate a dominant theory of curriculum with an agreed set of terms and procedures.

Four main theoretical “camps” are identified by Ornstein and Hunkins (2004, pp. 184-191):

- **Traditionalists.** In this camp are theorists who believe in a rational scientific and technical approach to the curriculum, including the belief that the curriculum can be planned prior to its use in the classroom and that teachers can be trained for implementation. Ornstein and Hunkins (2004) suggest that this camp includes scholars such as John Dewey, Franklin Bobbit, Ralph Tyler, Hilda Taba, George Beauchamp, Ronald Doll and John Goodlad. A challenge for this approach is understanding how and why curriculum should change.
- **Conceptual empiricists.** This camp consists of theorists with an explicit interest in theorising about the curriculum and questioning what is and is not included, how it is mediated and how learning is assessed. Ornstein and Hunkins (2004) suggest that scholars such as Benjamin Bloom, Jerome Bruner, David Berliner, George Posner, Robert Stake and Herb Walberg are

representative of this camp. A challenge for this approach is helping theory and practice to reinforce one another and factoring in the non-content issues that impact on learning achievement.

- **Reconceptualists and critical theorists.** Theorists in this camp tend to be critical of existing curriculum practice and argue the need for conceptual distance to explore more creative and liberating experiences. Their focus is on the curriculum as experienced, rather than as planned and practised, and the thinking seems strongly rooted in existentialist and phenomenological philosophy. William Pinar is an influential theorist in this field and has emphasised autobiographical approaches in which we learn by investigating our own responses to life situations, including educational ones, through processes of regression, progression, analysis and synthesis. In contrast to this focus on the individual experience, critical theorists such as Paulo Freire, Michael Apple and Henry Giroux emphasise the social and political dimensions of the official curriculum and formal schooling, calling for liberation from the influence of the political and economic establishment, through dialectic processes we might associate with Marxist philosophy. The emancipatory agenda explicit among critical theorists is synergistic with Feminist philosophy and some forms of African philosophy. Ornstein and Hunkins (2004, p. 188) note Pinar's suggestion to consider the curriculum "as a political text, a racial text, a gender text, a postmodern text, an aesthetic text, a theological text and an institutional text" and the different understandings that these lenses engender. A challenge for this approach, one would think, is that it would seem to require a very critical, well-read and responsive teacher working with small groups of learners each pursuing their own learning agendas.
- **Postmodernists.** As noted earlier in this discussion, a postmodern approach entails the rejection of all grand narratives and hence querying of the very constructs of the current discussion such as curriculum, pedagogy, education, student and teacher. Curriculum is then emergent not planned. Ornstein and Hunkins (2004) quote Slattery as follows:

curriculum ... in the postmodern era emphasizes discourses that promote understanding of the cultural, historical, political, ecological, aesthetic, theological, and autobiographical impact of the curriculum on the human conditions, social structures, and ecosphere rather than the planning, design, implementation, and evaluation of context-free and value-neutral schooling events and trivial information. (p. 190)

What then does one do, with whom and when as a 'teacher'? Is there a difference between being a 'teacher' in early childhood education, primary schooling, secondary schooling, undergraduate and postgraduate education? The candidate's experience in supporting curriculum development processes in multiple institutions in multiple contexts has tended towards the transactional and hermeneutic as

summarised in Table 2.6 above. In such an approach one can draw upon the thinking of different theorists, the diverse experiences of the people one is working with and the apparent realities of specific contexts. The candidate's approach tends towards the traditionalist camp in believing that there is value in planning a curriculum in advance to encourage a systematic and coherent engagement, but draws also on the other camps identified in the above discussion to ask, 'Why do we want to do this?' and 'Why do we want to do this in this way?' as well as viewing the curriculum-as-plan as a guide and not a blueprint. Explicit in the researcher as curriculum worker's approach is to build into the design of a programme of learning a deliberate process to promote increased learner autonomy, to encourage a critical response from the learner on the very structures and frameworks employed to induct the learner into a discussion and the celebration of emergent learning and unanticipated learning outcomes that provide new insights for both the learner and the community of learning of which he/she is a member at any particular time.

2.4 How does curriculum development happen?

Hoadley (2012, p. 5) suggests that it is possible to discern three dominant positions in curriculum development:

- The first position argues that curriculum development is a technical matter that should be carried out by curriculum experts in an apolitical manner and should be based on clearly defined learning objectives.
- The second position arises from a belief that meaningful learning cannot be based on pre-determined outcomes. Rather, curriculum is developed in the process of teaching.
- The third position stems from a belief that curriculum development is inherently political and should be explicitly so.

These three positions on curriculum development map to the first three of the education paradigms discussed earlier in this chapter (see Section 2.2.3) – technical, practical and emancipatory.

Each of these approaches emphasises different steps in a process and different role-players in that process, as discussed by van den Berg (2014), who distinguishes product, process and praxis approaches as follows:

- A **curriculum as product** focus is technical in nature. It is influenced by the thinking of Franklin Bobbit (in adopting a scientific method); Ralph Taylor (who identified four key principles – set purpose/objectives, identify appropriate educational experiences, organise them and then evaluate them); Hilda Taba (who emphasised the importance of the context in which the curriculum is enacted) and more recently Wiggins and McTighe's backward-development theory (which is like Spady's design down process from pre-determined outcomes). The

problem identified by van den Berg is that such a focus closes possibilities for more open-ended learning and the decisions about what and how to teach typically do not involve the learners themselves.

- A **curriculum as process** focus is non-technical in nature. It builds from the kinds of questions raised by Lawrence Stenhouse regarding the limitations of a curriculum as product focus. Van den Berg (2014) identifies Walker's descriptive theory and Weinstein and Fantini's humanistic theory as examples of process approaches that emphasise curriculum development and enactment as a process negotiated between teachers and learners rather than imposed on learners. This requires highly skilled teachers, however, which could result in a too narrow focus on particular knowledge at the expense of more generalizable knowledge and may not adequately respond to embedded political, economic and historic influences.
- A **curriculum as praxis** approach is also non-technical in nature. It "focuses on bridging the gap between theory and practice, strives toward a democratic decision-making, and the empowerment of people in the process" (Van den Berg, 2014, p. 103), as called for by practitioners and theorists such as Paulo Freire. In such an approach, the curriculum is continually evolving as reflection on experience feeds back into the next part of the unfolding discussion.

The candidate is inclined to make use of all three of these approaches, believing that teaching is a deliberate process of empowering learners gradually to take more responsibility for why, what, how, where and when they learn. But one must start somewhere – perhaps by providing suggested goals, by providing some possible frames of reference and useful initial content, and then designing learning and assessment activities that help learners to explore, question, debate and come to their own conclusions in ways that they can explain and justify to others. As Ornstein and Hunkins (2004) observe, this means making some initial decisions about content, the kinds of curriculum experiences that might be useful and insightful, and the contexts and environments in which the curriculum might be enacted. However, these decisions should be made in ways that involve other relevant stakeholders in the process – policy makers, parents, potential employers, community members, other teachers, and increasingly the learners themselves. The curriculum is then an unfolding plan rather than a rigid blueprint, informed by reflective action-research cycles. This more flexible and open-ended organic approach to curriculum development does require highly competent and resourceful teachers, however, and has traditionally been difficult to implement in school systems with rigid selection and procurement processes and inefficient mechanisms for distribution of learning and teaching resources. In the distance education arena, the reliance on print-based resources and the demand to achieve economies of scale can result in the curriculum becoming ossified, as

institutions continue to work from their stockpile of already printed study guides, rather than developing new resources. Increasing access to digital technology and the advent of OER could then be the catalyst needed to effect useful change.

2.5 How is knowledge organised in a curriculum?

Ornstein and Hunkins (2004) identify three common ways in which curricula are organised:

1. **Subject-centred designs.** This is probably the most familiar design and easier to manage in terms of supply of dedicated learning and teaching support materials, timetable and examination organisation, and educator training. It may, though, result in specialised atomised learning that is not easily transferred across into real life practice. It is a logical design for a transmissive/perennialist/essentialist orientation.
2. **Learner-centred designs.** The focus here is on the whole learner and his/her interests and aspirations. Such approaches are more commonly found in primary schools, but transcendent and transformational orientations underpinned by postmodern or critical theory approaches logically favour a stronger focus on the individual learner. As noted previously, however, there may be a danger of slipping from radical constructivism into extreme relativism.
3. **Problem-centred designs.** These designs require learning across subject and disciplinary boundaries to understand and resolve personal and social real world problems. Such an approach can be demanding on teachers, but is a logical design decision for both transactional and transformational agendas and progressive and reconstructionist approaches.

Hoadley (2012) notes a worldwide trend towards more 'progressive' forms of teaching and learning in the schooling sub-sector, characterised by the following features:

Curricula that place more emphasis on integrated knowledge in which different subjects are combined into "learning areas" and taught thematically;

An increased focus on the competence demonstrated by learners at the end of a process of learning rather than on subject content knowledge;

Greater concern for the knowledge that learners bring to the class and on the linkages between school knowledge and everyday knowledge. (pp. 5-6)

2.6 How is curriculum enacted in practice?

Hoadley (2012, p. 6) observes that the same curriculum plan may look very different in practice when enacted in the different classrooms by different teachers.

It is almost axiomatic that teachers teach the way that they themselves were taught. However, it is also the case that the context of teaching will impact on a teacher's practice. Thus, for example, a new teacher may graduate full of enthusiasm to empower her learners through a curriculum as praxis approach using socio-constructivist methods, but find that the school or university in which she gets a post is very rigid about planning and sticking to the plan and about lecturing and testing as key

methods. She may well, over time, simply adapt to the prevailing teaching and learning culture of the institution. It again then becomes necessary to surface the underpinning assumptions that shape practice within the institution generally and within the individual classroom, lecture hall or tutorial room.

The European Union-funded Holistic Approach to Technology Enhanced Learning (HoTEL) project has ably demonstrated the wide range of theories of learning on which teachers might draw to make more informed decisions in the classroom, Millwood (2017). Table 2.8 is extrapolated from this analysis to demonstrate not only the range of possibilities, but also how these might relate to the broader frameworks discussed earlier and the ones that have impacted most significantly on the researcher-as-teacher’s own practice. Colour coding has been used to identify possible synergies.

Table 2.8: Learning theory

| Disciplinary base | Key theorists | Key concepts | Theory in a nutshell | Reflection |
|-------------------|---------------|------------------------|--|--|
| Theology | The church | Instructivism | Teachers take a central role and transfer their knowledge directly to students through presentations. | It is felt that the learning theories clustered together here are synergistic. They incline to the deterministic and positivist end of the theoretical continua discussed previously and would seem to flow logically from a transmission paradigm and a technical curriculum as product approach informed by perennialist and/or essentialist perspectives. Reflecting on own practice, the researcher as teacher might draw on this domain in drafting initial learning outcomes, linking concepts, managing discipline/ground rules and introducing new concepts. |
| Psychology | Skinner | Radical behaviourism | Learning as a process of forming associations between stimuli in the environment and the corresponding responses of the individual. Reinforcement strengthens responses and increases the likelihood of another occurrence when the stimulus is present again. | |
| Psychology | Bloom | Educational objectives | Taxonomy of learning objectives that educators set for students in three “domains”: cognitive, affective, psychomotor. Learning at the higher levels is dependent on achieving lower levels. Designed to motivate educators to focus on all three domains, creating a more holistic form of education. | |
| Psychology | Bloom | Mastery learning | In Mastery learning, “the students are helped to master each learning unit before proceeding to a more advanced learning task”. | |
| Psychology | Ausubel | Meaningful learning | New knowledge to acquire is related with previous knowledges. | |

| Disciplinary base | Key theorists | Key concepts | Theory in a nutshell | Reflection |
|------------------------|--------------------------------------|-------------------------------|--|--|
| Psychology | Gardner | Multiple intelligences | We have several different ways of learning and processing information, but these methods are relatively independent of one another: leading to multiple “intelligences” as opposed to a general intelligence factor among correlated abilities. | <p>It is felt that the learning theories clustered together here are synergistic. There is a common trend of seeking a balance between subjective, intersubjective and objective knowledge; intrinsic to all the approaches are notions of change and context. There is a much greater focus in these learning theories on learning as a process. This cluster of theories seems most appropriately aligned with a transactional paradigm and curriculum as both product and process informed by progressive curriculum approaches. Reflecting on own practice, the majority of the researcher as teacher’s curriculum and teaching work is informed by the theories in this cluster – especially those marked*.</p> |
| Education Organisation | Fleming Honey and Mumford Kolb | Learning styles | Optimal learning demands that students receive instruction tailored to their learning styles. | |
| Psychology Linguistics | Bruner Piaget | Discovery learning | Learners obtain knowledge by forming and testing hypotheses. | |
| Psychology Linguistics | Bruner Vygotsky Engeström | Scaffolding * | Scaffolding is the support given during the learning process which is tailored to the needs of the student with the intention of helping the student to achieve his/her learning goals. | |
| Psychology Linguistics | Vygotsky | Zone of proximal development* | The area of capabilities that learners can exhibit with support from a teacher or peer. | |
| Psychology | Piaget | Genetic epistemology | A human being develops cognitively from birth throughout his or her life through four primary stages of development: Sensorimotor (0-2) Preoperational (2-7) Concrete operational (7-11) Formal operational (11+) Assimilation is incorporation of new experience into existing mental schema, accommodation changes mental schema. | |
| Psychology Linguistics | Piaget Vygotsky | Constructivism* | The learner is not a passive recipient of knowledge but that knowledge is “constructed” by the learner. | |
| Philosophy Education | Dewey | Experiential education* | The process that occurs between a teacher and student that infuses direct experience with the learning environment and content. | |
| Organisation | Kolb | Experiential learning* | Knowledge is continuously gained through both personal and environmental experiences. The learner must: 1. be able to reflect on the experience; 2. use analytical skills to conceptualise the experience; and 3. make decisions and solve problems to use the ideas gained from the experience. | |
| Education | Montessori | Scientific pedagogy | Education based on science that modified and improved the individual. | |
| Education | Montessori | Montessori education | Principles: 1. Mixed age classrooms, with classrooms for children aged 2,5 or 3 to 6 years old; 2. Student choice of activity from within a prescribed set of options; 3. Uninterrupted blocks of work time; 4. A constructivist or “discovery” model, where students learn concepts from working with materials, rather than by direct instruction. | |
| Education | Hargreaves | Interpersonal relations | Teacher types: lion-tamer, entertainer and new romantic – the problem of self-judgement in assessment. | |

| Disciplinary base | Key theorists | Key concepts | Theory in a nutshell | Reflection |
|--|-----------------------------|--|---|--|
| Organisation Psychology | Argyris and Schön | Double-loop learning* | Modifying the goal of learning activity in light of experience or possibly even reject the goal. Single loop learning is the repeated attempt at the same problem, with no variation of method and without ever questioning the goal. | |
| Organisation | Nonaka and Takeuchi | Organisational learning* | A characteristic of an adaptive organisation that is able to sense changes in signals from its environment and adapt accordingly. | |
| Organisation | Taylor | Text and conversation theory* | An organisation is created and defined by communication. Communication “is” the organisation and the organisation exists because communication takes place. | |
| Cybernetics Psychology | Pask | Conversation theory | A cybernetic and dialectic framework that offers a scientific theory to explain how interaction leads to “knowing” | |
| Social anthropology | Lave and Wenger | Situated learning* | Learning is a social process whereby knowledge is co-constructed and is situated in a specific context and embedded within a particular social and physical environment. | |
| Social anthropology | Lave and Wenger | Communities of practice* | Groups of people who share a common concern or a passion for something they do and learn how to do it better as they interact regularly. | |
| Psychology Linguistics Cybernetics Philosophy | Vygotsky von Glaserfield | Social constructivism Constructionism | Groups construct knowledge for one another, collaboratively creating a small culture of shared artefacts with shared meanings.* | The theories clustered here are more diverse in scope. However, they all incline to the non-deterministic and interpretive end of the theoretical continua discussed earlier and seem to align most appropriately with a curriculum as praxis approach informed by reconstructivist and reconceptualist perspectives. Reflecting on own practice, the researcher as teacher identifies strongly with some of these theories (marked *) but not at all with others. |
| Design | Millwood | Expressive constructivism | Learning involves an iterative process of giving expression to an idea and then evaluating and possibly refining it. | |
| Education Philosophy | Freire | Critical pedagogy | An educational movement, guided by passion and principle, to help students develop consciousness of freedom, recognise authoritarian tendencies, and connect knowledge to power and the ability to take constructive action. | |
| Education | Holt | Home schooling Unschooling | Students learn naturally if given freedom to follow own interests and a rich assortment of resources. | |
| Education | Illich | De-schooling society | School is damaging to education: “The pupil is thereby ‘schooled’ to confuse teaching with learning, grade advancement with education, a diploma with competence, and fluency with the ability to say something new.” | |
| | Siemens | Connectivism* | Knowledge is distributed across a network of connections to people and information – learning consists of the ability to construct and traverse those networks. | |
| | Engeström | Expansive learning* | The learning of new forms of activity as they are created, rather than the mastery of putative stable, well-defined, existing knowledge and skill. | |

| Disciplinary base | Key theorists | Key concepts | Theory in a nutshell | Reflection |
|--|---------------|------------------------|---|------------|
| Psychology Linguistics Cybernetics Philosophy | | Radical constructivism | Knowledge as mental representation: 1a knowledge is not passively received either through the senses or by way of communication; 1b knowledge is actively built up by the cognising subject; 2a the function of cognition is adaptive, in the biological sense of the term, tending towards fit or viability; 2b cognition serves the subject's organization of the experiential world, not the discovery of an objective ontological reality." | |

(Adapted from: Millwood/HoTEL project, 2017, p1.)

It is clear from this analysis that we have not yet found a satisfactory unifying theory of learning and hence cannot expect to be able to offer advice on a single 'right' way to teach.

Hergenhahn and Olson (2005, p. 49) nonetheless identify five main paradigmatic clusters of learning theories: functionalist (e.g., Thorndike, Skinner, Hull), Associationist (e.g., Pavlov, Guthrie, Estes), Cognitive (e.g., Gestalt theory, Piaget, Tolman, Bandura), Neurophysiological (e.g., Hebb) and Evolutionary (e.g., Bolles). They observe, however, that "there are no final answers concerning the nature of the learning process..." and that if teachers cannot find a theory that speaks to them and their practice, they should try evolving their own to contribute to the knowledge base (Hergenhahn & Olson, 2005, pp. 462-463).

Notwithstanding the advice of Hergenhahn and Olson above, Laurillard (2002, 2006) indicates that most education theory, at least for the past 100 years, indicates the need for active student engagement, but teachers have been slow to use technology to do enable this (CHE, 2014). This has prompted discussion around a suitable pedagogy for a digital age (Beetham & Sharpe, 2013): one that uses the 'affordances' of technology to foster more engaged, co-operative and collaborative learning. This is an approach that speaks to the researcher-as-teacher's own assumptions and practices.

We can then update the theoretical framework for this study as follows (Table 2.9):

Table 2.9: Theoretical framework

| Ontological paradigm | | | |
|--|---|----------------|---|
| Determinist | | | X Non-determinist |
| Epistemological paradigms | | | |
| Idealist | X | | Realist |
| Positivist | X | | Interpretivist |
| Educational paradigms | | | |
| Transmission | Transaction X | Transformation | Transcendence |
| Educational meta-theories | | | |
| Logical Empiricism Critical rationalism x | Systems theory X Phenomenology x Hermeneutics X Critical theory x | | Existentialism/ African philosophy x / Feminism/ Post modernism x Nihilism |
| Learning theories | | | |
| Particular limited uses of behaviourist / associationist theory; learning as purposeful and linked to outcomes statements providing these are open to change; belief in connecting ideas in increasingly complex ways – from concrete to abstract, from known to unknown | Practice informed primarily by cognitive and social constructivist approaches seeking to work towards consensus understandings that allow teams of people to work together towards agreed common goals in communities of learning and practice. | | While encouraging groups to work towards consensus understandings and work plans, there is need to create some dissonance to challenge uncritical group think; agree that technology opens new possibilities for learning; believe learning should be activity-based. |

We now turn our attention to the last of the questions posed by Hoadley (2012).

2.7 How is curriculum assessed?

It is useful to distinguish between student assessment and curriculum evaluation.

2.7.1 Student assessment

In a keynote address to the ASEESA Conference on the theme ‘Quality Assessment – Quality Learning’ in 1998, Maggie Coats concluded from a review of international literature and practice that the focus of assessment practice had shifted from institutional reporting to learning support. She then outlined the then new United Kingdom Open University (UKOU) approach to assessment that comprised four inter-related phases – not necessarily linear, circular or spiral in sequencing and progression: *preparing* for assessment (including all necessary information about the assessment task and process up front); *exploring* (including developing the necessary metacognitive awareness and practical skills needed); *implementing* (including reflection-in-action) and *reviewing* (including where necessary

dialogue with the assessor on the feedback provided). In many ways, this keynote address distilled several issues related to the challenge of outcomes-based assessment generally and for the distance education community at that time. It also echoed the central importance of appropriate assessment practice reflected in regulatory and quality assurance processes (CHE, 2004a, 2004b, 2004c; SAQA, 2005a, 2005b). The broad approach continues to inform the candidate's practice as an educator.

More recently, Beets (2014) notes that assessment is a critical component of curriculum design and identifies three common approaches in assessment practice: *assessment of learning* (which focuses on summative assessment and provides evidence of student learning after it is too late to effect an intervention); *assessment for learning* (which focuses on formative feedback on what has and has not been mastered and "feedforward" providing guidelines for how to improve); and *assessment as learning* (which is continuous and focuses on helping students to monitor and reflect upon their own progress in order to inform their future learning goals). He suggests the need to shift the emphasis more to the latter if we wish to help students become more autonomous learners.

As modes of provision continue to migrate towards blended and online approaches, the lessons learned about assessment practice from distance provision become increasingly pertinent.

The distance education community in South Africa – as represented by the National Association for Distance Education and Open Learning in South Africa (Nadeosa) – have seen assessment as playing a particularly central teaching and learning role in the distance education learning process as evidenced by the development of the guiding criteria in this regard:

Activities feedback and assessment (Criterion currently employed for bi-annual Nadeosa courseware awards)

A major strategy for effective teaching in course materials is the provision of a range of activities and strategies to encourage learners to engage with the content. If the course designer provides feedback or commentary on these activities, then learners will experience a form of the discussion that takes place in lively classrooms.

Furthermore, because learners work through the materials largely on their own, they need some means of assessing their own progress. Comments on the activities in the materials can help to do this. The assessment criteria for the programme as a whole should be made clear to learners and should be appropriate to the intended learning outcomes

Assessment

Assessment is an essential feature of the teaching and learning process, is properly managed, and meets the requirements of accreditation bodies and employers. (Welch & Reed, 2005, p. 30).

In most distance education courses submitted for consideration for Nadeosa courseware awards (or evaluated by Saide) with which the candidate was frequently engaged, the assessment strategy

comprised one or more written assignments counting for between 10% and 60% of the final module mark and a written examination counting for between 90% and 40% of the final module mark.

However, in some cases a written task, particularly a written examination, may not necessarily have been the most appropriate way to assess all the learning outcomes in all modules. It is felt that the assessment strategy should rather be informed by the purpose and exit level outcomes of the programme and module. In addition, there was often little evidence that thought had been given to integrated assessment activities across modules and across the programme, although this is a South African Qualifications Authority (SAQA) requirement for registration of a qualification.

Another challenge was that many in-course activities were often at a much lower level of demand than the exit National Qualifications Framework (NQF) Level of the module or programme and often many opportunities for deep learning were lost because the activities were not always well-integrated into the content exploration. There was often not a clear progression and alignment between in-course activities, formative assignments and summative examinations. In addition, in-text activities often did not provide feedback – solutions to activities may have been in a tutor guide rather than the student manual, but this then puts the emphasis on the contact sessions rather than on independent learning from the materials.

In examples of marked assignments provided for review, the emphasis was often on error-spotting and ticking of correct content, rather than provision of constructive formative feedback.

There is some concern that the pressures of working in new modes, with new technology and growing student numbers will encourage greater use of content-based multiple choice question type assignments and examinations rather than more innovative and more authentic forms of assessment.

The central role of assessment in teaching and learning through distance education

Not all distance or online students avail themselves of the opportunities provided for student-student and student-staff engagement and so feedback on formative assignments may be the only opportunity to engage with the thinking of individual distance students. Therefore, the design of an appropriate assessment strategy needs to be a core component of programme design (CHE, 2014; CoL, 2005; DoE, 2003, 2005; Killen, 2000; Maree & Fraser, 2004; Rowntree, 1987; SAQA, 2005a, 2005b).

This means designing distance programmes and developing distance materials in which there is a clear link between informal in-course self-assessment and peer-assessment activities, formal formative assignments and summative assessment activities that provide evidence of achievement of the planned learning outcomes in a systematic and integrated way (Beets, 2014; Beets & le Grange, 2005;

CoL, 2005; Freeman & Lewis, 1998; Kenyon et al., 2000; Mothata, van Niekerk, & Mays, 2003; Randell, 2006).

Various guidelines exist regarding the ways in which the assessment strategy in a distance programme can be designed to scaffold and support learning optimally (see for example Morgan & O'Reilly, 1999, p. 80; Raggatt, 1994, p. 138).

As institutions move to fifth generation distance provision with increased e-learning and on-line learning, it seems necessary to consider how the role of assessment and feedback is being re-imagined in a digital age. The following discussion, based on a report developed by Mays and Mhlanga (2012), outlines some of the possibilities.

Assessment in a digital era

In a chapter on assessment and evaluation in BCCampus/COL's publication *Education for a Digital World* (BCCampus/COL 2008), O'Reilly and Kelly (2008, p. 213) begin with the following insightful assertion:

To improve learning and promote learning communities, we must recognise that successful assessment is not primarily a question of technical skill but rather of human will. – Angelo (1990).

The first part of the chapter, written by O'Reilly, explores the digital tools available to support assessment practice. The second part of the chapter, written by Kelly, changes the focus to authentic assessment strategies for the online environment, observing:

Often when we talk of assessment in an online environment, we think of automated quizzes and grade books. While useful in many circumstances, automated quizzes do not always accurately reflect a student's abilities, especially when you are asking them to achieve a higher level of difficulty in the cognitive learning domain, to demonstrate a physical skill in the psychomotor learning domain, or to evaluate attitudes in the affective learning domain ... Authentic assessment—assessing student abilities to apply knowledge, skills, and attitudes to real world problems—is not only possible in an online environment; it is getting more popular. (Kelly, 2008, pp. 239-40)

Online work does not require everyone to be in the same room, at the same time, so you can take advantage of the online environment to make assessment an iterative process. As we previously stated, authentic assessment mimics work that students will encounter in the real world, such as creating antiviral drugs in a biopharmaceutical lab, making presentations to potential donors to a non-profit organization, or teaching civics lessons in an inner-city high school. In these work environments, there are benchmarks or milestones that allow people to check their progress. You can use authentic assessment methods like the peer review rubric to replicate this process.

For example, you may have the students provide peer feedback first, as a way to improve their work before turning it in for a grade, or you may have them provide it at the same time as

your own with the option to rewrite it. By creating additional parts to each assessment strategy, students will learn even when you are evaluating them. (Kelly, 2008, p. 243)

Assessment in ODL

The challenge is made more complex by adoption of an 'open' distance learning approach which requires a commitment to investment in alternative forms of assessment to suit the needs of different learners. Boskic, Starcher, Kelly and Hapke (2008) provide a useful discussion and set of tools for thinking about different ways of presenting assessment tasks (and hence different ways of providing feedback).

Good practice teaching in distance (and other forms of flexible provision)

Providing feedback remains one of the most prominent ways of teaching in distance education. This does not only guide the student in terms of academic improvement, it also helps build a personal relationship with the teacher (Hismangol & Hismangol, 2009).

An important aspect to consider is the mechanism that is used to provide feedback. Use of a variety of feedback methods is more desirable than using just one method since students learn differently. It is important though for one to be able to make a judgement on which method is the most appropriate in any given case; not all methods are equally effective in all instances. Hismangol and Hismangol (2009) describe the following ways through which tutors give feedback to students at the Anadolu University in Turkey: (i) Feedback through written correspondence, (ii) Oral feedback during face-to-face sessions and (iii) Feedback through non-contiguous interaction on electronic media.

General considerations

Traditionally, distance education provision in South and Southern Africa has been characterised by print-based materials and possibly some contact support (Aluko & Hendrikz, 2012). The materials and the support has tended to be activity-based to encourage student engagement with the content. Where distance programmes move online, learning activities continue to be a central design concern.

Providing timely constructive feedback (and feedforward) on such activities is essential in distance and online provision, but arguably also in all other forms of provision.

Useful guidelines in this regard are provided by Bright (2011) and Saide (1998, 2012).

However, it seems important to consider also what expectations the institution conveys when it allocates resources for providing feedback. For example, with an 8-10 page second assignment and a detailed rubric/memorandum developed up front, we could probably expect to provide reasonable feedback in approximately 20 minutes per assignment. In a low enrolment module with 100 students, 33.3 hours would need to be set aside for marking the assignment adequately, while in a high

enrolment module with 8,000 students, 2,667 hours would be needed. If we assume an average workload of 2,000 hours per year of which 60%/1,200h should be devoted to teaching, we would need two full-time staff just to mark this assignment and a third to assist, and do all the other things like answer student queries, prepare tutorial letters and exam papers, update learning resources, etc.

Of course, it is likely for very high enrolment modules that much of the marking will be outsourced. This raises further questions, however, such as whether the remuneration offered is consistent with the expectation of marking an average of 3 assignments per hour. It also raises questions about the resource allocation for high enrolment modules. For example, a module may have 20,000 students all submitting the same assignment, which must all be marked within the same 3-week period. To achieve this, 6,667 marking hours will be needed. If we divide this by 120 hours in a 3-week period, this implies the need for 56 full-time markers who do nothing but mark in that period. However, the responsible module coordinator will still need to train these markers to ensure consistency – say 8 hours. In addition, the marking will need to be moderated. Moderation guidelines usually recommend a 10% sample – that is 2,000 assignments to moderate. If moderation takes half the time of the original marking – some assignments will be acceptable but some whole batches may need to be remarked – the lecturer will need to devote 333 hours (or just over 25% of their teaching time, or 8.3 weeks) to moderating the marking of one assignment for this one module.

What these examples illustrate is that a commitment to improving the quality of feedback requires that adequate resources be set aside for this purpose. In a connected world in which students can access content from anywhere, anytime, it is the quality of learning support rather than the institutional packaging of content that will distinguish one institution from another (Simpson, 2013). This suggests that a percentage of every student fee and income subsidy must be ring-fenced to ensure that the necessary quality feedback can indeed be provided, and so that staff cannot cite high numbers as the reason for not providing this support. Thus, curriculum practices need to be managed effectively, as is discussed in more detail in the next chapter.

2.7.2 Curriculum evaluation

As might be expected from the foregoing discussion, understandings about the nature and purpose of curriculum evaluation vary. Like student assessment, as discussed above, curriculum evaluation might be considered from 'of', 'for' and 'as' perspectives; might be approached from within different paradigms – scientific-positivist or humanistic-naturalistic; and might involve different stakeholders such as students, teachers, formal evaluators, curriculum policy-makers, consultants, parents and other community members (Ornstein & Hunkins, 2004).

Reflecting on these issues, Du Preez (2014, p. 182) proposes an approach based on the work of Schoonmaker, which sees curriculum evaluation as a process of reflection and critical questioning about curriculum realities. She raises concerns about evaluation approaches that focus on the products of curriculum rather than the processes that underpin it. She points to suggestions made by Harper and reconceptualists like Pinar for a multidimensional model that uses both quantitative and qualitative strategies to interrogate the curriculum as product, process and praxis, to consider the implications of the null curriculum, and to use the insights gained for curriculum reform or transformation (du Preez, 2014, pp. 184-190).

2.7.3 Data analytics and big data

Given the many different perspectives on the nature and purpose of education and curriculum practice, how do we make decisions about what to and what not to do? McMillan & Schumacher (2006) suggest a commitment to 'evidence-based inquiry' and this raises the questions of what evidence we need, how we find it, how we analyse it and how we use it to make pedagogic and curriculum decisions.

In recent years, there has been growing interest in the ways in which data analytics may be used to inform practice and three different kinds of analytics have emerged:

- **Longitudinal data analytics:** this is the kind of data collected by institutional research departments and shared with national management information systems such as the Higher Education Management Information System (HEMIS) in South Africa. An advantage of this kind of data is that it is usually subject to rigorous verification processes and is therefore reliable in what it tells us about long-term trends regarding, for example, student retention and success rates (Parker & Sheppard, 2015; Prince & Cliff, 2015). However, the verification processes are time-consuming and any interventions suggested by the data cannot be used to benefit the students on whom the data were based, because by then they have moved on.
- **Learning analytics:** this is the kind of data that becomes available in real-time during the process of teaching and learning. Most learning management systems (LMSs) routinely collect data about how often students visit the LMS, how long they spend there, what activities they attempted, how well they did/did not do, etc. If a teacher has access to this data, he/she can communicate directly with individual students to make recommendations that might lead to greater success. A very good and free example of what is possible can be experienced by becoming a tutor to someone studying through the Khan Academy (Mays, 2016c), but learning analytics is growing in prominence in the university sector as well, including influential role-players like Stanford (Thille, 2015).

- **Predictive analytics:** this is an emerging field that draws upon the data from the former two as well as other data to identify promising high impact practices, for both teachers and learners, with a view to intervene before problems arise (Davis, 2016).

Of course, the data has no value if it is not acted upon to improve practices. And further, there are numerous ethical issues that need to be considered about who has access to what data for what purposes and whether informed consent has been given (Prinsloo, 2015). These kinds of issues are currently being explored by five South African institutions in a project called *Siyaphumelela: We Succeed*. Emerging learnings from this initiative are available from the following website: <http://www.siyaphumelela.org.za/>

2.8 Curriculum transformation and OER

As we have seen from the foregoing discussion, many factors impact on what happens with respect to the curriculum. Taylor (1999) provides a useful systemic overview of these influences noting how the intended curriculum may be influenced by national, school and classroom goals and contexts; the implemented curriculum may be influenced by factors such as teacher qualifications, experiences, belief systems and contexts of practice influenced in turn by the ways in which schools are resourced, supported and evaluated; and the attained curriculum will be influenced by student characteristics, such as general background, household economic capital, household cultural capital, attitudes, aptitudes and expressions.

2.8.1 Curriculum in context

Much further and higher education provision in Africa, in terms of both the curriculum and the management of implementation, remains heavily influenced by past colonial practices (Higgs, Vakilisa, Mda, & Assie-Lumumba, 2000; Coetzee & Roux, 2002; Ngugi, 2011; Nsamenang & Tchombe, 2011).

This raises questions about the extent to which what we teach, how we teach it and how we manage our programmes and relate with one another can or should reflect our context – centralising African concerns, contributions and approaches.

This in turn raises issues for both the design of the curriculum as well as the management of implementation regarding issues such as multi-lingualism, indigenous knowledge, contextually- and culturally-informed work and learning practices in African and global contexts.

In 2004, UNESCO published a position paper on ‘Higher education in a Globalized Society’, in which it adopted the following understanding of the notion of globalization: “the flow of technology, economy, knowledge, people, values and ideas ... across borders. Globalization affects each country in a different

way due to each nation's individual history, traditions, cultures, resources and priorities" (Knight & De Witt, as cited in UNESCO, 2004, p. 6). The position paper noted the multifarious effects of globalization on higher education and argued that an appropriate response for UNESCO was to participate in the development of normative frameworks, to promote and engage with regional conventions on higher education and debates surrounding the recognition of qualifications within and across borders, and to promote and participate in global fora related to quality assurance, accreditation and the recognition of qualifications.

Writing for UNESCO, Altbach et al. (2009) identify globalization and internationalization as remaining one of the key trends affecting contemporary higher education and training, noting the growing dominance of English as the language of scientific communication; increasing moves towards the development of regional qualifications frameworks to facilitate portability; and the growing dominance of a few mostly wealthy, English-medium universities in the developed world in setting higher education agendas (in some parts of the world, national policies actively encourage such high profile universities to establish local campuses). There is, therefore, a growing tension between a curriculum that retains and celebrates local culture and autonomy and curriculum practices premised on being an active participant in the global higher education arena which has seen a continued marginalisation of non-English medium universities generally, and of those in developing countries in particular.

In this regard, and closer to home, Le Grange (2006, p. 370) notes the extensive discussion in recent years of the concept of the 'African' university and points to the work of Horsthemke who, after noting the sterility of the debate between Afrocentrists and Afroscptics on this issue, argues for an approach based on 'Afrorealism' – recognising that there is no single identity such as 'the African University', but that universities in Africa face a number of common challenges, should be part of an "enabling, internationally competitive tertiary (as well as technical and practical) education system" and should "feed back into the community – in terms of both interrogating questionable customs and traditions and educating against a victim- and/or beggar mentality" (Horsthemke, 2006, p. 464).

While Bangura (2005, p. 13) suggests adopting an approach informed by "Ubuntogogy" (pedagogy informed by the principles of Ubuntu), Higgs and Moeketsi (2011) further problematize the issue, noting the diversity of perspectives on what constitutes both African in general and African philosophy in particular, emphasising the importance of recognising human agency.

More recently, Lockett (2010, p.1) argues the need for the curriculum to "offer students subject positions that transcend and subsume the old Western or African identities", while Kanu (2014) argues

the need for both a universal and a particular character in conceptualising an African philosophical perspective.

Curriculum issues are complex when working within a single mode of provision in a single context. They become more so when an institution is working in more than one mode and context, as is the case with ANU. An additional complication is ensuring equivalence of curriculum provision across these different modalities and contexts.

2.8.2 Equivalence of provision across modes

Traditionally, most university students were 18-24 year olds taking a first degree. A much smaller number of these would progress into postgraduate studies either immediately or after a few years of work. University curricula, systems and facilities were established to accommodate this reality. As ANU has experienced, however, there is growing demand for more flexible provision using other modes, such as part-time studies and distance learning, requiring different systems and procedures which are discussed in the next chapter. For the current discussion, it seems important to flag the importance of ensuring equivalence of provision across the different modes and contexts so that students in each mode and context are offered a reasonable chance of success and successful graduates from each mode and context will exit with the same level and kind of competences.

This is illustrated in Table 2.10, which compares the contact and distance modes for a new Bachelor of Education (BEd) Honours degree in Teacher Education and Professional Development offered by the University of Pretoria.

Table 2.10: Equivalence across modes of provision

| Contact | Distance |
|--|---|
| 16 credits =160h/module | 16 credits =160h/module |
| 64 hours reading, thinking and making notes | 64 hours reading, thinking and making notes |
| 32 hours completing and uploading assignments (2/module) | 32 hours completing and uploading assignments (2/module) |
| 16 hours preparing for summative assessment | 16 hours preparing for summative assessment |
| 10,5 hours contact tutorials (7 x 1,5) | 48 hours online self-assessment, peer cooperation and collaboration (16w x <3h) |
| 37,5 hours campus-based, structured peer cooperation and collaboration | e.g., <0,5 hours intro activity |
| | <1 hour quiz on new content |
| | <1,5 hour consolidation discussion/feedback |

(Source: Mays, 2016c, Presentation Slide 11)

The exit level outcomes and curriculum structure are the same in both modes of provision of the BEd Honours programme, as are the module coordinators who have overall responsibility for academic integrity. The curriculum comprises eight modules of which one is an elective. Each module is weighted at 16 credits or 160 notional learning hours and the independent learning expectations are the same regardless of mode of delivery. The difference comes only in the methods employed. Whereas campus-based students will spend 48 hours in structured contact-based activities, such as tutorials and student study groups, the distance students will spend 48 hours completing structured semi-online activities and engaging in online (and limited face-to-face and decentralised) discussion forums on the same issues.

In similar vein, Sibande (2011) explored the difference in take up of distance and contact provision in dual mode universities in Botswana. Sibande was interested in the concept of equivalency across the two modes, creating a useful planning matrix (Table 2.11).

Table 2.11: A planning matrix for dual mode provision

| Policy issues | Strategic planning concerns | Quality issues | Staff and student support | Faculty incentives |
|--|---|--|---|--|
| Motivation Targets | Comparative targets and why? | Curriculum same? | How are curricula developed and by whom? | Recognition for ODL modules, research? |
| Target audience | What structures are needed and possible? | Are the structures in place? | Workload allocations | Recognition and rewards |
| Demand/targets | Resources and allocation? | Resources and allocation appropriate? | Access within campus and across footprint | Payment for afterhours work/travel |
| Which programmes and why | Number and level of programmes Relation to needs Cost-effective | Workload Assessment | Workload Financial support | Staff training |
| Analysis of staff competencies for mode? | Review? | Training? | Impact? | Impact and reward? |
| Evaluation when and how often | Resources for evaluation | Past evaluations and consequences | Use of evaluation findings | Feedback to staff; recognition of improvement |
| Policy objectives and resources to implement | Communication of policy | Implementation strategy and authority to implement | Monitoring and evaluation | Benefits of policy to students, staff, institution |

(Adapted slightly from: Sibande, 2011, pp. 27-29)

A further curriculum consideration then is whether the demand for different modes of provision comes from the same kinds of people, because a curriculum designed for school leavers makes different assumptions about prior learning and has a different orientation to real world experience, than a curriculum designed for mature working adults who are probably more interested in learning that relates to their immediate needs. Similarly, different contexts raise different kinds of curriculum planning and implementation challenges regarding timing, policy equivalence, management of

practicals, language of learning and teaching, and other issues, for example, when providing programmes that cross national and regional borders. For both different audiences and different learning needs, OER may add value.

2.8.3 The potential role of OER

Having explored aspects of theory and practice and made a case for a pragmatic, pluralist approach, it is necessary next to make the link with OER. Table 2.12 summarises the possible link between curriculum practices and use of OER.

Table 2.12: The impact of different conceptions of learning on practice

| Decisions made regarding: | | | |
|--------------------------------|---|--|--|
| Communicating the curriculum | <ul style="list-style-type: none"> • Outcomes and content finalized before programme. Apply to all learners. • All learners start and end at the same time and follow the same study sequence. • Emphasis on providing ‘finished’ content through lectures/ printed materials/ multi media/ ICTs. • Use of generic tutorial letters offering assignment model answers/ provision of model answers to tasks. • In-course activities few or used to consolidate memorization of content. • Tutor/materials developer seen as expert transmitting knowledge. | <ul style="list-style-type: none"> • Outcomes and content finalized before start but programme offers core and elective options. • Continuous enrolment, but same study sequence for all learners. • Emphasis on providing resources and scaffolding to enable learners to construct their own understandings, through tutorial-in-print; 1-1 contact tutorials; emails; teletutoring. • Emphasis on individual feedback on assignments. • In-course activities require learners to construct and demonstrate their own understanding. • Tutor/materials developer seen as scaffolding learning opportunities. | <ul style="list-style-type: none"> • Outcomes and content negotiated with learners before start of programme. • Continuous enrolment and modularization allows multiple pathways. • Emphasis on providing resources, not always complete, that reflect multiple perspectives and inviting discussion via email/website/social media, in small group contact tutorials. • Emphasis on formative feedback on both individual and group tasks; feedback as continuation of discussion. • In-course activities favour discussion with others and examination of multiple viewpoints and multiple resources. |
| Engaging with the curriculum | <ul style="list-style-type: none"> • Assume that learners have appropriate study skills. • Learners expected to master content. • Emphasis on recall in activities, assignments and examinations. | <ul style="list-style-type: none"> • Enable reflection on and development of metacognitive skills. • Learners expected to construct own understanding; therefore concern with both product and process. • Emphasis on problem identification and problem-solving in activities, assignments and examinations. | <ul style="list-style-type: none"> • Enable reflection on and development of metacognitive and social skills. • Learners expected to co-construct knowledge with others; emphasis on process. • Emphasis on critical analysis and open-ended discussion. |
| Applying what has been learned | <ul style="list-style-type: none"> • Assessment by tutors only. • Assessment tasks require recall. • Assessment tasks include assignment content tests; examinations. | <ul style="list-style-type: none"> • Assessment by self and others. • Assessment tasks require application of knowledge in authentic situations. • Variety of individual assessment tasks, including portfolios. | <ul style="list-style-type: none"> • Assessment by self, peers and tutors. • Assessment tasks require reflection and application in congruent real-life contexts. • Variety of assessment tasks, including group tasks. |

| | | | |
|-------------------|--|---|---|
| Typical resources | <ul style="list-style-type: none"> • Single prescribed textbook | <ul style="list-style-type: none"> • Prescribed and recommended mixed resources; with intent to set up debates | <ul style="list-style-type: none"> • No limits on resources consulted including idiosyncratic resources and resources co-constructed as part of the learning process |
|-------------------|--|---|---|

(Source: Mays, 2014b, pp. 121-122)

As explained in Section 2.6, and as illustrated in Table 2.12 above, the researcher-as-teacher’s practice is pluralist when it comes to ways of communicating the curriculum, engaging with the learning process and assessing what has been learned. The dotted lines in the table indicate that the boundaries between approaches are permeable – different pedagogic approaches may serve different learning purposes and contexts (Anderson & Dron, 2011). The kind of eclectic approach to the selection and use of methods implied in this table is elaborated in much more detail in Mays, Grosser and De Jager (2015), which addresses the following issues: planning to teach; assessing learning and teaching; teaching with learning in mind; whole-class teaching; small-group, problem-based teaching; using ICT in education; managing learning and teaching and ongoing professional development. In this section, the focus is more specifically on the potential role of OER.

Resources that have been openly licensed for adaptation provide important possibilities for addressing the kinds of concerns raised in 2.8.1. They allow content to be recontextualised using more appropriate examples and language and incorporating a wider range of voices, approaches and media and there is some evidence that teachers are indeed beginning to work with OER in this way (de los Arcos, Farrow, Pitt, Weller, & McAndrew, 2016). However, as noted previously, this will only happen if appropriate decisions are made consciously during the curriculum design and development or lesson planning process.

It is suggested that there is need for our practice to be more explicitly and consciously informed by relevant theory and for theory to be constantly validated or evolved based on research into practice. The next section of the chapter explores some possibilities in this regard.

2.9 Towards scholarly curriculum practice

As noted in the previous chapter, the University of Pretoria (UP) was one of the four institutions involved in the OER Africa participatory action initiative related to exploring the potential of pedagogic transformation using OER. Initially, the engagement focused on work with the College of Veterinary Sciences. However, as noted earlier in this chapter, during this study, the candidate took up a new full-time position as Manager of the Unit for Distance Education (UDE) in the Faculty of Education at UP. This created an opportunity to cross-pollinate the necessary design and development work for distance education at the University of Pretoria with the work in process with ANU. Accordingly, the candidate prepared and facilitated a full-day pre-conference workshop for the Nadeosa 2016

conference which blended part of a workshop originally prepared for and facilitated at ANU (and subsequently also facilitated with two teams of staff at the University of the Free State, another OER Africa PAR partner) with curriculum design work undertaken at the University of Pretoria in preparation to launch a new distance programme (Mays, 2016c). Presenting this thinking in the form of a workshop created a space in which to explore the theoretical assumptions and practical applications that had arisen at ANU and UP with a community of open, distance and e-learning practitioners – hopefully leading to the kind of refined understandings anticipated through engaging in a hermeneutic cycle of inquiry. The discussion that follows is based on this workshop and engagement.

In 2014, the Department of Higher Education and Training gazetted South Africa's first national distance education policy (DHET, 2014) and in the same year, the Council on Higher Education published a good practice guide for distance education in a digital era (CHE, 2014). These two documents reflect a growing integration of digital technologies in the provision of higher education that had begun to result in a blurring of boundaries between different modes of provision that could potentially have obscured some of the quality issues peculiar to distance education provision (Glennie & Mays, 2013). While it seems clear that technology has the potential to overcome some of the weaknesses of older models of distance education provision, particularly the limited opportunity for interaction in the correspondence model, it seems equally clear that opting to use technology to create more interactive and open-ended learning experiences requires conscious choices in the design phase that institutions will not necessarily make (Bates & Sangrá, 2011). In fact, once institutions realise the cost involved in greater interaction in an online environment, perhaps even greater interaction than in a typical traditional contact programme, institutions may be even less inclined to invest in the design and development of programmes that make full use of both the information and communication affordances of technology, or at least will likely seek to automate as much as possible (Hülsmann, 2016; Kanuka & Brooks, 2010; Rumble, 1997, 2004). It seems necessary then to explore ways in which it might be possible to design and develop programmes that are more open through making judicious use of open, distance and e-learning possibilities that are also affordable and sustainable for both institutions and students.

2.9.1 Key questions

Considering the context outlined above, the discussion in this section explores the following questions:

- What are the similarities and differences between ODeL and non-ODeL programmes?

- How do we reconcile the need to design a coherent programme for accreditation purposes (“whole qualifications” in South African NQF terms) and the use of ICT to create personal learning environments and to encourage emergent learning (programmes based on a shopping basket of “unit standards”)?

A consideration of existing policy and quality guidelines (CHE, 2004b, 2014; CoL, 2005, 2009; Welch & Reed, 2005) suggests that all institutions, regardless of mode of provision, should engage with questions such as the following:

1. What is the programme?
2. What are the intended learning outcomes and graduate attributes?
3. Why is the programme needed?
4. How does the programme align with institutional vision and mission?
5. What are the modules/courses that make up the programme?
6. How is the programme designed for coherence and fitness for purpose?
7. How does the programme fit into a learning and/or career pathway?
8. What is the mix of teaching and learning strategies and why is this considered optimal for the purpose and target audience?
9. What is the assessment strategy and why is this considered optimal for the purpose and target audience?
10. What learning and teaching support services are available to staff and students?
11. What is the enrolment plan from year 1 to suggested optimum?
12. Who is involved in offering the programme (roles, qualifications, experience, number, time)?

Questions 5 and 6 need to be considered together if we are to address the concerns raised by national review processes in South Africa about the lack of coherence of many programmes being offered (CHE, 2004a, 2007, 2010, 2013). Questions 11 and 12 relate to issues of affordability and sustainability since a major cost of provision will be the nature and number of staff involved in supporting the students while the enrolment plan will need to demonstrate that enough students will be enrolled to cover the costs of development, delivery and review.

In addition to the general questions that apply to all modes of provision, the following additional questions (and there may well be more that it would be useful to ask) logically arise from migration to a distance mode of provision:

13. What is the strategy for ensuring access to quality learning resources?
14. What is the strategy for decentralised learning support?
15. What is the strategy for decentralised assessment?
16. What is the strategy to ensure equivalent quality of provision across diverse learning contexts (including cross border where applicable)?

The approach and examples in this section seek to suggest ways to explore some of these questions.

In helping development teams to think through the decisions to be made in the programme design process, it is useful at the outset to suggest to programme developers that they consider a range of learning possibilities on a fitness for purpose basis rather than focus on only one, as illustrated in Figure 2.1 below.

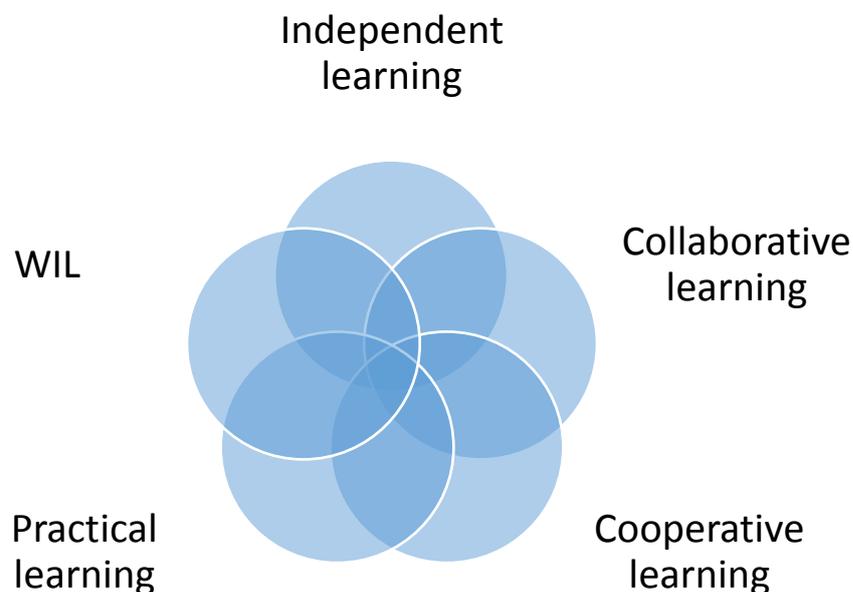


Figure 2.1: A range of learning possibilities
(Source: Mays, 2016c, Presentation Slide 26)

It is suggested that some things can be learned independently from well-scaffolded materials, but that these emergent understandings are likely to be deepened if they can be complemented with one or more other approaches: collaborative learning in which students work together on the development of common projects or artefacts or solutions to a problem; cooperative learning in which students

work largely on independent projects but have opportunities to give one another feedback and to share ideas; practical learning in a laboratory and/or workshop and/or work-integrated learning (WIL) in a workplace – for example teaching practice for teachers, clinical placements for medical staff and veterinarians, work experience for younger learners still thinking about what they want to do and learn.

2.9.2 Programme coherence, structure and emergence

There seems to be a tension inherent in the very nature of a discussion on programme coherence between programme design and development processes following a Tylerian design-down process and more organic reconceptualist approaches, enabled by a connected world and supportive of emergent learning (Van den Berg, 2014). The former approach suggests that learning outcomes can be determined in advance while the latter suggests that the learning outcomes are likely to emerge through the process.

Ways to address this tension might include adopting:

- Increasingly open programme structures
- Activity-based approaches
- A greater emphasis on personalised formative feedback.

Increasingly open programme structures

Three inter-related components comprise the notion of a programme as conceptualised by the South African Qualifications Authority (SAQA) (2005a) – fundamental learning geared towards supporting student success in the programme generally through development of, for example, cross-cutting academic literacy skills; core learning that speaks to the kind of disciplinary learning that is highly portable across different cognate programmes and contexts; and elective learning that opens up individual choices, for example, a Foundation Phase elective in a teacher pre-service programme. It is not difficult to see the possibility of adding a further optional dimension of a more open-ended and less structured nature – that makes use of the affordances of technology to engage students more actively than simply providing a set of recommended additional readers. This is illustrated in Figure 2.2 below.

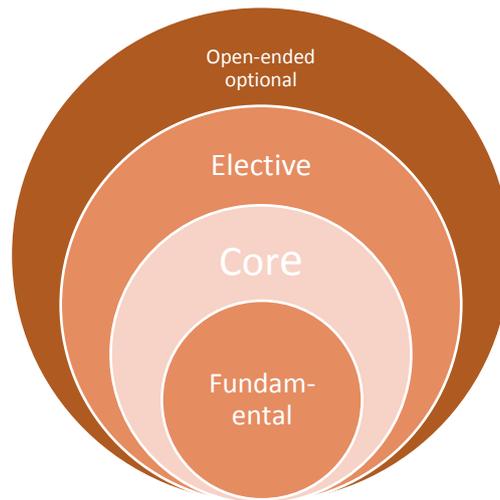


Figure 2.2: Designing in an open-ended programme component

(Source: Mays, 2016c, Presentation Slide 14)

Inherent in the programme design in the model in Figure 2.2 is a deliberate strategy to give effect to the progression embedded in the NQF level descriptors (SAQA, 2012) towards increasing student autonomy. It is the candidate's experience that a deliberate learning pathway needs to be created towards this end, which requires a team investment in a coherent programme design process. Without a conscious and deliberate follow up on using academic literacy skills developed in a fundamental model within a subsequent core module, for example, there is not likely to be transference of those skills; and without an explicit attempt to shift the locus of responsibility for further and deeper learning onto the students in the form of scaffolded learning pathways explicitly leading to increasing self-regulation and self-efficacy (Smith, Gamlem, Sandal, & Engelsen, 2016), we are unlikely to see a shift from dependent to independent and emergent learning. It is suggested that adopting an activity-based approach to design can help to create such pathways.

Activity-based approaches

There is now an extensive literature on the concept of activity theory, building on the work of Vygotsky, Leont'ev, Luria, and others starting in the 1920s, and more recently analysed and refined by theorists like Engeström. Largely independent of this body of theory, however, distance educators have long advocated activity-based approaches as a way of encouraging student engagement with content (CoL, 2005, for example, which draws on much earlier work by Rowntree and others). In workshops on programme design and materials development led by the candidate, extracts from a UKOU course (Sherratt, Fletcher, & Northedge, 1992) are used to provide practical examples of how activities can be used to scaffold engagement. The development of meaningful and authentic learning activities is usually the single greatest challenge for disciplinary experts with limited or no pedagogical background and the candidate has found that using a somewhat mechanistic typology of developing

a sequence of introductory, developmental and consolidating/applying activities geared towards a specific outcome can be useful. These different types of activities can be explained (and in practice illustrated with practical examples) as follows (quoted from a 2016 Nadeosa workshop run by the candidate and shared under an open licence (Mays, 2016c)):

At the start of a new unit of learning, and *before* giving expert opinions and definitions, it is often a good idea to include an introductory activity that:

- Checks whether our assumptions about prior learning and experience are correct
- Surfaces prior learning and experience that will be useful
- Awakens interest in the topic to be explored
- Confirms that we are interested in the students' own opinions and experiences
- Helps students to see the need for further learning ...

The following kinds of activities might then be useful:

- A revision knowledge-based activity
- A cartoon or other visual resource for comment
- A case study, scenario or newspaper article
- A reflection on experience and practice ... (Mays, 2016c, Workshop Resource 4.5).

During the learning process, we need to keep students actively engaged with the content through the inclusion of regular (at least every 3 pages/screens) developmental activities and feedback. Such activities and feedback:

- Help students self-assess whether they are on the right track
- Surface gaps in prior learning and experience that need to be addressed
- Maintain interest in the topic being explored
- Confirm that we are still interested in the students' own opinions and experiences
- Help students to make connections between ideas and between theory and practice
- Help students to see the need for further learning ...

The following kinds of activities might then be useful:

- A knowledge-based practice activity
- A cartoon or other visual resource for critical analysis
- A more complex case study, scenario or newspaper article
- An opportunity to put learning into practice and then to reflect upon it ... (Mays, 2016c, Workshop Resource 4.6).

At the end of a significant unit of learning, students need an opportunity to consolidate and apply what they have learned. Such activities and feedback:

- Help students self-assess whether they are on the right track
- Provide opportunities to summarise key learnings
- Maintain interest in the topic being explored
- Confirm that we are still interested in the students' own opinions and experiences
- Help students to make connections between ideas from different parts of the unit and between theory and practice
- Help students to see the need for further learning
- Provide a self-assessment opportunity for the complex application tasks required for formal formative and summative assessment ...

The following kinds of activities might then be useful:

- A knowledge-based practice activity
- A cartoon or other visual resource for critical analysis
- A more complex case study, scenario or newspaper article
- An opportunity to put learning into practice and then to reflect upon it
- A summarising activity such as a mind map or cloze exercise... (Mays, 2016c, Workshop Resource 4.7).

Usually, an activity needs to be built around some kind of learning resource and hence the candidate's abiding interest in and engagement with OER. Wiley (2016) opines that OER are open not only in terms of being free, but also ideally granting the rights to retain, reuse, revise, remix and redistribute. This means more students can actively learn by doing things with resources, including doing things that were not possible before such as:

- Remixing/adapting resources
- Recontextualising an open textbook
- Responding to diverse needs – media, language, examples ...

An example of a more open-ended extension activity like that illustrated in the outer circle of Figure 2.2, might be that having completed a structured programme in curriculum design and development, students could take an existing openly licensed guide or textbook on the issue and re-contextualise it for their own needs by replacing overseas examples with local examples and/or translating the resource or part of the resource into a local language. The importance of investing staff time in the design and development of activities like this, which encourage greater and more creative student engagement with content, as opposed to trying to create more opportunities for student-teacher engagement for example, is supported by a recent meta-study undertaken by Concordia State University (Bernard, Abrami, & Borokhovski, 2009).

In another contemporary meta-study, Hattie (2009) reviewed more than 800 quantitative meta-studies, involving more than 50,000 separate studies, on learner achievement in schools and concluded that various kinds of appropriate teacher responses to individual learning was the single biggest teacher-oriented factor in learner achievement, which leads to the third part of the discussion identified earlier.

Feedup, feedback and feedforward

Hattie (2009, p. 187) identifies three important ways in which teachers can respond to student learning in a positive way: feedup – making explicit the links between the students' learning and the desired goals or learning outcomes (including celebrating the achievement of worthwhile goals or outcomes that were not anticipated); feedback – focusing on helping the student to reflect on how

far and well they have progressed on their learning journey to date; and feedforward – providing guidelines on where to go next and how that might be accomplished. Such responses are enabled in a digital environment through provision of self- and peer-assessment rubrics and through effective use of learning analytics.

A useful example of up-front investment in the design and development of coherent structured programmes that allow also for personalised feedback and learning pathways is extremely well-illustrated by the Khan Academy and its use of learning analytics and gaming theory (Khan Academy, n.d.). Towards the end of 2013, the Khan Academy added extensive back-end functionality to its website. It is now possible for students and their teacher to agree to enter a coaching relationship. The coach then has access to the students' online performance including time on task in general, time spent on concepts and attempts towards mastery and then can provide individualised suggestions to students for what to do next in addition to or instead of the learning pathway generated automatically by the system and for which students earn digital badges for various achievements. During 2014, the candidate, working with an NPO called Harambee, used the Khan Academy Mathematics stream quite successfully to support more than 200 young people through a guided process towards successfully completing an industry-required entry level numeracy examination which had previously been a barrier to access various entry-level jobs that were available. Stanford University is making similar use of learning analytics in its undergraduate science and maths programmes and seems to be enjoying similar gains in improving student retention and success (Thille, 2015).

The challenge to meet the former Millennium Development Goals (MDGs) or the newer Sustainable Development Goals (SDGs) and the need for lifelong learning in a global knowledge society cannot be met by traditional campus-based provision alone (Kanwar, 2011). Growth in the use of ODL and supported by technology and OER is therefore not only desirable but essential. Choosing to focus on 'open' rather than 'distance', Kanwar identifies three distinct generations of 'open' institutions:

- Generation 1 covered the period 1969 to 1990, when institutions like Unisa, UKOU, Athabasca and IGNOU demonstrated an increased openness to people, places, methods and ideas
- Generation 2 covered the period 1984 to 2005 (thus overlapping with the first) and was characterised by using digital learning resources and the world-wide web to offer blended learning opportunities, which saw some convergence between contact and distance methods of provision.
- Generation 3 is the current generation and is characterised using OER to provide access to learning at all levels. In this model of provision, users access learning resources freely and opt

to sign up and pay for additional support services and formal assessment when they feel the need (for example, through the Open Universitas, Coursera or EDX).

The South African Institute for Distance Education has consistently argued that the design of programmes for distance provision requires more careful forethought than perhaps is the case with contact provision in which regular contact with students enables a curriculum to evolve more organically (Saide, 2015).

The three strategies suggested above therefore need to be part of a broader curriculum design process.

2.9.3 A Saide-inspired design approach

There are many programme design models in use and many seem informed by or like the ADDIE model that was designed and developed originally for the U.S Army by the Centre for Educational Technology at Florida State University. The ADDIE model comprises five steps that need to be completed in sequence – Analyse, Design, Develop, Implement and Evaluate. The evaluation stage might well result in a new process – so the process should be cyclical rather than linear and could then be mapped to a typical action research cycle. While agreeing with all the elements of the ADDIE model, the candidate’s systems-orientation approach to programme design and development is informed by the Saide model illustrated in Figure 2.3.

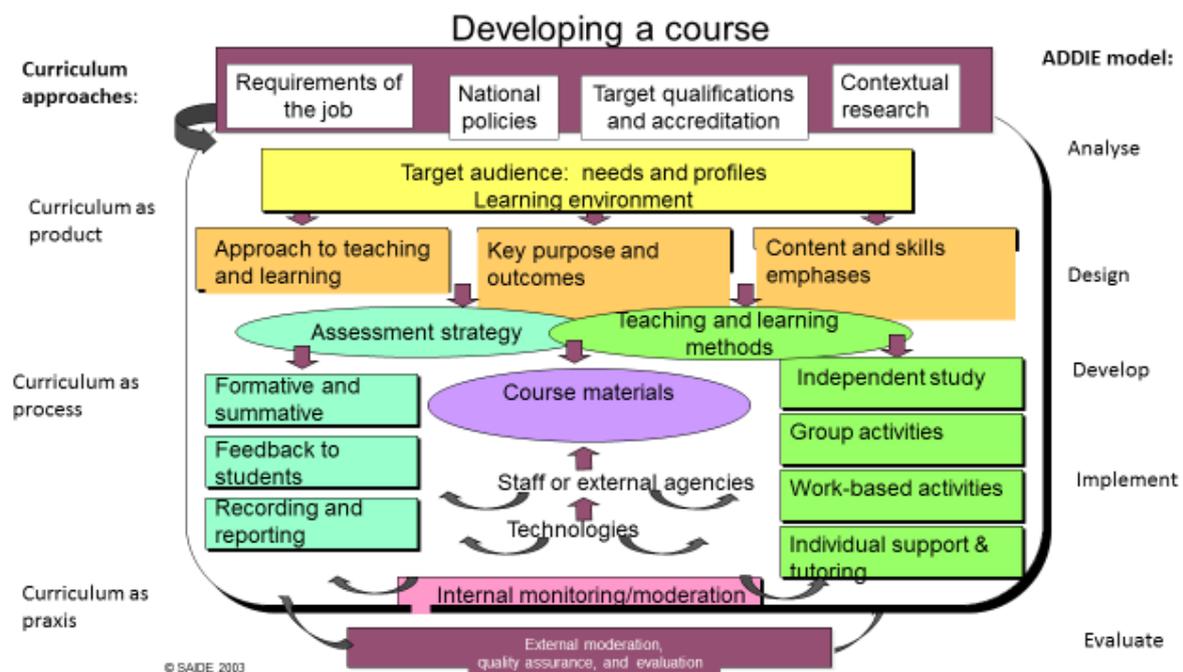


Figure 2.3: Saide design model (with added captions)
(Source: Saide, 2003)

Figure 2.3 suggests that we start by considering what international, national, state and institutional requirements tell us about what should be the expected graduate or exit level competences of the programmes that we offer. It then notes that we must start where the students are. We need a clear idea of the profile of our entry level students in terms of their subject or disciplinary competences, their fundamental learning competences and capability for independent learning, their practical and ICT skills and their existing life and work commitments and aspirations. The top two lines of Figure 2.3 correspond to the analyse, and the first part of the design, stage of the ADDIE model. The candidate is inclined to agree with Morrow (2007) that teaching involves a process of seeking to organise systematic learning and this inevitably means identifying and deciding on some worthwhile and intentional educational goals upfront – preferably also involving other affected stakeholders in the process – and even when the goal is to nurture the development of a completely autonomous lifelong learner capable of surpassing the teacher. There is then an element of curriculum as product in this approach – but it is important to see the plan that emerges as a guide rather than as a blueprint. This part of the model maps to the Planning step of a typical Action Research cycle.

The diagram also implies a process that has been suggested by the distance education community in South Africa in the form of quality guidelines and criteria published by Nadoesa (Welch & Reed, 2005):

The Nadeosa community suggest the following criteria for evaluating distance programmes:

1. Programmes are flexible and designed with national needs as well as the needs of prospective learners and employers in mind; their form and structure encourage access and are responsive to changing environments; learning and assessment methods are appropriate to the purpose and outcomes of the programmes. (p. 23) [See also UNESCO's guidelines for cross-border provision, UNESCO, 2005.]
2. The course curriculum is well-researched, with aims and learning outcomes appropriate to the level of study; content, teaching and learning and assessment methods facilitate the achievement of the aims and learning outcomes; there is an identified process of development and evaluation of courses. (p. 26)
3. The content, assessment, and teaching and learning approaches in the course materials support the aims and learning outcomes; the materials are accessibly presented; they teach in a coherent way that engages the learners; there is an identified process of development and evaluation of course materials. (p. 28)
4. Assessment is an essential feature of the teaching and learning process, is properly managed, and meets the requirements of accreditation bodies and employers. (p. 30)

The middle layer of Figure 2.3 (the top half in the framed section) foregrounds the assumption that learning involves a process and multiple role-players – the curriculum as plan is mediated in practice and no matter how detailed the guidelines for practice no two classes, learners or teachers ever encounter the learning in quite the same way – so there is always an element of the curriculum

evolving in practice. This middle layer maps to the Design, Develop and Implement steps of the ADDIE model and the Acting step of a typical Action Research cycle.

Related to the previous point, the context, the learners and the teachers are constantly changing, thus programme design should be understood as an ongoing process rather than a single event – using what we learn from our students, our own experience, our tutors and markers, our external assessors, the employers of our graduates and others about what works, what does not work and what needs to change – thus closing the curriculum praxis feedback loop into continuous improvement (Mays, 2014b; Moll et al., 2001; Van den Berg, 2014). This third layer, focusing on monitoring and evaluation, then maps to the Evaluate step of the ADDIE model and the Observe and Reflect steps of a typical Action Research cycle.

In designing an effective programme, we need to think about how the different components relate to one another in a holistic way. This might be illustrated as in Figure 2.4:

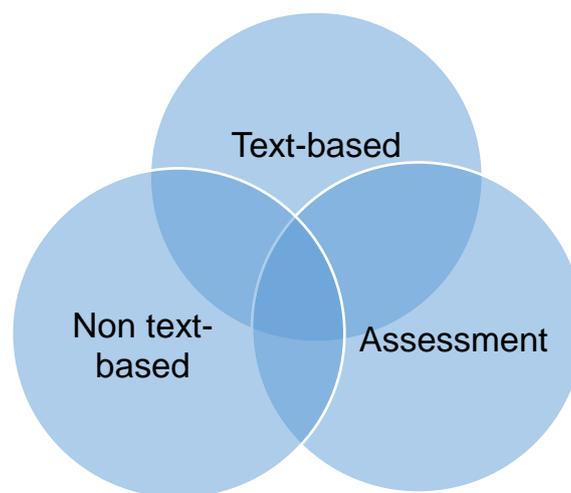


Figure 2.4: The course resources

Figure 2.4 suggests we need to ask: What kinds of media and resources are best used for what kinds of learning purposes? How do these different media and resources relate to one another? And how does the assessment strategy relate to the learning resources? In responding to these questions, we also need to think about the appropriate language/s of learning and teaching, the contexts in which students will study and work and the opportunities for the integration of indigenous knowledge and systems (IKS).

Of course, a course of study involves more than just the learning resources. Seen from a student perspective, there are probably three main components (Figure 2.5):

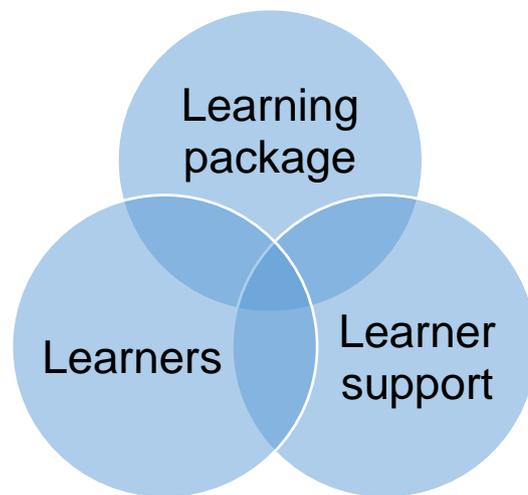


Figure 2.5: Key elements of a course

All students come with some form of prior knowledge and experience and we need to think about how we can surface and build on that, including creating opportunities for students to learn from one another. This will affect the selection and design of activities in the learning package/course. We also need to think about students' possible need for academic, informational and individual/social support during the design process. This involves constantly thinking about issues related to RPL, interaction and feedback to support the learning process.

2.9.4 Prioritising student support

In the context of open and distance education, teaching (i.e., the production of learning materials) tends to take precedence over learning and student support ... by planning learner support as an integral part of a teaching and learning programme, rather than an afterthought which can be excised when times get difficult, institutions can demonstrate a recognition of the link between income generation and learner support. (Mills, 2003, pp. 102-104)

The advent of increasingly ubiquitous and flexible ICTs has created the possibility to offer programmes online and early adopters of this possibility have come to the same kinds of conclusions as Mills, an experienced distance educator, that building in support for the learning process is an integral part of the design phase and should create opportunities for socially constructivist learning as suggested by the work of Vygotsky (1978, and in Hardman, 2005).

Mhlanga (2009) explains that the ubiquity of communication technologies in both social and education settings has raised the key question of whether technology can teach or at least support good teaching. He observes that there seems to be consensus amongst researchers that specialised delivery technologies are ‘merely’ vehicles through which instruction can be conveniently delivered or through which collaborative learning can be mediated, but the technologies themselves do not influence learner achievement. Mhlanga points to the work of Clarke, Schramm and Ally in support of this argument. Ally (2004), for example, argues:

To promote higher order thinking on the Web, online learning must create challenging activities that enable learners to link new information to old, acquire meaningful knowledge, and use their meta-cognitive abilities; hence it is the instructional strategy and not the technology that influences the quality of learning. (p. 3)

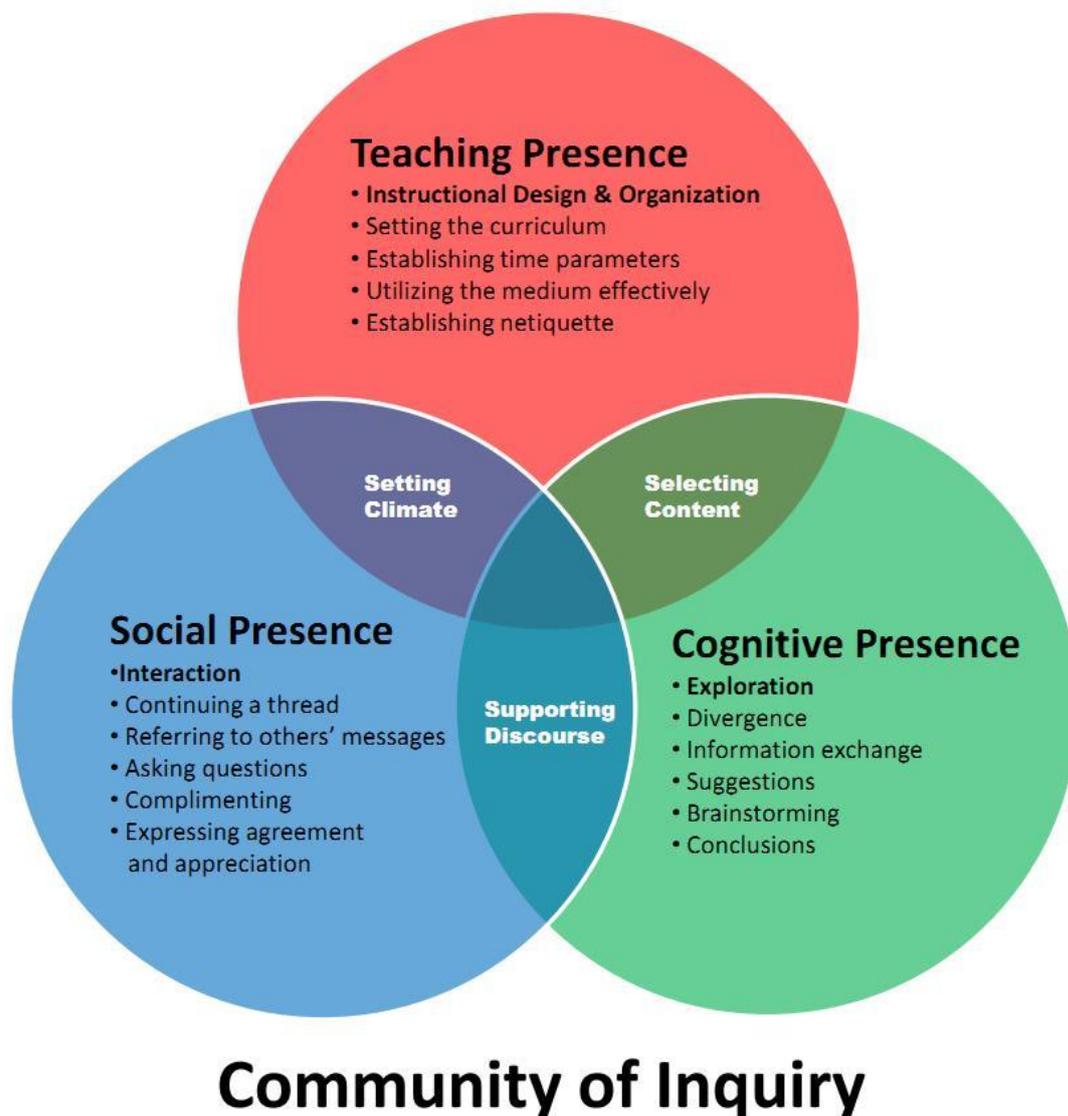


Figure 2.6: Community of Inquiry Model
 (Adapted from: Anderson & Elloumi, 2004, p. 275)

Mhlanga (2009) further suggests that it is how the teacher uses the technology that is critical rather than the technology itself. This is echoed in other studies where the use of technology to encourage interaction and engagement is foregrounded (Ntuli, 2016). This grounds e-learning and on-line learning in a theoretical framework that is underpinned by three ‘types of presence’, which interlink to form a powerful support for deep learning (Figure 2.6):

- Teaching presence
- Social presence; and
- Cognitive presence (Anderson & Elloumi, 2004).

More recently, Glennie and Mays (2013) also argue that pedagogic purpose should guide technology use through a conscious design process selecting appropriate technology to use in appropriate ways to support pedagogic goals and processes for particular students in particular contexts.

More recently still, the Teacher Development Project in Nigeria (TDP, 2015) has developed a Pedagogical Framework to guide practice in teacher development in Nigeria that builds usefully from teacher knowledge derived from experience, to disciplinary content knowledge, to pedagogical content knowledge, to curriculum knowledge, to technical pedagogic context knowledge (Mishra & Koehler, 2006; Shulman, 1986; UNESCO, 2013), providing a useful lens for reflection (Figure 2.7):

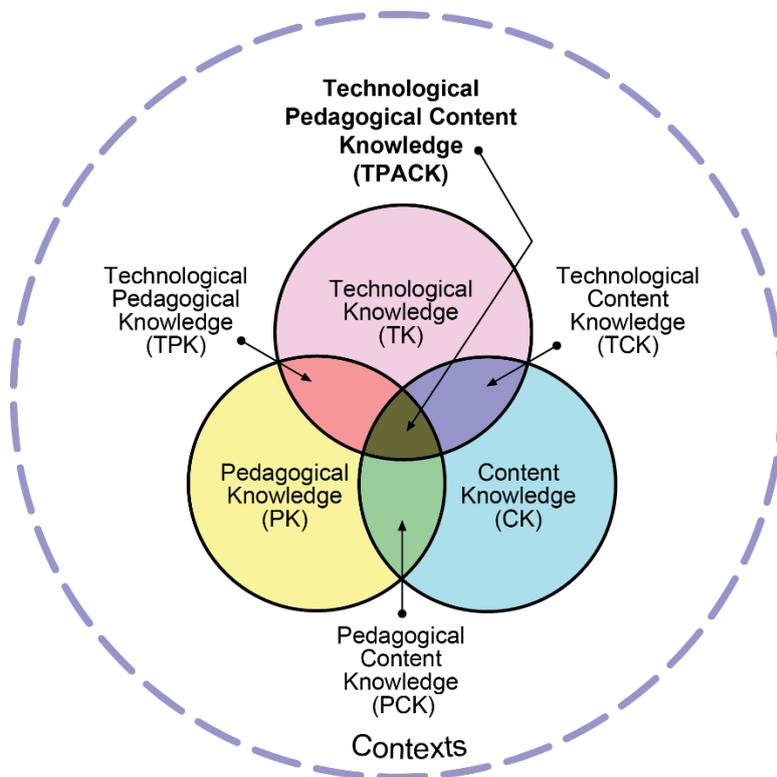


Figure 2.7: TPACK module

(Source: TPACK.org, 2012. Reproduced by permission of the publisher, © 2012 by tpack.org)

Amory (2015) suggests that this model requires a high level of knowledge of pedagogical theory to be meaningful and moreover that it is difficult to use as an instrument to design teaching and learning. Amory (2015) suggests, therefore, that Rod Sims's Design Alchemy (Sims, 2014) and Diana Laurillard's Conversational Model (Laurillard, 2012) provide more useful guidelines. In the former, the learning process is open-ended with students and teachers assuming different roles at different times, but with a common focus on knowledge application that informs negotiated learning outcomes and assessment, which in turn informs activity design and resource choice. In the latter, Laurillard argues that to enable higher level learning, dialogue is needed at both theoretical and practical levels, and that different ways of learning (acquisition, inquiry, discussion, practice, collaboration and/or production) are best enabled through different selections of technology and media.

Having outlined a theoretical approach grounded in policy, literature and experience, the last part of this discussion explores how this understanding affected the candidate's practice at the University of Pretoria (UP), which in turn informed the final months of engagement with ANU.

2.9.5 A UP-based example

The University of Pretoria is a contact-based and research-focused university. However, the Faculty of Education has for some years sought to reach a wider population of students through the provision of in-service professional development through its UDE as illustrated in Figure 2.8.

As can be seen from the organogram in Figure 2.8, distance education provision at UP rests on three key legs:

- The curriculum is designed, developed and quality-assured by the full-time academics in the faculty.
- A dedicated team of administrative staff manages all distance education enquiries and processes, including the call centre and the processing of assignments.
- The UDE then provides strategic direction regarding distance provision, manages the distance budget – including contracting and paying the part-time support staff, reconfigures the academic programme and materials for distance provision, and manages relationships with the various partners involved in assuring provision of a supportive quality service.

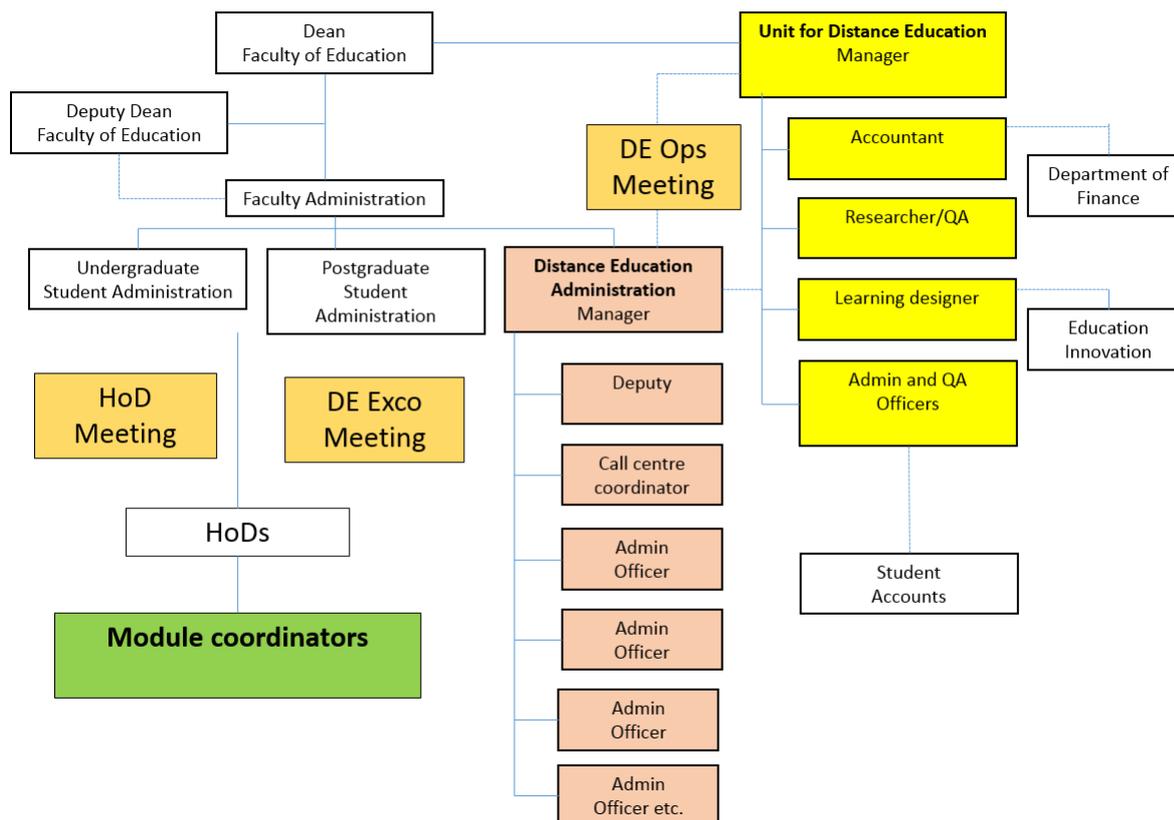


Figure 2.8: Overview of UP's UDE

(Source: Mays, 2016c, Slide 12)

In line with new policy requirements (DHET, 2014, 2015), at the time of this study the university was teaching out its then current programmes and from October 2016 planned to introduce a new programme, a BEd Hons in Teacher Education and Professional Development (TEPD). In line with the new policy requirements, the new programme included a supervised research component, and in line with the institution's strategic direction and the DHET policy, the new programme assumed a certain level of ICT readiness and planned to move from an internet-supported to an internet-dependent position in the grid of provision set out in the 2014 distance education policy document (DHET, 2014).

An important consideration in the design of the new distance programme had been to ensure equivalence across the two modes of provision through which the programme is offered, as illustrated in Section 2.8.1 above.

In addition to ensuring academic equivalences across different modes of provision, distance learners have access to the following support services:

- Continuous enrolment, including access to Eduloan for fees and ICT

- Structured weekly support online (up to three hours of on- and off-line): student-content, student-student, student-tutor engagement; plus online access to e-library resources
- Printed readers / textbooks for offline work
- Three short face-to-face (f2f) contact sessions: ICT and e-library training before being enrolled for the first block of study; content orientation at the start of a block of study; consolidation and support for summative assessment towards the end of a block of study.
- Call centre support, including ICT issues
- SMS/email/phone communications.

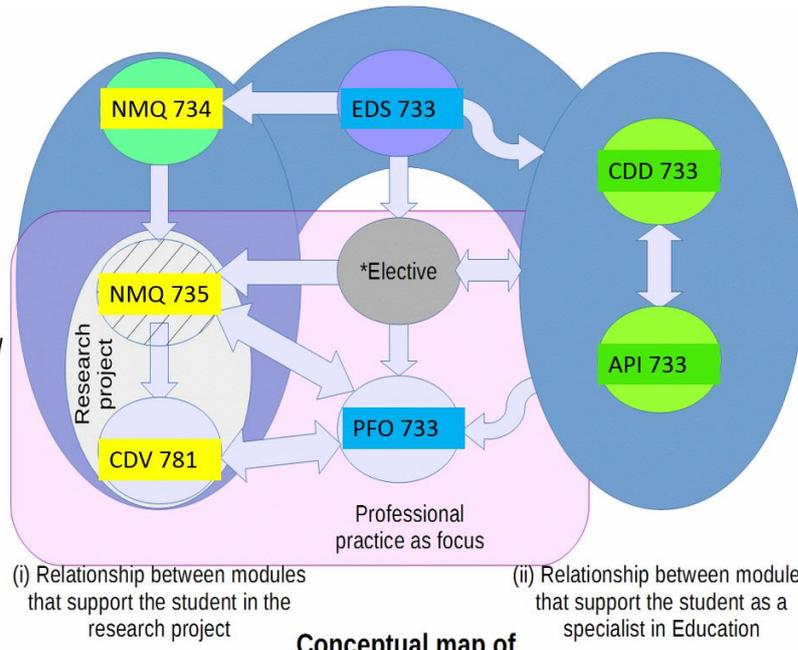
UP's distance students take two modules per six-month block of October to April or April to October. Since there are eight modules to be completed, the minimum time for completion of the 120-credit BEd Hons TEPD is 4 blocks or two years. However, students can defer their summative assessment in a block when life circumstances require this of them and so the programme can be completed in a maximum of 10 blocks or five years, although e-tutors and contact session presenters encourage a faster completion for greater coherence.

UP UDE was concerned that students should experience the programme as a coherent whole rather than as a shopping basket of isolated modules so the inter-connections between different aspects of the programme were made explicit, as illustrated in Figure 2.9.

As can be seen in Figure 2.9, the two main legs of the programme are the research component and the education component, with the other three modules being the glue that holds the whole together within an overall focus on research in support of continuous professional development. This inter-relationship is spelled out explicitly in each of the constituent modules of the programme. The professional development module, which is offered in block 4, caps the whole programme by emphasising the need for a commitment to research-informed praxis as a key characteristic of being a professional teacher.

As noted previously, the curriculum as plan is only part of the picture. The ways in which learning is mediated and supported have a profound impact on the ways in which the curriculum is experienced and what learners take away from that experience. Based on the kinds of understandings outlined earlier in this chapter, the implementation model that underpins the new BEd Hons TEPD programme is illustrated in Figure 2.10.

Key:
NMQ 734
 Educational research methodology
NMQ 735
 Research proposal
CDV 781
 Research report
EDS 733
 Philosophy and social imperatives of education
CDD
 Curriculum development
API 733
 Assessment approaches and instruments
PFO 733
 Professional development



So we need structure and openness ...

Figure 2.9: The new UP BEd Hons TEPD
 (Source: Mays, 2016c, Slide 28)

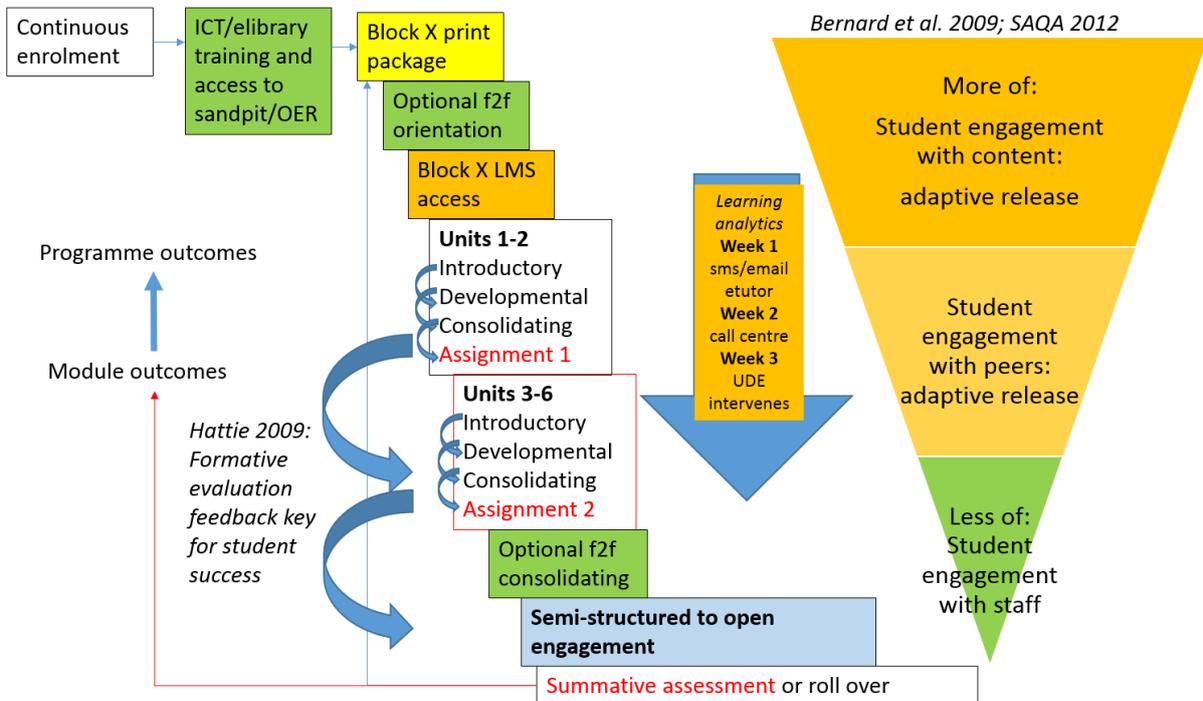


Figure 2.10: UP implementation model for the BEd Hons TEPD through distance education
 (Source: Mays, 2016c, Slide 30)

As will be noted from Figure 2.10, there is an explicit agenda in the implementation model to maximise student engagement with content and to de-emphasise student reliance on academic and support staff, in line with what both research (Bernard et al., 2009) and policy (SAQA, 2012) suggest. It will be noted that UP planned to offer decentralised ICT and e-library training at the start of the students' journey; to offer optional additional orientation and consolidation contact sessions during the learning journey, but also to track student engagement and intervene at increasing levels of concern about students potentially at-risk as the learning journey unfolded. Realising that students study in diverse contexts, UP UDE opted for a blended model of provision which has print, face-to-face contact and online components. This means that much of the work that students need to do can be completed offline, but that they will need to participate online at least some of the time (a requirement that was communicated to students during the marketing and registration processes and which they needed to acknowledge). It was hoped that an adaptive release strategy employed in the university's BlackBoard-based LMS, clickUP, would motivate engagement, while the Gradebook and Retention centres in the LMS would allow UP UDE to track that engagement and intervene proactively in the case of inactivity. Once students had completed the formal structured part of the programme, UP UDE would explore an engagement with Open Educational Resources as a way of helping them both to consolidate what they had learned, but also possibly to contribute to the creation of new knowledge. UP UDE was and is thinking through how to maximise learning from this new programme both to constantly improve it and to generate new theory, as suggested by Teräs and Herrington (2014).

Section 2.9 derived from a workshop developed and facilitated at the Nadeosa conference in 2016, itself deriving from the ongoing engagement between Saide/OER Africa and Africa Nazarene University. It sets out both a theoretical and practical framework for engaging in the design of open, distance and e-learning programmes, incorporating OER, and ends with an example of how this thinking informs emerging practice at the University of Pretoria, as influenced by the researcher-as-teacher.

The workshop observed that while there are multiple key questions and quality issues that need to be addressed in programme design and review processes regardless of mode of provision, there are some additional questions and issues that are peculiar to distance provision.

The discussion also noted the challenge to try to reconcile the need to design a coherent programme for accreditation and the notions of personal learning environments and emergent learning made possible through growing digitisation. Key suggestions made in this regard include:

- Designing deliberately from structured to open engagement;

- Adopting activity- and resource-based approaches (which should be both authentic and open-ended);
- Encouraging student engagement with content, with other students / tutors and with academics on a sliding scale towards increasing autonomy;
- Using learning analytics for pro-active support interventions; and
- Increasing use of automated feedback and self- and peer-assessment.

2.10 Conclusion

In response to the question asked at the start of this chapter, Slattery (2006) argues the need for a more cooperative learning and teaching environment, an interdisciplinary school curriculum, seminar-style classes “where circles and centres replace rows of desks” and suggests:

Discovery laboratories, multisensory projects, autobiographical narratives, oral history projects, engaging seminars, aesthetic awareness, and provocative field experiences involving groups of students, teachers, and other community members will become the norm rather than the exception. Socratic dialogue that seeks understanding, respect, and synthesis rather than predetermined answers will be the hallmark... (p. 111)

While accepting the need to explore greater diversity of learning opportunities, the candidate is philosophically and experientially inclined to identify more strongly with the following perspective:

In spite of the criticisms and debates, there is no one best way to teach. Different goals and student needs require different teaching methods. Direct instruction often leads to better performance on achievement tests, whereas the open, informal methods such as discovery learning or inquiry approaches are associated with better performance on tests of creativity, abstract thinking, and problem-solving. In addition, the open methods are better for improving attitudes towards school and for stimulating curiosity, cooperation among students, and lower absence rates (Walberg, 1990). According to these conclusions, when the goals of teaching involve problem solving, creativity, understanding, and mastering processes, many approaches besides direct instruction should be effective. These guidelines are in keeping with Tom Good’s conclusion that teaching should become less direct as students mature and when the goals involve affective development and problem solving or critical thinking (Good, 1993a). Every student may require direct, explicit teaching for some learning goals for some of the time, but every student also needs to experience more open, constructivist student-centred teaching as well. (Woolfolk, 2007, pp. 515-516)

The call for greater student engagement is consistent with both Unisa’s ODL policy (Unisa, 2008b) (Unisa is the largest provider of distance learning on the African continent with close to 400,000 active learners) and also the draft policy of ANU (2013), which both advocate interactions between students and content, students and other students, students and faculty and, when appropriate, students and workplaces and/or communities, and seems to be increasingly endorsed by empirical evidence in

South Africa (SASSE, 2015). However, as noted in recent discussions on the curriculum at Unisa, there is a tension between doing what we have traditionally done, only better, and doing different things differently to bring about change:

As a university, we are still torn between a disciplinary approach to the implementation, assessment and evaluation of the curriculum as articulated by Jerome Bruner (1960) in his famous book (*The Process of Education*) and the transformative and emancipatory agenda of critical theory and the exponents of Paulo Freire's notion of a transformative agenda in post-colonial societies like ours. In our situation, where we are concerned with issues of quality, access, equity and increased throughput rates, it is essential that we take seriously the challenge of ensuring that our curriculum as a university does not end up reproducing the social stratification that is evident in our larger society based on race, class and gender in particular. Curriculum is also to be thought of "as ... meaning and as lived in" (Mann, 1975:147). In this hermeneutic conceptualisation of the curriculum, emphasis is on "the social negotiation of meaning by academics and students as well as individual attunement to truth" (Pinar, 2008:496). (Unisa, as cited in Van Niekerk & Mays, 2016)

We might reasonably conclude then that our assumptions about the nature of being (ontological assumptions) and the nature of knowing (epistemological assumptions) predispose us to making related assumptions about what constitutes good teaching and hence what might be involved in 'transforming' curricula and pedagogy. It is often useful to pause and think about what our dominant practice suggests about the kinds of assumptions we are making. Arnold (2004) suggests that sometimes the mere fact of being open to reflecting on the curriculum can be useful, even if that reflecting does not result in major reform. As Hill (2012) observes, the rising tide of different forms of online learning does not offer *the* response to the challenges facing higher education, but it has called into question some of the deep-rooted assumptions that may have been barriers to changing practices.

This study was informed by a qualitative interpretivist paradigm and while adopting a pluralist and eclectic stance in line with this broad perspective, a pragmatic approach was followed, in which hermeneutics and systems theory were the dominant theoretical lenses, cognitive and socially constructivist methods were the dominant teaching methodology and participatory action research was the underpinning research methodology.

Trowler (2015) cautions that there is often a loss of theoretical and conceptual coherence across the scope of a dissertation or thesis. It is therefore necessary to pause and reflect on the ways in which the literature review reported in this chapter influences the study that follows.

It was reported in Chapter 1 that the title of the thesis is:

Utilising Open Educational Resources in support of curriculum transformation at Africa Nazarene University: A participatory action research approach.

It should be observed that the notion of “curriculum transformation” as indicated in this title should not necessarily be construed as transformation of the kind indicated by Habermas and social critical theorists such as Freire and Apple; although implicit in the agenda of using OER to broaden access to quality learning is “...the creation of equitable futures for students, especially those from disadvantaged populations” (Vianna & Stetsenko, 2015, p. 575).

It was understood that students were increasingly expecting ANU to offer educational opportunities that were not of the traditional, campus-based variety and this had put pressure on the institution to imagine and implement new forms of provision including part-time, online, workplace-based and distance provision, and that these forms of provision required learning resources. It therefore seemed logical for ANU to engage with OER for at least three reasons which could be summarised as practical, pedagogical and ethical as follows.

From a practical perspective, across the world, including in Kenya, the trend in higher education is increasing enrolment in part-time and distance learning. Part-time and distance learning can work only if students have learning resources to support and guide independent learning. The development of high quality learning resources is time-consuming and expensive, and not all discipline experts are good developers of appropriate learning materials. Use of OER can potentially shorten the time and cost and improve the quality of learning resources. Where institutions have shared high quality resources as OER, they have seen enhanced institutional status and greater enrolment (students after all cannot graduate without registering and completing assessments).

From a pedagogical perspective, it should be noted that it is often the case that university courses have been built around a single textbook, often sourced from a developed context. Use of OER can widen the range of voices that students encounter and allow for greater contextualisation of content. The process of adapting existing content for local use provides a professional development opportunity for staff, who may otherwise not easily be engaged in pedagogic reflection. In addition, involving students in processes of copyright clearance and content creation/adaptation provides a practical opportunity to make issues of plagiarism and copyright real and provides opportunities for authentic assessment tasks (e.g., a graphics student who designs a template for ANU study materials).

From an ethical perspective aligned with ANU’s core values, textbooks are increasingly expensive, contributing to making the cost of higher education unaffordable for many; but use of OER can help lower costs and therefore open access. Use of OER can also help ensure that each student receives a

suite of reading material rather than many students needing to delay their studies to borrow the few copies of the textbook the library can afford. Finally, if one institution, such as ANU, takes and uses OER from the community, it also has an ethical responsibility to share content that it has developed back in kind to sustain that community.

Curriculum transformation within the context of this study, therefore, refers to a deliberate move away from lecture-based teaching, expensive single prescribed resources and content-based examinations, towards more activity- and resource-based teaching and learning, integrating OER, and supported by authentic formative and summative assessment and a variety of learner and learning support strategies consistent with the theoretical positions summarised in this chapter; the emerging findings from data, learning and predictive analytics and the accumulated wisdom of the open and distance learning community.

This is the true meaning of transformation – when all students entering the system have a reasonable chance of success and access to powerful forms of knowledge and practices that will enable them to enter the productive economy and improve their life chances and that of their families. (DHET RSA, 2016, p. 92)

Achieving the above goals requires a deliberate process, which Reddy (2016) speculates will involve, among other things, responsiveness to social context, epistemological diversity and renewal of pedagogy and classroom practices, all supported by an institutional culture of openness and critical reflection. Curriculum and pedagogic transformation then requires and impacts on an institution's strategic and operational management more broadly, as will be discussed in Chapter 3.

Chapter 3: Managing curriculum transformation through OER

Education is the great engine of personal development. It is through education that the daughter of a peasant can become a doctor, that the son of a mineworker can become the head of the mine, that a child of farmworkers can become the president of a great nation. It is what we make out of what we have, not what we are given, that separates one person from another. (Mandela, 2011, p. 89)

3.1 Introduction

Altbach et al. (2009) observe that:

Globally, the percentage of the age cohort enrolled in tertiary education has grown from 19% in 2000 to 26% in 2007, with the most dramatic gains in upper middle and upper income countries. There are some 150.6 million tertiary students globally, roughly a 53% increase over 2000. In low-income countries tertiary level participation has improved only marginally, from 5% in 2000 to 7% in 2007. Sub-Saharan Africa has the lowest participation rate in the world (5%). In Latin America, enrolment is still less than half that of high-income countries. Attendance entails significant private costs that average 60% of GDP per capita. (p. vi)

Altbach et al. (2009) note that remote, rural, indigenous and poor communities remain under-represented in higher education enrolments even in systems that are nominally free (among other factors there are often high opportunity and other costs).

In comparison, South Africa's higher education system has made significant progress in opening access to more and increasingly diverse students, although the challenge remains in turning access into success for a greater proportion of these students (CHE, 2013; DHET 2012, 2016). This suggests the need to find better ways to cope with high enrolments (Ntshoe, Higgs, Wolhuter, & Higgs, 2010) by using the most appropriate methods of distance provision for different audiences and learning needs (Morrow, as cited in Morrow, 2007, pp. 9-25).

There is evidence of growing demand from students for more flexible distance and online learning provision, but perhaps less appetite from institutions themselves to address this demand (OLC, 2016).

In South Africa, where distance education of various kinds has long been a significant part of higher education provision, the Department of Higher Education and Training recently published a *White Paper for Post-School Education and Training* (DHET, 2013) which sets out a new vision for post-school education and training provision. The *White Paper* notes the need both to expand access to and to improve success in further and higher education and sees opening learning through diverse modes of provision as one of the means towards this end. The *White Paper* specifically envisages:

- A network of high quality providers, sharing learning support centres and investing in professional development to support more diverse modes of provision
- An increased emphasis on quality assurance of programmes offered to improve retention, throughput and the competences of successful graduates
- A systemic drive towards more equitable access to appropriate technology
- Collaborative development of high quality learning resources published under an open licence; and
- More careful consideration of arrangements for cross-border distance education provision to ensure equivalence and recognition, among other issues. (DHET, 2013, pp. 48-56)

These seem like useful considerations also for ODeL practice in the context of ANU and Kenya.

Subsequently, the DHET published a *Policy for the Provision of Distance Education in South African Universities* (DHET, 2014), which sets out a challenge for distance education provision as follows:

Distance provision thus needs to rise to the triple challenge of providing greater access (1) (in terms of both numbers and diversity) in ways that offer a reasonable expectation of turning access into success in courses or programmes of proven quality (2) that are also affordable (3). (DHET, 2014, p. 6)

The key provisions of the policy are as follows:

1. Providing a system wide definition for what constitutes distance education provision
2. Supporting well-managed growth in quality distance provision, including in institutions other than Unisa
3. Ensuring that distance education provides not only opportunities for access but also a reasonable chance of success
4. Ensuring that distance education provision is funded based on empirical evidence of relative costs of different modes of provision
5. Strengthening capacity to evaluate distance education provision and hence to regulate who can offer accredited distance programmes
6. Promoting the development and use of Open Educational Resources (OER)
7. Creating an enabling environment for appropriate integration of ICT to enhance both contact and distance provision in both universities and other post-schooling institutions. In particular, the DHET will work to ensure that every university student has reasonable access to affordable connectivity. (DHET, 2014, pp. 6-7)

Again, it is felt that these issues might usefully inform ANU's decision-making about its own practices and its engagement with other stakeholders.

The South African policy document notes the increasing use of blended and online learning by many providers, but is concerned to retain a clear distinction between what is and is not considered distance education provision to address specific quality issues. It therefore stipulates that:

The term 'distance education' therefore refers to provision in which students spend 30% or less of the stated Notional Learning Hours in undergraduate courses at NQF Levels 5 and 6, and 25% or less in courses at NQF Levels 7 and 8 and initial post-graduate courses, in staff-led, face-to-face, campus-based structured learning activities. (DHET, 2014, p. 9)

Although the definition may be contested, it does provide accreditation agencies with a clear idea of what provision should be considered distance education and therefore evaluated accordingly.

Taken together, the two policy documents suggest that:

1. More institutions should offer distance education options if they have the capacity to do so; but that
2. Any move into distance provision should be a conscious one in which the various factors influencing the quality and effectiveness of such provision are carefully thought through in advance.

However, a clear lesson from the South African experience for expanded ODeL provision at ANU is that the full potential of ODeL approaches will not be materialised unless there is appropriate investment in the development of quality programmes and learning materials and support and assessment systems as attested to by a recent comparative higher education cohort study:

Currently distance education is failing dismally and while access has increased dramatically through these enrolments, the chances of success are minimal with only 14,8% of students in the 2005 undergraduate cohort in distance education programmes graduating after 10 years of study. (DHET, 2016, p. 91)

Noting that graduation rates in distance education are often as low as a quarter of the rates in equivalent programmes offered in contact mode, Simpson (2013) suggests that this arises from a tendency to focus on the teaching inputs such as the provision of learning resources, rather than on motivating and supporting learning. This suggests a need to adopt more holistic programme design and quality assurances processes like those advocated in Chapter 2.

With increasing cross-border provision and collaboration and greater student mobility, as well as some uncertainty about graduate competences for the 21st Century, there is an increasing focus on regional and transnational quality assurance, accountability and qualification frameworks (Altbach et al., 2009). Examples include the Bologna process in Europe, the Commonwealth of Learning (CoL) Virtual University for Small States of the Commonwealth (COL VUSSC) project and, in Africa, the ACDE's fledgling transnational quality assurance framework aimed at enabling easier collaboration in programme design and materials development as well as portability of credentials.

What then are the key quality issues that HEIs interested in opening provision through open, distance and e-learning need to address? It is suggested they should begin with the following considerations:

- Understanding the context
- Clarifying degrees of openness
- Understanding the changing practices of distance provision in a digital era
- Making strategic choices about what to offer through ODeL and then establishing the appropriate policies, procedures and systems to employ ODeL approaches in quality-driven ways.

3.1.1 Organising the provision of ODeL in the context of Kenya

There are several HEIs in Kenya offering a variety of open and/or distance and/or e-learning programmes, but there is currently little national consensus on how these methods might be employed on a more significant scale, in a sustainable and quality way. It is therefore useful to revisit some of the core concepts.

3.1.2 Clarifying degrees of openness

Open and distance learning (ODL)

As originally suggested in the South African White Paper of 1995:

Open learning is an approach which combines the principles of learner centredness, lifelong learning, flexibility of learning provision, the removal of barriers to access learning, the recognition for credit of prior learning experience, the provision of learner support, the construction of learning programmes in the expectation that learners can succeed, and the maintenance of rigorous quality assurance over the design of learning materials and support systems. (DoE, 1995, p. 34, clause 25)

This understanding can inform practice across the spectrum of contact and distance provision. It should be noted that openness – an approach – is not synonymous with distance or e-learning – a range of methods – although distance and e-learning provision can be designed in such a way as to open opportunities for learning in more flexible ways.

However, it is also important to understand that there can be no simple single model for openness, since many of the core principles are in tension as illustrated below (Mays, 2015c):

- Opening choices about WHAT to study vs ensuring a coherent learning programme.
- Opening choices about WHEN to study vs providing structure and pacing so that underprepared students are offered a reasonable chance of success.
- Opening choices about HOW to study vs the need for integrity of programme design, closing digital divides and the need to develop collaborative competences

- Opening choices about WHERE to study vs the need for workplace and practical components
- Opening choices about ASSESSMENT options vs the need to ensure recognition / accreditation of learning achievements
- Opening access related to AFFORDABILITY vs ensuring a quality sustainable learning experience. (p. 3)

The openness of provision therefore needs to be considered in relation to specific learning purposes, contexts and target audiences. A one-size-fits-all model is unlikely to be sufficiently responsive to needs.

As noted by Makhanya, Mays and Ryan (2013), a key argument in favour of ODL approaches is that they can provide access to students who might not otherwise have it, but this must be done in ways that enable access to offer a reasonable chance of success. In addition, the wider cause of social justice is not best served unless graduates are also imbued with social integrity (van der Walt & Potgieter, 2011).

We need to be concerned not only with how students gain access to the point of becoming registered students (if they choose to do so); but also with the nature of the teaching they receive once they are registered and the extent to which their learning is scaffolded and supported towards success (Morrow (2007, pp. 18, 20). This suggests an emancipatory approach to designing curricula and materials (Freire, 1985).

Open educational resources (OER)

OER can support the process of ‘opening’ learning in at least three different ways (Mays, 2015c):

1. Institutions can utilise OER to ensure that students are exposed to a range of theories, data and research presented in a variety of ways rather than being confined to the perspective of the single textbook that can be afforded.
2. Being able to assure that every student has access to a wealth of resources, in the form of OER, enables educators to change their role from that of content providers to engaged co-learners and co-researchers – exploring and justifying possible solutions to problems rather than simply regurgitating content.
3. Open licensing that encourages engagement with multiple sources and the sharing thereof can enable more collaborative learning and teaching processes in which the emerging artefacts of the process are shared openly and fed back into the learning process. This is aligned with more OEP generally. (p. 5).

Open educational practices (OEP)

Ehlers (2011, p. 4) suggests that OEP “are defined as practices which support the (re)use and production of OER through institutional policies, promote innovative pedagogical models, and respect and empower learners as co-producers on their lifelong learning path”. In the developmental context, OEP involves in addition a commitment to educational practices that are accessible, transparent and accountable; that foster collaborative and flexible approaches to learning and teaching; and that are

specifically geared towards providing meaningful access to quality educational opportunities also for the poor and marginalised in society (Makhanya et al., 2013). It implies finding a balance between sufficient competition to drive innovation and excellence in certain areas and sufficient collaboration to avoid unnecessary duplication of effort. Where there is need for large scale provision of programmes that meet national priorities – such as the training of school principals, the development of foundational programmes for underprepared school-leavers, or the training of mentors to support expanded provision of Adult Education and Training – it makes more sense to work together on the design of programmes, the development of materials and the implementation, review and revision of such programmes. This in turn requires an openness on the part of institutions towards sharing intellectual property, expertise and resources.

So, we can see ODL, OER and OEP as complementary aspects of opening provision all of which may have implications for the ways in which HEIs traditionally work. ICT can support all three of these areas of endeavour.

3.1.3 Understanding the changing practices of distance provision in a digital era

As noted in recent debates and policy discussions in South Africa and elsewhere (CHE, 2014; DHET, 2014; Evans & Pauling, 2010; Glennie & Mays, 2013), the clear separation of contact and distance as distinct modes of provision is being challenged by the increasing use of blended learning, especially involving the integration of ICTs. Nonetheless, South Africa remains concerned that geographic distance remains a factor, given the widely variable access to, cost of and skills to use ICT, as well as the varied policy, language and socio-cultural issues at play, which it is felt can still exacerbate ‘transactional distance’ (Moore, 1993, 1996) and which require specific programme design and implementation strategies to address (Glennie & Mays, 2013; Woodhouse, 2009). It is felt that academic staff, administration staff and students all need orientation, training and ongoing support in working in a context in which learning is mediated primarily, or even exclusively, by media and technology rather than face-to-face.

3.1.4 Making strategic choices

Key questions that institutions need to address therefore include:

1. How will institutional vision and mission inform ODeL practice and expansion?
2. Which programmes best lend themselves to ODeL provision?
3. What is/are the best model/s for provision of a particular programme to a particular target audience learning and working in particular contexts?

4. How do these choices advance the causes of equity, access, redress and social justice?

In addition, the following are typical challenges experienced when a traditionally contact-based institution introduces flexible and distance provision alongside its contact-based teaching. Being aware of these kinds of challenges up front, may help to forestall them:

1. Curricula designed for inexperienced 18-24 year olds may not be appropriate for mature, working students; and *vice versa*
2. Overload of staff: DE students fitted in rather than offered equivalent quality; work done by staff only for extra pay
3. Workloads that do not make provision for materials development and updating, discussion classes and online fora, management of a decentralised team; research prioritised over teaching
4. Inappropriate cross-subsidisation including contributions to overheads for services not availed to DE students
5. Slow contracting and payment of part-time staff; additional workload allowances/travel expenses
6. Trying to limit access to DE learning resources: rather develop learning resources for use by *all* students
7. Internal disruptions affecting external students, e.g., rescheduling of contact sessions, examinations, practicals/WIL
8. Tutors who already have full-time jobs; tendency to restrict availability, provide superficial assessment and feedback
9. Making time for appropriate staff development and quality assurance, and providing access to support staff (and students). (Mays, 2015c; Welch & Reed, 2005)

These are all contemporary factors that impact on higher education provision at a systemic level.

In Chapter 2, the candidate identified systems theory as a major influence on his engagement with ANU and other institutions. It was suggested that if institutions adopted a resource- and activity-based approach to curriculum design, development and implementation, it would be easier to ensure equivalence of provision across different modalities. It is the premise of this chapter, building on Educause (2010), Glennie and Mays (2009, 2013) and Lapovsky (n.d., ca. 2014), that designing curricula for an ODeL environment from the outset will create a model and supporting resources that can be adapted, with varying degrees of additional face-to-face engagement, for workplace-based and campus-based part- and full-time provision. It is important to reiterate that at the time this study was

undertaken, it was only in its distance learning provision that ANU was experiencing sustained, albeit slow, growth.

An extensive body of literature exists on the systemic nature of ODeL provision and the implications of changing elements of institutional subsystems on the whole system (CHE 2014; CoL, 2001, 2004, 2009; GDEnet, 2009; Holmberg, 1995; Hülsmann, 2016; Louw, 2007; Moore & Kearsley, 1996, 2012; Perraton, 2000; Peters, 1998; Rowntree, 1992; Rumble, 1997, 2004) as well as the implications for human resource management thereof (CoL, 2004; Fullan 1993, 2006; McMillan, 2008).

In addition, engagement with the Council on Higher Education on quality assurance issues in higher education and a comparison with the quality concerns of the Nadeosa community in general and Unisa in particular (CHE, 2004a, 2004b, 2004c, 2007, 2014; Kilfoil, 2008; Saide, 2000; Unisa, 2008a, 2008b, 2008c; Welch & Reed, 2005) suggests that broad concerns are shared, but that particular aspects of practice require nuancing and special attention in an ODeL context. What is also clear is the need for quality guidelines not in an atomistic checklist, but rather in ways in which inter-dependencies are made clear, systemically and holistically.

3.2 A systems perspective on ODeL provision

Moore and Kearsley (1996), who, building on the work of Wademeyer, pioneered the formalisation of systems thinking for distance provision, define a distance education system as follows:

A distance education system consists of all the component processes that make up distance education, including learning, teaching, communication, design, and management, and even such less obvious components as history and institutional philosophy. Within each of these broadly named components are subsystems ... While we may choose to study each of these systems separately, we must also try to understand their inter-relationships. (p. 5)

They illustrate the inter-related nature of these sub-systems as follows (Figure 3.1):

| A systems model for distance education | | | | |
|---|--|--|---|---|
| Sources | Design | Delivery | Interaction | Learning environment |
| <ul style="list-style-type: none"> • Student needs • Organizations • Theory/history • Philosophy | <ul style="list-style-type: none"> • Instructional design • Media • Program • Philosophy | <ul style="list-style-type: none"> • Print • Audio/ Video recordings • Radio/ Television • Computer software • Audioconferencing • Videoconferencing • Computer networks | <ul style="list-style-type: none"> • Instructors • Tutors • Counselors • Administrative staff • Other students | <ul style="list-style-type: none"> • Workplace • Home • Classroom • Learning center |
| Inputs | | Outputs | | |
| <ul style="list-style-type: none"> • Student characteristics • Instructor/ tutor experience • Competence of administrative staff • Efficiency of course development • Student access to resources • Response time • Local site coordination • Institutional cooperation/ support • Reliability of evaluation | | <ul style="list-style-type: none"> • Student satisfaction ratings • Student achievement scores • Student completion rates • Total enrollments • Quality assessments • Accreditation • Costs and revenue • Staff turnover | | |

Figure 3.1: A systems view of distance provision
 (Source: Adapted from Moore & Kearsley, 1996, pp. 9, 15)

Their more recent publication (Moore & Kearsley, 2012) focuses on a systems view for online (rather than distance) provision, but follows a similar logic (Figure 3.2):

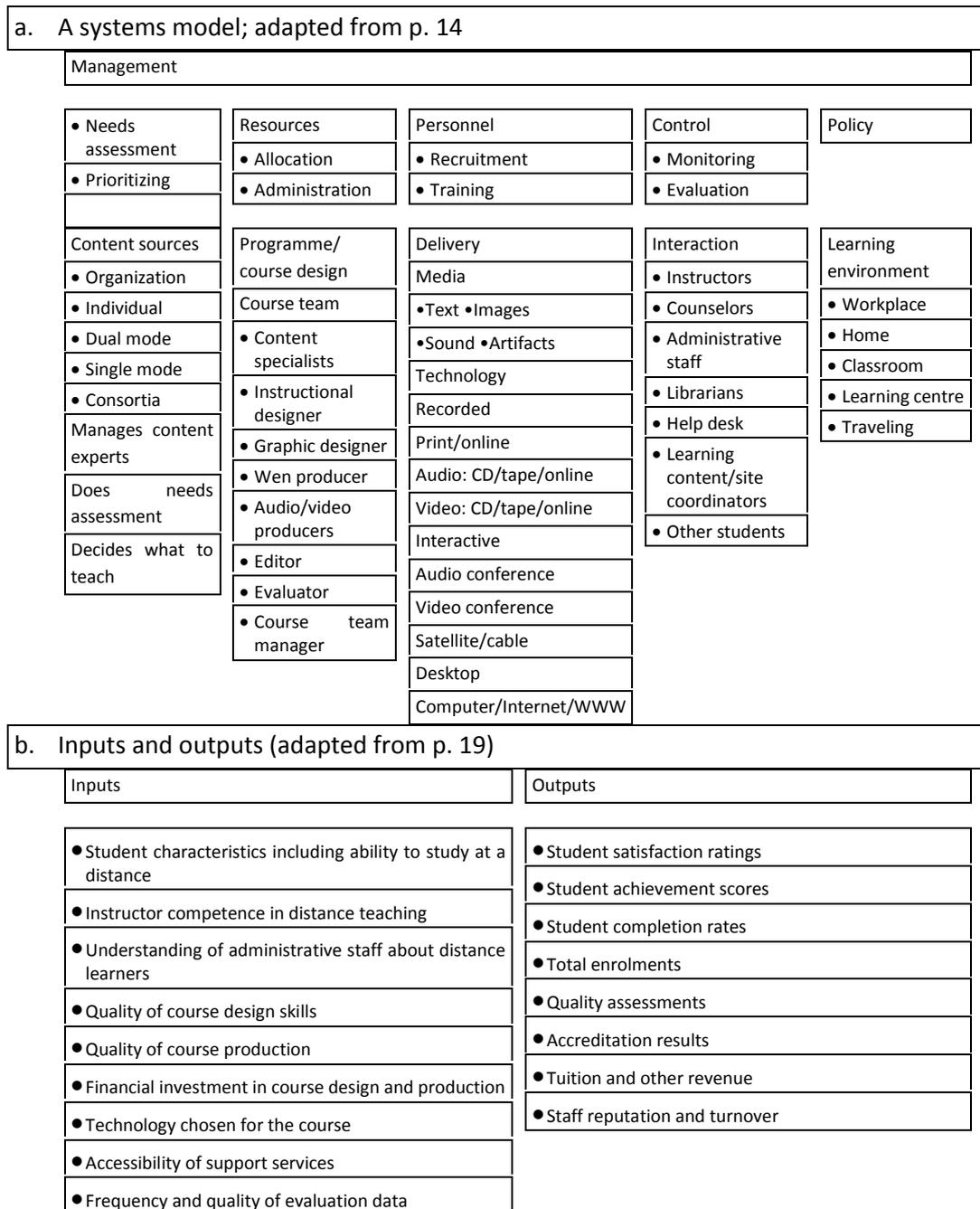


Figure 3.2: A systems view of online learning
(Source: Moore & Kearsley, 2012, pp. 14, 19)

Modelling distance education and ODeL operations in this way, helps staff to understand their contribution to the whole and the ways in which weaknesses in one area can impact negatively on the achievements of the whole system: for example, late submission of draft learning materials will result in delays in production, which in turn result in delays in dispatch (if printed) or release (if online); if

students do not receive their learning materials timeously, they cannot meet their assignment deadlines; if students submit assignments late, staff will return marked assignments with feedback late; if students receive feedback on their assignments only after they have written their examinations, they cannot have prepared properly; if they did not prepare properly, they will not pass well; if they do not pass or if they pass with low marks, they will be less motivated to continue with their studies. Thus, late submission of draft learning materials can bring down the whole system.

Of course, as acknowledged by Moore and Kearsley (1996, 2012) themselves, the various systems and sub-systems do not relate to one another in quite the neat and linear way implied above, but are much messier and multi-layered.

With the advent of Web 2.0 interaction possibilities, the lines of communication can become quite dynamic as illustrated in Figure 3.3.

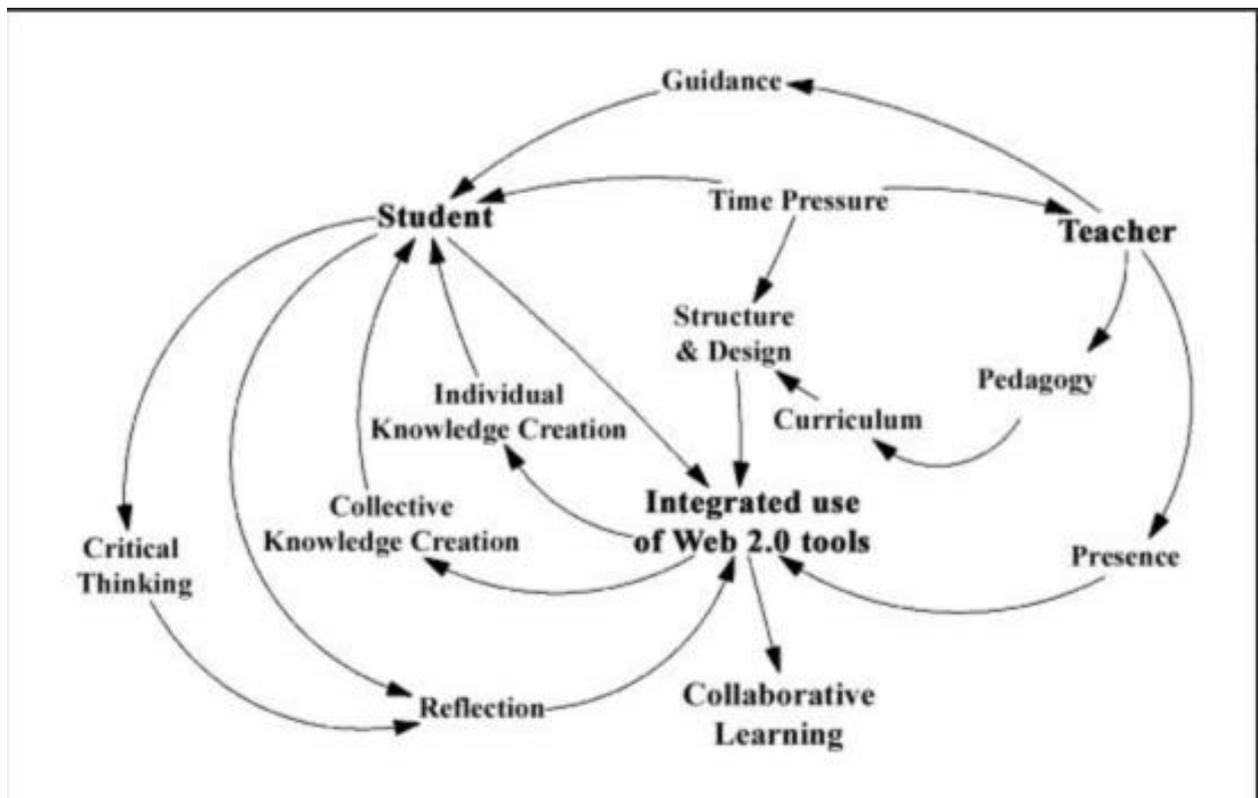


Figure 3.3: An alternative systems view of distance provision
 (Source: den Exter, Rowe, Boyd, & Lloyd, 2012, p.1)

It is useful to bear in mind the following caveats:

- The systems and sub-systems of ODeL provision interact in a complex and by no means strictly linear way;
- Some sub-systems need to be prioritised as being at the heart of the mission of an ODeL institution (e.g. learner support); and
- Some sub-systems follow a time-bound and sequential logic by the very nature of their purpose (initial course and materials development).

In addition, some processes within these sub-systems are intrinsically iterative by nature, as illustrated in Figure 3.4:

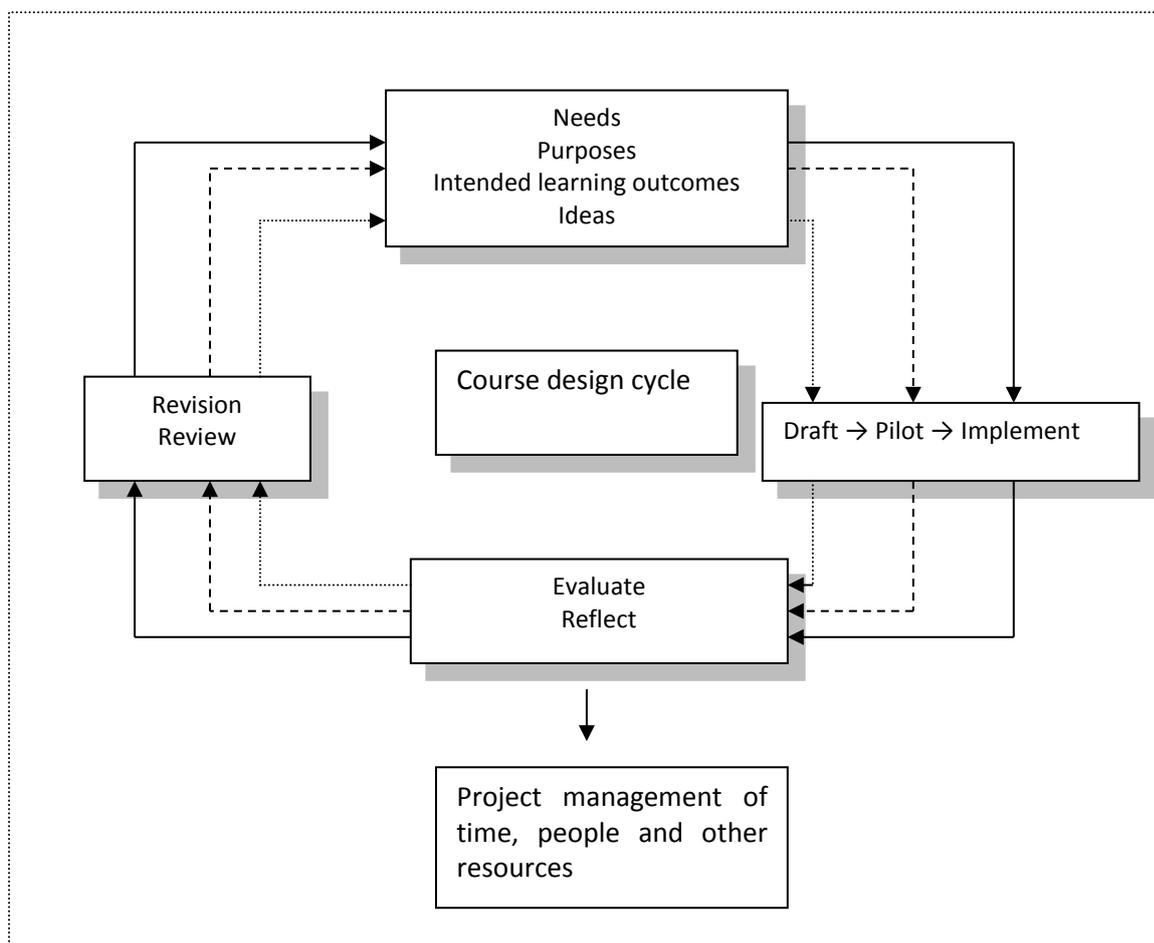


Figure 3.4: Many ODeL processes are iterative

(Source: Author)

The curriculum and materials design, development and review process is cyclical and requires that the process be managed: in many ways, ICT can support such a process more easily than in the past.

3.3 ICT as an increasingly central system feature

Altbach et al. (2009) observe that while the use of ICTs has revolutionised the ways in which information can be communicated,

[1] There has been a profound disconnect between employing new ICTs and leveraging them to enhance quality ... [and]

[2] The world's poorest countries are increasingly left behind as information production and dissemination move down technological pathways to which they have limited or no access. (pp. xvii, xviii)

Addressing the first concern outlined above in many ways relates back to the general under-investment in curriculum design noted in Chapter 2.

Addressing the second concern requires mobilisation on a systemic level. Currently access to the new technologies in South and Southern Africa is hugely uneven (The World Bank, 2016), making it impossible for distance education and other providers to harness their potential to the full (although there is an increasing movement towards digital and online provision, for example the OUT in Tanzania is now entirely digital and in South Africa both private, for example GetSmarter, and public, for example University of the Free State, providers are beginning to offer programmes that are entirely online).

Access needs to be understood not only in terms of physical access but also in terms of access to skills training for both students and institutional staff, access to high quality relevant e-learning content and the development of information fluency to be able to make the best use of the technology available (Brown, Anderson, & Murray, 2007; Mayaki, 2010).

Mayaki (2010) refers to the International Telecommunications Union 2007 report, which revealed that in 2006 less than 3% of the world's Internet subscribers were in Africa in comparison with 43.2% in Asia and 29% in Europe and most of these were in the northern countries of Africa. The report also notes that while access to mobile phone technology has grown rapidly in Africa, cell phones are rarely used to access the Internet, mainly due to the slow speed of 9.6 kbps available through the Global System for Mobile communication (GSM). Despite increasing access and reach, data costs remain high in South and Southern Africa in relation to earnings (Hülsmann, 2016).

However, it is anticipated that the costs of bandwidth and devices will continue to decline so that it becomes increasingly reasonable to expect students to be online at least some of the time. Already exciting initiatives exist within the schooling sector, for example based on the notion of hub schools supporting community-oriented initiatives using low-cost mesh technology (Beyers, 2010).

How then are the concepts of distance education, open and distance learning and e-learning related?

Cleveland-Innes and Garrison (2010) make the following useful observations:

There is a conceptual divide between traditional distance education and online learning as reflected in commitments to independence versus collaboration. Moreover, theoretical development in distance education (entrenched in the industrial paradigm) has largely stalled compared to the research associated with online collaborative communities of learners (Garrison 2000). If the relevance of and terminology of distance education are to be preserved, then coherent theory must be developed that can accommodate independence and collaboration concurrently. Online learning has shown this to be possible and not a contradiction in terms ...

The core assumptions of distance education (i.e., access, independence, economies of scale) need to be re-examined in the context of online learning theory and practice (i.e., collaboration, community, quality assurance). A concerted effort is required if we are to achieve a comprehensive theory that encompasses distance and online learning. Much greater emphasis must be focused on transactional and collaborative theories of learning mediated by information and communication technology ...

It is time that distance educators think through the changes and possibilities of both flexible access and collaborative learning experiences. (pp. 255-257)

Peters (1998, p. 125) observes that “the concepts of open, lifelong, post-industrial and post-modern learning ... open up perspectives and dimensions for the reform of distance education” and that models of provision arise from specific institutional decisions, citing the following examples:

- a. Correspondence studies: Unisa
- b. The great ideal [of open access for all]: UKOU
- c. Research as a basis for learning: FernUniversität
- d. Distance and proximity: Central Radio and television University in China
- e. Multimedia systems: the University of the Air in Japan
- f. Autonomous studying: Empire State College in the USA
- g. Interactive video: American National University Teleconference Network
- h. Teleconferencing: ‘Contact North’. (p. 125)

Simply introducing technology will not in and of itself result in improved student learning, to which recent reports by the OECD (2015) and Amory, Rahiman and Mhlanga (2015) seem to attest. There is, rather, a need to make conscious pedagogic decisions about what technology to use and how.

In a telling finding of a recent research project into how institutions were utilising technology, Bates and Sangrà (2011, p. xx) observe, however, that “most [of 11 institutions surveyed] seemed content to use technology to enhance traditional classroom teaching, rather than to use technology to transform the way teaching is designed and delivered”.

Thus, most institutions were not making use of the affordances of technology to make the kind of teaching shifts identified by Laurillard in Chapters 1 and 2. Conscious decisions are needed to design in interaction and to open possibilities for discussion if this is desired.

Bates and Sangrà (2011) go on to make the following general recommendations with respect to long-term goals for technology integration:

- Increasing flexible access for a more diverse student body
- Increasing interaction between instructors and students, and allowing for more individualization of learning
- Developing student skills in identifying, collecting, analysing, and applying knowledge
- Teaching students how information technology can be used within a particular professional or subject domain
- Using technology to support the development of twenty-first century skills of independent learning, initiative, communication, teamwork, adaptability, collaboration, networking, and thinking skills within a particular profession or subject domain
- Greater cost-effectiveness: more students at a higher quality and less cost through use of technology. (p. xxi).

Postle and Tyler (2010) point to the useful work of Taylor in providing a conceptual framework for making the kinds of decisions suggested above with respect to technology choice and associated degrees of interactivity (Table 3.1).

It should be noted that the 'Yes' values indicated in Table 3.1 refer to the *potential* of the tools: but the various technologies need to be chosen and employed specifically for such uses in programme design and the associated costs, and staff and student training in different contexts, carefully analysed. On the one hand, there is the potential simply for educational technology to be used to replicate transmission style teaching; on the other the potential exists for the medium to obscure the message and/or for usage that is predicated on small scale and time-bound engagement that does not meet the ODeL ideal for affordable large-scale open access (Mays, 2011b, p. 14).

The authors of the influential NMC Horizons Report of 2015 (Johnson et al., 2015) conclude that the 'experts' in this area agree on two long term trends we should nonetheless be cognisant of:

- Advancing learning environments that are flexible and drive innovation; and
- Increasing the collaboration that takes place between HEIs.

Table 3.1: Models of distance education: a conceptual framework

| Models of distance education and associated delivery technologies | Characteristics of delivery technologies | | | | | |
|---|--|-------|------|--------------------------|-------------------------------|---|
| | Flexibility | | | Highly refined materials | Advanced interactive delivery | Institutional variable costs approaching zero |
| | Time | Place | Pace | | | |
| First generation: The correspondence model | | | | | | |
| Print | Yes | Yes | Yes | Yes | No | No |
| Second generation: The multimedia model | | | | | | |
| Print | Yes | Yes | Yes | Yes | No | No |
| Audiotape | Yes | Yes | Yes | Yes | No | No |
| Videotape | Yes | Yes | Yes | Yes | No | No |
| Computer-based learning (e.g., CML/CAL/IMM) | Yes | Yes | Yes | Yes | Yes | No |
| Interactive video (disk and tape) | Yes | Yes | Yes | Yes | Yes | No |
| Third generation: The teleconference model | | | | | | |
| Audioteleconferencing | No | No | No | No | Yes | No |
| Videoconferencing | No | No | No | No | Yes | No |
| Audio-graphic communication | No | No | No | Yes | Yes | No |
| Broadcast TV/Radio and audio-teleconferencing | No | No | No | Yes | Yes | No |
| Fourth generation: The flexible learning model | | | | | | |
| Interactive multimedia online | Yes | Yes | Yes | Yes | Yes | Yes |
| Internet-based access to World Wide Web resources | Yes | Yes | Yes | Yes | Yes | Yes |
| Computer-mediated communication | Yes | Yes | Yes | Yes | Yes | No |

(Source: Taylor, as cited in Postle & Tyler, 2010, p. 63)

However, we need to make conscious evidenced-based decisions about which media, resources and technology to use for different learning purposes and contexts. Some guidelines are suggested in the following tables.

- Table 3.2 is concerned to inquire into the potential educational applications of different media and technology
- Table 3.3 is concerned to understand the changing support needs of students as they progress on their learning journey and to identify appropriate technology to use appropriately to provide that support.

Table 3.2: Media and technology integration decision-making guide

| Medium | Technologies supporting provision | Educational Applications |
|---------------------------|--|---|
| Face-to-face contact | <ul style="list-style-type: none"> Overhead projectors (manual or electronic) Specialist technologies All of the below | <ul style="list-style-type: none"> Seminars, tutorials, classes, workshops, and lectures Learner study groups or self-help groups Conferences One-to-one interaction, either between educator and learner, learner and learner, or learner and mentor (especially in workplace) Drama-in-education or theatre-in-education sessions Practical demonstration and activities |
| Text (including graphics) | Print (or pdf e.g., digital textbooks) | <ul style="list-style-type: none"> Books, booklets, and pamphlets (either already published or written specifically for a course) Study guides, written either as stand-alone material or as 'wrap-around' guides to already published material Workbooks intended for use in conjunction with other media materials (for example, audio or video cassettes or computer-based learning) Newspapers, journals, periodicals, newsletters, and magazines Printed learner support materials (for example, self-tests, project guides, notes on accreditation requirements or other aspects of courses, bibliographies, and handwritten/typed materials or comments passing between learners and educators) Maps, charts, photographs, and posters Written/printed correspondence Learner support material (for example self-tests, project guides, notes on accreditation requirements, or other aspects of courses, bibliographies, and materials or comments passed between learner and educator) |
| | Facsimile | <ul style="list-style-type: none"> Written/printed correspondence One-multi point distribution |
| | Mobile sms and increasingly also below ... | <ul style="list-style-type: none"> Written/printed correspondence One-multi point distribution Possibility for limited 2-way communication |
| | Computers (including a range of applications such as e-mail, electronic databases, HTML documents, FTP or ASCII documents, CD-ROM, Flash Networked smartboards Blogs Wikis Fora (discussion threads) (synchronous/asynchronous?) Chat rooms Social media e.g., Twitter, Facebook, IMM with RSS feeds ... | <ul style="list-style-type: none"> Electronic publishing Study guides, written either as stand-alone material or a wrap-around guides to already published materials Instructional material intended for use in conjunction with other technologies (for example audio or video cassettes or printed materials) Newspapers, journals, periodicals, newsletters, and magazines Learner support material (for example self-tests, project guides, notes on accreditation requirements, or other aspects of courses, bibliographies, and materials or comments passed between learner and educator) |
| Audio | Audio Cassettes | <ul style="list-style-type: none"> Audio programmes (music, talk radio, documentary, literature review, lecture, panel discussion, news, current affairs, debate, drama etc) |
| | Audio Compact Disc/Flash | <ul style="list-style-type: none"> Audio programmes as for above |

| Medium | Technologies supporting provision | Educational Applications |
|--|---|---|
| | Radio broadcasts (national/ community) and/or audio podcasts | <ul style="list-style-type: none"> • Radio programmes as above • Radio phone-ins, talk-back radio) |
| | Telephone (including mobile) | <ul style="list-style-type: none"> • Telephone tutoring • Information or enquiry service • Telephone conferences |
| | Computers with related applications (including CD-ROMs) increasingly mobile | <ul style="list-style-type: none"> • Multimedia sound (audio files) • Voice communication |
| Video | Television Broadcasting (terrestrial, satellite or cable, digital or analogue transmission, including narrowcast educational television and mobile) | <ul style="list-style-type: none"> • Video programmes (music, talk shows, documentary, literature review, lecture, panel discussion, news, current affairs, debates, game shows, drama, films etc). • Lectures • Simulations of procedures and processes |
| | Video cassettes | <ul style="list-style-type: none"> • Video programmes as above • Lectures |
| | DVD; video podcasts | <ul style="list-style-type: none"> • Video programmes as above • Instructional material (for examples, art pictures or biological photographs) |
| | Video conferencing | <ul style="list-style-type: none"> • Video conferences (with two way audio and video or one way video and two way audio) • Point-to-multi-point classes with interactive video and audio |
| | Computers/Internet/ mobile smartphones/iphones/tablets/ | <ul style="list-style-type: none"> • Videographics • See-You-See-Me Conferences |
| Integrated multimedia/ e-learning | <i>Stand-alone</i> Computer-based workstation, CD-ROM/ DVD, CDI, flashdrive etc | <ul style="list-style-type: none"> • Presentation of information/knowledge • Simulations • Interactive exercises and assessment |
| | <i>Networked</i> Linking Computer-based workstation, CD-ROM/DVD, or Set-Top Boxes to public (Internet) or private (Intranet, LAN, WAN) networks; Virtual worlds/ avatars Issues of bandwidth and cost important Challenge of complexity to manage large classes e.g., illuminate vs MOOC | <ul style="list-style-type: none"> • Presentation of material and/ or resources integrating all above media (text, audio and video) and possible applications • Simulations and virtual role plays • Assignment submission, assessment and feedback • Conferencing data, audio, video |
| | Emergent: Cloud computing and apps like Dropbox; LMS + PLE ... | Provides access to the same large file from multiple points of entry; resource lists and discussion fora can be synced automatically |
| Bates' decision-making criteria "Good teaching may overcome a poor choice of technology but technology will never save bad teaching" See: http://www.tonybates.ca/ | Criteria for decision-making: SECTIONS <i>S</i> tudents <i>E</i> ase of use <i>C</i> osts <i>T</i> eaching functions <i>I</i> nteraction <i>O</i> rganisational issues <i>N</i> etworking <i>S</i> ecurity and privacy (Bates, 2015, pp. 260-311, 479-486) | |

(Extrapolated by Saide and the candidate from earlier work by Tony Bates)

Table 3.2 provides an overview of the growing range of ICT enabled options available to ODeL institutions. The challenge is to decide what technology to use in what ways to support particular kinds of learning for particular kinds of students in particular contexts – that is, selecting appropriate technology to use appropriately for a best fit for purpose approach, rather than randomly

incorporating a set of technological tools and rich media simply because it is possible to do so. For example, Burns (2011) provides a useful analysis of strengths and weaknesses of different media and technology to support the professional development of teachers, in particular through distance learning. Logically, and in line with the discussion in Chapter 2, Bates (2015) argues the need for decisions about appropriate media and supporting technology to be made consciously based on pedagogic intent as illustrated below (Figure 3.5). Not all tools and media are represented in this diagram, which Bates acknowledges to be a personal arrangement, and he further observes that what is important is how the tool is used and why: a blog can be very teacher-centred if the teacher is the only one allowed to blog and very open-ended if anyone can blog, perhaps even including interested parties from outside of the formal course.

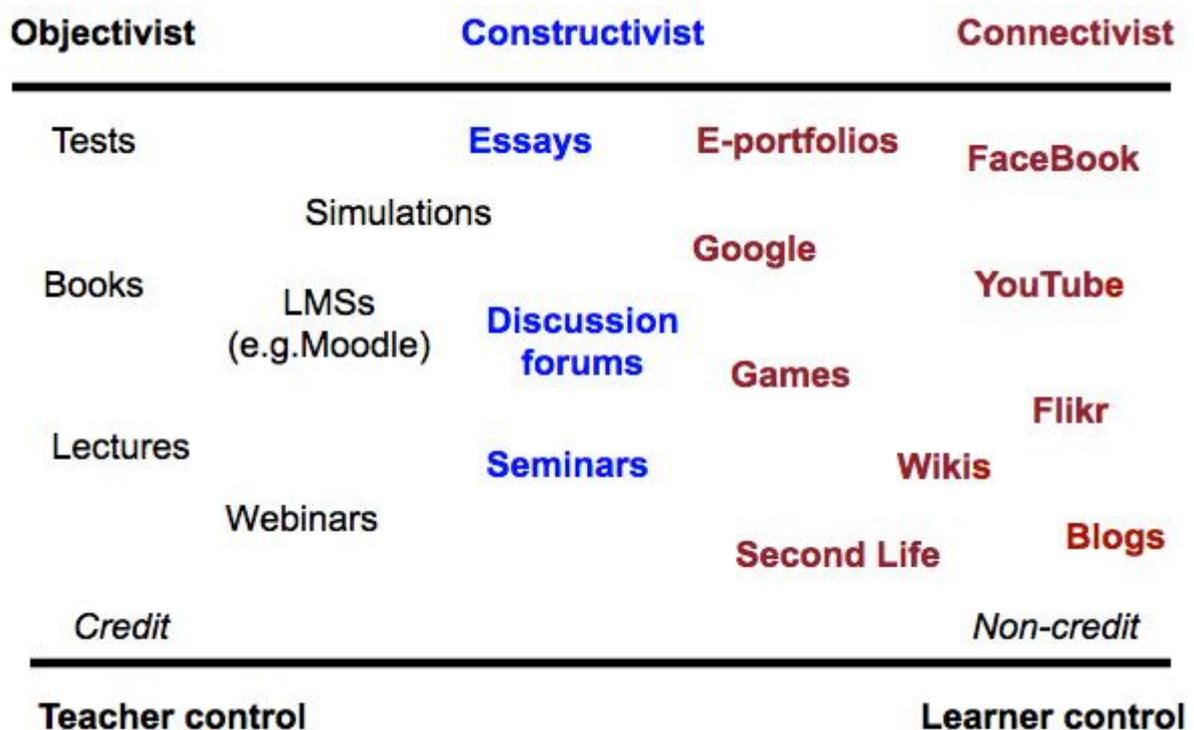


Figure 3.5: Analysis of media from an educational perspective
(Source: Bates, 2015, p. 259)

It is also important to realise that student support needs change as students progress on their learning journey. A possible way to envisage this is provided in Table 3.3, which is based on the candidate’s work with Unisa.

Table 3.3: Technology choices for different stages of the student walk at Unisa

| Step in the student walk | Appropriate technology for purpose and audience |
|------------------------------|---|
| 1. Marketing and orientation | Provision of information in user-friendly styles and multiple modes (e.g., online, mobile– Compact Disc Recordable/Read Only (CDR), Digital Video Disc (DVD), podcast, audio/video and print) and access to OER examples of learning resources enables potential students to make more informed |

| Step in the student walk | Appropriate technology for purpose and audience |
|---|--|
| | choices. Supported by online advisors, call centre, or staff at decentralised regional centres. |
| 2. Application: Responsible Open Access Programme | Provision of diagnostic self-test quizzes available on-line, DVD, flash drives or in-person at regional centres can help potential students to make appropriate choices about what, how much and in what mode to study. The emphasis should be on the most appropriate route to access learning rather than on testing for exclusion. Supported by online advisors, call centre, or staff at decentralized regional centres. |
| 3. Registration | Students can register online remotely, at a self-service terminal at a regional centre, or seek personal assistance at a regional centre. Currently, about 70% of Unisa students register on-line. A technology-enhanced registration process allows for automatic pop-up alerts regarding pre-and co-requisites, possible exam clashes, workload challenges and WIL components, such as teaching practice. It also allows for the possibility of access to digital versions of resources immediately on successful registration through the use of a “toaster” (a terminal allowing students to download digital versions of study materials to a CD or flash drive). |
| 4. Teaching and learning | |
| Orientation | Traditionally, Unisa has relied on printed tutorial letters at programme (300 series) and module (100 series) levels for orientation purposes and these are also available in Portable Document Format (PDF) online and so can be downloaded should students lose their copy. Other orientation possibilities include YouTube, video-conferencing, satellite TV or radio broadcast, video on DVD or podcast, an e-tutor led small group online or tele-conference, and where the need exists and numbers justify it, even a face-to-face contact session in a regional centre, other institution, school, church hall, teacher centre, etc., All contact with student-teachers should consciously model appropriate teacher-student behaviours. |
| Maintenance/Formative assessment | In many institutions, formative assessment in the form of assignments is a pre-requisite for entry to summative assessment (most often in the form of a formal examination). Ten percent of students either do not complete or do not pass their formative assessment. So: Provide Short Message Service (SMS) and email reminders of deadlines Set up online discussion fora related to assignment preparation. Provide for an e-tutor or student led (peer collaborative learning - PCL) small group online or tele-conference, and where the need exists and numbers justify it, even a face-to-face contact session. Provide for online, postal and in-person submissions. Provide for online marking and marks submission. Automate routing of non-submissions or weak submissions for pro-active follow-up by an e-tutor—by phone, email or skype. Provide feedback on problem areas in a tutorial letter, email, sms, in the online forum, via e-tutor or face-to-face tutor. For the joint exploration of practice consider having students engage with digital copies of lesson planning documents and videos of classroom practice and encourage critical engagement online, by mobile, in an e-tutorial or in a face-to-face tutorial; maintain a programme and teaching practice website throughout the programme including updates on policy, news articles, and research publications. etc. as well as informal chat room facilities |

| Step in the student walk | Appropriate technology for purpose and audience |
|---|---|
| Consolidation/Summative assessment registration | Ten percent of students successfully complete the formative assessment but although registered to attempt summative assessment do not present themselves. So: Provide SMS and email reminders of timetables. Provide SMS or online booking of exam candidacy and automated reminders for deferrals. Automate routing of non-registrations for pro-active follow-up by an e-tutor—by phone, email or Skype. Provide feedback on key areas/assessment foci in a TL email, sms, in the online forum, via e-tutor or face-to-face tutor, or use YouTube, video-conferencing, satellite TV or radio broadcast, video on DVD or podcast. |
| Summative assessment | Of the 80% of students who present themselves, 70% of Humanities students pass first time (pass rates tend to be lower in other fields), yielding an initial cohort throughput of 80% x 70% = 56%. Track trends automatically to prioritize interventions. Where possible provide both online and more traditional opportunities to complete summative assessment Automate routing of no-shows or poor performance for pro-active follow-up by an e-tutor—by phone, email or Skype |
| 2 nd examination opportunity | At Unisa, students who fail a module with a stipulated subminimum can register for a second examination opportunity in the following semester. Provide SMS and email reminders of timetables. Provide SMS or online booking of exam candidacy and automated reminders for deferrals. Automate routing of non-registrations for pro-active follow-up by an e-tutor—by phone, email or Skype. Provide feedback on key areas/assessment foci in a TL email, sms, in the online forum, via e-tutor or face-to-face tutor, or use YouTube, video-conferencing, satellite TV or radio broadcast, video on DVD or podcast. |
| 5. Graduation and alumni | Build and maintain a database of graduates; keep regular contact with alumni through a quarterly e-newsletter; conduct e-impact studies; recruit graduates as e-tutors ... |

(Source: adapted slightly from Mays, 2011a, pp. 866-867)

Concluding an overview of research literature in the following areas – distance education, blended learning, online learning, credentialing, MOOCs and future learning technology infrastructures – Siemens, Gašević, and Dawson (2015) suggest that the trend to digitisation is irreversible, but that we need to look back at what we think we already know about effective teaching and learning in order to make informed choices about how to make effective use of the new technological possibilities that are emerging. In this respect, Rautenbach (2007) concluded that while face-to-face sessions are no longer a necessary requirement for distance provision in a digital era, the following *are* necessary pre-conditions for success if we are to make good use of digital tools and resources:

- The educator must have the necessary e-learning skills
- The educator must have the correct e-learning behaviours
- Learners must be allowed enough time to change and adapt to the e-learning event
- Learners must have the necessary e-learning skills
- The technological infrastructure must be able to carry the load

- There must be a helpline for technical support
- There must be a consistency in the appearance of the navigation bars
- The e-learning event must make use of the most appropriate delivery system
- The e-learning event must have appropriate activities
- The course must comply with legal requirements
- The course must have enough support staff
- There must be a positive organisational culture of online studying. (p. 253)

One key way in which a judicious use of e-learning approaches can add great value is identified by Salmon (2015). Commenting on a specific example, she observes:

At residential schools, the contributions by the students are oral, short and immediate. During the sales and marketing role-play exercises, students air their initial thoughts on the task, and [the] only sources of ideas, concepts and models from the course are the students' own memories. One member typically captures these ideas, in abbreviated form, on a flip-chart. By contrast, online, everyone has a full record of everything that has been 'said'. The contributions are considered in a way that is not possible at face-to-face schools. There is scope for thoughtfulness and for reflection. (p. 37)

This line of thought is expanded further by Littlejohn and Pegler (2015) as follows:

Perhaps the most startling difference between open learning online and conventional education is that online resources are created not only by teachers or experts. Resources are as likely to be created or adapted by learners themselves (Falconer, McGill, Littlejohn, & Boursinou, 2013; Weller, 2010). In fact, learners now routinely learn through creating, adapting and sharing their own resources across social networks (Beetham, McGill, & Littlejohn, 2009). There are many examples from everyday life, such as blogging or commenting on other people's blogs; uploading resources to social network sites such as Facebook; sharing media through social networks, for example videos in YouTube; micro-blogging through 'tweeting' or 'retweeting' in Twitter; filtering and sharing online resources via social bookmark sites like Delicious; using tools such as Scoop.it to source, discover, curate and share relevant resources. What we see is a less clear-cut distinction between teachers or experts and learners in terms of roles and vision of labour, with a shift in agency from the teacher to the learner (Beetham, Littlejohn, & McGill, 2010). (p. 50)

They then provide some examples to illustrate the above trends and conclude:

These examples illustrate that learning has moved from individual problem solving and *knowledge acquisition* (Schmidt, Norman, & Boshuizen, 1990) to *knowledge building* negotiated with others around tasks (Engeström & Middleton, 1996), sometimes by interpreting a common problem, then finding appropriate responses to those interpretations (Edwards, 2011a), to knowledge creation through social interactions around open resources (Paavola, Lipponen, & Hakkarainen, 2004). (Littlejohn & Pegler, 2015, p. 52)

Interestingly, an earlier study from the European Union found that in addition to formal education settings, ICT-facilitated collaborative learning has seen the emergence of communities of learning in

both informal and non-formal lifelong learning environments which exhibit varying degrees of the following community characteristics:

Awareness and intentionality to learn (the extent to which community members enter the community to learn and/or are aware of learning taking place by participating in the activities of the community);

- **Learning as a goal of the community** (the extent to which learning is an explicit goal of the community);
- **Availability of learning resources online** (courses, articles, papers, links, videos that are posted by members or by the managers or by both to share/increase knowledge);
- **Availability of learning support services** (Helpdesk, virtual tours for newbies, support from staff to facilitate learning of members);
- **Use of terms “learning” and “learning community” in the discourse of members** (the extent to which members refer to learning in interviews, surveys, online interactions);
- Availability of peer support/enquiry learning/problem based learning in the community;
- **Production of learning resources** (co-production of learning material, production of reports, newsletters or any other form of resource allowing access to the knowledge patrimony of the community);
- **Recognised development of thematic knowledge** (the extent to which members acknowledge they have developed/improved knowledge in specific fields thanks to their participation in the community);
- **Recognised development of ICT skills** (the extent to which members acknowledge that participation in the community has helped them developing their ICT skills);
- **Recognised development of socio-cultural skills and other key transversal skills** (the extent to which members acknowledge that participation in the community has helped them developing critical thinking, sense of initiative, cultural awareness, cultural expression, communication and organisational skills, creativity). (Aceto, Dondi, Marzotto, Ala-Mutka, & Ferrari, 2010, p. 128)

The above characteristics seem to illustrate the potential for the communicative and collaborative potentiality of ICT to be harnessed to foster online ‘wisdom communities’ and it may be that in some contexts such communities could evolve organically while in others there might be need for more careful scaffolding and support (Gunawardena et al., 2006). This seems to be consistent with the more communitarian focus of African philosophical traditions noted in Chapter 2. However, it is equally clear that a one-size-fits-all approach will not be possible (Heydenrych & Prinsloo, 2010; Subotzky & Prinsloo, 2011). Academic staff therefore need continuous professional development to be able to make informed choices about how best to integrate appropriate ICT into the design and development of programmes (Bates, 2016) and how best to employ the affordances of this technology towards enhanced student success (Modise, 2016). It is also clear that if the best use is to be made of the affordances of new technologies to improve pedagogic practice, it will require a forward thinking and

dynamic style of leadership (Halfond et al., 2016). Whatever the context, clear guiding principles for engaging with the quality of practice across different contexts have begun to emerge.

3.4 Quality assuring ODeL provision

In many contexts, the regulation of ODeL provision is managed by people whose higher education experience has been full-time and campus-based: it is therefore not surprising if the political rhetoric about opening access is often not reflected in the regulatory framework.

Programmes offered in higher education in South Africa are subject to approval by the Department of Higher Education and Training (DHET), for funding and planning purposes, and accreditation by the Council for Higher Education (CHE) for quality purposes.

The CHE divides its accreditation process into candidacy (planning and resourcing) and accreditation (practice) phases (although there is no longer a guaranteed systematic institutional follow up on the latter due to capacity constraints) as illustrated below. The issues identified, and the key questions that underpin them, also provide lenses for self-evaluation of the programmes and courses that form an institution's programmes and qualifications mix (PQM). The broad framework of these requirements is set out in Tables 3.4 to 3.7 below (CHE, 2004a, 2004b).

Table 3.4: CHE accreditation candidacy phase: Criteria for programme input (1-9)

| Criterion | Areas |
|-----------|--|
| 1 | Programme design |
| 2 | Student recruitment, admission and selection |
| 3 | Staffing – qualifications, experience, research, staff development |
| 4 | Staffing – size, procedures for selection, full-time & part-time |
| 5 | Teaching and learning strategy |
| 6 | Student assessment, policies and procedures |
| 7 | Infrastructure and library resources |
| 8 | Programme administrative services |
| 9 | Postgraduate policies, regulations and procedures |

Table 3.5: Accreditation phase: Criteria for programme processes (10-16)

| Criterion | Areas |
|-----------|--|
| 10 | Programme coordination |
| 11 | Academic development for student success |
| 12 | Teaching and learning interactions |
| 13 | Student assessment practices – internal and external |
| 14 | Student assessment practices – reliability, rigour, security |
| 15 | Coordination of work-based learning |
| 16 | Delivery of postgraduate programmes |

Table 3.6: Accreditation phase: Criteria for programme output and impact (17-18)

| Criterion | Areas |
|-----------|--|
| 17 | Student retention and throughput rates |
| 18 | Programme impact |

Table 3.7: Accreditation phase: Criteria for programme review (19)

| | |
|----|------------------|
| 19 | Programme review |
|----|------------------|

Interestingly, and perhaps unusually, the CHE in South Africa opted to engage with the distance learning community in South Africa to provide guidelines specific to distance provision in a digital era, considering the growing number of requests for accreditation of programmes to be offered online and in blended modes (CHE, 2014).

There is considerable overlap between the key quality issues identified by the CHE in South Africa and those identified by the CoL through a multi-national consultation process and as summarised in Table 3.8.

Table 3.8: Quality criteria for ODeL provision

| Criteria | No. standards | No. of PIs | |
|----------|---|------------|----|
| 1 | Vision, mission and planning | 21 | 54 |
| 2 | Management, leadership and organisational culture | 27 | 79 |
| 3 | The learners | 7 | 19 |
| 4 | Human resource development | 7 | 22 |
| 5 | Programme design and development | 13 | 33 |
| 6 | Course design and development | 13 | 37 |
| 7 | Learner support | 15 | 49 |
| 8 | Learner assessment | 12 | 38 |
| 9 | Infrastructure and learning resources | 8 | 35 |
| 10 | Research, consultancy and extension services | 7 | 20 |

(Source: CoL, 2009, p. 8)

In an earlier comparison of higher education quality assurance issues in different contexts, Aluko (2007) also found a tendency towards a similarity of quality concerns. More recently, a comparative analysis of quality models in online and open education around the globe undertaken for the International Council for Open and Distance Education (ICDE), while confirming that there was a lot of agreement on what areas it was important to focus a quality assurance lens upon, nonetheless observed that there was great diversity in *how* these broad expectations were interpreted for different

levels of maturity, that feedback was of variable quality and that there were challenges in responding to change generally (Ossiannilsson, Williams, Camilleri, & Brown, 2015).

The move from campus-based to distance and online learning then requires that institutions think about doing some new things, and some existing things differently, with implications for staff as well as systems and processes. However, it is important to acknowledge that the same is probably true for students, who will likely need scaffolded support to transition from highly structured schooling environments to the more flexible and open possibilities of distance and online learning (Kinross & McKenzie, 2009).

3.5 OER as a systemic element

3.5.1 OER and ODeL provision

The OER Research Hub OER Evidence Report for 2013-2014 observes (de los Arcos, Farrow, Perryman, Pitt, & Weller, 2014):

Awareness of OER and Creative Commons is growing, but OER repositories remain relatively unused and unknown compared with the three main educational resource sites of YouTube, Khan Academy and TED. This suggests that brand awareness of OER and easy location is a major obstacle to overcome for the next generation of OER projects. (p. 4)

With over a decade’s investment in OER there remains surprisingly little reliable empirical evidence on OER impact. ... By closing the feedback loop through open sharing of information and resources it will be possible to gain the critical mass of evidence required for future phases of OER implementation. (p. 35)

Both traditional contact-based institutions and traditional distance education providers are exploring the potential of ICT to support improved quality learning for increased numbers of learners with the former exploring concepts such as flipped classrooms (Khan, 2012; Richardson, 2012) and the latter seeking to improve social presence and improve engagement, interaction and retention (as discussed in Sections 2.9 and 3.1). There is a natural synergy between ODeL, and other forms of resource-based learning and OER as indicated in the following table developed by the candidate for OER Africa.

Table 3.9: Policy, ODeL and OER

| Policy area | Policy issues/objectives | Relevance to collaboration and/or OER |
|-----------------------------|--|---|
| Identifying target audience | <ul style="list-style-type: none"> • Educational purpose of the programme • Demography of student population (e.g., age range, gender, employment) • Motivation for learning (e.g., vocational, academic) • Existing knowledge and/or skills of target students (e.g., can study skills be assumed?) • Curriculum needs (e.g., is it defined by an examination or a professional body, academic knowledge, vocational skills?) • Market research | <ul style="list-style-type: none"> • The sharing of research and templates could facilitate the process of building and then using student profiles at participating institutions. |

| Policy area | Policy issues/objectives | Relevance to collaboration and/or OER |
|--|---|--|
| Type of DE system | <ul style="list-style-type: none"> • Campus-based, organization-based or individual-based? • Self-paced or programme-based? • Open access? • Single, dual-mode or partnership service provider? | <ul style="list-style-type: none"> • The sharing of research, guidelines, process documents and quality criteria can help an institution make informed decisions about which model(s) of DE will be most appropriate to its needs. |
| Choosing the appropriate technology for distribution and materials and for interaction with students | <ul style="list-style-type: none"> • Print, audio-visual, web-based or a mix? • Access implications of choice? • Training implications of choice? • Cost – including maintenance and sustainability? | <ul style="list-style-type: none"> • Open licences for materials will facilitate cost-effective production and distribution of materials. • Access to course materials from other members of the community of practice can be an effective, rapid strategy to secure materials for courses where no materials exist. • This might allow use of media that would not have been affordable if an institution needed to develop everything itself. |
| Business planning and costing | <ul style="list-style-type: none"> • Philosophy and objectives • Capital and recurrent costs <ul style="list-style-type: none"> ○ Planning ○ Implementation ○ Maintenance and updating ○ Fixed and variable • Self-financing or subsidised? • Course portfolio (e.g., length of study) • Course development and production process (e.g., team, individual contract) • Course delivery <ul style="list-style-type: none"> ○ Enrolment ○ Tutorial system ○ Materials dispatch ○ Assessment ○ Record keeping ○ Marketing ○ Funding | <ul style="list-style-type: none"> • Clear policy indications are needed that materials development is considered important by the institution and that there is commitment to investing in it. • Policy positions are essential to ensure high quality of materials and effective collaboration, and this is indicated by allocation of appropriate resources, including staff time. • It may be necessary to include specific references to collaborative activities to ensure that funds are set aside to cover the time of academic staff from the institution to participate in such collaborative activities. • Sharing of course materials with members of the community of practice may reduce requirements to pay sub-contracting fees for materials development, as it may open access to already developed course materials in key areas of need. • Participation in materials development/OER collaborations could generate consultancy funds, providing an alternative income stream to the institution and its staff and financial returns on capital investment. |
| HR strategy | <ul style="list-style-type: none"> • Staff complement • Staff development • Staff workload • HR systems | <ul style="list-style-type: none"> • Most academic staff will be discipline experts rather than materials developers – the wider OER community may be able to help with the development of skills related to materials development. • Staff awareness processes should include awareness about changing intellectual property parameters introduced by the growth of ICT, and accompanying introduction to open licences like the Creative Commons. • Consideration might be given to the notion that staff participating in collaborative activities and materials development exercises that are over and above their normal workload can receive |

| Policy area | Policy issues/objectives | Relevance to collaboration and/or OER |
|---|---|--|
| | | remuneration for their time spent. However, in the long term, if DE provision accelerates, job descriptions will need to be adapted so that time is allocated to programme development, course design and materials production as a core activity. |
| Programme development, course design and materials production | <ul style="list-style-type: none"> • Buy, make or adapt? • Media choice and/or mix? • Instructional design • Developmental testing • Production • Delivery • Updating • Storage | <ul style="list-style-type: none"> • Facilitated by use and adaptation of OER. • Facilitated by systematic analysis of current copyright status of existing materials, and efforts to ensure that all materials can be freely updated and revised without securing additional permissions. • Existing OER available on the internet and materials available from other members of the community of practice can support review processes and cost-effective updating of courses. • Establishment of licensing frameworks relevant to digitized materials (e.g., Creative Commons) will be essential to protect the rights of the institution. • It is essential to define terms of use of all materials within a digital library, which will be facilitated by systematic materials audit and establishment of systems to manage the institution's knowledge base. • Shared course materials and OER can be used to increase the number of available materials in the digital library without significant additional cost. • Collaboration with other members of the community of practice will facilitate such access, as will ongoing integration of the institution into emerging global OER networks. |
| Tutoring and supporting students | <ul style="list-style-type: none"> • Tutor role and tasks • Tutor skills • Recruiting tutors • Induction and training of tutors • Monitoring tutors • Marking and feedback • Face-to-face, telephone, online tutoring • Student counselling • Student guides and providing information to students | <ul style="list-style-type: none"> • The sharing of research, guidelines, process documents and quality criteria can help the institution make informed decisions about suitable models for tutoring and supporting its DE/off-campus students. |
| Recruiting and enrolling students | <ul style="list-style-type: none"> • Making course information available • Marketing • Diagnostic testing of potential students • Briefing students about ODL • Enrolment • Fee payment systems | <ul style="list-style-type: none"> • The sharing of research, guidelines, process documents and quality criteria can help the institution make informed decisions about suitable models for recruiting and enrolling DE/off-campus students. |
| Assessing students | <ul style="list-style-type: none"> • Methods to be used (e.g., exams, projects, thesis and portfolio) • Summative, formative or both? • Methods of submission and giving feedback (e.g., online or by paper correspondence?) | <ul style="list-style-type: none"> • The sharing of research, guidelines, process documents and quality criteria can help the institution make informed decisions about suitable models for assessing DE/off-campus students. |

| Policy area | Policy issues/objectives | Relevance to collaboration and/or OER |
|---|--|---|
| | <ul style="list-style-type: none"> Recording marks and student progress | |
| Managing and administering the DE system | <ul style="list-style-type: none"> Operational issues e.g.: <ul style="list-style-type: none"> Finance Student recruitment Enquiries processing Enrolment Materials development Materials manufacture Tuition and support Assessment Technology Governance and management structures | <ul style="list-style-type: none"> The sharing of research, guidelines, process documents and quality criteria can help the institution make informed decisions about suitable models for managing and administering its DE system. |
| Collaborative relationships | <ul style="list-style-type: none"> Programme development, course design and materials production Associations Sub-contractors WIL Consortia | <ul style="list-style-type: none"> The sharing of research, guidelines, process documents and quality criteria can help the institution make informed decisions about suitable models for managing collaborative arrangements. |
| Monitoring evaluation and quality assurance | <ul style="list-style-type: none"> Who the evaluation is for (e.g., politicians, managers, educational staff) The level of monitoring (e.g., system level, course/programme level, individual tutor or individual student level) Capability to act on findings of evaluation, monitoring and quality assurance Quality assurance systems | <ul style="list-style-type: none"> Completing a systematic audit of materials and their licences will create a clear legal framework to guide staff and students. Maintaining proper licences that facilitate use and adaptation of materials further supports this. The sharing of research, guidelines, process documents and quality criteria can help the institution make informed decisions about suitable models for managing a quality assurance system in a DE context. |

(Source: OER Africa, 2012, pp. 22-27)

Although on the face of it there seems to be a clear logic in integrating OER in an ODeL context, an e-learning context or even a ‘flipped classroom’ context, since the provision of learning resources is integral in each case, adoption of such an innovation is by no means simple. Reflecting on the Unisa experience of integrating OER, de Hart, Chetty and Archer (2015) found Rogers’ “Diffusion of Innovation” model a useful lens. They note that Rogers proposes that four main elements influence the spread of a new idea such as mainstreaming OER: the innovation itself, communication channels, time and a social system. Rogers also identifies five main stages: knowledge/awareness, persuasion/interest, decision/evaluation, implementation/trial and confirmation/adoption. The researchers found that while knowledge about OER was quite high within Unisa, actual take-up was dependent on other factors such as efficient ICT infrastructure, supportive policy and training and support related to intellectual property issues.

In a similar study among the members of the Washington Community and Technical College System, Chae and Jenkins (2015) found that there were often compelling motivations for integrating OER, such as cost-savings for students, possibilities for more responsive instruction, increased collaboration,

increased reflection on practice and convenience of use. However, there were also several contextual challenges to take-up, including lack of time, an uninviting institutional climate, lack of technology and skills, uncertainty about Intellectual Property Rights (IPR), copyright and policy issues, difficulty in finding and selecting appropriate resources and differences in course specifications. The report summarises the kind of support needed in the form of a useful diagram (Figure 3.6):

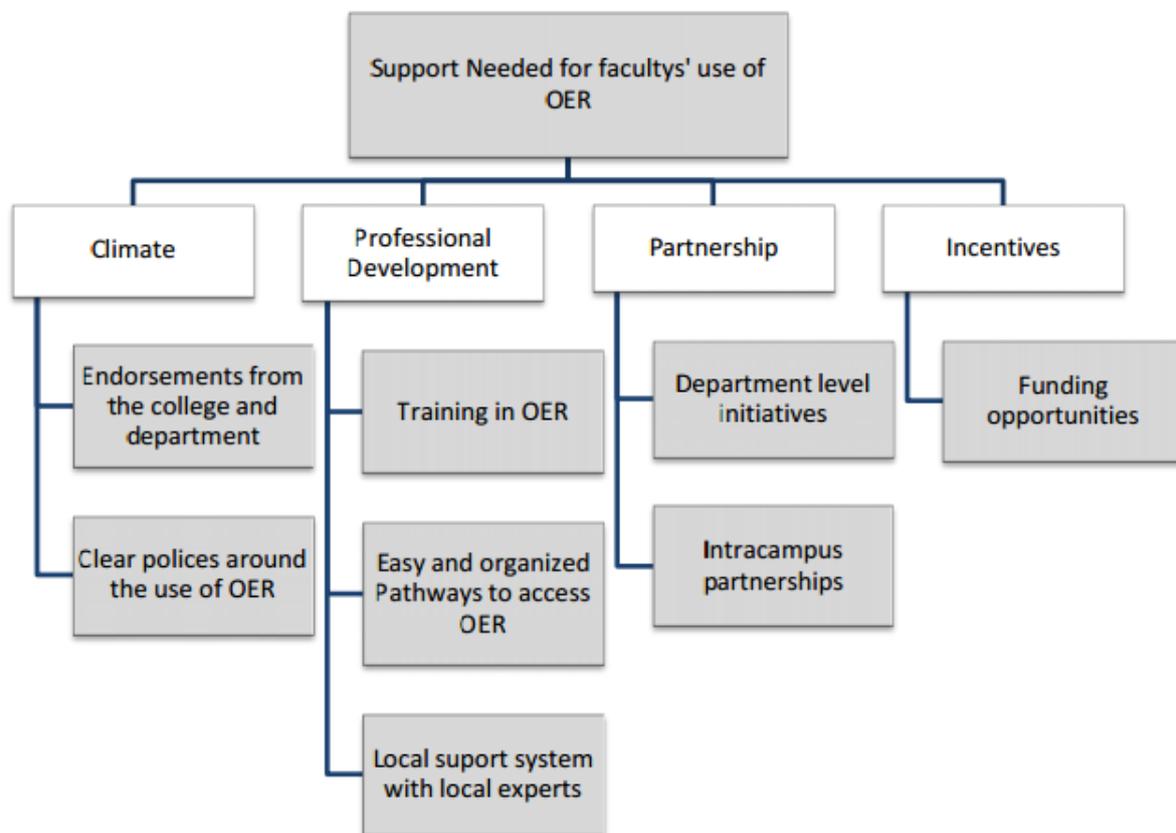


Figure 3.6: Types of support needed for faculty to implement OER in their classroom
(Source: Chae & Jenkins, 2015, p. 27)

The issues raised in both previous studies resonate with an earlier case study of a mathematics teacher education project in South Africa (Sapire & Reed, 2011). Considering their study, the researchers offer the following useful observations about creating a conducive environment for OER integration:

- Expert-led collaborative materials design, drawing on the subject and pedagogical knowledge and existing materials developed at institutional sites, has potential for achieving quality, cost-effective, and multiple-use resources.
- Materials designed with clear learning pathways, which are local but not too local and which are made available as OER under a share-alike licence, encourage use, redesign and repurposing.
- The formation of inter- and intra-institutional communities of practice can extend the knowledge and skills of all participants and attract new players into the field. However,

skilful and ongoing facilitation is necessary to avoid the marginalization or withdrawal of participants.

- Institutional support at senior management and department levels is necessary to encourage ongoing teacher education participation in the development and use of OER. (p. 209).

3.5.2 Quality assuring OER

In initial engagements with academics, concerns about the quality of OER are often raised. Whereas a formally published resource will usually have been through various disciplinary and copyright clearance protocols, there is often concern that OER may not have been. Many academics seem surprisingly reluctant to trust their own judgement regarding the quality of a learning resource, even though students tend not to show such reservations. In workshops on these issues, the candidate has stressed the need to use similar quality assurance criteria and processes with open textbooks and other OER as they would with all rights reserved copyrighted works, typically involving a departmental approval process. In addition, in workshops with ANU and others, it has proved useful to provide examples of learning resources of different types and quality, to elicit feedback on these examples with a view to determining some quality criteria and then to compare these ideas with existing quality rubrics like the ACHIEVE rubric in Appendix 3.3 and the Saide rubric in Appendix 3.4 (which the candidate helped to develop and has used extensively in various materials development and review contexts). It is important to consider both what is taught and how it is taught, and then to make a judgement on whether it would be feasible to use and/or adapt the resource.

Reflecting on the relationship between MOOCs and quality, however, Hayes (2015) makes the important observation that we are concerned with more than just the quality of the learning resources and how these are constructed together in a coherent way. Increasingly, the distinguishing characteristic between different institutions will be the quality of the support layered onto the core programme and materials (see Section 2.9.4). However, this requires also some pragmatic considerations about which issues an institution can reasonably be expected to address and wider concerns that it cannot.

In an interesting article reflecting on the relationship between higher education and development, Kruss, McGrath, Petersen and Gatsrow (2015) note the complex ways in which global, national, sectoral and spatial issues intersect in dynamic ways to drive or impede change. They argue a need for institutions to become more aware of their capabilities regarding uses of technology, ability to learn and ability to interact meaningfully with their contexts, much of which knowledge is currently tacit in nature, to develop their capabilities more strategically “in relation to priority areas that match their expertise, whether in their immediate contexts or nationally” (Kruss et al., 2015, p. 30).

Mainstreaming the integration of OER should therefore be located within the wider discourse of change in the management of higher education. In the specific case of ANU it seems clear that students want more flexible open, distance and e-learning provision, but not necessarily all programmes will be viable in this modality.

3.6 Managing ODeL provision from a systems perspective

This section derives from a discussion document originally prepared for engagement with Unisa, revised and linked to a Saide newsletter and then used in whole or in part in a number of subsequent OER. It is felt that the nested graphics approach adopted is a useful way to conceptualise ODeL provision and so the diagrams are retained from the original (with one or two amendments). However, the narrative has been updated to reflect the study context of working with an institution, ANU, which has moved from single to multi-mode provision.

Following Glennie and Mays (2009), the discussion in this section takes as a starting point the modernist architectural notion that ‘form follows function’. In other words, it means recognising that the distinguishing characteristic of an ODeL institution (or an ODeL unit within a contact-based institution) is the way in which it needs to organise or re-organise systems and resources to support teaching and learning without necessarily requiring teachers and learners to be in the same space at the same time. Secondary to this is the fact that distance education is often linked with large scale provision to achieve economies of scale and therefore any change needs to be carefully evaluated, planned, piloted and evaluated before being institutionalised, as small changes may have an enormous impact. As an aside, it is interesting to note that the increasing use of social learning theory in Web 2.0 mediated teaching in both distance and contact institutions is potentially pushing costing back towards the tutorial-based system of education provision (see Hülsmann, 2016; Kanuka & Brooks, 2010; Rumble 1997, 2004). Part of the challenge for ANU was that it launched distance provision across its entire programmes and qualifications mix, rather than focusing on programmes and contexts that market research suggested could sustain the kind of enrolment at scale needed to recoup the initial investment in curriculum, materials and systems development as well as the ongoing costs of implementation and review. This is not a situation peculiar to ANU. An inquiry conducted in the US into the rising costs of higher education (Davis Educational Foundation, 2012) revealed a very weak link between the cost of services provided and the price paid by students and a tendency to invest in what is perceived to be adding quality – adding more options and services, maintaining and improving infrastructure, reaching a wider demographic – rather than what might be sustainably cost-effective for both institutions and students.

Clearly there is need to understand better the systemic implications of ODeL provision. This section therefore starts from the premise of ODeL as the primary mode of provision, which can then be adapted for other contexts by adding various degrees of face-to-face and venue-based support (at additional cost) for different contexts. This understanding is summarised in Figure 3.7 below.

The model begins with the institution's (or unit's) vision, mission and policy framework which identify it as an ODeL institution (e.g. Unisa, NOUN, OUT, UKOU or IGNOU) or perhaps a contact-based institution offering a substantial number of ODeL opportunities (e.g., the Universities of the Free State, North West and Pretoria in South Africa).

The discussion is further premised on an assumption that the appropriate use of ICTs is critical to all aspects of the institution's operations as is a regional support infrastructure in which well-equipped, but not necessarily permanent or large, regional hubs support a flexible network of sites of contact and ongoing professional development.

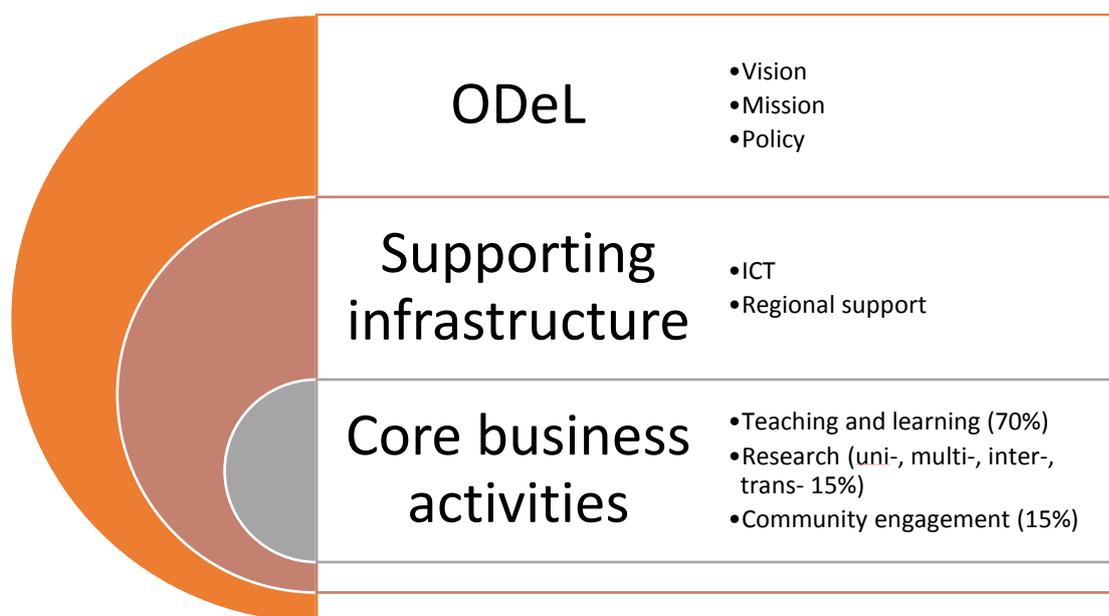


Figure 3.7: Form follows function
(Source: Glennie & Mays, 2009, p. 6)

The model in Figure 3.7 argues that the core business of an ODeL institution or unit comprises teaching and learning, research and community engagement, like any other HEI, but that these may take different forms given the ODeL context. The discussion further proceeds from the understanding that human resourcing is based on the following kinds of assumptions (with implications based on a Saide working year model) about the relative weightings of the core business activities:

- Teaching and learning: 70% (which implies that the average distance education academic could expect to spend $0,7 \times 220$ days = 154 days a year on teaching and learning activities)

- Research: 15% (which implies that the average distance education academic could expect to spend $0,15 \times 220$ days = 33 days a year in research related activities – including research into own ODeL practice)
- Community engagement/academic citizenship: 15% (which implies that the average distance education academic could expect to spend $0,15 \times 220$ days = 33 days a year in community engagement/academic citizenship activities).

These are very important assumptions to clarify, as they impact on the number and kinds of staff time needed for quality provision. In Kenya in general, and in ANU in particular, extensive use is made of part-time staff in order to offer particular kinds of programmes without necessarily committing to the employment of full-time staff. An empirically verified estimate of required time-on-task for both full- and part-time staff, with commensurate remuneration, will be critical to sustainability.

This understanding is in line with criteria identified by the CHE (2004, 2014), Nadeosa (Welch & Reed, 2005) and CoL (2009) and has many high-level implications for practice. The first is that ODeL provision is informed by the institutional vision, but in turn informs the nature of its mission. In South Africa, for example, the CHE criteria require institutions to provide a justification in line with vision and mission for the use of ODeL approaches (CHE, 2014). It further requires that the institutional policy environment is aligned to ODeL provision and informs strategic and operational planning and management and the need to design learning opportunities for diverse audiences in diverse contexts as well as the need to provide decentralised support and assessment. This in turn implies that the needs of quality ODeL provision should inform organisational architecture and in particular that there is alignment between the human resourcing model and ODeL practice: in general, ODeL provision is characterised by relatively small numbers of full-time, permanent and centralised staff and relatively large numbers of part-time, decentralised staff, who need to be recruited, trained, supported, monitored and paid – forming a human resource management sub-system in its own right.

3.6.1 Core business

As observed by Glennie and Mays (2009), the core business and distinguishing characteristic of an ODeL institution or unit is its focus on teaching and learning as this accounts for most of the income and expenditure of the institution and is at the heart of its mission. Quality learning arises from the integration, in a cohesive and coherent learning experience, of quality educational resources, appropriate assessment and appropriate, decentralised student support, as illustrated in Figure 3.8. Each of these aspects of the teaching and learning experience should be informed by the learner profile which will change over time and therefore trends need to be tracked regarding, for example, the demographic profile of registering and graduating students, including their technology profile.

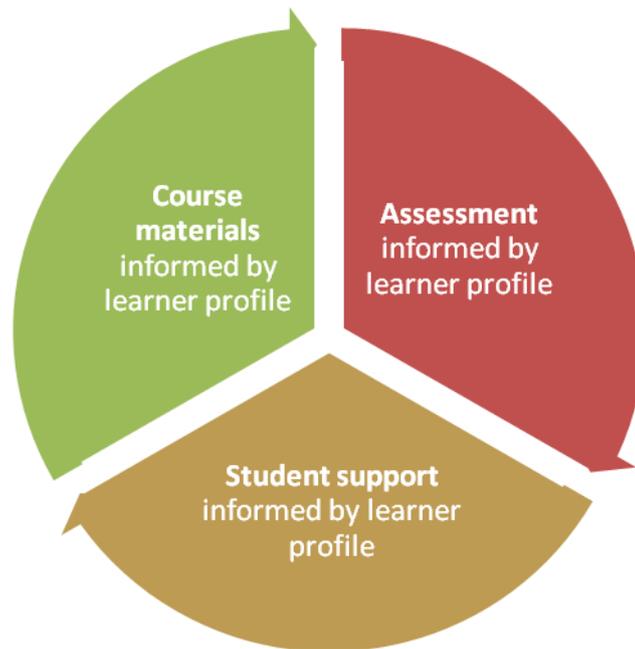


Figure 3.8: Core business: teaching and learning

(Source: Glennie & Mays, 2009, p. 7)

It is further understood that an appropriate teaching and learning experience is not only student-audience specific, but also context specific and that a one-size fits all approach will not be possible. A very small enrolment course with reasonable pass rates offered in correspondence mode (plus perhaps a limited online presence) might be retained in this mode; but a high enrolment course with low pass rates needs to see more of the income it generates ploughed back into improved support. At the same time, it is not possible to manage a large institution if there are no broadly accepted guidelines – there cannot be as many systems and approaches as there are modules for example. Therefore, there is a need for guidelines that set parameters for decision-making that allow for a pragmatic compromise between specific contextual needs on the one hand and the realities of large systems management on the other. So, for example, a guideline like ‘there should be at least two formative assessments and one summative assessment per module’ provides sufficient structure to establish and maintain assessment systems, but sufficient openness to allow for appropriate contextually-informed teaching and learning decisions, such as more than two formative assessments or a summative assessment that is not an examination (e.g., an art exhibition or a practice portfolio). This means that key decisions made about teaching, learning and assessment will vary from programme to programme, as illustrated in Figure 3.9.

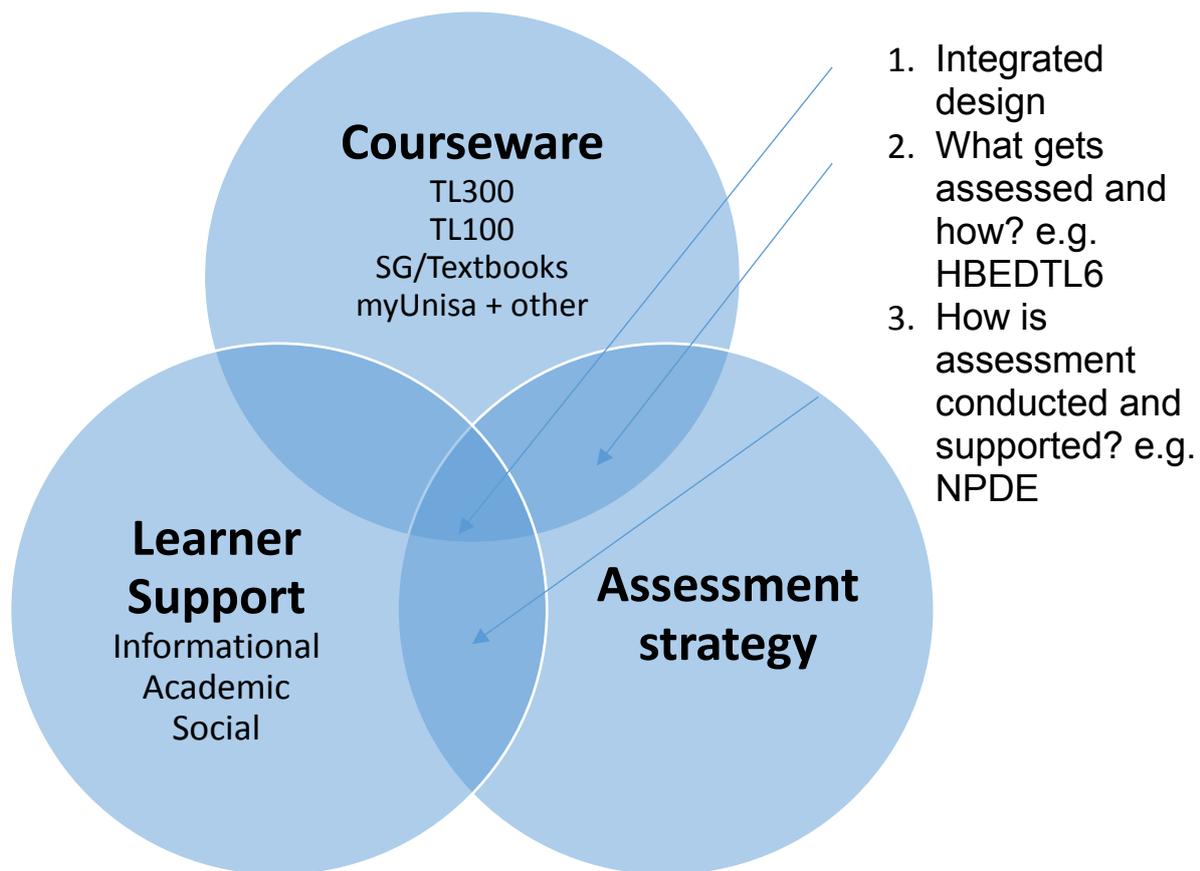


Figure 3.9: The inter-related nature of teaching and learning design in an ODeL context
(Source: Glennie & Mays, 2009, p. 8)

Figure 3.9 argues that the design of a meaningful learning experience requires an integrated approach. For example, the design team needs to make broad decisions about the link between the assessment strategy and the courseware. In Unisa's HBEDTL6 module in 2008/9, for which the candidate was the module coordinator, the examination paper included both compulsory questions based on the course material and optional questions based on both the course material and myUnisa (Unisa's sakai-based LMS) discussion strands. Thus, students who had participated in the myUnisa discussions were able to build on these; but those who had not been able to gain access online were not disadvantaged since there were also additional optional topics based on the core materials.

Another example of a decision that needs to be made by the design team is the link between the assessment strategy and the learner support offered. For example, the Unisa National Professional Diploma in Education programme (which the candidate managed from October 2000 to early 2004) included the development of portfolios as integrated assessment requirements over and above the individual module assessments. These portfolios were subject to self, peer and tutor assessment. So, tutors needed to be empowered to facilitate this process during the three tutorials offered each year: orientation (what is expected and why); maintenance (progress and problem-solving); and

consolidation (including time for students to present their portfolios to groups of their peers for peer assessment) – an approach adopted from the University of Fort Hare’s distance BEd programme (Kenyon et al., 2000).

The design process must therefore pay attention to what could be called the ‘storyline’ for each module and programme to ensure coherence and progression from in-text activities to formative assignment activities and then to summative assessment tasks (which are not necessarily examinations); and from fundamental, to core, to elective module components of programmes to ensure that all the constituent parts build towards achievement of the programme purpose and exit level outcomes and competences, as discussed in Chapter 2.

These recommendations are in line with the CHE, Nadeosa and CoL criteria outlined previously and support a teamwork approach and process for programme and module development. This is summarised in Figure 3.10.

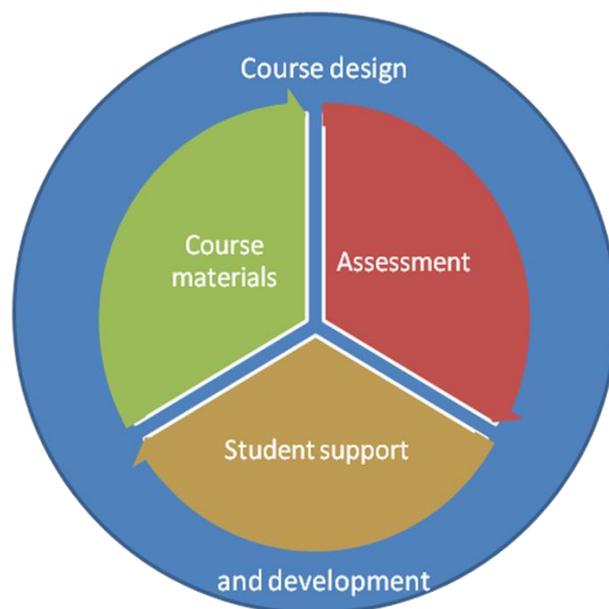


Figure 3.10: ODL requires an integrated approach to design and development
(Source: Glennie & Mays, 2009, p. 9)

Achievement of this integrated team design process will likely require that an academic planning office, quality assurance, academic staff at college, school, department, programme and module level, design, student support, production, ICT, past and present students, and external stakeholders are all involved in team decision-making about changed design, development and delivery of programmes and courses. This is a complicated, time-consuming and costly process which needs to be carefully project-managed and costed to inform the design and development costs that need to be amortised

over an appropriate student cohort. It is also important that decisions integrate outcomes, content, support and assessment in the design stage (CoL, 2004; Randell, 2006; Saide, 2015).

Du Vivier (2010) makes use of an adapted form of Rumble's simplified model for considering the inter-related nature of the various sub-systems that need to cohere for effective ODeL provision, as discussed below in the context of ANU. In relation to the previous discussion, he identifies two key sub-systems that require special attention: curriculum and materials development.

Curriculum sub-system

Before learning resources can be sourced or developed, there is need for a clear set of curriculum design principles. As noted in Chapter 2, there are numerous approaches to curriculum design, many of which have features in common with the popular ADDIE model, but the researcher-as-teacher utilises a model developed by Saide (see section 2.9.3).

As discussed with ANU staff in March 2014, it is important to note that while common issues need to be addressed in all curriculum and course design processes, the actual design that emerges from these discussions will vary with audience and context: a one-size fits all approach is unlikely to work. Younger students coming straight from school are likely to need more scaffolding and support to develop both academic literacy and to become independent learners. Mature learners, already in the workplace, on the other hand may already have developed high level self- and time-management skills, but they also have a host of other commitments and so will most likely respond better to courses packaged in small but meaningful chunks that allow for direct application. The technology skills and access of target students will also effect decisions about what to do and share online.

Materials sub-system

The development or acquisition of learning resources is central to all ODeL provision, but the nature of these resources needs to encourage independent learning and be accessible to all students on the programme. The Bernard et al. (2009) metastudy mentioned earlier concluded that investment in increased student-content interaction was most effective, suggesting the need for the kind of activity-based design approach that Saide/OER Africa has advocated in its engagements with ANU (and as elaborated in Chapter 2). Resources can then be sourced, adapted or developed to help students engage with meaningful, authentic activities. Many of these resources will be text-based (e.g., textbooks, journal articles, research reports) which might also be printed but an increasing number of resources are also available as audiofiles (e.g., TEDtalks podcasts) and video files (e.g., YouTube) or simulations, educational games or even virtual world experiences. If some, or all, of the learning resources needed for a course are available under an open licence, this can reduce both costs and time for both staff and students (Butcher & Hoosen, 2011). If the licence is at the more open end of

the continuum, it then also becomes possible to adapt the resource for a better fit with context and student needs. In contexts of low technology skills, access or bandwidth, it may also be possible to download resources so that students can work with them offline. However, utilizing the potential of OER in this way, requires a shift in mindset towards more OEP (Annand, 2015).

The following two related issues are also identified by Du Vivier (2010, pp. 19-20): establishing systems to allow for materials development in specialised teams working at scale and making informed choices about uses of technology from both learning benefit and cost-effectiveness perspectives.

3.6.2 Grounded decision-making

Decisions made about the design and development of courses need to be grounded in appropriate research and courses should have a positive impact on and require students to engage with relevant communities (a key recommendation from a South Africa report and research initiative on improving teaching by requiring greater active student engagement (CHE, 2007; SASSE, 2015). This is illustrated in Figure 3.11.

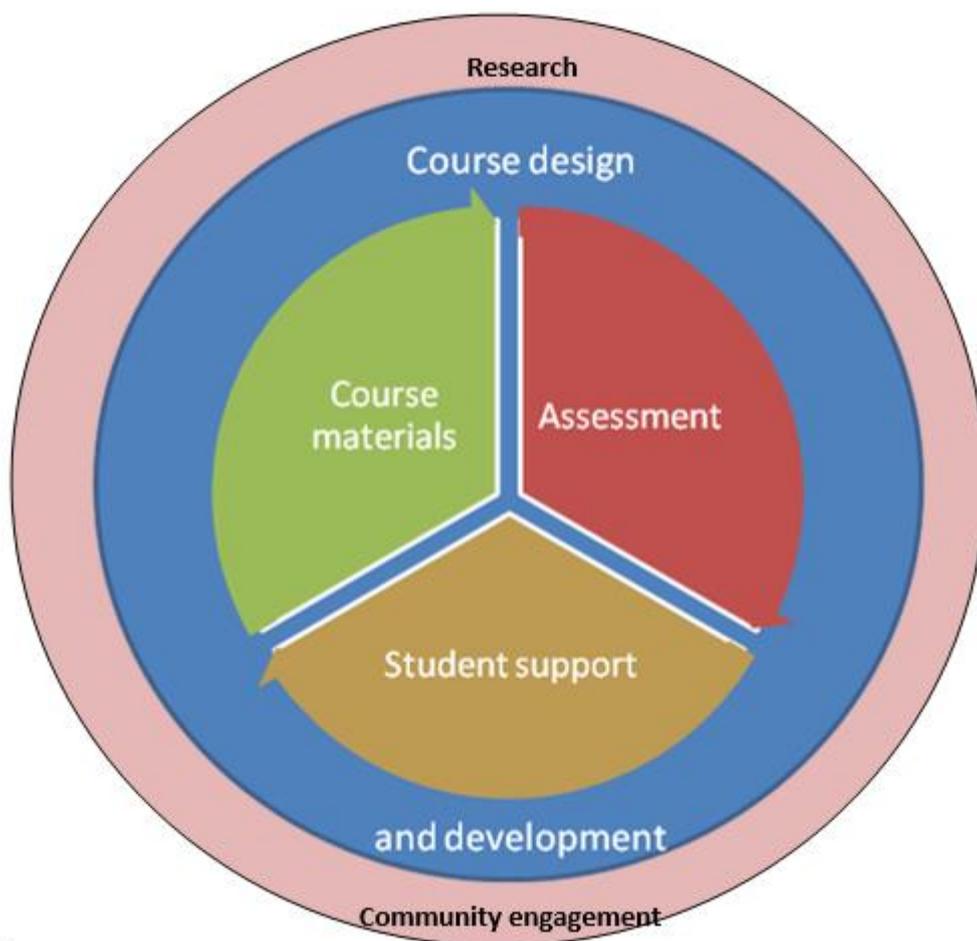


Figure 3.11: ODL course design informed by research and community engagement
(Source: Glennie & Mays, 2009, p. 10)

Among other guidelines, the approach advocated above is in line with Nadeosa quality criteria 11 and 13 (Welch & Reed, 2005) and indicates the need to explore ways to link teaching and learning, research and community engagement approaches; that research outputs need to include both disciplinary (uni-, multi-, inter- and trans-) and ODeL praxis and that research outputs and community engagement demonstrably feed back into improved teaching. A useful example of this in the context of OER is the Agshare initiative, illustrated in Figure 3.12.

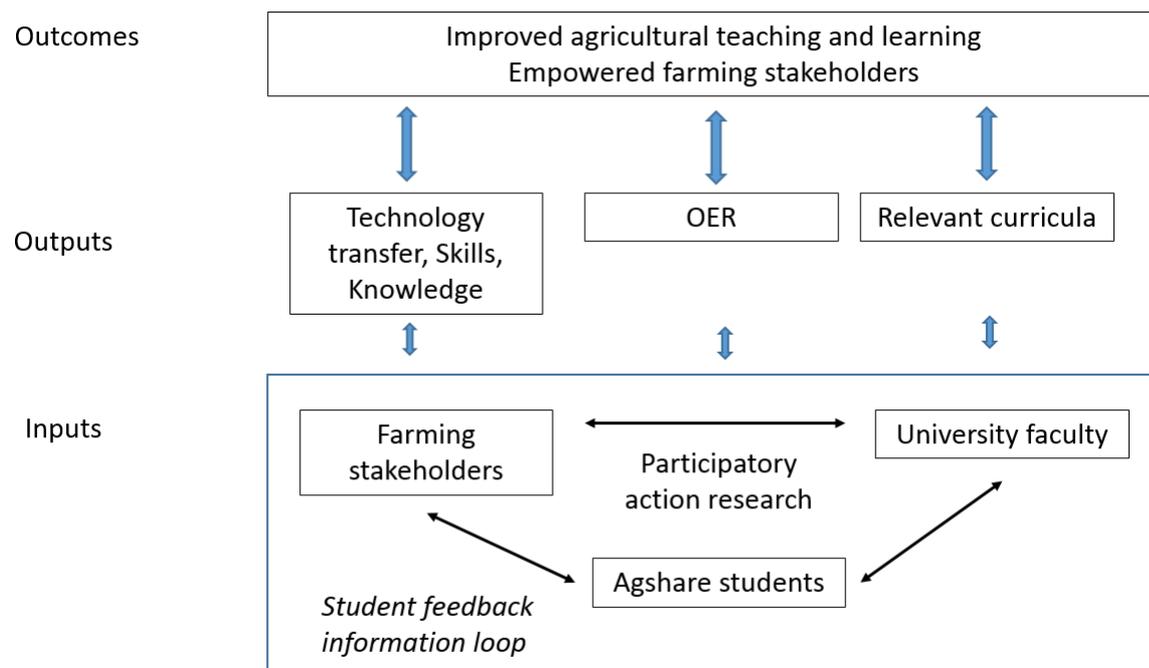


Figure 3.12: Integrated Agshare Methodology
(Recreated from: OER Africa, 2017c)

In the AgShare model as illustrated in Figure 3.12, students and faculty work together with farming stakeholders to identify and address real problems through a participatory action research process. The exploration of the problem and solutions integrates appropriate technology and OER and the research reports are shared as OER with both the farming stakeholders and with other students. Thus, the curriculum is continually evolving as new resources become available.

3.6.3 Linking input, process, output and impact

The design of an ODeL programme is based on assumptions made about the anticipated impact of design decisions regarding input and process on the quality of outputs and impact. The design phase thus needs also to include plans for evaluating if the decisions made had the desired impact in practice. The inter-relationship between curriculum design, development and delivery requires a cyclical iterative process and can be illustrated as in Figure 3.13.

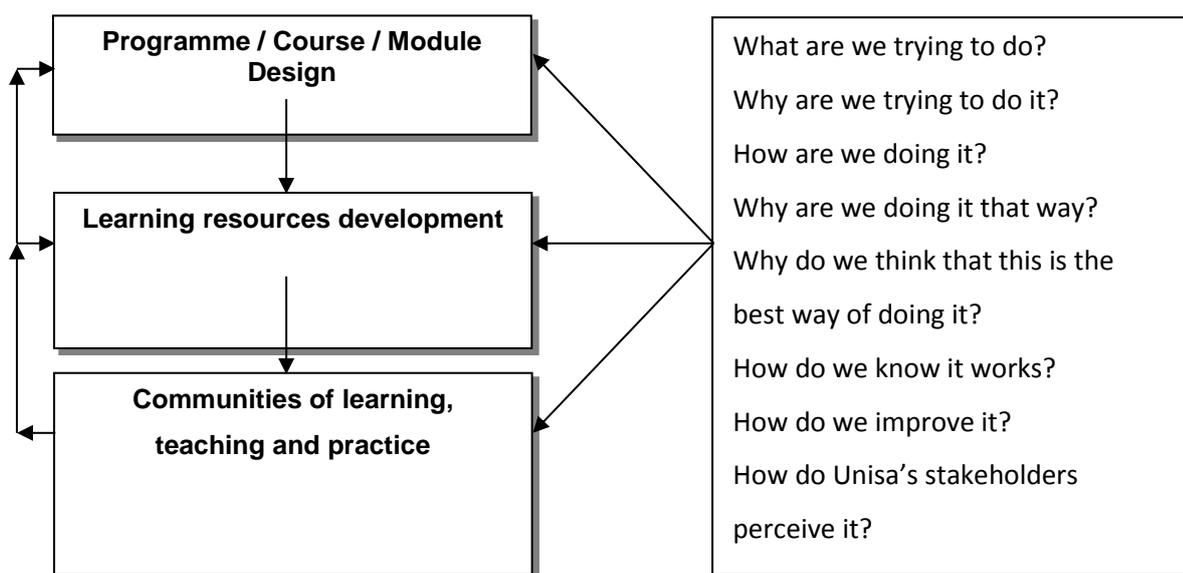


Figure 3.13: Overview of design/development protocol

(Source: Mays & Swanepoel, 2009, p. 3)

Figure 3.13 seeks to illustrate three key interconnected phases in the life cycles of programmes and materials and how each of these phases should be informed by critical questions about assuring and improving quality.

All development cycles begin with a design phase. This covers all activities from the initial identification of a learning need and conception of how that need can best be addressed through to development of a project plan to develop, implement and evaluate the programme and its materials. Even where the focus is on a course or an individual module, cognizance must be taken of the relationship to the larger programme. The design phase includes making decisions about how students will access the programme; the teaching, learning and assessment processes and the identification and mobilization of the necessary supporting resources. Different decisions will be made based on the relevant learner profile and programme exit level outcomes.

The learning resources development phase involves the production, publication and dissemination of the learning resources, including the necessary support systems. It covers activities such as the development of templates, drafting, critical reviews, production processes, stock control and dispatch or dissemination. It is possible that during the development phase, questions will arise that result in the design being questioned and perhaps revised. In other words, curriculum development is an iterative process not an event and the actual development pathway will vary from programme to programme.

The communities of learning, teaching and practice phase is concerned with how learning resources are utilized and with evaluation of their efficacy. It presupposes a focus on active student engagement, including interaction between students, and with how academic and support staff work together, including with stakeholders external to the institution, to ensure quality teaching and learning and the continuous monitoring and review of practice. During the processes of learning and teaching it is possible that gaps will be identified or assumptions disproved that result in the need to develop new/additional resources, or to revise the use of existing resources or even to revisit the initial design. In addition to ongoing formative evaluation, it is expected that the design phase will have planned activities for the formal summative evaluation of the programme and that these evaluation activities will demonstrably feed back into design and development review processes.

Each phase should be informed by the key questions and self, peer and stakeholder evaluation processes that inform the quality management system (in this example the Unisa *Integrated Quality Management System*, Unisa, 2008b).

Managing the process of course delivery requires making decisions in the design phase about:

- Academic course coordination
- What will be distributed, when and how
- How assignments will be managed
- What student support will be offered, when and how.

This is illustrated in Figure 3.14.

Du Vivier (2010) contends that learner support constitutes a key subsystem of the overall system of ODeL. Du Vivier explains that this sub-system comprises all the activities, staff and other resources that are involved in recruiting and registering students, facilitating their learning through the programme (for example, orientation, feedback on assessment, academic, administrative, informational and ICT support) and managing their progress (for example through tutorial support, peer interaction and appropriate use of data analytics).

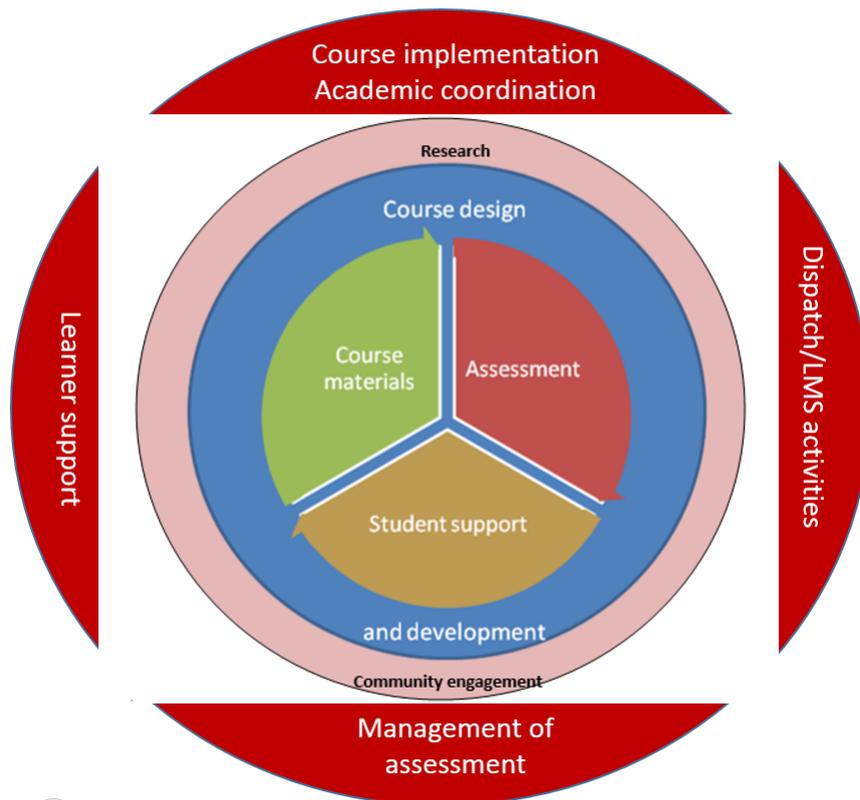


Figure 3.14: There is a continuous interplay between design, development and delivery

(Source: Adapted from Glennie & Mays, 2009, p. 13)

As noted in Chapter 2 (Section 2.9.4), an important caution here is that learner and learning support should be an integral part of the design and service (Mills, 2003, pp. 102-104). In the field of understanding the factors influencing student retention and success, the work of Vincent Tinto, and particularly his Student Integration Model (Tinto, 1993), is considered so seminal that he was invited to offer a series of lectures in South Africa on this issue. Tinto argues that student retention and success is influenced by the extent to which students are integrated into both the academic and social worlds of the university and the degree to which shared goals are mediated (Schreiber, Luescher-Mamshela, & Moja, 2014). His ideas raise important issues, both about the nature of campus-based provision and the nature of distance provision.

As Subotsky and Prinsloo (2011) argue, there are factors outside of the influence of the distance education provider which impact on student retention and success; also student needs and aspirations change as they progress through their studies and the capacity and interests of institutions themselves change over time. There is thus need for learning support to be evolutionary and responsive to maximize the 'fit' between student, institutional and contextual factors in enhancing retention and success, as illustrated in Figure 3.15.

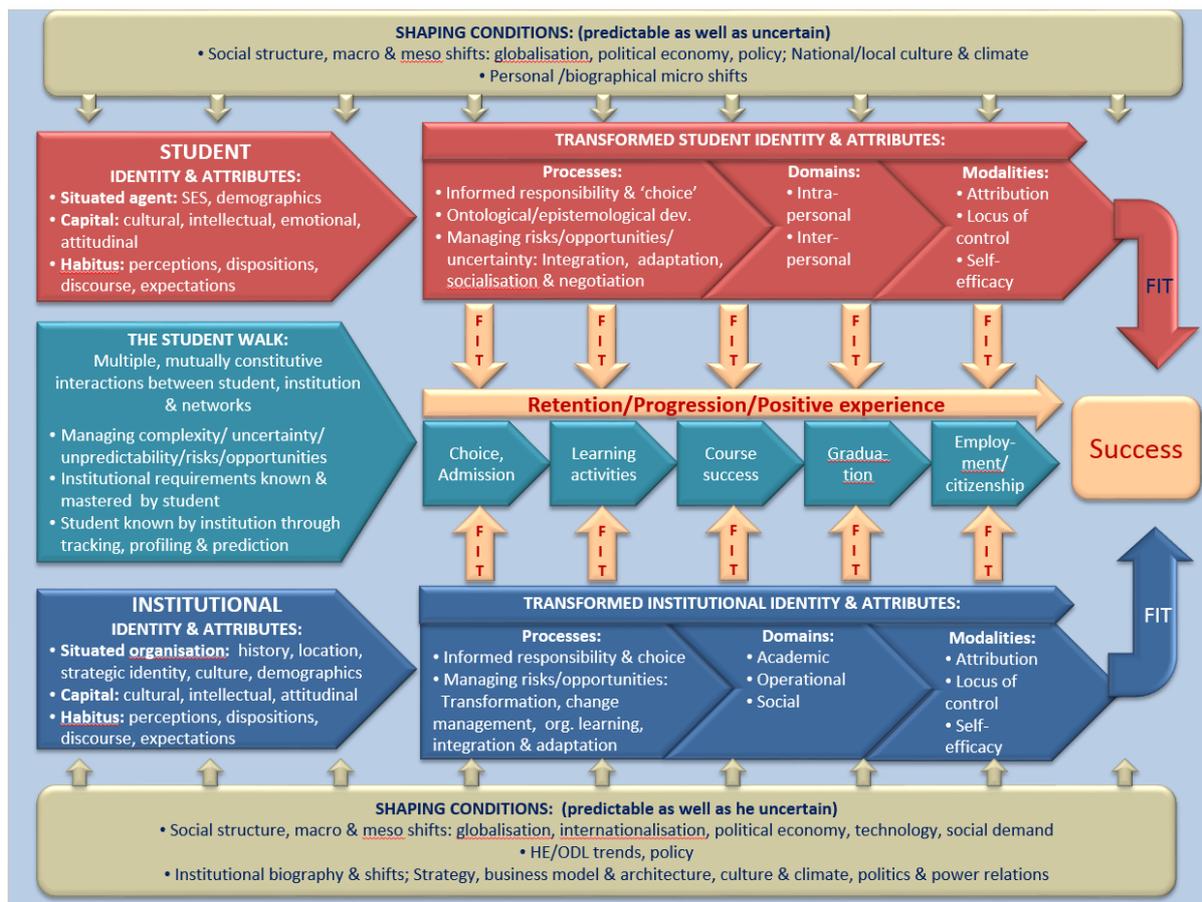


Figure 3.15: Student retention and success model at Unisa
 (Source: Subotzky & Prinsloo, 2011, Presentation Slide 9)

3.6.4 Supporting systems

ODEL requires a holistic and systemic approach. However, the various sub-systems are not ends in themselves and the key indicator of the quality of the various sub-systems is the extent to which they support the core business of teaching and learning. This is illustrated in Figure 3.16 below.

| | | |
|---|--|--|
| 7. Regional coordination and library support | 6. Effective operational management | 5. Registration |
| 8. Graduation and alumni | Core business activities (See Figure 3.6) | 4. Counselling (incl. Career/ financial). |
| 1. Production | 2. Marketing | 3. Recruitment |

Figure 3.16: The key sub-systems supporting the core business of an ODeL institution
 (Source: Glennie & Mays, 2009, p. 14)

The key supporting sub-systems are numbered in the sequence in which they tend to impact on the core business (and can be mapped to the 'student walk' in the Unisa ODL Policy, Unisa, 2008b).

The process begins with **Production** because in an ODeL system we need to ensure that all core learning resources are available before registration, so that students receive a complete study package on enrolment. This is particularly important in a semester system (like that operated by Unisa and University of Pretoria) or a trimester system (like that operated by ANU) where time is more constrained. It requires careful time and project management to ensure that multi-skilled development teams work to schedule and quality standards.

Marketing should not begin until it is certain that the necessary learning resources and support systems will be available. Marketing should be both general and targeted to meet specific national needs, e.g., for more potential accountants, scientists or Foundation Phase teachers based in rural areas. At the University of Pretoria, marketing is an outsourced function. At ANU, the initial marketing of ANU's new more flexible programmes was largely effected by the founding director of ANU IODL.

Marketing leads to **Recruitment**, which refers to the additional recruitment of mentors, tutors, etc. (including more senior students to mentor at a lower level as well as workplace-based mentors), as emerging enquiry and enrolment patterns allow the institution to begin to predict additional areas of need. These new staff members need appropriate induction training. Within Kenya extensive use is made of part-time staff and very often teachers will be in full employment at one institution but doing part-time work for one or more others. Obviously, this can result in conflicts of interest and quality concerns if not well-managed.

Stage 4 is **Counselling**. This is in the belief that student support begins prior to registration with the counselling of students regarding their possible enrolment choices and options. Students must be counselled regarding the options that are open to them based on their schooling performance and/or other prior learning and experience. All students need guidance regarding subject combinations, possible career pathways, the financial, time, technology and other implications of enrolment choices, etc. This support must be available in a decentralised form with both on-line and contact-based modalities. Preliminary findings from the initial research informing the *Siyaphumelela* (see www.siyaphumelela.org.za) programme in South Africa indicates that inappropriate course choice and/or students not being offered their first-choice programme can have a significant impact on retention and success.

After being counselled, students can **Register**. Accurate databases must be established and maintained from registration data to allow the ongoing analysis of trends in the changing student profile for each programme. Students must receive a complete study package on registration or within a very short time after registration given the short study period of the semester or trimester system. At both the Universities of South Africa and Pretoria, course materials tend to include a blend of

printed materials (dispatched by post or courier) and digital resources (opened for access on a particular date).

Once registration has been completed, **Effective operational management** and **Regional coordination and library support** will determine whether or not the 'delivery' process is effected as planned. This requires, among other things, effective management of human resources, administration, information and, where applicable, collaborations (e.g., for WIL) and ensuring that regional support hubs (and the networks of centres they support) are appropriately resourced and managed (a key concern of CUE, 2014). This will require active monitoring and pro-active intervention where necessary. At the North West University in South Africa, a fixed number of decentralised sites is maintained, connected by interactive whiteboards; at the University of Pretoria, sites for contact classes are negotiated at need and staff travel to provide support. These two different models result in different costing models. In both institutions, and with Unisa provision, library support is increasingly online rather than physical.

It is suggested that this requires: a recognition that responsible open access also means responsible registration in line with institutional capacity to deliver and hence the implementation of quotas; strengthened accountability at module and programme level backed by appropriate human resource allocations; and human resource monitoring and support as well as ongoing professional development.

Graduation ceremonies are important events for students and their families, especially perhaps for first-time graduates, but also important marketing events for the institution and in an ODeL context often need to be split over several sessions in a number of regional venues. It is also important to keep contact with the **alumni** as they may assist the institution in several ways, for example by providing feedback on the quality of programmes and materials or perhaps returning to the institution as students, tutors or faculty.

Figure 3.17 uses Unisa as a case example to illustrate the mapping of existing structures onto the core business and supporting key sub-systems. Other institutions will have different structures and consideration of the diagram may suggest new structures that need to be considered either at Unisa or at other institutions.

| | | |
|---|---|---|
| <p>7. Regional coordination and library support</p> <ul style="list-style-type: none"> • Student Support <ul style="list-style-type: none"> ○ Regional Offices ○ Ethiopian Satellite ○ Tutorial Services, Discussion Classes & Work Integrated Learning • Library | <p>6. Effective operational management</p> <ul style="list-style-type: none"> • Student Assessment Administration • Finance • Enterprise Risk Management • Legal Services • Human Resources • International Relations and Partnerships • Community Engagement and Outreach • Information and Strategic Analysis • Strategy, Planning and Quality Assurance • IODL ongoing professional development | <p>5. Registration</p> <ul style="list-style-type: none"> • Student Admission and Registration |
| <p>8. Graduation and alumni</p> <ul style="list-style-type: none"> • Contact Centre, Graduations and Record Management | <p>Core business activities</p> <ul style="list-style-type: none"> • Academic departments, schools and colleges • Directorate of Curriculum Design and Development • IODL • Advocacy and Resource Centre for Students with Disabilities • Programme Accreditation and Registration • Student Support <ul style="list-style-type: none"> ○ Regional Offices ○ Ethiopian Satellite ○ Tutorial Services, Discussion Classes & Work Integrated Learning • Library • Research • Bureau for Market Research • Indigenous Technological Knowledge Unit. | <p>4. Counselling (incl. Career/ financial).</p> <ul style="list-style-type: none"> • Directorate for Counselling, Career and Academic Development • Contact Centre, Graduations and Record Management |
| <p>1. Production</p> <ul style="list-style-type: none"> • Study Material, Publication and Delivery <ul style="list-style-type: none"> ○ Despatch ○ Planning and coordination of study material ○ Print production ○ Language services ○ Unisa Press ○ Sound, video and photography | <p>2. Marketing</p> <ul style="list-style-type: none"> • Corporate Communication and Marketing | <p>3. Recruitment</p> <ul style="list-style-type: none"> • Corporate Communication and Marketing • Human Resources • Student Support <ul style="list-style-type: none"> ○ Regional Offices ○ Ethiopian Satellite ○ Tutorial Services, Discussion Classes & Work Integrated Learning • IODL induction |

Figure 3.17: Operational mapping

(Source: Glennie & Mays, 2009, p. 16)

3.6.5 Supporting the system

The model outlined so far assumes that the overall system itself needs to be designed for purpose, maintained and adapted as needed. The three key pillars for this are seen to be:

- ICT – maximum use made of appropriate ICT to maximise efficiency and effectiveness and minimise disruptions and the challenges of manual manipulation (e.g., of assignments) for large numbers, but at the teaching level sensitive to audience constraints. For example, it can probably be anticipated that young working students will be more comfortable with mobile technologies and digital social interaction; more mature working students will probably be more comfortable with computer-based interaction and video-conferencing; and some student populations may be actively resistant to the use of new technologies for reasons like the added cost for rural students of getting access and/or because their profession itself is premised on direct human interaction (e.g., teachers and health workers).
- Decentralised/regional support – in the design of ODeL courses, designers must constantly give attention to the needs of students in diverse and remote locations. Among other things, this suggests the need for complete study packages; open-ended assessment tasks that allow for contextualised responses; and decentralised counselling, tutorial support, mentoring and/or peer collaborative learning.
- ODeL induction for new recruits and ongoing professional development opportunities and expectations for experienced staff.

This is illustrated in Figure 3.18 below.

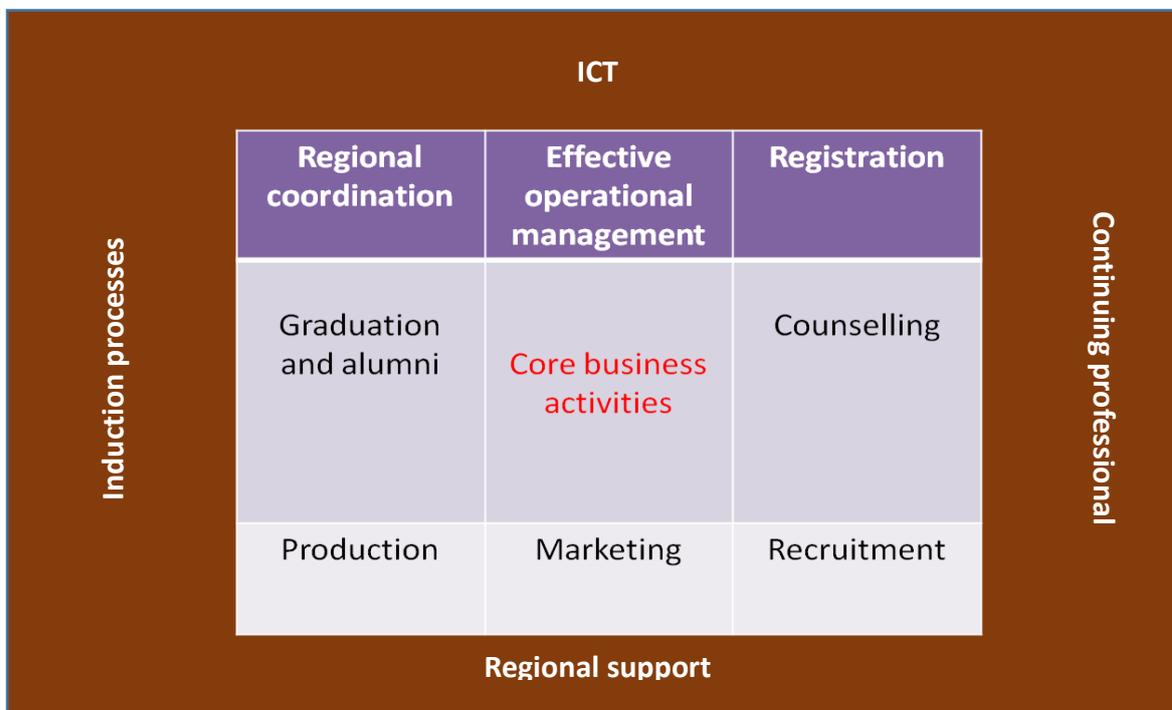


Figure 3.18: The key pillars supporting ODeL practice
 (Source: Glennie & Mays, 2009, p. 18)

As noted previously, guidelines for judging the quality of core teaching and learning issues in an ODeL context already exist (CHE, 2014; CoL, 2009; Welch & Reed, 2005) and can be mapped onto the Unisa student walk model as conceptualized in the *ODL Policy* (Unisa, 2008b). This is illustrated in Table 3.10.

It should be noted, that while the student walk is useful for reinforcing the idea of the student (rather than the product) as being at the heart of University activity and planning, there is need for a step 0 or step 6 which considers all the supporting structures and processes, such as management, finance, HR and professional development.

3.7 Managing ODeL systems and sub-systems

Traditionally, management theory identifies four key dimensions that need to be addressed: planning (involving issues such as problem-solving and decision-making, differentiating strategic and operational planning levels, use of planning tools); organising (arranging and delegating work, managing change, managing human resources); leading (understanding organisational behaviour and culture, group and team development, communicating, motivating, leading by example); and controlling (key systems controls such as finance and human resources, quality, technology and information systems) (Clarke, 2007; Lussier, 2000; Swanepoel, Erasmus, & Schenk, 2008).

These management foci remain central also to effective ODeL provision, although in an educational context involving academics and professionally qualified administration staff 'controlling' would probably be replaced with terms like monitoring, evaluating and supporting. However, it should also be clear that there are a number of sub-systems that need to be managed that are peculiar to or at least take on a special focus in ODeL provision, such as:

- Curriculum sub-system
- Materials sub-system
- Learner support sub-system
- Assessment and certification sub-system
- Logistical sub-system
- Managing a national and cross-border footprint
- ODeL scenario planning and costing (Du Vivier, 2010; Mays, 2016a).

Table 3.10: Mapping selected quality indicators onto the ODL student walk at Unisa

| Walk: | | | | COL2004/2009 | NadQ 2005 | CHEPA2004 | CHEIA2004 | Unisa IQMF | | | | | | |
|--|--------------|--------------|---------------------|--|----------------|------------------------|-------------------|---------------|---|-------------|----------------------|------|---|--|
| 1. Awareness and information | | | | The learners (2004, 2009/3) Vision, mission and planning (2009/1) Management, leadership and organisational culture (2009/2) HR development (2009/4) | NADQ1 NADQ2 | Criterion 2. | | Bench-marking | ← | ↑ | | | | |
| 2. Application | | | | | | | | | | | ↓ | SLAs | | |
| 3. Registration | | | | | | | | | | | Satisfaction surveys | | ↑ | |
| 4. Teaching, learning and assessment | QPQM Project | HEQC Process | Framework (Current) | Programme and course design and development (2009/5, 6) Developing and acquiring materials (2004) Infrastructure and learning resources (2009/9) Tutoring and supporting students Learner support (2009/7) Assessing students (2004, 2009, 8) | NADQ3 NADQ4 | Criteria 1, 5, 6 and 9 | Criterion 8 | ↓ | <ul style="list-style-type: none"> • What are we trying to do? • Why are we trying to do it? • How are we doing it? • Why are we doing it that way? • Why do we think that this is the best way of doing it? • How do we know it works? • How do we improve it? • How do Unisa's stakeholders perceive it? (IQMF Unisa 2008b:7) | Peer review | | | | |
| | Design | Input | Steps 1-7 | | | | | | | | | | | |
| | Development | Input | Step 8 | | | | | | | | | | | |
| | "Delivery" | Process | Step 9 | | | | | | | | | | | |
| | | Output | Step 10 | | NADQ13 | Criterion 17 | | | | | | | | |
| 5. Graduation, certification and lifelong learning | | Impact | | Evaluation (2004) Research, consultancy and extension services (2009/10) | NADQ11 | Criteria 18 and 19 | Criteria 6 and 10 | → | Self-evaluation | → | | | | |

(Updated from: Glennie & Mays, 2009, p. 19) [Abbreviations used in the table: NADQ = Nadeosa Quality Criteria; CHEPA = CHE Programme Accreditation Criteria; CHEIA = CHE Institutional Audit criteria; IQMF = Integrated Quality Management Framework; QPQM = Quality Programmes, Quality Materials]

There needs to be clarity on who manages what and what the lines of communication are. The organogram (Chapter 2, Figure 2.8) of the UDE at UP provides an example of one way to manage dual mode provision. Five regular meetings help UP's UDE ensure articulation and clear communication channels:

- A monthly HoD meeting chaired by the Dean and attended by academic HoDs, as well as the Manager of the UDE, helps ensure that operational practices align with strategic and operational plans at Faculty and Institutional Level;
- A quarterly DE Exco meeting chaired by the Manager of the UDE and attended by representatives of departments involved in DE provision as well as the DE administration team helps ensure alignment of strategic and operational activities related to academic, administrative and policy issues involving distance education;
- A weekly Ops meeting involving UDE and DE Admin staff helps ensure that planned operations remain on track and challenges are addressed timeously;
- A bi-monthly Finance Committee meeting helps ensure that distance education provision aligns with institutional financial management reporting and resourcing; and
- Weekly (or more frequent) meetings between the UDE's dedicated learning designer and the University Department for Education Innovation helps ensure that distance teaching, learning and assessment practices align with wider university guidelines regarding the use of the BlackBoard-based LMS, clickUP, and the university's PeopleSoft-based management information system as well as addressing challenges specific to distance provision (Mays, 2016b).

As noted by Mays (2011b), while the South African university sector opted for whole qualifications rather than unit standards (Lockett, 2003), reports from the CHE (2004a, 2007, 2010) suggest that this has often not resulted in more coherent programme design. These concerns apply to higher education provision in South Africa generally, but are of particular concern within the ODeL community in which it is not possible to address curriculum shortfalls at short notice with *ad hoc* interventions. ODeL practitioners often need to make informed curriculum decisions two to three years in advance of recruiting students. Following from Chapter 2, it is suggested that adequate investment in appropriate curriculum design in which content and outcomes, assessment and student support are planned for in an integrated way and in which the carrying capacity of programmes and courses is taken due cognisance of from the outset are essential to ODeL delivering on its potential.

Also, as noted by Mays (2011b, p. 4), although ODeL provision is premised on a high degree of independent learning, staffing is usually still the single biggest cost item in institutional budgets. A

distinction can usefully be made between permanent centralised staff (academic and professional and usually relatively small) and decentralised, often part-time/contract staff (usually relatively large). In the next two paragraphs staffing costs at two different stages of the evolution of Unisa as Africa's largest distance learning provider are provided for comparison.

At the University of South Africa (Unisa), for example, personnel costs amounted to 59.10% and 61.72% as a percentage of total expenditure in 2008 and 2007 respectively (Unisa, 2008a, p. 55) with academic staff costs amounting to 37% and other personnel amounting to 63% of a total personnel bill of R1,531,295,000 (Unisa, 2008a, p. 63). Unisa's total staff complement (permanent and temporary) amounted to 10,223 in 2006. Just under 60% of these (6,114) were temporary and just over 40% (4,109) were permanent (Unisa, 2008b, p. 17). This results in a full-time equivalent staff:student ratio of 1:73.83 (Unisa, 2008b, p. 18) with a variation of between 1:147 to 1:48 between different colleges.

Unisa's most recent Annual Report for 2015 does not provide a comparable analysis, but it does indicate that at 31 December 2015, Unisa employed 4,848 full-time staff and 920 part-time staff at a cost of R 4,031,120,000 (including R73,570,000,000 paid to invigilators, examiners, tutors and markers) (Unisa, 2016, p. 111) representing 65.20% of total expenditure (Unisa, 2016, p. 73), with a staffing breakdown of non-professional admin (55.3%), instructional/research professional (35.8%), specialised/support professional (3.6%), crafts/trades (2.1%), executive/management professional (1.9%), service workers (1.0%) and technical (0.3%) (Unisa, 2016, p. 14).

As can be seen from the comparative information above from Unisa in 2008 (when it was operating largely in print-based correspondence mode) and 2016 (when most programmes involved some form of blend of print and online learning or were fully online), staff costs make up the single largest proportion of the budget. Clearly, therefore, a consideration of the kinds of staff needed, the numbers needed and the ways in which they use their time is fundamental to the quality and long-term sustainability of ODeL provision and the question arises about the existence of benchmarks for good practice.

Jung (2005) reports on a Quality Assurance Survey of Mega Universities conducted between May and June 2004.

Table 3.11 indicates the diverse range of student:staff ratios that can be deduced from this survey.

Table 3.11: Profiles of the nine mega universities participating in the survey

| INSTITUTION | YEAR OF ESTABLISHMENT | NUMBER OF STUDENTS | NUMBER OF ACADEMIC STAFF | | NUMBER OF ADMINISTRATIVE STAFF |
|------------------|------------------------------|--------------------|--------------------------|---------------------------------|--|
| | | | FULL-TIME | PART-TIME | |
| AIQU (Pakistan) | 1974 | 456,126 | 145 | 23,000 | 1,426 |
| Anadolu (Turkey) | 1958 (1982 named Anadolu) | 884,081 | 1,729 | 653 (tutors) 300 (lecturers) | 1,763 |
| CCRTVU (China) | 1979 | 2,300,000 | 52,600 | 31,500 | 16,500 |
| IGNOU (India) | 1985 | 1,013,631 | 339 | 35 | 1,337 |
| KNOU (Korea) | 1972 | 196,402 | 271 | 108 | 546 |
| OU(UK) | 1969 | 203,744 | 1,169 | 7,995 | 1,434 (Academic-related staff) 2,139 (Secretarial, clerical, and technical staff) |
| SHTVU (China) | 1960 | 101,218 | Not Given | Not Given | Not Given |
| STOU (Thailand) | 1978 | 181,372 | 375 | Not Given | 904 |
| UT (Indonesia) | 1984 | 222,068 | 762 | 3,600 | 730 |

(Source: Jung, 2005, p. 81)

We note in Table 3.11 the extremely different statistics for CCRTVU and IGNOU, for example, with a headcount student:staff ratio of about 23 in the former and about 592 in the latter as well as a very different distribution of staff categories. Clearly the two institutions operate on completely different models and therefore different costing assumptions.

With respect to costing assumptions, Hülsmann (n.d., ca. 2004) concludes for CoL:

The profile of ODL has undergone a substantial diversification which affects core features of ODL such as cost-structure. Which model fits your context depends on the local infrastructure and market size. The new models of ODL do not necessarily challenge established working models (e.g., the mega-universities) but provide alternative strategies. Where student numbers are smaller or quick customisation is required, e-learning formats may offer a post-Fordist alternative, which given the right conditions and infrastructure, may be cost efficient.

The division of labour within a Fordist institution is substituted by a division of labour between smaller post-Fordist institutions, which bring together partners of technological competence, academic credibility (certification) and funding. Partners may come from different regions in the world and may represent a mix of private and public partners (PPP). (p. 56)

In a 2007 report for the World Bank, Banks et al. (2007) provide insight into the diverse scenarios for costing and resourcing teacher education provision through ODL in Sub-Saharan Africa noting the following key policy lessons:

In considering the different programs, it has been found necessary to return time and again to the **balance between effectiveness and efficiency and the competing demands of quality, access and cost** [emphases added]. The following key policy issues emerged:

- A program can be more cost-effective and easier to administer by integrating the content of traditionally short courses into larger courses.

- The length of training also impacts significantly on costs. An assumption that one year of full-time education must equate to two years part-time should be contested, and accreditation of prior learning – especially for unqualified or under-qualified working teachers – should be the norm.
- The smaller the courses, the greater the overall assessment costs are likely to be and how assessment is staffed can become constraints to program expansion and effectiveness.
- The costs associated with upskilling in the use of new technologies manifest themselves in a number of ways. There is the straightforward cost associated with the introduction of new technology, but **a more hidden cost is the expensive use of academic staff to re-key and amend ODL learning resources** [emphases added]. The potential of ICTs to increase access to and quality of ODL will only be effectively harnessed where appropriate costing models are considered and used at the start of planning their introduction and implementation.
- To give an accurate cost-benefit analysis of ODL methods for training teachers, it is necessary to be clear **who is enrolled on a program, who is taking a study break, who has withdrawn and who has graduated** [emphases added]. Keeping track of students' progress, tutor-marked assignments and associated school placements requires a sophisticated database.
- Great diversity of trainee support models can be seen. The link between trainee achievement and the cost-effective use of resources, and the balance of fixed to variable costs within the proposed trainee support model, need careful exploration at the planning stage.
- Excessive staff workloads in the development and presentation phases raise serious sustainability and growth issues in the longer term [emphases added]. Addressing these issues at the start of planning the program may well result in significant changes in program design that can benefit both students and institutions." (Banks et al., 2007, pp. x, xi)

With respect to comparative costing, Latchem (2010) notes Rumble's caution

...against using analyses in one jurisdiction to draw inferences about costs in another. Distance and technology-based training are generally said to have higher fixed costs (e.g., central administration, production facility, course development and delivery costs) and lower variable costs (student-related costs incurred as the training is delivered). But, for example, staffing costs may be much lower and technology provision and access costs much higher in developing countries than in developed countries. So, as Rosenberg (2001) observes, costing online training needs to take careful account of all the development, maintenance and delivery costs, the lifespan of the training programmes, the number of learners served, the costs to the learners and the opportunity costs (the value of the next best alternative foregone as a consequence of the training providers and the participants undertaking one activity rather than another). (p. 84)

Thompson (2010) also observes:

Various methods of budgeting leading to a cost-benefit analysis for ODL programmes have been researched (see, for example: Rumble 1997; Moran and Rumble 2004; and Jung 2005). Most researchers end up concluding that making comparisons between programme offerings

using different modes of delivery, or between similar programmes offered in different countries, is complicated if not impossible. Simple differences such as wages, currency valuations and technology costs can skew these comparisons. It is also difficult to be all-encompassing in ensuring every cost is measured. As identified by Moran and Rumble (2004), many costs are hidden or not considered directly related to the ODL programme. So, in the end, one is left feeling that demonstrating cost-effectiveness using a cost-benefit analysis on its own in an ODL programme ... is not an easy proposition.

More recently, cost-effectiveness has taken into consideration both the inputs and the outputs as a measure of cost-effectiveness (Peterson, 1986). (p. 144)

More recently still, Hülsmann (2016) observes that while much distance education provision remains cost-efficient in terms of cost per student enrolled, low retention and throughput can mean that the cost per graduate for some distance programmes might be even higher than for their contact-based counterparts. In South Africa, for example, government input subsidies for undergraduate distance education are pegged at 50% of the input subsidy of an equivalent contact programme (although output subsidies are the same across both modes). It follows that if an institution has an 80% success rate among its contact students (i.e., 80% of those who register go on to graduate in minimum time), it would need to ensure a success rate of at least 40% among its equivalent distance students for the cost per graduate to be the same, but higher than 40% if the cost per graduate for the institution is to be lower. Of course, the cost to the student will usually be lower, because fees for distance provision are usually lower, at least in the South and Southern Africa context, and there usually are no or limited additional accommodation and transport costs.

As observed in Chapter 2, an ODeL programme comprises much more than simply a syllabus of suggested content to be covered. Programme management of ODeL provision is by extension a more complex and important task than is often acknowledged and time needs to be set aside for effective programme management functions.

Effective programme management and coordination requires a dedicated Programme Manager/Coordinator. Programme Managers must have an agreed-upon mandate from the College and Department to manage the programme. In this regard, the performance contract of Programme Managers should have a separate template. The workload of the Programme Manager should also be reviewed to fit in with the mandate below. Based on a review of CHE quality criteria undertaken by Prof Mashile for the College of Human Sciences at Unisa, Programme Managers should be responsible for:

- (a) Ensuring that their programmes comply with the criteria for programme accreditation as set out by the regulatory authorities

- (b) Ensuring that their programmes comply with quality standards effective in country and where applicable across border. This includes ensuring that their programmes are aligned to NADEOSA and/or CoL and/or ACDE quality criteria and, where applicable, to criteria set by Professional Bodies.
- (c) Ensuring that all conditions of programme delivery are in place (effective communication with students, student support, determination of workloads, timely submission of study material, checking of tutorial letters, etc.).
- (d) Tabling any tuition matters (e.g., calendar changes) related to their programmes at Departmental Tuition Committee meetings
- (e) Managing/processing RPL applications in their programmes
- (f) Co-ordinating and facilitating Programme Reviews in their programmes (both national and internal reviews)
- (g) Convening Programme Committee meetings (including academics, students and other stakeholders)
- (h) Leading and managing a team for the development and delivery of the programme in accordance to the senate approved Curriculum Framework.
- (i) Developing and maintaining sound working relationships within the Department, School, College and relevant subject and support departments, so that there is an evolving coherence between the programme and various other programmes and learning pathways in the Discipline (Higher Certificate up to Doctorate, where applicable)
- (j) Being responsible for quality assurance of the programme so that the programme not only meets the requirements of the Regulator and/or Professional Bodies, but is delivered in ways that are continually self-improving
- (k) Advising the HoD/School Director about all matters pertaining to the programme
- (l) Ensuring that all documentation submitted to the HoD/School Director for processing and authorisation by staff members of the programme have been properly checked for completeness and correctness

- (m) Providing intellectual leadership for the programme. This entails tracking both internal and external policy environments and ensuring the programme is responsive to such imperatives
- (n) Advising the HoD/School Director about professional development needs of members of the programme, both full-time and part-time
- (o) Managing and processing applications for exemptions. (Mays, 2011b; Unisa CHS, 2013)

It is suggested that 200 to 600 or even more hours per annum should be made available for dedicated programme management time, depending on the complexity and size of enrolment of the programme (Mays, 2011b). It is further suggested that there is need for the programme manager to treat the design, development, delivery and review of a particular programme in a regular cycle as a project and that he/she will require training and support in this regard (Modesto, 2009; Unisa CHS, 2013).

3.8 Managing a national ODeL footprint

The high upfront costs of designing quality ODeL programmes and materials and putting in place appropriate decentralised support and assessment systems need to be amortised over relatively large student numbers. This usually means that institutions moving into ODeL provision have an increasingly national rather than provincial or county footprint. This brings with it challenges regarding differences in issues such as home language, accommodation of cultural diversity, variety of examples and experiences, decentralized support and assessment, decentralized management of practicals and WIL where appropriate, and also need for greater awareness of what other institutions are doing and what facilities they have. On the one hand, extreme competition for highly lucrative courses may mean that the institution is unable to attract sufficient numbers of students to cover the initial cost of investment; on the other hand, an institution may be able to enter into agreements to hire the facilities of other institutions at certain times thus becoming able to offer a wider suite of programmes than would otherwise be possible without significant infrastructure development, making use of laboratories, workshops and classrooms of contact institutions when these institutions are in recess for example.

3.9 Managing cross-border provision

A logical extension of moving into ODeL provision is to consider also the registration of students outside of the country's borders. This adds further complexity to the issues involved in moving from a county to a national footprint, including issues of different time-zones, beliefs and practices, and legal and policy frameworks.

In its recent distance education policy document, the South African government takes the following position, which might serve as a guiding framework for Kenya generally and ANU in particular:

6.1 The need for regulation

6.1.1 The DHET has taken the view that university education is a public good whose provision in South Africa by foreign institutions or companies must be regulated in accordance with South African law to ensure that acceptable standards are maintained, students are protected and the democratic transformation of South African university education is sustained. Inter-governmental agreements designed to curb fraudulent or inferior distance university education at source are the best available safeguard since they commit signatory states to ensure that providers of cross-border education meet acceptable criteria and are subjected to suitable quality assurance supervision in their home countries.

6.2 Code of conduct for South African providers

6.2.1 South African providers offering cross-border services must uphold standards at least as rigorous as they are required to observe at home. This includes making adequate provision for practicals and work integrated learning where appropriate. This does not preclude the value of sharing South African developed OER with other countries – especially where these are released under an open licence that permits adaptation. (DHET, 2014, p. 17)

At an international level, UNESCO (2005) provides some policy guidelines to inform the design of programmes intended to be offered across borders, while CoL's Virtual University for Small States of the Commonwealth initiative (CoL, 2017) provides insights into issues and practices enabled by a commitment to Open Principles, Distance and e-Learning methods and OEP and OER across multiple institutions and countries.

3.10 Sustainable ODeL provision

It may be difficult for an institution used to budgeting for contact provision to adjust for the provision of ODeL for which significant development costs are typically incurred before any students pay fees; variable costs increase dramatically with the high enrolments often associated with distance provision as well as the typically longer timeframes and more diverse stakeholders involved. However, it is the candidate's experience that it is the different uses of time and the costs involved that are often the most difficult to engage with in an informed and sustainable way (Mays, 2005, 2011b; Saide, 2001). The following three perspectives attest to the enduring nature of this challenge.

3.10.1 Perspective 1 – strategic use of ICT resources

As Du Vivier (2010, pp. 38-39) observes, it is possible to offer programmes through ODeL which are comparable in quality to contact versions of the same programme, but at a reduced cost per learner. However, this is possible only if human resource costing is done in a way that reflects the different demands of the ODeL model and if ICT is used in ways that reduce costs rather than add to them. In this respect the degree of interaction expected is a critical design decision. It is self-evident that a

model which assumes a high degree of online interaction between the teacher and individual learners will cost more than one that expects less interaction (though retention might be better in the former).

3.10.2 Perspective 2 – strategic decentralised support

Staffing needs and costs vary considerably between models of provision: in a print-based, contact supported mode of delivery we can rely upon local tutors to mediate the curriculum in response to contextual realities. In an on-line model of delivery, the learning pathways need to allow for a wider diversity of responses and contexts – including individualised tracking and support – consequently decentralised tutor and venue-related costs may be smaller but initial development and ongoing on-line review and support costs will usually be higher. The Universities of North West and Pretoria in South Africa offer interestingly contrasting models. The former maintains fixed satellites linked to the centre by interactive whiteboards while the latter rents space and transports and accommodates tutors to provide decentralised support when needed. The former therefore likely incurs higher ongoing maintenance costs but lower travel costs than the latter. Again, the degree of interaction designed into the model for delivery will have a profound impact on staff needs and costs and for sustainability a balance needs to be found between teaching costs, income generated and student pass rates and throughput (Hülsmann, 2016; Mays, 2005, 2011b).

3.10.3 Perspective 3 – strategic use of time

Issues related to understanding and measuring staff and student time in ODL provision have recurred regularly in the ODL literature and obviously have a direct bearing on costing assumptions. With more contact institutions making use of blended forms of face-to-face with ODeL provision, work allocation and student credit models based on contact time on campus are increasingly unhelpful for planning and monitoring. In 2015, the journal *Distance Education* provided a focused set of discussions on this issue, which is summarized below.

In this special issue, Whitelock, Thorpe and Galley (2015) observe that while contact provision has traditionally based course credit weightings on a combination of actual contact hours and assumptions about self-study time (e.g., 30 weeks of 36 to 37 hours study a week of which maybe 15 hours comprises lectures, tutorials and practicals), distance provision has tended to link credit weightings to estimates of study time (e.g., 1 credit as equivalent to 10 notional learning hours). However, both approaches tend to be based on estimates only and

Ultimately, demonstrated achievement of learning outcomes is the key determinant of study success, not number of study hours spent. However, in the context of part-time and online or distance study, managing study time has often been perceived by students as a key factor in their ability to complete the course. (Whitelock et al., 2015, p. 163)

Estimating probable study time is difficult, but it should be obvious that it takes less time to read a short simple text than to read a long complex text and a distinction needs to be made between course-directed time (i.e., time estimated activities set within the course) and individual student preparation time (e.g., organizing space, time and computer; catch-up and refresher time). Open-ended discussions can also lead to a lot of additional unplanned reading if additional resources arise from the discussions themselves and are shared by students with one another. One of the advantages of an LMS is that it allows us to collect some data on actual time on task for individual students and across student cohorts. As noted earlier, distance education students, who typically have multiple demands on their time, often take more time to complete their studies than full-time campus-based students and need to be supported during this time at a cost to the distance provider. Kuiper, Solomonides and Hardy (2015) explore effective practices in offering compressed courses and provide some useful guidelines for practice.

Gaining an understanding of the time students need to be successful helps institutions to make more informed decisions about what programmes to offer, to whom and how and also the cost to support students through the duration of this process.

In similar vein, Kennedy, Laurillard, Horan and Charlton (2015) posit that the single most important resource for effective teaching and learning is time – academic staff time to prepare and present and student time to learn and produce outputs that are evidence of achievement of learning outcomes. They further suggest that a learning experience should involve all six of the following activities: acquisition (read, write, listen), inquiry, practice, production, discussion and collaboration. The Course Resource Appraisal Model (CRAM) they developed then works based on time estimates for staff preparation and presentation time to offer the necessary learning pathway and activities and hence leads to a report on the direct staffing costs of a specific offering. Simultaneously estimating the learning time for each activity from the student perspective helps to ensure that the credit weightings of different courses are aligned. It should be noted that the CRAM model focuses on the costs associated with designing and delivering a course and does not take account of the costs of running the institution as a whole (UCL/IOE, 2015).

Estimating and costing staff time is difficult, however. Haggerty (2015) observes that most academics are employed based on their disciplinary qualifications and research outputs rather than their teaching abilities and suggests that the lack of a clear pedagogic framework will militate against efficient use of online learning facilities. The study notes the lack of common models for measuring staff workload, particularly for comparing face-to-face and online provision, contradictory findings

where such studies have been done (usually on a small scale), a reluctance on the part of academics to be 'measured' which militates against empirical time studies and through engagement with academics notes the important role of professional development in three areas – philosophy and pedagogy of education, appropriately timed training for use of institutional LMS and related applications, and the need for 'time-to-play'. Making provision for the necessary initial and continuing professional development of staff to teach effectively is a cost that may easily be overlooked or underestimated. For example, Gregory and Lodge (2015) observe that institutional work allocation models typically do not make provision for the personal professional development required in reskilling to make effective use of technology enhanced learning strategies and that traditional contact hours and points-based models also do not take cognizance of the fact that in a flexible learning environment engagement with students often takes place outside of normal office hours. They suggest as a rule that a novice will require more time than an intermediate or an experienced user to adapt to using new tools in new ways and that video resources require much more upfront development time than is typical in preparing a traditional lecture for example. However, differences in time commitment may not be obvious. Gous and Roberts (2015) use a metacognitive framework and a case study methodology to explore the views on time and workload created by technology innovation in a particular ODL environment. Their study suggests that academics are often not critically aware of their time usage and may well spend more time than they realise in non-core activities such as reading emails and attending non-academic meetings. Their study further suggests that academic staff may be more likely to invest time in reskilling to use technology to work more effectively and efficiently in their research practices than their teaching practices because it is research output and not quality teaching that is typically rewarded by the university system.

Notwithstanding the foregoing, it is the candidate's experience that academics who move from a contact to a distance environment find the distance environment more time demanding. However, Møeglin and Vidal's (2015) review of the recent history of publications in the French literature on distance education concludes that the move into distance provision does not *necessarily* involve added strain on teachers, students and administrative staff, but that this will depend on contexts and strategies employed.

In the next section, a comparison is made in broad terms between correspondence and face-to-face teaching, then multimedia courses, distributed e-learning and virtual seminars in terms of fixed and variable costs and the implications for responsiveness, and economies of scale. The report points to the value of working with interactive spreadsheets with benchmark figures on costs to inform decision-making.

3.10.4 Costing courses

Costing case studies and models for distance provision were undertaken by Saide as part of a larger study into distance education for the South African Council on Higher Education in 2003-4 (CHE, 2004). As reported by Mays (2005), the comparative costings were based on an Access database designed by Neil Butcher and utilized and analysed by the candidate. The database was subsequently developed into an Excel spreadsheet, as part of work undertaken for Nadeosa (Mays, 2011b). Given the complexity involved, the resourcing and costing models worked from a set of baseline assumptions. It will be important at the start of any resourcing and costing exercise for programme managers/ programme management teams to interrogate these assumptions and adjust appropriately for their own contexts of practice. Thus, a more sophisticated costing model will need to track, over several years, expected enrolment patterns, expected active participation patterns and the associated costs for any specified period (e.g., how many of the registered students are likely to write assignments and examinations in each trimester, semester or year) and a staggered income stream to manage the institutional cashflow responsibly. In addition, provision needs to be made for cycles of curriculum renewal and teach-out periods which may entail a) making provision for servicing two versions of a programme simultaneously and b) teaching out a programme for which no additional income can be expected.

As observed in a study undertaken for Nadeosa, three different models of distance provision are common in developing contexts in Africa:

- Model A – print-based and contact supported
- Model B – resource-based and web-supported
- Model C – web-dependent mix of on- and off-line teaching and support (Mays, 2011b).

However, several issues are common regardless of the model employed (CHE, 2004; Mays 2005, 2011b). Staffing implications need to be addressed regardless of the model of ODeL provision that is adopted. In the description of the following planning issues reference is made to organisational aspects and terminology specifically related to universities, but these planning issues must be considered by any provider of ODeL programmes. They include:

- Logistical support related to materials, devices, contact sessions, practicals, work-placements, decentralised examinations
- Learner support including after hours and off-campus and/or online support for personal, financial, academic, administrative and informational concerns
- Staff support for programme and materials development and review, appropriate use of ICT, managing online discussions, counselling and assessment

- Evaluation of programmes, materials and systems by external critical reviewers, examiners and employers, students and staff
- Laboratory, practical and work-integrated experiences
- Appropriate planning and costing. As noted in Mays (2005) and ADEA (2005), in planning a particular course, the following factors must be considered:
 - educational strategies
 - assessment types
 - other personnel costs
 - other costs (e.g., course design, management and administration, course materials and technology)
 - course income; and
 - overheads.

The Nadeosa study (Mays, 2011b, pp. 27-30) provides some of the costing assumptions informing distance provision in South Africa at the time of the study. It should be noted that the three models presented in the study could have been structured quite differently and were based on certain assumptions spelled out in the model outlines provided in the study. Changing the structure or changing the assumptions underlying an institution's costing model will change the results, but basing forward planning on models like those presented in the study (or the CRAM model referred to earlier), which emphasise the link between plan and process, and the necessity to balance course, student, staff and institutional needs, can be helpful in making viable and sustainable choices and in identifying appropriate staffing and technology strategies and the costs associated with them (Heydenrych & Louw, 2006; Saleh & Pretorius, 2006). These decisions increasingly need to be made within a consideration of the capacity-building needs of the institution within the context of its national, regional, continental and global location (Prinsloo, 2008), so the complexity of the costing model tends to grow with the expansion of the institution's ODeL footprint.

3.10.5 Conclusions and recommendations

The changed environment of higher education provision in Kenya, which reflects similar situations in other countries in both developing and developed contexts, necessitates a change in the underpinning business model operated by an institution moving into multi-mode provision such as ANU.

As part of its support to the DHET and CHE in South Africa which culminated in 2014 in the first ever national policy related to distance education provision (DHET, 2014) as well as a Good Practice Guide for distance provision in a digital era (CHE, 2014), Saide developed the following illustrative grid of flexible provision (Figure 3.19):

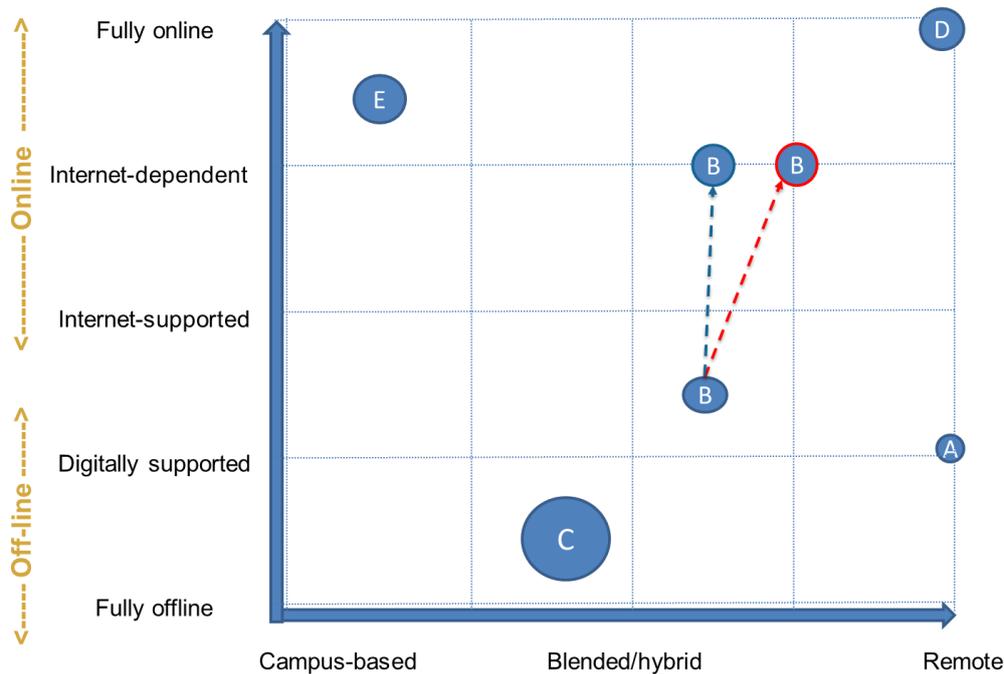


Figure 3.19: Grid illustrating different dimensions influencing mode of provision
 (Source: Glennie & Mays, 2013, p. 134)

It is suggested that the future of higher education provision will need to work from an assumption of flexible provision, based on activity- and resource-based approaches, in which content, assessment, pedagogy and support are aligned towards meeting the learning needs of particular target audiences in particular contexts at particular times. The curriculum offered by an institution will therefore be in constant flux as new needs emerge and older offerings become redundant and institutions may offer programmes in multiple areas of the grid of provision outlined in Figure 3.19 and may wish at different times to migrate provision from one modality to another as learner demand changes. The size of that demand will have a profound impact on costing and resourcing.

It is suggested that all prospective programme and course offerings should be subjected to a costing analysis before an institution moves ahead with development. This will help to determine the student numbers needed not only to cover direct costs but also to contribute to the infrastructural and managerial overheads sustaining the institution. Each modality should be costed separately.

The costing should help to determine the fees necessary to ensure that all development, implementation and renewal costs can be recouped over a period of three to five years.

Once a break-even enrolment becomes clear, a market analysis can be undertaken to provide evidence of whether the target enrolment is likely to be met based on analyses of national needs, historical data, where available, and awareness of offerings by competitors.

It is inevitable in this process that some current programmes and courses will be deemed unviable and will need to be taught out and also that not all programmes and courses will necessarily be available in all modes of provision (for example, there may be a strong case for a full-time first year induction programme for school-leavers or for a full-time campus-based programme for a programme with a high concentration of laboratory or workshop-based components; conversely it is also likely that there will be a number of short-courses aimed at just-in-time lifelong learning for those already in employment which might never be offered as campus-based courses).

It is suggested that all programme and course offerings should have a digital presence on the institutional LMS in the form of at least digital copies or links to learning resources (text-based, video, audio, animations, simulations, virtual reality) and at least an open forum, but the decision to offer a course fully and only online should be based on evidence that the target audience will have the necessary ICT skills and access to appropriate hardware, bandwidth and decentralised support. As a rule, it is suggested that even nominally online courses are designed so that a substantial part of the study material can also be accessed offline (a good example of this is Unisa's recently developed 'signature' courses as explained in Baijnath, 2014).

Since all programme and course offerings will be activity- and resource-based, a central cross-cutting unit is needed to lead programme and course development and review processes. This unit should ensure that the curriculum is not only developed in a team-based quality way from the start, but that curriculum review and renewal is built into the process and OER are utilised wherever possible to save time and cost. Feedback from students and course tutors should be an integral part of the curriculum review processes.

Job descriptions, rewards and incentives need to reflect the time and skill required to provision quality learning opportunities, namely designing effective learning activities and finding, adapting and/or creating appropriate learning resources.

It is further suggested that a work-allocation model should be developed that takes account of actual time on task, including outside of normal office hours, and is responsive to student numbers and different modalities to avoid staff overload and burn-out and so that performance can be managed more effectively and fairly. The assumptions built into the foregoing discussion need to be debated within institutions and agreement reached.

It will also be useful to strengthen the institutional data analytics capacity to help address the following kinds of issues:

- Historical trends in cohort analysis to identify retention, throughput and success rates over time in different programmes, courses and modalities and to identify and address drop-out and stop-out issues
- Real-time analytics made possible by the LMS to intervene just-in-time when students seem to be at-risk of not being successful
- Predictive analytics to begin to identify the kinds of activities and practices and combinations thereof which seem conducive to success.

The transition from a campus-based approach to a flexible learning approach is not an easy one. A key role will be providing the necessary leadership and management to enable curriculum change.

3.11 Managing curriculum change

Fullan (1993) states categorically that change cannot be mandated. After reviewing the literature on curriculum change, Ornstein and Hunkins (2004) concur, suggesting that:

...in order for curriculum change to be successfully implemented, either rapidly or slowly, five guidelines should be followed to avoid mistakes of the past:

1. *Innovations designed to improve student achievement must be technically sound.* This means that changes should reflect research about what works and what does not work, as opposed to whatever designs for improvement happen to be popular today or tomorrow.
2. *Successful innovation requires change in the structure of a traditional school.* By structural change we mean major modification of the way students and teachers are assigned to classes and interact with each other.
3. *Innovation must be manageable and feasible for the average teacher.* We cannot innovate ideas concerning critical thinking or problem solving when students cannot read or write basic English or refuse to behave in class.

Implementation of successful change efforts must be organic rather than bureaucratic. Strict compliance, monitoring procedures, and rules are not conducive for change; this bureaucratic approach needs to be replaced by an organic or adaptive approach that permits some deviation from the original plan and recognizes grassroots problems and conditions of the school.

4. *Avoid the “do something, do anything” syndrome.* The need is for a definite curriculum plan to focus one’s efforts, time and money on content and activities that are sound and rational. (pp. 304-305)

The Association for the Development of Education in Africa (ADEA, 2002), as well as recent studies in South Africa (CHE, 2014; Letseka, 2015), suggest that although there are extremes of practice, there

is much greater use of blended approaches than in the past (although this is not always clear and so challenges regarding the provision of learning resources and decentralised student support often do not receive the attention they deserve).

Often, however, in dual mode provision, there are tensions around equivalence between full-time and distance provision (as noted in Chapter 2). Often there are disjunctures between policy and practice at system, programme and even conceptual level, with content provided in fragments rather than in coherent learning pathways (CHE, 2010). However, as ODL provision increasingly migrates to ODeL provision, we may be seeing a convergence of concerns.

The following thoughts by Sir John Daniel (as cited in CHE, 2014) seem pertinent in relation to the concerns raised above:

The other day a colleague made the remark “the glory days of Learning Management Systems are over”. I think he was making the point that with today’s social software it is possible to organise eLearning in more informal ways, without having recourse to highly structured systems. Is this true and, if it is, is it a good thing? The nub of my own anxiety is the issue of scale. I have devoted my career to the proposition that the more students you can educate, the better. Although the world is strongly influenced by the insidious assumption that quality and exclusiveness are two sides of the same coin, we have been making great progress, thanks mainly to the multi-media systems of distance learning that have made possible the emergence of mega-universities and mega-schools. I have a growing worry that the shift to eLearning may erode these gains because of its tendency to take us back to the cottage-industry style of course development that preceded the organisation of learning at scale. I was reassured, however, that the use of Learning Management Systems did encourage the ambition of operating at scale and made it possible to manage scale operations, not least by linking pedagogical activities to student records. Are the newer generations of web technologies reinforcing the return to cottage-industry methods or am I missing something? In my view the genius of technology, in education as in other areas of life, is to allow us to achieve scale, quality and low cost simultaneously. We must not turn our backs on that revolution. (p. 74)

In contrast, Kanuka and Brooks (2010, p. 84), based on their experience and research, argue, “We conclude ... open and constructivist distance education can achieve any two of the following: flexible access, a quality learning experience and cost effectiveness – but not all three at once.”

Looked at from the perspective of the student, however, Annand (2015) observes that while use of OER produces demonstrable cost-savings for students, there is less obvious incentive for institutions, and government policy may be needed to align institutional objectives, faculty motivations and student interests.

Altbach et al. (2009, pp. xv, xvi) note the following stress factors among the academic community which may militate against changing practice, however:

- More staff with lower qualifications

- Increased moonlighting for the private sector
- Massive expansion at undergraduate level has hampered expansion at graduate level (hence limiting continuing academic development opportunities for academic staff)
- Migration of better qualified staff to better-paying institutions and countries
- Loss of autonomy: the locus of authority has swung from academics to internal managers and external authorities.

Related to the last point, but qualitatively different, is the loss of prestige in being an academic working at a conventional university. The ubiquitous access to information provided by the ICT revolution, the postmodern distrust of tradition, grand narratives and established authority, as well as the rapid pace of change in knowledge-based workplaces which render many university programmes dated or even obsolete, quite quickly undermine the traditional role of the academic as 'expert'. Academics are increasingly challenged to re-invent themselves as 21st Century collaborative researchers and co-learners.

A recurring complaint heard in work with African universities is the fact that institutions tend to reward research output over teaching quality and this is picked up in an article by Bitzer (2006). Bitzer argues for greater recognition and support for a scholarly approach to teaching, building on the work of Healy 2005 to show how research and teaching can be mutually reinforcing within a continuum of options (Figure 3.20):

However, Le Grange (2006) offers an interesting alternative perspective on the apparent research versus teaching tension:

I am not convinced that the diminished status of teaching is that research is valued more ... it is rather that research ... better fits the performativity principle ... Typically, research outputs among others are used as strategic performance indicators for excellence because they easily fit the performativity principle that which optimizes the relationship between input and output ... but scholarship of teaching ... cannot be reduced to what is measureable. (pp. 368-369)

Concerns about an erosion of academic autonomy and a growing emphasis on 'performativity' generally are also expressed by Ntshoe et al. (2010) who report on an international study – Changing Academic Project – to conclude:

1. The teaching load for junior academic staff has increased as student numbers have increased in order to increase revenue from fees
2. The current discourse of quality inputs and outputs derived from business ignores the fact that teaching is a qualitatively different occupation
3. Improvements in resources do not necessarily bring about improvements in teaching

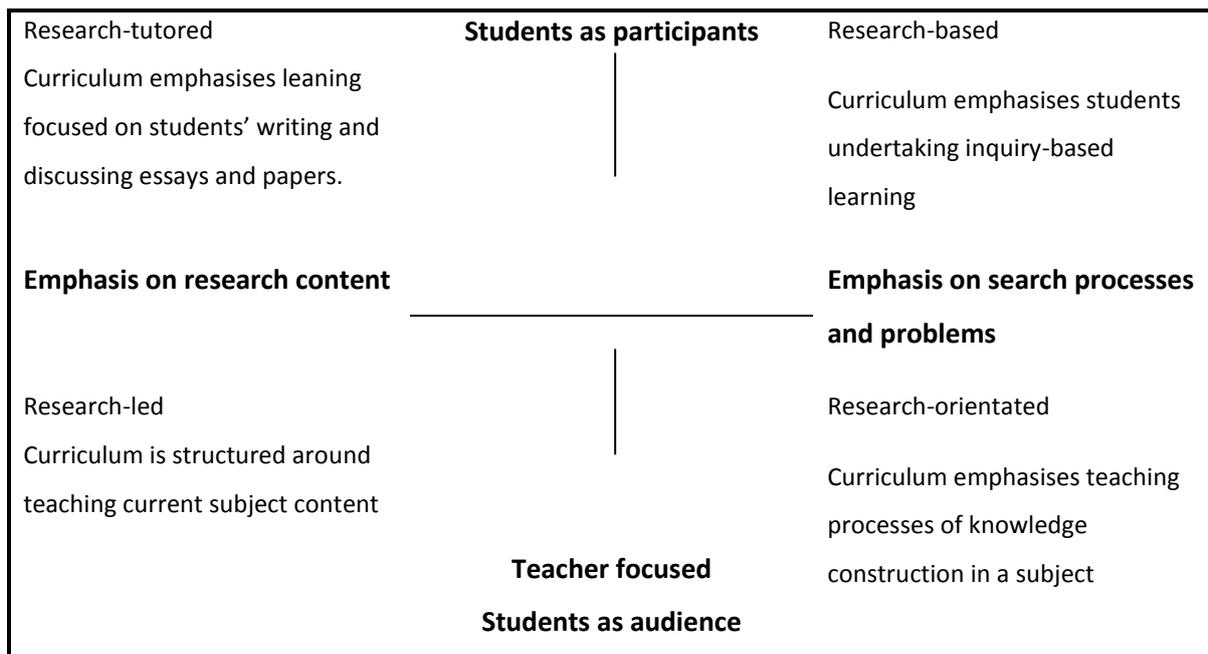


Figure 3.20: Model for scholarly teaching

(Source: Bitzer, 2006, p. 376; after Healy, 2005)

4. The discourses of globalisation and internationalisation downplay the importance of teaching at the local level
5. Staff and students, and peers, are best-placed to assess quality teaching
6. It would, therefore, seem that assessment of what is and isn't good quality depends on the objectives and criteria a person or group considers to be relevant in a specific context. Thus 'fitness for purpose', which hinges on specification of the purposes that are assumed to be relevant by specific sectors in a specific context, seems to be the most tenable conceptualisation for what constitutes good quality. (p. 129)

The South African HEQC practice of having practitioners review general programme quality assurance criteria for quality assurance purposes in a particular programme seems to accord well with the above suggestions. Engagement in such reviews, both as reviewers and reviewees, constitutes a potentially valuable professional development experience if mediated well.

Further afield, Fry and Ketteridge (2009) note that in the UK, the Higher Education Academy has developed a national framework of professional standards for teaching and supporting learning in higher education. The Standards take the form of generic descriptors at three different levels of competence (at roughly Masters level) and individuals need to provide evidence of achievement in relation to professional activities, core knowledge and professional values as illustrated in Table 3.12:

Table 3.12: Standards of professional development for academic staff

Standard descriptor

1. Demonstrates an understanding of the student learning experience through engagement with at least two of the six areas of activity, appropriate core knowledge and professional values; the ability to engage in practices related to those areas of activity; the ability to incorporate research, scholarship and/or professional practice into these activities.

This leads to Associate of HEA status

2. Demonstrates an understanding of the student learning experience through engagement with all areas of activity, core knowledge and professional values; the ability to engage in practices related to all areas of activity; the ability to incorporate research, scholarship and/or professional practice into those activities.

The leads to Fellow of HEA status

3. Supports and promotes student learning in all areas of activity, core knowledge and professional values through mentoring and leading individuals and/or teams; incorporates research, scholarship and/or professional practice into those activities.

This leads to Senior Fellow of HEA status

Areas of activity

1. Design and planning of learning activities and / or programmes of study.
2. Teaching and / or supporting student learning.
3. Assessment and giving feedback to learners.
4. Developing effective environments and student support and guidance.
5. Integration of scholarship, research and professional activities with teaching and supporting learning.
6. Evaluation of practice and continuing professional development.

Core knowledge

Knowledge and understanding of:

1. The subject material.
2. Appropriate methods for teaching and learning in the subject area and at the level of the academic programme.
3. How students learn, both generally and in the subject.
4. The use of appropriate learning technologies.
5. Methods of evaluating the effectiveness of teaching.
6. The implications of quality assurance and enhancement for professional practice.

Professional values

1. Respect for individual learners.
2. Commitment to incorporating the process and outcomes of relevant research, scholarship and / or professional practice.
3. Commitment to the development of learning communities.
4. Commitment to encouraging participation in higher education, acknowledging diversity and promoting equality of opportunity.
5. Commitment to continuing professional development and evaluation of practice.

(Source: Fry & Ketteridge, 2009, pp. 470-471)

Item 3 under 'professional values' in the above framework points to the wider implications of a collapse of the concept of an academic as an expert working alone. Higher Education and Training is increasingly an educational 'enterprise' and teams of people working together are at the heart of the educational endeavour. Organisational culture and climate, commitment to critical reflexive practice and lifelong learning, and the ongoing management of change, are thus key elements that the overall

organisational architecture design needs to address. It must recognise that a university is a complex organisation working in a complex and ever-changing environment, rife with randomness and unpredictability (Taleb, 2009). Flexibility and adaptability thus need to be key elements of the way in which the organisation works and hence of the way in which it is structured and managed.

In a seminal work in the field, McMillan (2008) reflecting in part on a management of change process at the UKOU, suggests attributes of the kind of complex ‘adaptive system on the edge of chaos’ that a contemporary institution needs to be and which the organisational architecture needs to address:

- consisting of large numbers of agents interacting in a non-linear way creating higher and higher levels of complexity
- no central controlling mechanism – ‘purpose’ is at the centre of the model but its function is not controlling
- constantly learning
- able to learn to adapt to changing circumstances
- actively try to turn events to own advantage
- constantly revise and change structures as they learn about the world
- anticipate the future
- self-organising
- seek to exit on the edge of chaos
- have emergent properties. (pp. 201-202)

She goes on to suggest the implications of this kind of thinking at both individual and institutional levels as illustrated in the tables 3.13 and 3.14.

Table 3.13: Edge of chaos assessment model – individual

| Totally stable No novelty | Stable aspects | Behaving as a complex adaptive system | Chaotic aspects | Chaotic Too much novelty |
|--|-----------------------|---|------------------------|--|
| Ultimate couch potato | | Moving around, active, exploring | | Ultimate headless chicken |
| No real learning | Single-loop learning | Engaged in single- and double-loop learning. Sense making and reflection. | | No sense making |
| Inadequately connected to environments, data flow lacks energy or real value | | Well connected to all environments, internal and external, with a steady flow of reliable and useful data | | Over connected and overwhelmed with data of variable quality |
| Is a slave to routine, rigidly bound by own set of values whatever the circumstances | | Has flexible routines for working and social/family life. Clear values and guiding principles for living. | | Has no routines. Values and guiding principles subject to sudden changes. Like a rudderless ship in a storm. |
| Stuck in the past. Repeating past behaviours to the detriment of the present and the future. | | Values the past, envisions the future, lives in the present | | Obsessed with the future to the detriment of the present |
| Edge of chaos ←—————→ | | | | |
| Lack of interest in living – little or no discernible life force | | Healthy, active, fulfilled individual | | Highly stressed, breakdown (mental/ physical/ emotional) seems inevitable |

(Source: McMillan, 2008, p. 205)

Table 3.14: Edge of chaos assessment – organisation

| Totally Stable No novelty | Stable Aspects Little novelty | Behaving as a complex adaptive system | Chaotic aspects lots of novelty | Chaos Novelty overload |
|---|--|---|---|--|
| Tight, rigid management controls | | Management by self-organizing principles, shared processes | | No co-ordination or organization Management confused and without coherence |
| Change can be organized but does not occur | | Constantly changing and adapting as needed | | Change cannot be co-ordinated |
| Totally inflexible and unresponsive structure and frameworks | Inflexible and largely unresponsive structure and frameworks | Flexible, responsive structure with supportive frameworks | Insufficient structure or frameworks | No discernible structure or frameworks |
| Inadequately connected to all parts of the system. Little or no flow of relevant, clear and useful information, often inaccurate and untimely | Adequately connected but information flow is spasmodic, often of poor quality, often not relevant Or difficult to understand | Well connected to all necessary parts of the system Flow of relevant, good quality, important, information that is useful, timely and readily manageable | Over connected to all parts of the system and receiving an overload of information some relevant and some irrelevant Struggling to handle it | Highly overly connected to all parts of the system and receiving an overwhelming overload of information relevant and irrelevant – it is impossible to handle and make sense of this |
| Decisions deferred and delayed to serious detriment of system | Decision making slow and cumbersome and sometimes too late | Able to make effective, timely decisions using information flow and contacts | Decisions rarely made on a well-informed basis, of poor quality, fudged or not taken at all | Decision making chaotic and to detriment of system |
| Single-loop learning only Static mental models | | Lots of double-loop learning and single-loop learning too | | Double-loop learning but disconnected from reality and frantic No sense making |
| Trapped in the past to the detriment of the present and future | | Aware of the past, taking advantage of past experiences and aware of future possibilities | | Obsessed with the future to the detriment of the present |
| Edge of chaos ←—————→ | | | | |
| Ossification certain | Ossification likely | Survival chances are high | Disintegration likely | Disintegration inevitable |

(Source: McMillan, 2008, p. 209)

For MacMillan, then, it is about finding an appropriate balance between enough change to be responsive, even pro-active, but not so much change that systems and staff are unable to cope. It requires that we develop a theory of change.

The influential education change theorist, Michael Fullan (2006), cautions that some change theories in the schooling sector appear to build on strong principles, but usually do not result in significant and sustained change in practice: these include standards-based district-wide reform initiatives; professional learning communities and ‘qualifications’ frameworks focusing on the development and

retention of quality leaders. Instead, he identifies seven core premises underpinning contemporary change knowledge and informing a theory of action:

1. A focus on motivation

People need to see the change as something worth doing. In the case of ANU, the candidate sought to make explicit the potential benefits for individual staff, for students and for the institution.

2. Capacity-building, with a focus on results

People need to be offered support to learn new ways of doing things and then see that these new approaches result in desirable outcomes. In the case of ANU, the candidate offered several capacity-building workshops in consultation with the institution, sought to celebrate the efforts of ANU staff who engaged with OER and created mechanisms to evaluate results in terms of student satisfaction and performance on the one hand but also individual academic recognition and satisfaction on the other.

3. Learning in context

People need to be able to engage with change within the context of their own practice. ANU had initiated an action-research-based continuing professional development certificate programme that involved staff in reflecting upon and improving their own practice. The candidate sought to encourage engagement with OER as part of this process.

4. Changing context

For some kinds of change to happen, the system needs to change. During engagement with ANU, the candidate began with a narrow focus on distance education practice and the development of an enabling OER policy but, as reported in Chapter 5, as the discussion progressed it evolved into a consideration of the overall business model for the university.

5. A bias for reflective action

Drawing on Dewey, it is believed that people learn best through doing, reflecting, inquiring, gathering and analysing evidence, engaging in more doing and so on. This approach is inherent in the action-research nature of the OER Africa PAR engagement. Each subsequent engagement with ANU resulted in a reflection on what had or had not been achieved and what this meant for future planning.

6. Tri-level agreement

For Fullan, systemic change in the school system requires alignment of goals at school and community, district and state levels. Concomitantly, engagement with ANU made clear the need for alignment of goals at individual, IODL and institutional levels.

7. Persistence and flexibility in staying the course

Fullan notes that successful change is not linear but often bumpy, requiring flexibility regarding what is done, but persistence in continuing to work towards overall goals that are worthwhile. This was certainly the researcher's experience as outlined in Chapter 5.

In a later work with a colleague (Fullan & Langworthy, 2014), it is further argued that significant change will come about only when new digital tools are utilised to create new kinds of learning partnerships between teachers and learners, when change is encouraged and supported in multiple directions and from multiple sources, and when deliberate efforts are made to make learning tools and resources affordable for all.

As Bates (2015, p. 24) observes "...change occurs more consistently and more deeply when those undergoing change understand the need for it and have a desire to change". He further notes that academic staff in both universities and colleges now face the following common challenges:

- Teaching in ways that help develop the knowledge and skills needed today;
- Handling increasingly large classes;
- Developing teaching methods that are appropriate for an increasingly diverse student body;
- Dealing with a variety of different modes of delivery. (Bates, 2015, p. 36)

How we respond to these challenges is critical. Van Niekerk (2016) cautions that while we should accept a context characterised by super-complexity, we need to respond in ways that are not antithetical to the true nature of a university as a space for thoughtful reflection and critical debate: purposes which increasing commercialisation and 'performance management' often militate against.

3.12 A theory of change

Towards the end of 2015, the candidate attended a Theory of Change (ToC) workshop offered by the Foundation for Professional Development (FPD) under the auspices of the Department of Planning, Monitoring and Evaluation (DPME) in South Africa to see if this would be a useful way to inform future engagement in both the *Siyaphumelela* and OER Africa initiatives. According to the FPD (2015, p. 23), "A Theory of Change explains how a programme or intervention is expected to bring about the desired change. It creates a roadmap for the desired change and explains the assumptions made regarding the implementation of the programme."

According to Vogel (as cited by FPD, 2015):

The basic components of a ToC create the causal maps of an intervention. This includes:

- a. A discussion on the context in which a programme will be implemented. This will consider social, political and environmental aspects.

- b. The long-term change that a programme would like to achieve and a discussion on the target group or beneficiaries of the intended change.
- c. The processes that need to be followed to achieve the long-term change.
- d. Assumptions about how the change will happen and what might influence the process. (p. 24)

OER Africa's experiences in recent years suggested that many universities on the continent were committed to reimagining their teaching and learning practices to support their students to negotiate the knowledge/information rich societies in which they lived. OER Africa's interventions had contributed to ensuring that a critical mass of universities on the continent understood, at least at a basic level, the concept of OER and their potential to support the transformative pedagogical agenda required.

However, there was a need to move beyond proof-of-concept projects into longer-term faculty and institutional engagement processes, which sought to understand better what policy, regulatory, systemic and cultural barriers impede sustainable integration of innovative OER practices into mainstream academic activities, most notably the delivery of high quality undergraduate and postgraduate programmes. Consequently, the proposed *OER Africa* Theory of Change as defined in its grant proposal for this phase of work was as follows:

OER has tremendous potential to function as a catalyst for educational transformation (as evidenced by the significant growth of awareness within African universities about the concept of OER and its potential to support more flexible resource-based provision centred on student active critical engagement rather than information transmission). OER can effectively be used to: (a) place the student at the centre of the process of locating and developing materials and course environments; (b) shift the role of educator from lecturer to facilitator, thereby making much more productive use of educator time; and (c) facilitate development of a wide range of additional cognitive and information literacy skills that are essential in modern society

Despite this transformative potential, OER is largely being used to replicate traditional models of education where the learner is a consumer. There is limited evidence of transformative pedagogical changes occurring in a sustainable way within universities. A key reason for this is the existence of significant policy, regulatory, systemic, and cultural barriers to transformative pedagogical practice, which make sustained integration of innovation into academic activities difficult to achieve.

Effecting meaningful educational transformation aimed at overcoming these barriers requires long-term engagement with institutions and accompanying systemic and cultural change – best underpinned by strong leadership and simplified, focused policies. Until this deeper process of systemic transformation – at both faculty and university level – is attempted by a few pioneering universities, and the lessons of experience are openly shared and can be debated, it is unlikely that decision-makers in higher education more broadly will begin to institute wider institutional and national policies that support sustained, educationally effective use of OER. (OER Africa, 2014, p. 5)

The thinking at the outset of this work was that, if this process of change was accompanied by rigorous research and sustained advocacy (that involved the institutions themselves in sharing their experiences), it could then be used to present to key decision makers (at a governmental level) and university administrators (such as senior management and Faculty Deans), practical evidence of the kinds of policy, regulatory, systemic, and cultural changes needed to effect the changes in pedagogical practice that higher education experts routinely discussed, but seldom implemented on any significant scale. This practical evidence could then be used to trigger broader processes of change by providing higher education decision makers clear guidance about the programme of action needed to implement the types of institutional changes that broader social pressures are increasingly forcing them to consider.

Table 3.15 presents then the theory of change underpinning the researcher's specific engagement with ANU.

As can be seen from Column 1 of Table 3.15, the researcher encouraged ANU constantly to locate its practices within a larger national and international vision of student success. In column 2, the multiple research questions underpinning the OER Africa initiative outlined in Chapter 1 map to high level outcomes regarding the integration of knowing, doing and being. Column 3 then begins to identify the evidence that would need to be collected to demonstrate that the initiative had had a positive impact. Columns 4, 5 and 6, as well as Row 2, help to identify the necessary building blocks to increase the likelihood of a positive impact.

Table 3.15: A theory of change for ANU

| Impact | Outcomes | Outputs | Activities | Inputs | Values and principles |
|--|--|---|---|---|--|
| More and better ANU graduates who use their education for the betterment of themselves and their society | OER utilised in support of resource- and activity-based programmes designed and implemented to ensure the success of more and better graduates through: <ul style="list-style-type: none"> • Learnings about how to optimise use of OER are identified and shared as high impact practices (knowing) • Sustained capacity is developed to implement and manage the mainstreaming of OER utilisation (doing) • A positive culture of utilising OER in support of high quality resource- and activity-based teaching and learning geared towards student success is created and sustained (being) | Strategic and operational planning and implementation support mainstreaming the utilisation of OER in support of high quality resource- and activity-based teaching and learning. Open, Distance and e-Learning provision is optimised to ensure the highest quality and sustainability. Enabling activities led by OER Africa create a Community of Practice that supports achievement of the above outputs. | Short term: <ul style="list-style-type: none"> • Create an enabling policy framework for engagement with OER • Provide capacity-building support for OER utilisation in programme, course and materials development and renewal • Provide support for ANU's own OER-related research and continuing professional development activities • Establish an OpenANU website. Continuing activities: <ul style="list-style-type: none"> • Increasingly focused contact and email interaction • Participation in appropriate national and international conferences and fora/national dialogue on ODeL and OER • Case studies of ANU's experiences • Articles on effective use of OER at ANU • Publication of ANU OER | Hewlett funding for OER Africa support OER Africa capacity-building workshops OER Africa reflective reports ANU's internal engagement with OER | Shared commitment to student success. Equivalence of provision across different modes Commit to open educational and collaborative practices Fitness of purpose Fitness for purpose Value for money Sustainability |
| Building blocks and assumptions | Requires buy-in from all stakeholders Requires appropriate incentives Assumes open, critical communication. | ANU needs to be part of the national dialogue on ODeL provision in Kenya | Funding: catalyst, institutional and praxis oriented costing | | |

3.13 Conclusion

This chapter proceeded from the assumption that a programme designed for ODeL provision could more easily be adapted for other forms of provision by adding in varying types of contact- and campus-based support rather than the other way around. Then, in line with the theoretical framework outlined in Chapter 2, a systems view of ODeL provision was explored, with OER integrated into the curriculum design and materials development and review processes as a matter of course, and the practical implications thereof outlined. This culminated in a theory of change which underpins the whole study.

However, as noted in Chapter 2, it is in the nature of hermeneutic enquiry and participatory action research that plans and practices constantly evolve: “The task is to work continuously towards better solutions, without assuming that there is one ideal solution waiting to be found and put in place” (Christie, 2008, p. 24).

Chapter 4: Research design and methodology

We can only know about things if we act on them, and reach some understanding of the mechanisms of these actions. The maturation of the organism by itself does not explain development, and hence learning. For example, the sophisticated logic of a mature thinker is obviously not pre-formed in the brain. Experience is essential to a person's contact with the world, but it is inconceivable outside its source in action. Knowledge derived from experience is not a static mental copy of the objects in view, but arises from the cognitive operations carried out on them. The child actively constructs its knowledge of the world as part of its adaptation to the world. And learning follows development. The child can receive valuable information via language or via education only if it is in a state where it can understand this information. This is why you cannot teach higher mathematics to a five-year-old. He does not yet have the structures that enable him to understand. (Piaget, as cited in Moll et al, 2001, p. 196).

4.1 Introduction

In the quotation above we have a fourth perspective on the purpose and nature of learning and teaching, which adds to the possibilities for conceiving how OER might support processes to 'transform' pedagogy and curriculum. Piaget argues that the learner actively engages with his/her environment and constructs his/her understanding through the process of this engagement. It is felt that the qualitative researcher is in a similar position, actively constructing evolving understandings through a process of engagement rather than being a detached observer.

This chapter outlines the approach adopted for this process of engagement as illustrated in Figure 4.1:

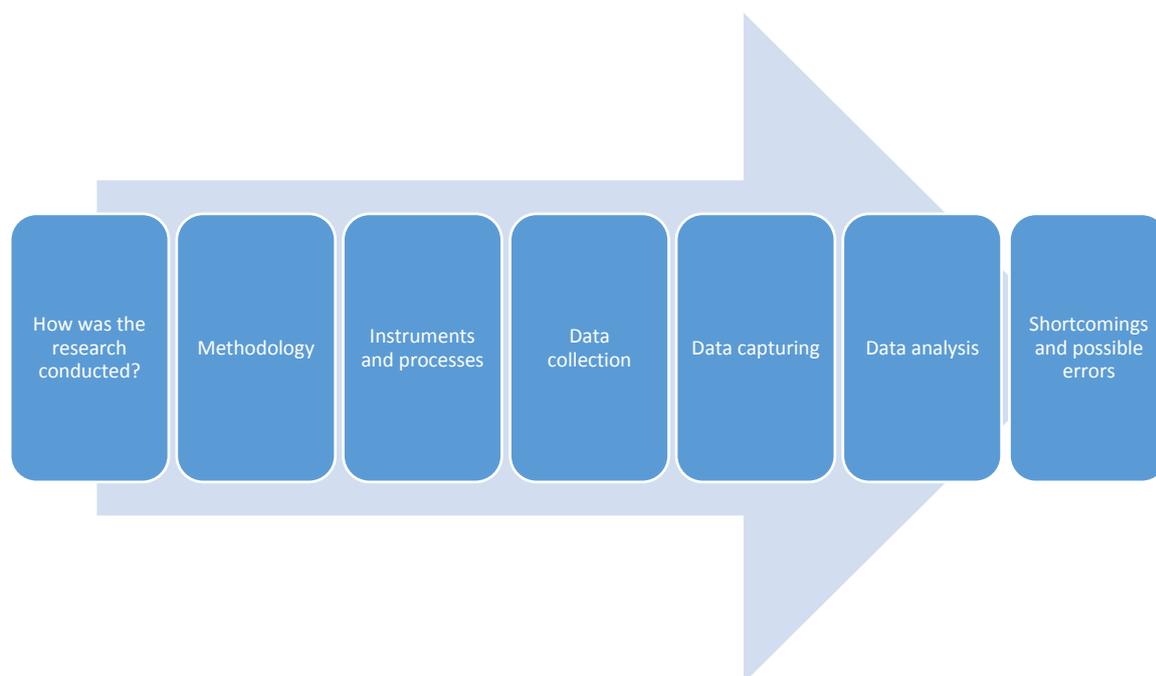


Figure 4.1: Overview of research design and methodology

4.2 Design and rationale

Cohen et al. (2000, pp. 3-34) explore the nature of research as inquiry and identify three broad paradigms within which a researcher might work: normative, interpretive and critical. From their discussion of the nature of these three approaches, an interpretive approach seems most consistent with the nature and goals of the wider project of which this study formed a part, as well as with the theoretical framework articulated in Chapter 2. This approach is characterised by the following features:

- A focus on individuals and relatively small-scale research (*this study focused on a single institution and intensive interaction with a small core team of staff identified by the institution over an extended period; but contributed to a larger project involving four institutions*)
- A focus on what human beings say, do and explain, rather than upon statistics
- Personal involvement of the researcher (*this was a necessary requirement of the wider project of which this study formed a part*)
- Interpreting specific actions and meanings and investigating taken-for-granted assumptions, rather than trying to reduce issues to simple cause and effect relationships (*for example, about the purpose and nature of education and the roles of educators and learners*); and
- Surfacing individual perspectives, personal constructs, negotiated meanings and sharing interpretations of situations for public debate and comment.

As discussed in the section that follows, the over-arching approach adopted for the wider project was a participatory action research model. However, documenting this process in ways that would provide insights into the questions identified above, and fulfil ANU's desire for a historical narrative of the ANU-OER Africa engagement, suggested a broadly ethnographic approach, which is concerned with "how people make sense of their everyday world" (Cohen et al., 2000, p. 4).

McMillan and Schumacher (2006, p. 26) characterise such an approach as follows:

- A focus on learned patterns of actions, language, beliefs, rituals and ways of life.
- A process involving prolonged field work, typically employing observation and casual interviews with participants of a shared group activity and collecting group artefacts.
- A documentary style.
- Extensive closely-edited quotations of authentic and representative remarks of the participants.

- “The final product is a comprehensive, holistic narrative description and interpretation that integrates all aspects of group life and illustrates its complexity” (McMillan & Schumacher, 2006, p. 26).

Within this broader conception, the study adopted aspects of an auto-ethnographic approach. Ellis, Adams and Bochner (2010), characterise this specific approach as follows:

Autoethnography is an approach to research and writing that seeks to describe and systematically analyze personal experience in order to understand cultural experience. This approach challenges canonical ways of doing research and representing others and treats research as a political, socially-just and socially-conscious act. A researcher uses tenets of autobiography and ethnography to do and write autoethnography. Thus, as a method, autoethnography is both process and product. (p. 1)

This approach recognises, acknowledges and accommodates the researcher’s influence on the research process and how this is written up and shared (Vianna & Stetsenko, 2015), a necessary tenet given the researcher’s role in the wider project of which this study formed a part. It will typically involve:

- Comparing and contrasting personal experience against existing research
- Interviewing cultural members
- Examining relevant cultural artefacts (Ronai, Foster, Marvasti, Tillman-Healy, & Boylorn, as cited in Ellis et al., 2010).

Given the needs of the wider project, the candidate adopted what might be called an ‘analytic autoethnographic’ approach with the following five key features:

- the researcher is a complete member of the social world under study (*at least with respect to engagement with OER and ODeL*);
- the researcher engages in analytic reflexivity, demonstrating an awareness of the reciprocal influence between themselves, their setting and their informants;
- the researcher’s self is visible within the narrative (*Chapter 2 acknowledges the candidate’s personal background and how this influenced the engagement with ANU and in Chapter 5 the findings are reported from the perspective primarily of the candidate’s interpretation, although as noted, ANU staff had opportunities to provide feedback on draft reports and draft chapters of this study*);
- the researcher engages in dialogue with informants beyond the self; and,

- the researcher demonstrates a commitment to theoretical analysis, not just capturing what is going on in an individual life or socio-cultural environment. (Anderson, as cited in Pace, 2012, p. 5).

This entailed the following processes for collecting and interpreting information:

- An extended engagement with ANU over a period, involving several in-country face-to-face interactions and ongoing dialogue between visits via email or Skype or similar means;
- The negotiation of the focus of each visit and discussion and the writing up of a narrative report on each significant interaction for public comment and, where necessary, amendment;
- Support for and documenting of processes and reflections on complementary and parallel research processes initiated and implemented by members of the core ANU community of practice;
- Periodic reflections on progress towards achieving individual and shared goals (discussed further in the next section);
- Development of a meta-narrative for the engagement.

In addition, the approach outlined above seems to align with three key characteristics of an Afrocentric researcher identified by van Wyk (in Okeke & van Wyk, 2015, p. 11), namely: having a clear rationale and purpose of benefit to the community; involving and acknowledging the contribution of the community; and being able to ‘live and eat’ amongst the community in order better to understand its culture and identity.

4.3 Methodology and rationale

Given the theory of change discussion at the end of Chapter 3, OER Africa decided it would attempt to integrate a participatory action research (PAR) agenda into each of its institutional engagements as its primary method of critical reflection. For the purposes of the initiative, PAR was defined as “collaborative research, education and action used to gather information to use for change on social issues” (Pain, Whitman & Milledge, n.d. p. 2). It involves people who are concerned about or affected by an issue and who take a leading role in producing and using knowledge about it. A PAR approach has the following features (Pain, et al., u.d):

- It is driven by participants;
 - It offers a democratic model of who can produce, own and use knowledge;
 - It is collaborative at every stage, involving discussion, pooling skills and working together;
 - It is intended to result in some action, change or improvement on the issue being researched.
- (p. 2)

The PAR process was necessarily open-ended in the first phase of design, which meant that specific research questions and methodologies needed to be negotiated with the participants themselves. However, it was OER Africa's expectation that the research agenda might seek to answer the following kinds of questions, amongst others:

- What kinds of pedagogical transformation are envisaged at each of the participating institutions and within what timeframes are these changes expected to be introduced? How does this align with the OER community's understanding of the transformative educational potential of OER?
- To what extent can use of OER constitute an effective catalyst in driving or supporting these envisaged pedagogical changes?
- In what ways can a focus on pedagogical transformation serve to embed effective OER practices into mainstream institutional activities and systems, rather than these practices operating parallel to the mainstream?
- What opportunities already exist within universities that can be used to drive this kind of pedagogical transformation and how can these opportunities most effectively be harnessed?
- What policy, procedural, systemic, cultural, and logistical challenges and barriers inhibit these changes within institutions?
- What strategies need to be implemented to overcome these challenges?
- What levels of institutional political support or championing are needed for changes made to become institutionalized? (OER Africa, 2014, pp. 9-10)

As indicated in Figure 4.2, an iterative action research process was envisaged, enabling organizational change, and leading to key identifiable actions and outputs that were conceived, acted upon, reviewed and revised through ongoing discussion and debate with the relevant stakeholders. It was further intended that the lessons of experience that emanated from these processes should be shared more widely through appropriately open forums.

The diagram was explained by the Candidate, as a member of the OER Africa team, in an initial internal discussion document as follows. At the centre of the diagram, we acknowledge Lewin (1946, 1948), who first codified the action research process into four main stages: planning, acting, observing and reflecting. Zuber-Skerritt (1996) then linked action research to change theory. She took the later famous work of Lewin (1952) on forcefield analysis and change theory (unfreezing [creating the possibility to question and review entrenched practices] to moving [initiating agreed changes] to refreezing [implementing changes as part of the new way of doing things]) and the work of Beer, Eisenstadt and Spector (1990) on task alignment, and set them into an action research sequence that clarified the steps of action research very usefully. It should be noted that the process is iterative – reflecting leads to new planning, acting, observing, reflecting cycles.

OER Africa Participatory Action Research Model
Adapted from: Zuber-Skerritt, 1996: 99

| | |
|--|----------------------------|
| | Maximising Impact Strategy |
| | Task Alignment Model |
| | Force Field Model |
| | Action Research Model |



Figure 4.2: OER Africa Participatory Action Research Model
(Source: OER Africa, 2014, p. 31)

The outer circle was adapted by OER Africa to reflect the key actions that would likely be needed to integrate engagement with OER as a mainstream activity in curriculum and materials development. It also reflects a transformation of pedagogy from a transmission mode model (emphasising mastery of a fixed body of content delivered through lecture and demonstrations and assessed by examination), towards a model that was more open, critical and collaborative, problem-centred and assessed by means of engagement with authentic tasks.

The approach was grounded in processes of interaction and Socratic dialogue with stakeholders in an ongoing critical conversation, hence it was a ‘participatory’ action research model designed to transform practice in a consultative and organic way in line with the expressed vision and mission of the institution to respond to the challenges and needs of the times. In documenting the process, the candidate sought to overcome challenges regarding purely subjective interpretations and/or lack of scientific scrutiny by continually triangulating data from documentation, observation and formal interviews and focus group discussions, and surfacing clearly the researcher-participant’s role in the process. Continuous communication is a central feature of this type of engagement, allowing the researcher to “collect data in a non-threatening way”, but also requiring the researcher to take a

critical stance towards the taken-for-granted assumptions that informed past practice and which may need to be challenged to enable improved future practice (Moyo, Modiba, & Simwa, 2015, p. 71). It was also the intention in the wider project to ensure that lessons of experience from these processes informed the discourse in higher education more broadly, through publications, presentations and support to follow-up training activities. Thus, the project sought to move beyond “classical action research” which is “aimed at improvement and change” and more towards participatory action research “which is more based on critical theory and aimed at empowerment” (Nieuwenhuis, 2007, p. 71).

While acknowledging that action research is not usually a simple linear process – it is iterative by nature and often “messy” – Ebersöhn, Eloff and Ferreira (2007, pp. 123-133) identify the following typical phases, which inform the design of Chapter 5 (items that correspond are marked “x”) (Table 4.1).

Table 4.1: Action research phases

| Phase | Method/technique | Description |
|---|---|--|
| Introduction to community and problem statement X | Participant initiative X Researcher initiative X | Members of a community may request participation in solving a practical challenge; or Researcher may become aware of a practical challenge of social issue on which he or she seeks clarity |
| Selection of cases/sampling X | Non-probability selection principles | Based on trust and relationship established during first phase |
| Agendas and research purpose X | Participatory negotiation or expert consultation | Would depend on action research type Purpose of research is agreed upon by means of discussion, reflection and compromise |
| Data collection method | Interviews X | Key people from each stakeholder group X Peer interviews Community forums Nominal groups X Workshops X Focus groups X |
| | Observation | Significant settings, events and/or activities x |
| | Review/textual analysis X | Documents, records and materials |
| | Constructing stories Narratives | Storytelling Drama |
| | Journal writing | Diary in order to recount memories |
| | Participatory technique X | Ranking Scoring Mapping Diagramming techniques Issue-raising techniques X Community self-survey techniques X |
| Recording data | Notes X | Written record of what people said or did |
| | Audiotape | Audio record of interviews |
| | Videotape | Video record of events, people, places etc. |
| | Photographs X | Photographs of events, people, places etc. |
| Analysing data | Identifying key elements X | Significant items of information |

| Phase | Method/technique | Description |
|---|---|---|
| | Formulating categories X | Grouping similar items |
| | Formulating themes X | Grouping similar categories |
| Negotiation | Member validation | Investigating the challenge X Expanding understanding and developing relevant strategies x Linking and integrating individual interpretations into a broader context X Exploring and affirming inherent strengths, skills and weaknesses x |
| Evaluation and report writing | Research activities X | Evaluation ensures high quality report Who has done what, where, when and why? |
| | Situation/context X | Group members' descriptions |
| | The issue X | Group members' experiences and perspectives |
| | Action plan X | Joint action strategies following on recommendations of report |
| Communicating findings | Bulletins Interim reports X | Informing people/stakeholders/participants of research activities Community forums |
| Implementation of action plans | Self-development programmes X Incorporating existing strategies and structures X Expanding networking initiatives X Accessing and mobilising resources X | Community members, professionals, stakeholders implementing strategies for social change |
| Evaluation of action outcomes | Narrative monitoring and evaluation techniques X Quantitative strategies Survey evaluation X Interview evaluation X | Results of action assessed and further period of research initiated |
| Problem statement, agendas and research purpose | Participant initiative X Researcher initiative X | Action research cycle continues based on awareness of new practical/ social challenges |

(Source: Ebersöhn et al., 2007, pp. 123-133. Crosses added.)

4.4 Instruments and processes

In addition to the schedule of visits and online discussions mentioned in the previous section and reported on in the following chapter, specific information in the form of a qualitative survey at key points in the journey was also collected. Collection of this aspect of the data was based on an instrument adapted from an Educause publication on data analytics (n.d., ca 2014). The instrument was originally used in a data analytics workshop for the *Sahela 2014 From Knowledge to Action* community of practice workshop held at the St George Hotel just outside Pretoria on 15 September 2014. The candidate subsequently re-contextualised the instrument for an OER context, and it was used in planning workshops at both ANU and the Open University of Tanzania, one of the other institutions involved in the OER Africa project, and in July 2015 as part of an OER-focused pre-

conference workshop related to the Distance Education and Teachers Training Association (DETA) conference in Mauritius. Once the instrument had been field-tested, it was adapted further based on this experience as a tool for reflection by members of the core ANU team. One of the revisions made to the instrument was the addition of an informed consent cover letter, explaining that completion and submission of the instrument was linked to this research process, and that the participant agreed to the use of the information provided as part of this process, but was guaranteed anonymity and the right to withdraw at any time. This was addressed as part of the ethical clearance process outlined below. The revised instrument, the OER Maturity Index, can be found in Appendix 3.

In addition to the write up of the visits and the findings of the survey, facilitated through a workshop-based approach at the start and towards the end of the research data collection period, instruments were sourced or developed for the review of materials incorporating OER to see whether the revised materials supported the kind of independent and engaged learning identified in Chapter 2 (see Appendices 3.3 and 3.4 and 3.5).

4.5 Defining the research community

OER Africa's work with ANU was initially focused primarily on supporting the Institute for Open and Distance Learning (IODL). The primary research community was therefore the IODL Committee: the cross-cutting IODL core team which guided the work of IODL. Membership of the IODL Committee varied as different departments, schools and faculties engaged with distance education approaches and as the understanding of distance education evolved.

The Mandate of the IODL Committee as approved by the Senate is as follows:

- To support the IODL in steering the activities and functions of distance and e-learning programs at Africa Nazarene University.
- To participate in Conferences, Workshops and Seminars related to distance and e-learning programs locally and internationally.
- To Introduce and discuss collaboration initiatives between ANU IODL and other related bodies within Kenya and beyond.
- To participate in strategic planning for the IODL in collaboration with the Quality Assurance office of ANU.
- To promote and support training initiatives conducted by the ANU IODL.
- To oversee the resources production processes as guided by the Commission for University Education of Kenya.
- To actively participate in marketing the academic programs offered by the ANU IODL.

- Advise IODL students at the beginning of every trimester and throughout the trimester.
- To attend all scheduled and impromptu IODL committee meetings.

In view of the seriousness of the above mandate, IODL committee membership is made up of individuals who are committed to the development of Distance and e-Learning modes at ANU as follows:

- Registrar/DVC
- Admissions
- Examinations
- Quality Assurance
- Marketing
- Library
- Finance
- Computer Information Systems
- Dean of Students Office
- IODL
- University Common Courses
- Bachelor of Commerce
- Bachelor of Mass Communication
- Bachelor of Education
- Bachelor of Counselling Psychology
- Bachelor of Drylands
- Bachelor of Religion
- Bachelor of Peace and Conflict
- Bachelor of Computer Science
- Bachelor of Community Development
- MBA
- MEd
- Short courses.

The candidate sought to ensure that at least one representative from each of the key interest sub-groups (management, IODL, teaching departments, support departments) agreed to engage with the

candidate in a parallel reflection process, but no limit was set on who might engage nor how many, so participation was largely based on self-selection and could change during the process.

4.6 Data collection methods and sources

Since the formal research process was part of a larger project with a longer time-frame, it is important to include a reflection on the activities leading up to and forming a foundation for the doctoral research focus, as an introduction to Chapter 5, as well as to suggest how the findings of the research process might inform subsequent practice.

In addition to and complementary to this study, a few OER-related research projects were to be initiated by ANU staff themselves and it was intended that over the course of 2015/2016, there would be a series of 'brown bag' sessions related to these studies. This study shares feedback and emerging lessons from these complementary research initiatives that relate to the core research questions and which have been cleared for sharing in this way.

In addition to the survey instrument discussed in Section 4.4, attempts were made to triangulate data collection by reference to relevant artefacts, which were requested from ANU and accessed during site visits, including:

- Policy documents
- Procedure documents
- Review reports
- Planning documents
- Curriculum and materials documents
- ANU OER publications ...

4.6.1 Existing ANU documents

The following existing ANU documents were made available to inform the engagement between ANU and OER Africa:

Africa Nazarene University. 2009. Proposed Institute of Distance Learning. Document presented to the Commission for Higher Education, October 2009.

The following programme documents were provided for review:

- Christian Ministry Certificates
- Diploma in Criminology
- Diploma in Peace and conflict studies
- BA in peace and conflict studies

- BEd ECD
- BEd Primary Education
- BEd Secondary Education
- BA Christian Ministries
- BCom HRM
- BSc International Business Management
- LLB
- MBA.

Most programme outlines followed the same structure as outlined below:

- General admission requirements
- General student assessment and examinations
- Philosophy/Rationale
- Programme aim/objectives
- Required courses
- Suggested units (and schedule)
- Unit outline
 - Purpose
 - Course objectives
 - Course contents
 - Teaching methods, e.g., lectures, group discussions, student presentations, field research and student journaling
 - Methods of evaluation, e.g., CAT 40% / SAT 60% [50%/50% for graduate studies]
 - Textbook/key resource(s)
 - Further reading/additional resource(s).

Several training manuals were provided for review, of which six (ranging in extent from 53 to 122 pages) were examined in more detail.

A variety of documents called “Blended medium of instruction and evaluation criteria” were also made available for review.

Facilitator’s Guide

Learners’ Orientation Package

Training manual for distance and e-learning

Examples of certificates provided for participation in various CPD activities organised by IDL

Examples of conference presentations developed by the IODL Director alone or in combination with other staff

Documentation related to current and possible collaboration agreements.

Africa Nazarene University website (www.anu.ac.ke)

Africa Nazarene University, Student Guide and Academic Handbook 2012

Africa Nazarene University Statutes, 8 October 2002

Policy document for the Institute of Distance Learning 2013 Revision

Africa Nazarene University Strategic Plan 2012 – 2017.

4.6.2 Documents created as part of the process of engagement

MoU between ANU and OER Africa 2013

OER Africa Reports on in-country engagements; August 2013, March 2014, September 2014, March 2015, November 2015, May 2016, November 2016

OER Africa minutes of meetings, draft discussion documents, convening presentations related to the wider OER Africa PAR project

ANU OER Policy

Revised study materials:

- UCC204 Christian Ethics
- UCC203 Introduction to Sociology
- BMC308 Research methods in Communication
- EDU400 Educational Administration
- Mentoring manual

ALARA 2015 Conference presentation and paper

ANU Case Study 2015

Draft funding proposal for materials to be developed/redeveloped as OER

Draft proposal, budget, ethics for hosting a national conference to launch a national association for ODeL

Joint OER Africa-ANU presentation to DayStar University 25 September 2014

Discussion documents related to an institutional business model

In addition, several workshops, focus group discussions and individual interviews were conducted and written up into formal reports, which were then available as resource documents for the research phase of the engagement.

4.6.3 Workshops

Workshops undertaken before the formal research process, but reports thereon available to the research process:

| | |
|-------------------|--|
| 7-8 August 2013 | OER orientation workshop |
| 10-14 March 2014 | Curriculum and materials development workshop integrating OER |
| 23 September 2014 | Activity-based materials development using OER |
| 26 September 2014 | OER Africa-ANU co-facilitated an OER and ODeL materials development workshop at Daystar University |

Workshops undertaken as part of the formal research process:

| | |
|----------------|--|
| 18 March 2015 | Quality assurance in general and of ODeL and OER in particular |
| 19 March 2015 | IPR, copyright and OER Africa Policy Toolkit |
| 17-18 May 2016 | OER Africa convening meeting. |

4.6.4 Focus group discussions

Focus group discussions undertaken before the formal research process, but reports thereon available to the research process:

| | |
|---------------|--|
| 5 August 2013 | Two focus group discussions on various aspects of distance provision involving representatives of Distance Learning Committee and including Senior management, Registrar/Registration, Admissions, Examinations, Quality Assurance, Marketing, Library, Finance, Communication and Information Sciences, Dean of Students' Office, IODL, University Common Courses, Academic Departments, Short Courses. |
|---------------|--|

| | |
|--|--|
| 6 August 2013 | Focus group discussions with eight facilitators of distance learning and three distance learning students exploring the same eight questions: Why choose distance learning? What is included in the study package for distance learning? How many face-to-face contact sessions are there and what happens during these sessions? What other student support is made available? What are the technology requirements and issues for distance learning? What are the assessment requirements, turnaround and feedback quality? What are the costs of distance learning? Are there any other important issues not covered above? |
| 6 August 2013 | Preliminary feedback group discussion on IODL review |
| 6 August 2013 | Paired interview with representatives of Communication and Information Sciences and Computer Sciences (from perspective of academic departments as well as cross-cutting ICT provision). |
| 22 September 2014 | Nineteen members of the IODL core committee participated in focus group discussions related to developments resulting from the August 2013 and March 2014 workshops, as well as engaging with the new OER Africa PAR agenda and whether and how ANU might participate. |
| 24 September 2014 | Focus group discussion with four ANU staff on ICT (infrastructure, LMS, website and online teaching) |
| | Two materials developers |
| | Two library representatives |
| | DVC and HoD Religion |
| 25 September 2014 | Focus group discussion on possible ANU PAR activities. |
| Undertaken as part of the formal research process | |
| 16 – 17 March 2015 | Focus group discussion on progress in mainstreaming OER integration and planning a PAR research agenda |
| 20 March 2015 | Quality assuring ODeL materials with materials developers and QA Director |
| 9 November 2015 | Focus group discussion with core IODL team |

| | |
|---------------------|---|
| | Researcher and Acting Head of IODL met with Director of Research regarding progress on draft ANU IPR policy |
| 11 November 2015 | Focus group discussion chaired by DVC academic and involving core IODL team on draft funding and conference proposals |
| 16 May 2016 | Focus group discussion with cross-cutting management team on ANU business model |
| | Focus group discussion on ANU business model with Administrative and Support Departments |
| | Focus group discussion with Academic HoDs and IODL |
| 20 May 2016 | Focus group discussion distance learning facilitators and materials developers |
| 21 November 2016 | Focus group discussion on conference planning |
| | Focus group discussion on proposed new business model |
| 23-24 November 2016 | Focus group discussions on three revised project goals. |

4.6.5 Individual interviews

Informal discussions with the initial IODL Director were ongoing throughout the process until she resigned and then with an Acting Director from March 2016. From July 2016, email and in-person discussions took place with the new IODL Director.

Individual interviews undertaken before the formal research process but reports thereon available to the research process

| | |
|-------------------|---|
| 6 August 2013 | Individual interviews with representatives of Admissions, Marketing, Examinations |
| 24 September 2014 | Representative of HR on ODeL HR planning and provision |
| | E-Learning designer on student learning journey management |
| | IODL Director |

Individual interviews undertaken as part of the formal research process

| | |
|-----------------|---------------------|
| 9 November 2015 | Acting Head of IODL |
| | DVC Academic |

| | |
|--------------------|--|
| | PhD student whose study focused on OER take-up by students at four Kenyan Universities |
| 10 November 2015 | New IODL e-learning advisor |
| 11 November 2015 | Director of Human Resources Director of Finance Director of ICT HoD Computer Sciences |
| 18 May 2016 | DVC Academic |
| 13-19 October 2016 | Study visit to RSA by new ANU IODL Director |
| 22 November 2016 | Director of Finance |
| 24 November 2016 | Assistant Director ICT Director IODL. |

4.7 Working for rigour and trustworthiness

As Lincoln and Guba (1985) observe, the challenge for conducting the kind of open-ended and process-oriented research followed in this thesis is that traditional means of establishing rigour and trustworthiness, such as internal and external validity, reliability and objectivity, do not fit well with either the purpose or the context. They suggest and explore five possible ways to “make it more likely that credible findings and interpretations will be produced” (p. 301), of which the following four were characteristic of this study: prolonged engagement, persistent observation, peer debriefing and member checking.

More recently, Ebersöhn et al. (2007, pp. 133-134), drawing on several sources, provide useful guidelines for rigour in action research which are now discussed in relation to the current study.

Strategies for credibility

It is suggested that meeting this criterion requires prolonged engagement in the field (*the candidate visited ANU once to provide an orientation to the PAR initiative and to invite participation and four more times during the PAR process*); involvement of participant researchers (*several ANU staff went on to explore aspects of OER integration in their own separate studies*); persistent observation (*the candidate had the opportunity to observe the changing profile of the IODL and its engagement with OER in particular*); collaborative development of an action research report (*attempts were made to*

report on the process in a collaborative way throughout the process); search for negative instances to challenge emerging hypotheses and relevant reformulation (constant comparisons were made); member validation (ANU participants were invited to provide feedback on the interim progress and visit reports as well as on the draft chapters of this study).

Strategies for transferability

Transferability of findings from the research setting (ANU) to other settings is promoted through detailed, rich descriptions of settings and process (*each chapter in the study is contextualised for ANU*) and sufficient information to judge applicability of findings to other settings (*regular working group meetings involving the institutional leads for the other three institutions involved in the initiative provided an opportunity for critical reflection and the refining of subsequent engagements*).

Strategies for dependability

The extent to which readers can depend on the findings is enhanced by a transparent chain of evidence, including documentation of data, methods, decisions and relationships (*comprehensive field notes, demonstrating presence and participation of all research partners and analytic induction, are all evident in the planning preceding visits and the reports on visits (as well as intervening communications)*).

Strategies for confirmability

The extent to which the findings of the study are confirmable is enhanced through processes of reflexivity and methodologically self-critical accounts (*Chapter 5 seeks not only to articulate what happened, but also the thinking that underpinned events and the concerns that were raised by each of the engagements with ANU*); critical examination of perspectives, positions and presence and verbatim accounts (*the candidate strove to make clear his/her own underpinning assumptions and to invite critical feedback and discussion throughout the process, including a reflexivity statement in Section 2.2.4*).

Strategies for authenticity

To ensure the authenticity of the findings, a number of strategies were employed which include the following: ensuring a range of different realities are represented (fairness) (*the candidate invited engagement with anybody wishing to make a contribution, including those who were sceptical or critical of OER and ODeL*); appropriate attention to research ethics (*ethical clearance was sought at the start through three processes, with ANU, Unisa and NACOSTI, participants were made aware of the study and the reporting processes, provided the possibility to withdraw at any time and had their identity protected*); a sense of intimacy was developed (*Chapter 5 is presented as a reflective narrative on what transpired during the process*); self-determination was encouraged (*the agenda for all*

engagements was negotiated and, as mentioned, several ANU staff embarked on their own related research initiatives); mutual understanding, empowerment and elevated levels of understanding (sophistication) were supported (each subsequent engagement with ANU built on what had gone before and, as will be noted in Chapter 5, the discussion and focus evolved from engagements with individuals interested to engage with OER on an individual basis, through to a consideration of the overall business model for the university).

The data has been stored on my personal laptop and backed up on an external drive.

The final thesis will be printed and one copy made available to ANU as required (see Appendix 1.2) but it will also be made available in a digital form.

4.8 Data analysis

Where data was collected from written documents and spoken interviews in which participants stated their opinions of various key issues of an open-ended nature, these were analysed to identify patterns leading to themes and questions that could then be pursued further in a hermeneutic spiral of enquiry.

4.9 Shortcomings and sources of error

In any study involving the thoughts and practices of human beings, there is always the possibility of misunderstanding, misinterpretation and conclusions being drawn from inadequate data. In addition, within the field of education it is notoriously difficult to establish simple cause and effect relationships.

Attempts were made to overcome these shortcomings by triangulating data and providing draft reporting and preliminary findings for comment within the community. In fact, a process of “crystallisation” (Nieuwenhuis, 2007, p. 81) is probably a better term to use than “triangulating”, since it could not be predicted at the start what shape the research and research findings would take. So rather than testing a simple hypothesis, the research involved an iterative process of trying to arrive at increasingly more nuanced understandings of a complex, multifaceted phenomenon.

An attempt is made in Chapter 6 explicitly to link the findings reported in Chapter 5 with the literature reviewed in Chapters 2 and 3, so that recommendations are both contextually-relevant and grounded in the literature.

Chapter 5: Process and findings

Social relationships, especially teacher-learner relationships, create new mental formations and develop the higher processes of mental life. Learning is a social process. A child's thinking (an internal matter) is the internalization of a set of relationships in real activity between the child and more competent others (an external, social matter). The speech of adults around the child, with its constant and defined meanings, determines the pathways of the development of children's thoughts and actions. The child finds her own mental complexes constructed in the process of coming to understand others' speech. Teaching is the social activity within which meaning is mediated to the learner, eventually to become her own internal thought processes. Teaching and learning, which are inseparable, and which sometimes seem to wait upon development, are in fact its decisive motive force. (Vygotsky, as cited in Moll et al, 2001, p. 196).

5.1 Introduction

This chapter explores the process of engagement with Africa Nazarene University and the findings about what was learned from the process in terms of OER and curriculum transformation. Consistent with the nature of learning as a process, as argued in the quotation that opens this chapter, it is important to note that the research reported on here is part of an unfolding conversation and not an isolated and discrete event, as illustrated in Figure 5.1:

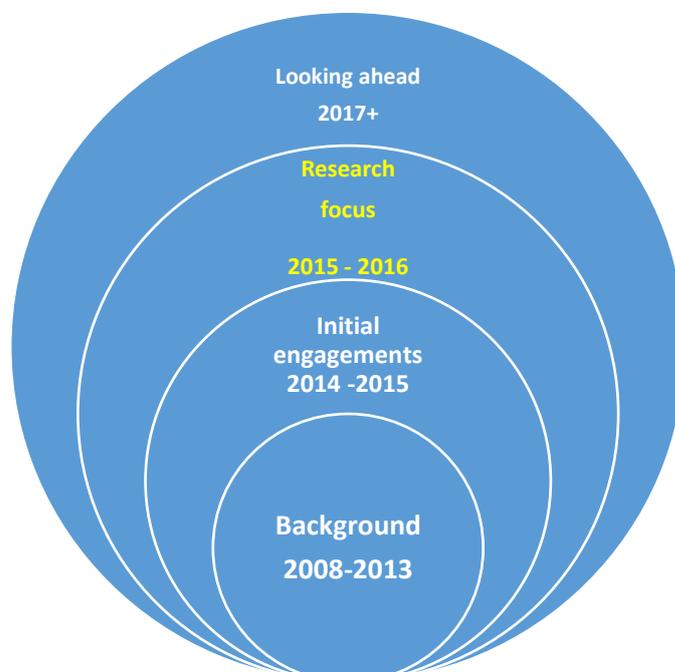


Figure 5.1: *Contextualising the research*

5.2 Initiating contact: 2013

ANU was one of the institutions that OER Africa contacted in the initial phase of the programme in 2008, but at that time the university was not focused on resource-based learning and did not feel the need to engage with OER. It was only with the increased demand for non-campus-based learning and the inception of an IDL, and subsequently IODL, that the university began to see the possible benefits of engaging with OER.

In 2013, ANU signed an MoU with OER Africa which outlined ways in which OER Africa could help ANU to explore the use of OER in support of its curriculum offerings.

Two in-country workshops were offered with some online follow-up support as follows:

- August 2013: A review of current ODeL provision and an orientation to OER
- March 2014: Curriculum and materials development for effective ODeL provision integrating OER.

5.2.1 Self-assessment process

Accordingly, in 2013 the candidate engaged with IODL at ANU in a review process based on the Nadeosa quality criteria (Welch & Reed, 2005). We followed a typical self-evaluation, site visit (including document review, observations and interviews) and review process and the findings and recommendations thereof were shared with ANU in the form of a focus group discussion and then a draft report for comment before finalisation. The following is a summary of the findings which are relevant for the purposes of this study and which constituted a baseline for subsequent engagement with ANU.

ANU were asked to reflect on their experience and to evaluate themselves on a four-point scale regarding the extent to which they felt they had met the relevant Nadeosa criteria and to provide evidence thereof. During the site visit, the candidate then verified the evidence, making further enquiries where it was felt necessary, and then also rated the extent to which the criteria had been met providing a short narrative rationale explaining the rating. The initial findings were discussed with the ANU team during the visit and the final report compiled and shared for comment over the following weekend. It should be noted that the ANU team did not rate themselves against all the criteria so in some cases only the candidate's 'consultant' opinion is recorded. This section provides a summary of key findings, comparing the self-evaluation and the consultant's evaluation (Mays, 2013b):

Policy and planning

| | | | |
|--------------------------|------------------------|-------------------------|-----------------|
| 4 - Exceeds requirements | 3 - Meets requirements | 2- Need for improvement | Does not comply |
| | | 2 consultant | |

No self-assessment rating. In many instances practice has outstripped policy and policy is focused more on traditional campus-based provision than on specific expansion of DE. It was difficult to get a sense of the scale of the planned expansion and the timeframe thereof as there seemed to be some disjuncture between what was said and what was written. The only policy document available for review was that for IDL.

Learners

| | | | |
|--------------------------|------------------------|-------------------------|-----------------|
| 4 - Exceeds requirements | 3 - Meets requirements | 2- Need for improvement | Does not comply |
| | 3 consultant | | |

No self-assessment rating. Data collected through student application forms seems appropriate and there is evidence that ANU is responsive to student needs. The new digital student system has the necessary degrees of security and it is already possible to pull off aggregated data – although not yet trends analyses.

Programme development

| | | | |
|--------------------------|-----------------------------------|-------------------------|-----------------|
| 4 - Exceeds requirements | 3 - Meets requirements | 2- Need for improvement | Does not comply |
| | 3 self-evaluation 3 consultant | | |

The processes for programme development are sound and comparable with best practice in other universities. It is important to ensure that there is equivalence in terms of provision of the same qualification across different modes of provision. The credit weighting in terms of student learning hours and expected level of performance needs to be consistent to prevent the DE version coming to be seen as a second-best option.

Course design

| | | | |
|--------------------------|-----------------------------------|-------------------------|-----------------|
| 4 - Exceeds requirements | 3 - Meets requirements | 2- Need for improvement | Does not comply |
| | 3 self-evaluation 3 consultant | | |

The processes for course design are sound and comparable with best practice in other universities. The course outlines cover the key issues although there is some variability of quality. It is important to ensure that there is equivalence in terms of provision of the same qualification across different modes of provision. The credit weighting in terms of student learning hours and expected level of performance needs to be consistent to prevent the DE version coming to be seen as a second-best option. Also, in developing in-course and assessment activities, it is important to cater for the two main types of student viz. inexperienced 18-24 year olds, the traditional audiences for full-time university education; and experienced, mature working adults, the most likely audience for DE provision. It is not necessary to have two versions but it is useful to include things like – If you are already in a workplace setting, you might like to ..., Compare ideas with a work colleague and/or fellow student ...

Course materials

| | | | |
|--------------------------|------------------------|-------------------------|-----------------|
| 4 - Exceeds requirements | 3 - Meets requirements | 2- Need for improvement | Does not comply |
| | 3 self-evaluation | 2 consultant | |

The manuals developed specifically for DE students are useful but do not yet make the best use of the medium in terms of developing a conversation and fostering student engagement. It was noted that the current manuals are variable in quality – and some seem to date back to 2009 without revision while others are not dated or versioned. Most manuals do not use activities and feedback to foster student engagement with the content.

Assessment

| | | | |
|--------------------------|------------------------|-------------------------|-----------------|
| 4 - Exceeds requirements | 3 - Meets requirements | 2- Need for improvement | Does not comply |
| | | 2 consultant | |

No self-assessment rating. There needs to be a clearer progression between in-course activities and feedback and the formal formative and summative assessment process. It is appropriate to retain the expectation that students in all modes of delivery complete the same or similar assignments but, as noted above, tasks should be set that take cognizance of the two quite different student populations. Monitoring of quality and turn-around time on Tutor Marked Assessments needs to be improved.

Learner support

| | | | |
|--------------------------|------------------------|-------------------------|-----------------|
| 4 - Exceeds requirements | 3 - Meets requirements | 2- Need for improvement | Does not comply |
| | 3 self-evaluation | 2 consultant | |

The provision of contact sessions and the fact that students can communicate with the institution, and make use of the library and computer centres on the satellite campuses between contact sessions is commendable. However, when both staff and students complain about system downtime, it is clear that more work needs to be done before migration to a fully e-learning mode can be considered. The migration to an e-learning form of provision will also require the development of alternative support mechanisms to a concentrated contact session – which many students do not in fact attend (and which lecturers do not always turn up for). It was also mentioned that DE students sometimes receive feedback on coursework in a very desultory fashion which indicates the need for a more effective and monitored submission and feedback system and the inclusion of automated self-assessment such as Multiple Choice Question databanks. Students also mentioned that the full-range of student services available was not clearly communicated.

HR strategy

| | | | |
|--------------------------|------------------------|-------------------------|-----------------|
| 4 - Exceeds requirements | 3 - Meets requirements | 2- Need for improvement | Does not comply |
| | | 2 consultant | |

No self-assessment information was supplied. Practice has outstripped policy with regard to HR. Key aspects of DE provision are not addressed in job descriptions, such as materials development and renewal, and in many ways the system is currently functioning on good will, with staff working odd hours for extra payment and doing things they had probably never imagined that academics would need to do. There is no clear work allocation process based on estimates of time required to perform different kinds of tasks and a clear need for more staff development with respect to developing learning resources for independent learning and using an increasingly digital management and teaching system.

Management and administration

| | | | |
|--------------------------|------------------------|-------------------------|-----------------|
| 4 - Exceeds requirements | 3 - Meets requirements | 2- Need for improvement | Does not comply |
| | 3 consultant | 2 self-evaluation | |

ANU has seen the need for devolved responsibility and authority much more quickly than many other traditional contact providers that venture into DE provision. There is a coordinating cross-operational team in place at the central campus, a management team in place in each study centre and QA processes that mirror those on the central campus. There is still quite a lot of paper-based work that might be more efficiently handled digitally but the ANU management information system (CAMS) is clearly a step in the right direction. Linking the study centres to the central campus via an internet-based video-conferencing system could also be used to bolster communication, problem-solving and decision-making and cut down on time-consuming trips between the various campuses. There is need to develop a resourcing model based on real time and cost however. The formation of the IDL is also laudable and the incumbent Director has done very useful foundations-building work in a

short time. However, in the absence of a clear strategic vision at an institutional level for ODeL provision going forward, it will be difficult for IDL to plan its own roles and functions optimally.

Collaborative relationships

| | | | |
|--------------------------|------------------------|-------------------------|-----------------|
| 4 - Exceeds requirements | 3 - Meets requirements | 2- Need for improvement | Does not comply |
| | 3 consultant | | |

No self-assessment rating. In addition to its faith and discipline related affiliations, ANU has established working relationships with other institutions through the Kenya Education network (KENET) and is exploring engagement with experienced DE providers through the ACDE. It is also part of a library networking system that will open access to more resources for learning, especially e-resources.

Quality assurance

| | | | |
|--------------------------|------------------------|-----------------------------------|-----------------|
| 4 - Exceeds requirements | 3 - Meets requirements | 2- Need for improvement | Does not comply |
| | | 2 self-evaluation 2 consultant | |

The general quality assurance procedures in place, and established in a very short space of time, are equally applicable in both contact and DE provision. Additional elements that will need to receive growing prominence are QA of DE learning resources and student/learning support. In the focus on HR going forward, attention will need to be given to ensuring that staff receive the necessary training and support to manage effectively the development and renewal of learning resources, the provision of timeous formative feedback and the provision of decentralised and increasingly online learner and learning support.

Results

| | | | |
|--------------------------|------------------------|-------------------------|-----------------|
| 4 - Exceeds requirements | 3 - Meets requirements | 2- Need for improvement | Does not comply |
| | | | 1 consultant |

No information was provided on this issue in the pre-visit self-assessment nor during the on-site visit. However, it is understood that distance education has not yet had its first cohort of graduates. There is a need to nuance general cohort analyses to compare performance across different modes of provision and across different target audiences. There is need to establish tracking systems that identify and support at-risk students. In DE provision, students often drop out before they even get to the final exam/summative assessment and there is therefore need to intervene early in the process. It is not clear that systems are in place to make this possible. (pp. 31-34)

What the review process made clear was that a foundation for distance provision had been established, but there was a lack of clarity on the strategic direction of ODeL provision. In addition, it was recognised that the current core learning materials needed to be revised. In this process, it seemed appropriate to engage with relevant OER.

5.2.2 Formulation of ANU short-term ODeL goals

In the second part of this first visit to ANU, the candidate facilitated an introductory workshop on OER.

The first day of the workshop explored the following questions:

- What are OER and where can we find them?
- How can we evaluate OER?
- How can we adapt OER?
- How can we publish OER?

- What are the emerging policy issues?

The second day then explored OER-friendly policy.

For many participants, this workshop was their first engagement with OER. After the workshop, many participants expressed interest in publishing their own study materials under an open licence and several subsequently sent draft manuscripts for review (listed in Chapter 4). The process was further strengthened following a curriculum design workshop in March 2014.

The following suggestions about ANU's short-term goals in taking forward its ODeL agenda arose collaboratively from this initial discussion (Mays, 2013b):

Strategic

1. Revisit the various planning documents to make clear the respective roles of the different modes of provision in the institution's planned growth path.
2. Re-evaluate the roles, functions and capacities of the IDL in relation to the projected growth path for pure distance as well as other non-traditional modes of provision that are resource-based.
3. Revisit the Human Resource (HR) and Intellectual Property (IP) policies to ensure there is clarity of expectations of staff with respect to flexible and distance delivery and the ownership of learning resources developed by staff.

Technical

1. Strengthen the ICT infrastructure to ensure 99% uptime for the ANU system to support both teaching and management.
2. Back-up the system daily both on and off-site.
3. Continue to work with KENET to negotiate with providers for cheaper hardware, software and bandwidth for students and staff.

Organisational

1. Develop a student performance tracking system.
2. Establish automated reporting of registration trends and differentiated cohort analyses.
3. Explore automated sms communication for key teaching and administration deadlines.

Pedagogical

Provide additional training for staff in:

- Activity design
- Materials development
- Finding, adapting, publishing OER
- DE administration
- E-learning
- E-tutoring. (p. 6)

5.3 Starting a new conversation: 2014

In August 2014, OER Africa's focus changed from a broad advocacy approach to a more focused PAR agenda, as outlined in Chapters 1 and 4.

During a workshop the candidate planned and facilitated in September 2014 (see Appendix 4.1 for the collaboratively agreed agenda), ANU was invited to be one of four institutions to participate in the new OER Africa PAR focus, which was in still line with the MoU signed in 2013. ANU agreed and the necessary processes for ethical clearance on the research aspect were initiated.

Based on this initial PAR engagement the following short-, medium- and long-term goals were identified through a participatory process (including use of an earlier version of the instrument included in Appendix 3), involving several focus group discussions and interviews and culminating in an inter-disciplinary focus group identified by ANU. However, it was acknowledged that in the PAR approach being pursued, goals would constantly be reviewed during the engagement (Mays, 2014a):

Summary of short-term goals

1. Approve IODL/OER Policy and publish as an OER
2. Publish first three revised IODL modules as OER
3. Publish a case study based on lessons from the first year of engagement on OER
4. Establish an OER presence on the ANU website: OpenANU
5. Establish a student tracking system
6. Develop a postgraduate ANU higher education teaching qualification
7. Publish at least one article.

Summary of medium-term goals

1. Publish at least three revised IODL modules as OER
2. Analyse data from student tracking system and revise learning support accordingly
3. Implement and evaluate postgraduate ANU teaching qualification
4. Host a conference to launch a national association
5. Review and update HR workload, promotion and reward systems based on literature and empirical evidence
6. Publish at least one article on each main learning and development thrust

Summary of long-term goals

1. Publish at least three revised IODL modules as OER
2. Co-host a 2nd conference
3. Publish a case study based on lessons from the project as a whole
4. Ensure that strategic plan 2018-2023 (and supporting policies, systems and budget) reflects the reality of a shift towards non-traditional modes of provision
5. Publish at least one article, M or D study based on the project. (p. 4-5)

5.4 Deepening the conversation: 2015-2016

With ANU now on board, a follow up visit was made in March 2015 (for the negotiated agenda, see Appendix 4.2). The first two days of the visit involved a review of progress made against the goals agreed in September 2014 and the identification of some practical action research projects to be undertaken by ANU staff. Day 3 explored issues of quality related to general ANU academic provision as well as the quality issues associated with ODeL and OER. The outcome of these discussions was a draft quality assurance process for materials development leading to OER publication. Day 4 explored

issues related to IPR and copyright and led to the realisation of a need to develop a wider IPR framework for ANU. Day 5 involved a reflection on materials development in process and an engagement with the executive management of the university, during which a strategy to incentivise the development of quality learning materials was identified as the most pressing concern. Because of these discussions, the short-term goals formulated in September 2014 were revised slightly, while the medium- and long term goals remained unchanged (Mays, 2015a):

Summary of revised short-term goals and progress

1. Approve IODL/OER Policy and publish as an OER (a policy was approved in January 2015)
2. Publish first three revised IODL modules as OER (at least 4 modules were in development)
3. Publish a case study based on lessons from the first year of engagement on OER (a draft was tabled and discussed and was to be updated accordingly)
4. Establish an OER presence on the ANU website: OpenANU (was under discussion)
5. Establish a student tracking system (ANU was busy trying to synchronise student data between its MIS CAMS and its LMS eNAZ)
6. Develop a postgraduate ANU higher education teaching qualification (this was in process using a participatory action research approach)
7. Undertake research related to the following:
 - a. Facilities to support distance students at regional centres
 - b. OER readiness within ANU
 - c. Comparative take-up of OER in four Kenyan universities
 - d. Evaluation of the impact of revised study materials incorporating OER.
8. Publish at least 1 article. (pp. 4-5)

It was observed that from the period after March 2015, progress on the agreed goals stalled. Two key stumbling blocks became clear:

1. Lack of budget provision to recompense materials developers (many of whom were part-time staff) who subsequently lost interest in the process
2. Absence of two key role-players, as the Director of IODL and the DVC Academic both went on sabbatical.

To support the forward momentum of the project, the candidate drafted and shared several discussion documents and sustained regular contact by email. In addition, a follow up visit was planned for November 2015. As with previous visits, a three-step process was employed. A draft work-plan was prepared and sent to ANU for comment. Activities and dates were negotiated and led to the final plan outlined in Appendix 4.3. The focus of this visit was not to offer capacity-building workshops as in the past, but rather to reflect on what had and had not been achieved regarding the planned goals and the factors that influenced this, to revisit planned goals as necessary and to undertake the

first round of staff-engagement data collection for a formal write-up of the process, as by this time we expected to have received the clearance certificate from NACOSTI.

The following resources were prepared to support the planned discussions:

- A PowerPoint overview of progress and planning
- An ethical clearance participation letter for the follow-up discussions with members of the IODL advisory board (see Appendix 3.1)
- A revised OER maturity index and planning tool (see Appendix 3.2)
- A draft IPR policy
- A draft funding proposal for seed funding for materials development
- A draft set of documents including a budget for the proposed hosting of a low-budget national conference
- Drafts of the first three chapters for this thesis and the outline of the fourth.

Key findings of this visit were summarised as follows:

That ANU had a staff member involved in formally researching OER, had successfully initiated a CPD programme using action research processes to reflect on and improve practice and had researchers and students currently engaged in exploring the possibilities of e- and m-learning were all cause for congratulation.

However, it also seemed clear that much of the momentum built up around OER in particular and ODeL in general had been lost since OER Africa's previous visit. This was considered both a testament to the sterling work that the IODL Director had previously done to try to unite diverse interests towards a common goal but also a reflection of the changed reality that ANU now found itself in with increased competition on the one hand and more stringent criteria from the Commission on University Education on the other, which had tended to focus more on the requirements for traditional campus-based provision than providing an imaginative framework for future more flexible provision.

It seemed timely then that the DVC Academic had asked for support in helping ANU to conceptualise a new business model in which future growth was premised on more flexible provision in niche areas. It was suggested that this should result in a draft report by end January and a hands-on workshop with key university management decision-makers early in 2016 to explore new possibilities. It was considered probable that IODL would continue to struggle to encourage staff to make appropriate use of eNAZ and to update learning resources until such time as there was a clear and sustained communication from the top that blended and distance learning constituted the new strategic direction of the university and that systems, procedures, budgeting and resourcing, conditions of service, performance appraisal and rewards and promotions would be adjusted accordingly. (Mays, 2015b, p. 20)

In response to the call from the DVC for support in developing a new business model, the candidate drafted a discussion document and course costing toolkit and sent them to the DVC for comment

during January 2016. It was intended that a revised version of this document would serve as the basis for discussion during the next visit.

Here is an overview of the contents of this discussion document (Mays, 2016a):

| | |
|--|----|
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| 2. Background and introduction | 5 |
| 3. Need for ODeL in Kenya: opportunities, constraints and implications | 7 |
| 3.1 Organising the provision of ODeL in the context of Kenya | 10 |
| 3.1.1. Clarifying degrees of openness | 10 |
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5.4.1 Factors impacting the mainstreaming of OER

As anticipated in Chapters 2 and 3, the kind of change in practices envisaged in mainstreaming engagement with OER as part of a wider curriculum and pedagogy transformation require sustained advocacy and support and the participation of willing champions who both inspire and support others in the process.

To understand the issues better, a subset of the wider ANU IODL interest group was invited to self-select for formal engagement with the research process. Six members agreed to participate, signed the informed consent clearance and completed the review instrument. The respondents include a representative of senior management (R6), two members of the support staff of IODL (R2, R4) and three academics from outside of IODL (R1, R3, R5). One representative of library services also participated, but did not return the completed survey form. Five of the respondents had been part of

the engagement with OER Africa since 2013, while the sixth (R4) was a new appointment. Tables 5.1 to 5.6 summarise the responses.

Table 5.1 summarises participants' understanding of OER and the ways in which they have engaged with OER in recent times.

Table 5.1: Summarising own understanding of and engagement with OER

| |
|--|
| <p>Define OER in your own words.</p> <p>R1: <i>They are resources that can be freely accessed, adapted without any fee or password and they are under creative commons.</i></p> <p>R2: <i>These are educational resources licensed using open licensing making them openly available for free.</i></p> <p>R3: <i>They are education resources that are availed online for teaching and learning purposes.</i></p> <p>R4: <i>Unrestricted (either legally or financially) accessible learning resources.</i></p> <p>R5: <i>These are open educational resources that are made available to the general public with no incumbrances of copyright issues.</i></p> <p>R6: <i>OER stands for Open Educational Resources. OER are resources that have been developed and made available under proper licensing in an "open" philosophy whereby other individuals or institutions may adopt and even contextualize and re-post for still others to use or adopt and adapt. OERs, while still under a licensing agreement are less restricted in their use than traditional copyrighted materials that require substantial payment for their use. The philosophy behind OER is that society at large—even the global community—will benefit by making information more accessible.</i></p> |
| <p>Explain how you have engaged with OER in the past six months, if at all.</p> <p>R1: <i>I have been making use of them in my study and sensitizing students on their use.</i></p> <p>R2: <i>I have read a number of ODeL resources to assist in the writing of a thesis. I have referenced quite a number in a concept paper I am yet to present.</i></p> <p>R3: <i>N/R</i></p> <p>R4: <i>I have not because I think the whole idea of OER is against the right principles of e-learning practice. E-learning should be <u>DYNAMIC</u>. Development of OER will make the learning <u>STATIC</u>.</i></p> <p>R5: <i>I have made them available on eNAZ for students to access them.</i></p> <p>R6: <i>As I am in full time administration here at ANU, I am not teaching on a regular basis. I have not taught a class in the past six months. However, I can say that I have been a consumer of OER in my research and publications during this time. Further, if I can reach back further than six months, to the last time I was regularly teaching, I can testify to challenging myself to develop a course entirely with free, open education resources, which I managed to do. There were no textbooks for the students to purchase at great expense. All the resources and readings used for the unit were open or at least available to any ANU student through the online resources to which the university had purchased access.</i></p> |
| <p>Outline your planned engagement with OER in 2015/2016, if at all.</p> <p>R1: <i>N/R</i></p> <p>R2: <i>I intend to use them for the purpose mentioned above.</i></p> <p>R3:</p> <ul style="list-style-type: none"> • <i>I plan to publish materials for OER</i> • <i>I plan to sensitize faculty members in the school of business to use and publish materials for OER</i> <p>R4: <i>I will attempt to sensitize against development of manuals.</i></p> |

R5:

- Find quality educational materials that are open
- Put them on my unit outline and eNAZ
- Make assignments based on them

R6: I am working with the IODL of ANU to guide the process of adoption of OERs among our faculty and students, in the implementation of OER policy and further policy on developing a viable business model for adoption of OER by the university as a whole.

The responses in Table 5.1 reflect a fair understanding of the key characteristics of OER and a willingness to engage with them among five of the six respondents. Perhaps not surprisingly, the respondent who seemed least well-disposed to the use of OER had not been part of the original engagement with OER Africa. The concern of this respondent seemingly resulted from a conflation of OER with the printed manuals developed for distance provision which had not been updated since first drafted.

Participants also completed the OER Maturity Index. This index (adapted from an EduCause tool for data analytics through a process explained in Section 4.4) was formulated as a general assessment of progress in mainstreaming use of OER. The scores along the six dimensions (Expertise, Policy and Procedure, Quality Assurance, Infrastructure, Culture and leadership, and Investment) were expected to differ depending on the department or immediacy of engagement with learning resources generally and OER in particular.

The index was intended to be used more than once and by multiple stakeholders as a stimulus to dialogue in the institution regarding the next steps needed to mainstream the use of OER. As noted in Chapter 4, it was first used in a group discussion process as part of the planning process for the new PAR agenda. The first and third parts of the instrument were subsequently adapted to focus more on individual reflections (see Appendix 3.2), but the maturity index part of the instrument remained unchanged after discussions within and outside of ANU. The logic of the template was that users first reflect on their own knowledge and experience; then they reflect on the extent to which the institutional environment is conducive to mainstreaming use of OER; and then these two reflections inform forward planning. The results of the initial engagement with the indicators, as contained in an institutional report that was reviewed and accepted by ANU, are included in Table 5.2.

Table 5.2: OER Maturity Index

| | R1 | R2 | R3 | R4 | R5 | R6 | Mean |
|---|----|----|----|----|----|----|------|
| 1. Expertise | | | | | | | |
| 1. We have a sufficient number of staff who know what OER are. | 4 | 4 | 3 | 1 | 2 | 3 | 2.8 |
| 2. We have a sufficient number of staff who know where/how to find OER. | 4 | 2 | 3 | 1 | 3 | 2 | 2.5 |
| 3. We have a sufficient number of staff who know how to evaluate OER. | 4 | 2 | 2 | 1 | 3 | 2 | 2.3 |

| | R1 | R2 | R3 | R4 | R5 | R6 | Mean |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-------------|
| 4. We have a sufficient number of staff who know how to adapt OER. | 4 | 2 | 2 | 1 | 3 | 1 | 2.2 |
| 5. We have a sufficient number of staff who are able to clear third-party copyright. | 1 | 3 | 1 | 1 | 4 | 1 | 1.8 |
| 6. We have a sufficient number of staff who are able to prepare resources for publication as OER. | 4 | 3 | 2 | 1 | 4 | 1 | 2.5 |
| <i>Mean Expertise: 2.3 (2014 group mean: 2.0)</i> | 3.5 | 2.7 | 2.2 | 1 | 3 | 1.7 | 2.3 |
| 2. Policy and procedure | R1 | R2 | R3 | R4 | R5 | R6 | Mean |
| 1. There are clear institutional policies and procedures regarding IP, copyright and plagiarism. | 3 | 3 | 3 | 1 | 2 | 4 | 2.7 |
| 2. There are clear institutional policy guidelines on how OER should be used and published. | 4 | 3 | 3 | 1 | 3 | 4 | 3 |
| 3. There are clear procedures, checks, balances and support for each stage of the OER life-cycle (find/evaluate/adapt/clear copyright/publish/use/revise) | 2 | 3 | 2 | 1 | 2 | 2 | 2 |
| 4. HR recognition, support and rewards support quality learning resource development in general and use of OER in particular. | 2 | 2 | 2 | 1 | 1 | 1 | 1.5 |
| 5. ICT policies and processes support quality learning resource development in general and use of OER in particular. | 5 | 3 | 4 | 1 | 3 | 4 | 3.3 |
| 6. There are ICT policies and procedures for backing up, archiving, versioning and reversioning learning resources. | 2 | 3 | 3 | 1 | 2 | 2 | 2.3 |
| <i>Mean Policy & Procedure: 2.4 (2014 group mean: 3.2)</i> | 2.7 | 2.8 | 2.8 | 1 | 2.2 | 2.8 | 2.4 |
| 3. Quality assurance | R1 | R2 | R3 | R4 | R5 | R6 | Mean |
| 1. There are staff dedicated to quality assurance who are also knowledgeable about OER and related issues. | 4 | 3 | 2 | 1 | 2 | 2 | 2.3 |
| 2. There are quality guidelines and processes to ensure programmes are designed which are coherent and fit for purpose including ensuring equivalence of provision across different modes – campus-based/part-time/school-based/distance ... | 2 | 4 | 2 | 1 | 3 | 2 | 2.3 |
| 3. There are quality guidelines and processes to ensure that learning resources for constituent courses are fit for purpose including ensuring equivalence of provision across different modes – campus-based/part-time/school-based/distance ... as well as addressing issues of level of demand, interactivity, sequencing and progression. | 2 | 3 | 2 | 1 | 3 | 2 | 2.2 |
| 4. There are quality guidelines and processes to ensure that assessment strategies are valid, reliable and equivalent across different modes of provision. | 2 | 3 | 3 | 1 | 3 | 2 | 2.3 |
| 5. There are processes and procedures to ensure the clearance of third party copyright in all learning resources. | 2 | 2 | 2 | 1 | 3 | 2 | 2 |
| 6. Feedback from key stakeholders such as learners, teachers, external examiners, employers and professional bodies is demonstrably fed back into quality improvement of programmes, courses and learning resources. | NR | 2 | 2 | 1 | 3 | 3 | 2.2 |
| <i>Mean Quality Assurance: 2.2 (2014 group mean, 3.6)</i> | 2.4 | 2.8 | 2.2 | 1 | 2.8 | 2.2 | 2.2 |
| 4. Infrastructure | R1 | R2 | R3 | R4 | R5 | R6 | Mean |
| 1. Staff and students have access to sufficient ICT software, hardware and ongoing support to develop and use learning resources that are increasingly digital in nature. | 4 | 4 | 4 | 1 | 1 | 5 | 3.2 |
| 2. Plagiarism software is available and is used to scan content developed by both students and staff. | 5 | 5 | 4 | 1 | 5 | 4 | 4.7 |
| 3. The systems for backing up, archiving, versioning and reversioning learning resources are functional and robust. | 2 | 3 | 3 | 1 | 4 | 4 | 2.8 |
| 4. Specialist multi-media development capacity is available and sufficient for projected growth in the use of digital learning resources. | 4 | 4 | 3 | 1 | 4 | 4 | 3.3 |
| 5. There are policies and procedures that specify rights and privileges regarding access to institutional and individual data and resources. | 2 | 2 | 2 | 1 | 3 | 3 | 2.2 |

| | R1 | R2 | R3 | R4 | R5 | R6 | Mean |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-------------|
| 6. We have sufficient capacity to store, manage, route, analyse and monitor large volumes of data, resources and student queries and assessment. | 2 | 3 | 4 | 1 | 2 | 3 | 2.5 |
| <i>Mean Infrastructure: 3.1 (2014 group mean 3.6)</i> | 3.2 | 3.5 | 3.3 | 1 | 3.7 | 3.8 | 3.1 |
| 5. Culture and leadership | R1 | R2 | R3 | R4 | R5 | R6 | Mean |
| 1. Our senior leaders are publicly committed to the use of quality resource-based learning approaches in general and to use of OER in particular. | 5 | 4 | 3 | 1 | 2 | 4 | 3.2 |
| 2. We have a culture that recognises that education and the sharing of intellectual property are desirable things. | 4 | 4 | 3 | 1 | 1 | 3 | 2.7 |
| 3. Our internal quality assurers understand and support the appropriate use of appropriate OER. | 4 | 2 | 3 | 1 | 2 | 3 | 2.5 |
| 4. Our external quality assurers understand and support the appropriate use of appropriate OER. | 4 | 3 | 2 | 1 | 2 | 3 | 2.5 |
| 5. Our faculty largely understand and support the appropriate use of appropriate OER. | 4 | 3 | 3 | 1 | 3 | 2 | 2.8 |
| 6. Our students largely understand and support the appropriate use of appropriate OER, including resources they might have developed themselves. | 4 | 2 | 3 | 1 | 2 | 2 | 2.3 |
| <i>Mean Culture & Leadership: 2.6 (2014 group mean 3.7)</i> | 4.2 | 3 | 2.8 | 1 | 2 | 2.8 | 2.6 |
| 6. Investment | R1 | R2 | R3 | R4 | R5 | R6 | Mean |
| 1. Our funding level for quality curriculum and resource development is sufficient to meet our current needs. | 2 | 3 | 2 | 1 | 1 | 2 | 1.8 |
| 2. Funding for the sourcing/adaptation/development of quality learning resources is seen as a necessary investment (rather than as a cost to be subsidised by unpaid overtime). | 4 | 3 | 2 | 1 | 1 | 1 | 2 |
| 3. We have an appropriate number of staff involved in the development of quality curriculum and supporting learning resources. | 4 | 4 | 2 | 1 | 3 | 1 | 2.5 |
| 4. We invest in training related to curriculum and learning resource development including the use of OER. | 4 | 3 | 2 | 1 | 4 | 4 | 3 |
| 5. Our ICT support staff are sufficient in number and expertise to support progression to increasing use of digital resource-based learning. | 2 | 4 | 3 | 1 | 1 | 3 | 2.3 |
| 6. We make provision for processes of planning, developing, trialling/piloting, monitoring and regular curriculum and learning resources review and revision. | 4 | 2 | 2 | 1 | 2 | 1 | 2 |
| <i>Mean Investment: 2.4 (2014 group mean 3.2)</i> | 4 | 3.2 | 2.2 | 1 | 1.8 | 2 | 2.4 |
| Overall maturity index (across the six reviewers) (2014 group mean 3.2) | | | | | | | 2 |

Despite the generally positive awareness and use of OER by five of the six respondents, there was clearly a need now for further advocacy and support if the use of OER was to become a mainstream practice. It is noted that the ratings are down across all but one of the indicators between the initial group planning engagement in September 2014 and the individual reflections in November 2015. The negative response to or lack of awareness of OER carried through into this analysis by Respondent 4 was considered highly problematic for mainstreaming use of OER given the support role this person played in guiding others. It suggested the need for the institution to clarify its stance regarding OER and then to articulate how this should influence its orientation, induction and materials development support processes.

The third part of the review focused on identifying and prioritising how OER could be developed moving forward, and is summarised in Table 5.3.

Table 5.3: Steps to improve in each dimension

| |
|--|
| <p>R1: N/R</p> <p>R2:</p> <ul style="list-style-type: none"> • <i>Constant training and awareness programs</i> • <i>Policies that define quality learning and quality criteria</i> • <i>Have staff responsible for ensuring that modules are of quality</i> • <i>Investing in OER.</i> <p>R3:</p> <ul style="list-style-type: none"> • <i>Sensitise and train faculty and non-faculty members on OER</i> • <i>Come up with clear policy document on preparation, payment, ownership and the recognition of the publication effort.</i> • <i>Come up with quality guidelines in conjunction with CUE.</i> • <i>On investment, the university should invest more on research and OER resources.</i> <p>R4: N/R</p> <p>R5: N/R</p> <p>R6: N/R</p> |
|--|

The limited responses in this seem to support the concerns raised previously. In the fourth section, participants were asked to describe their vision for the use and value of OER by 2018 (Table 5.4).

Table 5.4: Planned implementation

| |
|--|
| <p>Vision 2018. Describe your vision for 2018 in relation to use of OER and impact thereof:</p> <p>R1: N/R</p> <p>R2: <i>All units taught through DL at ANU having creative quality modules in an OER repository. This will mean more DL students as the OER will offer tangible benefits to student success and retention.</i></p> <p>R3: <i>To have OER resources being used by over 50% of the university students.</i></p> <p>R4: N/R</p> <p>R5: <i>to go fully with OERs, have courses that are fully OER-based.</i></p> <p>R6:</p> <ol style="list-style-type: none"> 1. <i>1500 students enrolled in Distance Learning and fully online programs, heavily dependent on technology that makes use of OERs</i> 2. <i>All faculty in all programs trained and effectively making use of OERs (even face to face courses)</i> 3. <i>A full set of learning materials for every program offered in DL mode that have been properly vetted, authorized for use by the university and published openly for others to see and make use of.</i> 4. <i>ANU making a contribution back to the academic world through others making use of our OERs</i> 5. <i>Creative Commons licensing being effectively understood and used.</i> |
|--|

6. Collaborative research being done by ANU faculty and others around the world in the development of OERs

We note here that all respondents see a possible role for OER in both contact and distance provision, for research purposes and for collaborative open practice.

Based on this broad vision, participants were asked to break the vision down into specific goals and interventions, over a period. The findings are presented in Table 5.5.

Table 5.5: Key goals and interventions required

| To achieve the vision, identify the key goals and interventions necessary: | |
|---|--|
| 2017-2018 | <p>R1: <i>Go out and conduct workshops on OER use.</i></p> <p>R2:</p> <ul style="list-style-type: none"> • <i>Review modules that had been written.</i> • <i>Write more modules.</i> • <i>At least ¾ of all the units offered to have modules by 2018.</i> <p>R3: <i>Train people/faculty on the development of OER materials and continuous review and improvement.</i></p> <p>R4: N/R</p> <p>R5: <i>utilize OERs</i></p> <p>R6:</p> <ul style="list-style-type: none"> • <i>Completed first cycle of OERs for all DL/Online programs.</i> • <i>Review staffing of IODL.</i> • <i>Increased research output in relation to OER</i> |
| 2016-2017 | <p>R1:</p> <ul style="list-style-type: none"> • <i>Conduct a study on lecturers' utilization of OER</i> • <i>To sensitize students and lecturers on the use of OER</i> • <i>To develop OERs myself in my area of study.</i> <p>R2:</p> <ul style="list-style-type: none"> • <i>To increase the production and uptake of the OERs in all forms.</i> • <i>By end of 2017, at least half the total units offered should have the modules.</i> <p>R3: <i>Sensitise students and faculty on the need for use of OER platform.</i></p> <p>R4: N/R</p> <p>R5: <i>Identify OER</i></p> <p>R6:</p> <ul style="list-style-type: none"> • <i>Continue with the development and adoption and adaptation of OERs.</i> • <i>Review staffing of IODL.</i> • <i>Improve the bandwidth of ANU.</i> • <i>Improve the power stability of ANU (purchase of higher capacity generator)</i> |

| | |
|------------------|---|
| | <ul style="list-style-type: none"> • <i>Improve the technology infrastructure of ANU on which DL/Online classes operate</i> |
| 2015-2016 | <p>R1: <i>To conduct my study on utilization of OERs for academic use.</i></p> <p>R2:</p> <ul style="list-style-type: none"> • <i>Create OER awareness. All faculty should appreciate OER.</i> • <i>Ability to adapt OERs to local conditions through training.</i> • <i>Encourage faculty to write a few modules. Produce a few as pilot project, perform thorough quality checks on the few, have peers review the release at least 10 by the end of 2016.</i> <p>R3:</p> <ul style="list-style-type: none"> • <i>Help the university come up with a policy document on OER.</i> • <i>Help the university come up with a sustainable OER model.</i> • <i>Help the university appreciate research and publication</i> <p>R4: N/R</p> <p>R5: <i>Identify courses</i></p> <p>R6:</p> <ul style="list-style-type: none"> • <i>Develop a more effective reward system/business model for the development of OER materials and their implementation.</i> • <i>Begin seriously the development and adoption and adaptation of OERs</i> • <i>Make the potential for developing and use of OERs a key criteria in the hiring process of new faculty.</i> • <i>Make the potential for developing and use of OERs a key criteria in the hiring process of new QAO.</i> • <i>Migrate to one ERP for all administrative functions and ensure that eNAZ is fully integrated into it.</i> |

The goals outlined in Table 5.5 follow logically from the previous vision statements and confirm the findings from previous studies, that take-up of OER requires that attention be paid to wider systemic issues such as policy, costing and budgeting, continuing professional development, ICT infrastructure and quality assurance (Butcher & Hoosen, 2011; De Hart et al., 2015; OER Africa, 2012).

Finally, participants were asked to do detailed planning for 2015/16 (Table 5.6).

Table 5.6: Detail of what needs to be done, how and by whom in 2015-2016

| Objective | Activities | Responsible | Accountable | Resources | Start/End |
|---|------------------------|-------------|-------------|-----------|-------------|
| 1.1 To develop policy on publication of OERs and learning resources | Drafting | IODL | ANU | Time | Nov15-Nov16 |
| 1.2 To merge workload and preparation of resources | Re-draft/re-look at it | HR | ANU | Time | Nov15-Nov16 |

| Objective | Activities | Responsible | Accountable | Resources | Start/End |
|--|---|--|------------------------------|-----------------------------------|---|
| 1.3 To train people on CC and publication and preparation of OERs | Workshops/conference | OER Africa | OER Africa | Funds | Nov15-Nov16 |
| 2.1 Create awareness | Training of lecturers | IODL | IODL Director | | 2015-2016 |
| 2.2 Engage faculty in producing OERs | Writing modules | IODL and academic department | IODL and academic department | | 2015-2016 |
| 2.3 Ensure quality resources are produced | Checking complete resources | Academic departments, library, IODL | Academic department | | 2015-2016 |
| 3.1 Prepare an IPR policy document | Discussion, actual writing and review | IODL materials development coordinator | | | |
| 3.2 Appreciation of OER publication | Support and HR policy | DVC Academic, HR Manager | | | |
| 3.3 Invest more resources in development of OER resources | Allocate more funds | Finance and Senate | | | |
| 5.1 To design a business model | Introduce business model | Tony Mays | Tony Mays | | Nov 2015 |
| 5.2 To design policy that supports the model | Write a policy | IODL Director | ANU | | Nov 2015 – Jan 2016 |
| 5.3 Capacity-building for writers/module writers | Do capacity-building | Tony Mays | Tony Mays | | Non 2015 – Nov 2016 |
| 5.4 Research on performance of DL learners | Research on DL learners' performance | IODL Director | IODL Director | | Non 2015 – Nov 2016 |
| 5.5 Develop quality criteria for online resources | Quality criteria | Tony Mays | Tony Mays | | Nov 2015 – Nov 2015 |
| 6.1 Develop and adopt a more effective reward system/business model for the development of OER materials and their implementation. | 1. Tony developing a first draft 2. Two sessions of discussion to finalize 3. Approval by Management Board | Tony Mays IODL Director DVC | DVC | Time | 12/2015 to 03/2016 |
| 6.2 Begin seriously the development and adoption and adaptation of OERs: Four (4) modules completed | 1. Approve and submit the grant proposal for support for model modules to be developed. 2. Identify and Assign those modules to be written 3. Conduct the review process as according to the grant proposal | IODL Director DVC Department Chairs and IODL IODL | IODL Director | Financing from the grant proposal | Completed 1 year from the submission of the grant proposal. |

| Objective | Activities | Responsible | Accountable | Resources | Start/End |
|---|--|-----------------------------------|-------------|------------------------------|--|
| 6.3 Make the potential for developing and use of OERs a key criteria in the hiring process of new faculty and QAO | Integration of DL and online related questions into the interview guide | DVC | DVC | None | Immediate and continuous |
| 6.4 Migrate to one ERP for all administrative functions and ensure that eNAZ is fully integrated into it | Draft the proposal Submit the proposal for approval of Management Board Implement the change | DVC ICT Finance | DVC | Cost of the transition | 01/2016 to 06/2016 |
| 6.5 Review staffing of IODL | Collect Data on enrolment trends in DL offered programs | IODL and HR | IODL | None | By end of 2016 |
| 6.6 Improve the bandwidth of ANU | Do comparative analysis of bandwidth per student of other universities Set target for improvement of bandwidth Make arrangements for bandwidth | ICT Finance | ICT | Data from other universities | By 06/2016 By 06/2016 By 06/2017 |
| 6.7 Improve the power stability of ANU (purchase of higher capacity generator) | Consult with Kenya Power Purchase new generator for main campus Do more cloud hosting of ANU services | ICT Procurement ICT | DVC | Money | By end of 2017 |
| 6.8 Improve the technology infrastructure of ANU on which DL/Online classes operate | ? | ICT | ICT | ? | By end of 2017 |

Note: In Table 5.6, specific names have been replaced by titles, with the exception of the candidate.

From the ideas presented in response to Part 4 (Table 5.5), it seemed clear that while there was the beginning of a commitment to and a process towards developing a new business model in which use of OER would be mainstreamed, at a management level, more work and support was needed for this to influence actual practice.

5.4.2 Follow up and convening meeting

The May 2016 visit to ANU coincided with an OER Africa convening meeting. It also coincided with a mid-term formative evaluation process involving visits to ANU by an external evaluator and a representative of the project funder. The negotiated draft work-plan for the visit is provided in Appendix 4.4. The discussion in this section focuses on the candidate's work rather than the evaluation work. The narrative presented here was developed specifically for this study but a draft was shared

with ANU prior to inclusion in the form of a Report (Mays, 2016b). In the version included below, the names of any ANU individuals have been removed where appropriate.

Days 1 and 5 were spent on the ANU campus in Ongata-Rongai. Due to traffic and rain delays, Day 1 started later than planned. A five-part discussion was mediated through a PowerPoint presentation. The presentation and discussion were based on the business model discussion documents shared prior to the visit. The purpose of the first session was to provide a shared base of common concepts and issues as the basis for focus group discussions that were to follow.

The following issues were identified by participants as key to shaping future practice at ANU:

- Consideration of how pedagogic/andragogic/heutagogic/metagogic assumptions shape practice
- Increasing trend towards problem-based and constructivist approaches
- A need to think more about wider graduate competences and increasing learning autonomy
- Increasing demand for just-in-time skills-based learning and/or short learning programmes, rather than long degree programmes
- Increasing affordances of ICT, but often internet and/or LMS is unstable and increasingly hard to access away from main centres
- Team approaches are needed in the design and development of more flexible and open, distance and e-learning approaches – upfront design and development costs that need to be properly costed and recouped from fees
- Even where decentralized contact sessions have been offered for distance learners, attendance has been low, suggesting that this is not the most appropriate way to support such learners
- In a situation in which staff have multiple commitments, staff will tend to prioritise campus-based and immediate concerns, rather than the needs of off-campus students
- An increasing number of students are employed and need support after normal university / work hours
- Materials development and other aspects of quality distance provision do not inform current budgeting, but will need to do so if this is a key growth strategy for the future
- Each different mode of provision – contact, part-time, school-based and ODeL – places different demands on staff and the HR implications need to reflect this – combining a contact and a distance education class may make sense on a financial spreadsheet, but is ultimately not sustainable because of the incompatible demands it places on staff

- The data analytics capabilities of an LMS can and should be used to identify areas in which individual students may be struggling and to intervene pro-actively – thus creating increasingly personal learning journeys
- There is a need to do financial scenario planning to work out break-even, viability and sustainability issues before investing in design and development of new educational offerings – this must include the costs of monitoring, evaluation and renewal.

Following the plenary discussion, three focus group discussions were organized.

- Focus Group 1 comprised 11 ANU support staff representing the Departments of Finance, Marketing, Admissions, Media and Registration.
- Focus Group 2 comprised 10 ANU academic staff (mostly at HoD level) representing the Departments of IODL, Mass Communication, Peace and Conflict, Environmental and Natural Resource Management, MBA, Counselling Psychology and Quality Assurance.
- Focus Group 3 comprised 15 full-time materials developers and distance learning providers representing Computer Science, IODL, Library/Information Literacy, Library/Information Literacy & Research Methods, Business School/HRM & Quantitative Studies in Business, Religion, Education/Educational Administration, Community Development/Personal Health, IODL, Education/Human Growth, Education, V Calc and Quality Assurance.

The following questions informed the Focus Group discussions:

1. What are the current trends in terms of demand for ANU's services – programmes and modes? And what do we anticipate regarding future demand?
2. Should all programmes be offered in all modes or should we differentiate? If so, how?
3. What does a SWOT analysis of ANU's existing systems suggest regarding readiness to respond to 1 and 2?
4. Does our current costing model need to change? If so, how?
5. How can engagement with OER contribute?

The responses of the three focus groups to each of the five questions are summarised below.

What are the current trends in terms of demand for ANU's services – programmes and modes? And what do we anticipate regarding future demand?

Group 1 observed that from an enrolment high of approximately 4,500 students in 2014, there were 3,782 students in the previous trimester of whom 782 were distance and about 1,000 were school-based. There continued to be a significant decline in school-based student numbers, because, it was thought, the focus of CPD for teachers had moved from certificate to diploma and degree studies.

It was reported that 50% of enquiries were business-related and that most of these related to the MBA. This marked a growing trend in demand towards postgraduate and part-time studies also evident in the 50% of non-business enquiries.

It was noted that students had multiple commitments and often skipped semesters.

It was suggested that the Kenyan higher education market had become saturated with providers and that future growth might lie beyond Kenya's borders, e.g., South Sudan, in fields such as Mass Communication and International Business.

It was anticipated that the decline in demand for campus-based provision for the traditional 18-24-year-old market would continue but that there was potential for further growth among mature learners following distance learning and mediated through ANU's moodle-based LMS, eNAZ.

Group 2 also observed an increasing demand for postgraduate provision and declining demand for undergraduate programmes and predicted a growing demand for short learning programmes related to continuing professional development and graduate competences that could be applied immediately. It was reported that there was growing demand from those already in the workplace for whom part-time evening classes and ODeL were more convenient modes of provision. There had been significant growth in demand for Peace and Conflict studies through distance learning and Mass Communication. There had been a worrying decline in demand for programmes in the Natural Sciences, Veterinary Sciences, Agriculture, Mathematics, etc. It was felt that with more than 60 HEIs now operating, ANU would need to find a new competitive niche. It was noted that while distance provision had continued to grow, the rate of growth was slow.

It was suggested that potential new markets existed outside of Kenya, and that there was growing demand for e-learning opportunities in East Africa more generally. It was suggested that Psychology and Counselling were potential growth disciplines, especially at Masters level. However, it would be necessary to improve the quality of ANU's ODeL provision in terms of learning resources, e-tutorial support and use of data and learning analytics. It was felt that there had been a growing disconnect between distance learning providers within ANU, the IODL office and the part-time tutors with, in some instances, up to five weeks passing with no interaction between the various role-players.

Group 3 noted the decline in demand for campus-based provision, but indicated the following potential new programme possibilities based on a responsive institutional approach:

- Marketing and activating the already approved programme in Urban Ministries
- Blue collar or Technical and Vocational Education and Training (TVET) programmes at Certificate and Diploma level
- Finding a niche programme in the field of health/medicine, such as Health Systems Management through distance learning
- Computer Science programme in ICT Security and Forensics
- Education bridging programme from primary certificate to diploma; and
- Three-month CPD programmes in partnership with the Ministry of Education, including support for development of primary curriculum content and ICT for educators
- Leadership training related to security issues
- Lifelong-Learning programme for wives of pastors.

Should all programmes be offered in all modes or should we differentiate? If so, how?

For **Group 1**, in general, the answer to the first question was no. It was noted that some potential students were looking for informal skills-based learning and WIL. Some potential audiences (e.g., teachers) were very price-sensitive and competitors had been able to offer similar programmes at lower fees. In general, there had been a decline in demand for full degree programmes, which was expected to continue. There was a growing expectation that programmes should be ICT-mediated as access improved, especially in Masters through distance learning.

Group 2 suggested that ODeL provision was not well understood at senior management level, at lecturer level, by students and by regulatory bodies. Thus marketing, needed to include advocacy and orientation regarding the mode of provision.

It was observed that the overall potential pool of new students kept growing with 600,000 learners completing high school in the previous year – representing a potential pool of 10,000 students for each institution. The question would then be what differentiated institutions from one another and what the attraction would be to study through ANU.

Group 3 noted that some students already chose to move from one mode of provision to another. It was noted that there was no rebate to students for moving from a high cost mode like contact provision to a lower cost mode like distance learning, but students wishing to move from distance to contact would need to pay the contact fees.

It was noted that programmes with a practical/workplace-based component could be offered in the form of a blended block programme, for example, students might study the theory through distance for two months, be resident on campus for two weeks for intensive practical sessions and then move into two-week work-placements where necessary.

It was noted that Law programmes were not allowed to be offered online, but that the University Common Courses that formed part of the Law programme curriculum could be offered online.

The revised school-based distance learning programme was outlined. It was noted that it would need to be costed; that depending on distance, it might be cheaper to recruit and train local part-time support staff than to send staff from the centre for the face-to-face components; and that requiring a weekly online engagement would provide a means of tracking student engagement in the self-study and report phases.

What does a SWOT analysis of ANU's existing systems suggest regarding readiness to respond to 1 and 2?

For **Group 1**, strengths included ANU's early adoption of ICT and the creation of an IODL, which other institutions had shown interest to learn from. Weaknesses included the wide diversity of use of eNAZ by different faculties with Religion/Theology being more active users; but a tendency in some cases to use eNAZ to dump content, including copyrighted content, rather than to create coherent and interactive learning pathways. It was suggested that distance learning had grown too fast and that many/most faculty were not experienced in this modality. Opportunities included declining costs of technology creating the possibility to bundle technology, such as tablets, into certain kinds of programmes. Another opportunity was the possibility of government-sponsored student loans even for study at private universities. A key external threat was the growing number of more agile competitors.

For **Group 2**, the internal strengths were that the eNAZ platform had been established and was operational; that a CPD process had been initiated to encourage lecturers to improve teaching; that ANU retained a uniquely faith-based and character-building ethos; and that 5-8 modules had been reconfigured for improved ODeL provision. However, weaknesses identified were: too little investment in materials development and support for off-campus learners; lack of an integrated and properly-resourced QA framework and system; and unstable internet in terms of bandwidth and access. It was noted that if it was difficult to maintain speed and access on-campus, it would be very difficult to roll out an ICT-based approach off-campus and especially to more rural/distant communities. Opportunities included the increasing overall demand for higher education and demand in external markets. Threats included the increasing competition; lower fees charged by some

competitors for similar programmes; lack of product differentiation and a regulatory system unsupportive of flexible modes of provision.

It was felt there was need to strengthen ANU's internal QA systems – this would require an audit of current practices and the development of new policy and procedural guidelines to cover all aspects of provision.

Group 3 felt that ANU's strengths were its ICT infrastructure, its eNAZ platform, the IODL and the various training sessions that had been availed. Weaknesses reported included: need for clearer roles and responsibilities between IODL and Departments offering distance learning – the former should deal with ICT and administrative issues and the latter should deal with academic issues. Some regional centres were thought to be understaffed. Timing issues and the knock-on effect of not meeting agreed deadlines was also a problem. Over-centralisation of administrative rights regarding logins and passwords resulting from system updates or forgotten or expired passwords was indicated as a problem for distance provision – it was reported that it might take up to five days to be resolved at the centre and more if bank verifications of payments were required. It was reported, however, that IT were considering these issues. It was noted the delays in re-establishing access resulted in students being unable to upload assignments by the due date and then having their assignment submissions rejected because they were late. It was noted that many students did not make use of the gmail account created by ANU and so orientation needed to show students how to forward email. It was noted that two weeks into the current semester, resources had not been uploaded for some modules.

Does our current costing model need to change? If so, how?

For **Group 1**, the costing of distance learning provision had not been very sophisticated and unexpected costs had then needed to be addressed such as tutors and materials renewal. It was felt that Faculty had become demotivated and were increasingly unwilling to develop supplementary learning materials even for contact provision. In general, fees had been set based on tuition only, as well as benchmarking among competitors, but did not take account of the costs of materials, managing the LMS, or support for managing throughput. Some preliminary costings by Finance suggested that to cover the costs of quality distance provision, ANU would need a staff:student ratio of 1:67.

Group 2 suggested that different modes of provision needed to be costed differently. However, it was felt that a better understanding was needed of how IODL and ODeL worked, how ICT could best be used (including making provision for when eNAZ is offline) and generally a need to budget for improved support.

How can engagement with OER contribute?

Group 1 felt that OER could help with the renewal of eNAZ and distance learning resources as part of a three-year curriculum review cycle, and the sourcing of learning resources that promoted more independent learning, but that there was need to provide motivation and incentives for staff to refine and review learning resources.

Group 2 felt that the costs of developing learning resources should be covered by student fees, and this should include the costs of supporting the development process, evaluation and renewal process. It was noted that even if OER were used, it was rare to simply be able to adopt and that some time was usually needed to adapt – but that this time would be less than starting from nothing. The goal should be to ensure that appropriate materials were developed/sourced for every unit before the start of the unit.

Group 3 had already noted several possibilities for new programme offerings. It was noted that having grappled with many issues related to ODeL provision, ANU could formalise training programmes on these issues to train staff in other institutions.

In closing remarks, it was suggested that:

- Materials development might be undertaken by a mix of internal and external staff, provided the budget catered for payment
- There was need to audit current provision to decide which programme/mode combinations should be phased out and which upgraded
- ANU needed to identify its niche – “What is ANU known for?” In a competitive environment, this would increasingly be related to the quality of provision and the quality of graduates and what they subsequently went on to do
- It might be useful to develop a basic ICT skills and eNAZ usage video for all students (something they could take away and revise as needed)
- One participant commented: “We do want to learn and do better”.

In a reflection meeting with the DVC Academic at the end of Day 1, it was noted that while 2010 to 2014 had been a period of growth, ANU was currently in a period of declining student numbers; although distance learning continued to grow, albeit slowly. The MoU with OER Africa/Saide had been one of the possible foundations for new growth and it was observed “we are not the same as we were before the collaboration”. It was noted that while school-based learning had been initiated in 2007/2008 and distance learning only in 2009, it was now recognised that school-based learning was

really a form of distance learning (with the attendant challenges regarding materials development and distribution and decentralised support and assessment).

It was observed that QA processes at ANU had been under-staffed and under-resourced in the past, but that a new person was being transferred to QA and that the university intended to go through an International Organization for Standardization (ISO) certification process. The university was in the short term preparing for a CUE re-accreditation visit. It was noted that ANU, like most universities in Kenya, made extensive use of part-time staff and this militated against continuity in materials development and learning support processes. It was further observed that there was need to rationalise distance provision and that the combining of under-subscribed contact and distance classes had been for economic reasons only.

It was suggested that there was need to “change the ways we teach to align better with how students learn” and to move away from “over-reliance on one method and one resource”. It was felt that realising ANU’s core values of character, competence and community would require a greater focus on real life authentic tasks and a blending of local and global perspectives. Teacher-education should remain a core focus of ANU’s work, because teacher education “is a critical society-builder”.

It was suggested that OER Africa might usefully support ANU going forward in the following ways:

- Help to develop an integrated QA model
- Provide mentorship to the new IODL Director on ODeL provision.

The second day of the visit involved Day 1 of the OER Africa convening, in which the DVC Academic, the Director of Research and a nominated representative of IODL represented ANU. Representatives from the other OER Africa partner institutions (viz. University of Pretoria Veterinary Sciences, University of the Free State Centre for Teaching and Learning and the Open University of Tanzania) also participated.

In opening remarks, Catherine Ngugi (OER Africa project leader) and Neil Butcher (OER Africa strategist) observed that while OER could enable increased access to content and different ways of engaging with that content, university systems often militated against pedagogic transformation. It was noted that ICT access and connectivity remained constrained off-campus in all contexts.

In a provocative and wide-ranging opening address on the need for pedagogical transformation, Prof Ahmed Bawa, CEO of Universities South Africa, argued for the need to find a balance between the inherent conservatism of universities (which seek to ensure “change doesn’t come too easily” but rather because of considered reflection), the need to engage with current changing contextual realities and needs, and the need to nurture “tomorrow’s digitally enabled workforce”.

He concluded that there was need to:

- See higher education in the context of post-schooling more widely (e.g., including TVET and adult education)
- Address the increasingly skewed gender balance in Higher Education participation and graduation, which suggested the need for a greater “focus on the boys”
- Develop a “social contract between higher education and the people”. (Bawa, 2016, discussion remarks)

David Wiley, CEO of Lumen Learning, then spoke via Skype about the ways in which OER could support pedagogical transformation by, for example, enabling more learners to learn by doing things with resources and doing things that were not possible before, such as remixing and revising them. He referred to Hattie’s meta-analysis of 800 studies on effective student learning as a useful resource. (Wiley, 2016)

In response, Bawa suggested that the notion of “engagement” might usefully inform decisions about teaching and learning, research and outreach, what we understood to constitute a graduate (a “complete” engineer rather than just someone who knows a lot of content about engineering) and the university’s relationship with regulatory authorities.

Partner institutions then identified some of the following ways in which OER was supporting pedagogical transformation:

- Increasing student access to content
- Enabling student development of content
- Sharing content through institutional OER repositories and creating links with other repositories
- Incorporating OER into materials and sharing back the remixed/reversioned materials
- Developing a basic skills portal which students could be referred to for support across programmes
- Revising existing materials to make them more activity-based
- Incorporating a greater variety of media to address a wider range of learning needs and learning styles
- Including engagement with OER in CPD processes.

The first day of the convening ended with a debate which helped to foreground the difficulty of trying to effect meaningful change in pedagogy considering a host of other logistical, resourcing and capacity challenges.

The third day of the visit and the second day of the OER Africa Convening began with an exploration of action research and participatory action research facilitated by Prof Pieter du Toit from the University of Pretoria. It was observed that whole brain analysis studies tend to negate the notion of a profile for a 'typical' student or staff member, and suggest that understanding is more likely to be arrived at using a multiplicity of methods and encouragement of a multiplicity of viewpoints, as would a 'participatory' action research process. He argued that action research cycles might be informed by a deficit approach (emphasizing identification of problems to be solved in practice) or an asset approach (emphasizing possibilities to be explored in practice) and would likely lead to new action research cycles that might spiral up into enhanced understandings. In 'participatory' action research the focus is on interpersonal rather than intrapersonal meaning-making in scholarly communities of practice (du Toit, 2016).

This led into group and plenary discussions on the practical implications of seeking to use PAR to understand and support pedagogical transformation. It was realized that PAR could be used not only to investigate ways of designing and developing better materials and courses, but also to understand and act on a range of supporting issues, such as policies, training, modelling, curricula, research and impact.

It was suggested that for this to happen effectively, there was need to address the following requirements:

- Clarity on the questions/issues to be explored
- Diversity of participants, viewpoints and contexts
- Ethical clearances
- Collaborative guidance from experts/more capable others
- Closing of evidence/data feedback loops
- A praxis oriented culture
- A realization that student pass rates are not the only measure of success (retention and throughput could be increased simply by making everything easier)
- A greater value and recognition given to quality teaching
- While focusing on OER policy and OER use being open to tangential research and learnings, e.g., about governance and leadership.

Various challenges militate against using PAR, however, which include:

- Changing staff (although careful reporting on the process is useful, a report is not a substitute for a lived experience).

- Time constraints (due to political interference, funding constraints, increasing administration, extensive moonlighting) – although more inclusive job descriptions, conditions of service and better work allocation models can help, PAR remains a time-consuming methodology.
- Disciplinary research and publication by individuals is usually valued more for promotion purposes than group processes oriented to improved practices of teaching and learning.
- Marketplace perspectives: ‘If you are good at something, never do it for free.’

Partner institutions subsequently provided insights into the range of ways they were making use of AR and PAR approaches. Key focus areas included:

- ANU was using action research in a CPD programme in which teachers reflect on, change practice and evaluate impact; those who complete and write up the process earn a formal qualification.
- UP veterinary sciences was using PAR primarily to evaluate the impact of their new block system of teaching, in which there is a concentrated focus on one issue at a time instead of several in parallel.
- OUT had used a PAR process in developing a CPD programme for staff in digital fluency and in developing a supportive OER and Open Access policy framework.
- UFS used a PAR approach in its ‘module makeover’ processes which involved using data to identify a need for change, planning and implementing change, using data to evaluate the impact of the change and revising if needed. It was observed that sometimes student performance goes down initially because it takes time to adjust to a new approach and/or the new approach is more appropriately challenging.

Institutional groups then reconvened to revisit their OER-related research agendas. Among the ANU delegates, it was observed that there had been limited progress on the ANU research agenda previously agreed. Seven key focus areas were identified:

1. Ascertaining who is using OER at ANU and how. It was observed that a casual inspection of materials uploaded to eNAZ illustrated great diversity – no or few materials uploaded; notes, summaries, handouts only uploaded; extensive uploading but also including copyrighted materials. Although it would seem useful to try to quantify this and establish trends, it was not clear who would have the time and inclination to do so.
2. Evidence of impact of OER integration/changed pedagogy. It was thought that it was reasonable to expect that, having worked on a course or set of materials to improve it, student retention and pass rates would improve, students’ performance would improve and student

and staff satisfaction would increase. It was currently not clear to what extent the current CPD programme was contributing to this kind of understanding.

3. Formal research in the form of postgraduate studies, articles published, case studies written and papers delivered that relate to OER and/or improved pedagogy. It was understood that some ANU staff were busy with formal studies and/or publications, but there did not seem to be any formal tracking of outputs from these initiatives.
4. Student take-up and satisfaction with OER. It was understood that this was central to a PhD study in process, but since the staff member was paying for his own studies, it was an individual rather than an institutional initiative.
5. Library holdings/capacity/curating of OER (this was a new area that was thought might usefully be written up and linked to OpenANU).
6. A write-up of the CPD programme would be something worth sharing; and in time a meta-analysis of trends across the various studies.
7. Research into trends in student demographics would be important for future planning.

In a plenary panel discussion at the end of the day several take-away messages were shared, of which the following seemed most pertinent to the work at ANU:

- Institutional and personal transformation go hand-in-hand
- Internationally, there is recognition of the need for continuing professional development of faculty and tutors
- Institutions need to become responsive in terms of what they offer and how
- The key purpose of pedagogical transformation is enhanced student success – but that is more than just pass rates – it is about graduate competences and the ability to work at the upper levels of Bloom’s taxonomy (across all domains – knowing, doing and being)
- Institutions need to put measures in place to recognise excellence in teaching
- Institutions need to adopt a PAR approach that is fit for purpose for them
- A systematic focus on moving towards resource-based forms of teaching and learning is needed
- We need to encourage discipline-based pedagogical research, e.g., Mathematicians making contributions to our understanding of Mathematics Education
- Openness is complex
- Transformation and innovation are not the same – we are often have too much of the latter at the expense of the former
- Openness involves building on what has gone before

- We need to identify and overcome the systemic barriers to good teaching and learning.

Day 4 was devoted to an internal OER Africa Working Group meeting. It was noted that since the November 2015 visit to ANU, the IODL Director and Deputy Director had resigned and the QA portfolio was in process of being re-assigned. At the time of the visit, ANU was also busy preparing for a CUE re-accreditation process. It seemed clear also that the quality of distance learning provision had declined further, even though this was the only modality that had shown consistent, if slow growth.

The following recommendations flowed from these realisations and the foregoing discussion.

- There was urgent need for senior management to convene a meeting of relevant HoDs to address the current distance learning modules for which resources had not been uploaded. At the very least, it was felt to be an easy task to upload the course outline that had been developed for the contact provision as well as the assignments required for the trimester. Part-time staff and/or postgraduate students could then be trained by IODL to source and upload relevant OER.
- In the medium to longer term, it was felt advisable to audit current provision and identify programmes that had not been and showed no prospects of becoming financially viable, to close enrolment in these programmes and to teach them out.
- Current programmes that had potential if re-invested into and new programmes with apparent potential need to be costed before investment to work out the breakeven numbers required and a judgement made about whether the market could likely sustain this number of students. This required costing to take cognisance of initial design and development costs, implementation costs (including updating of assessments each trimester), and monitoring, evaluation and renewal costs for each mode of provision. It was felt that it would quickly become apparent that not all programmes will be viable in all modes.
- It was suggested that all programme offerings at ANU should adopt a resource- and activity-based approach, with eNAZ as the backbone for all modes of provision. This has the advantage of ensuring that there is equivalence of content, level and demand across all modes of provision; it also means the costs of this development and subsequent renewal can be amortised over all students enrolled in all modes of provision over a three-year cycle. It would mean that contact sessions in all modes of provision can shift from content transmission to interactive engagement and problem-solving, which would help to develop a wider range of graduate competences.
- It was suggested that the focus of ODeL provision should shift to shorter CPD programmes and away from long undergraduate programmes for the short to medium term. Shorter

programmes tend to have higher retention and pass rates and generate greater numbers of repeat students. One-year full-time equivalent programmes in management for different sectors might usefully be considered, such as Management training for school HoDs and Principals, Management training for Senior Nursing Staff, and Management training for Senior Police and Army officers. Also, trimester-long certificate programmes in various aspects of business might help to address the growing demand for just-in-time learning e.g., Certificate in Writing a Business Proposal or Basic Financial Management or Quality Management. If these certificate programmes could subsequently be offered as partial credit towards a BCom, some students would likely make the transition into the degree. Once ANU had established a reputation for quality ODeL provision, and built the supporting systems to do this, it could then begin to diversify.

- It seemed likely that the demand for full-time provision and residence on the main campus would continue to decline. It was felt that contemporary students were multi-taskers who functioned best amid the hustle and bustle and not in contemplative retreat. However, this opened up the opportunity to offer a new kind of blended programme. If the Science, Technology, Engineering and Mathematics (STEM), ICT and possible new TVET programmes with a strong practical element were reconfigured so that all the practical work could be done on campus in residence in a concentrated two- to three-week block, with the more theoretical aspects covered through well-designed and supported ODeL, it would create a more flexible study option that would allow even workers to take leave to engage.
- Considering the problems of access and bandwidth in some contexts, consideration might be given to providing students with a Poodle version of their ODeL/eNAZ course to work on when they were not connected.
- Also, following a discussion over lunch on Friday 20 May, it was felt that the campus lent itself to third stream income through event hosting. If this were tied to an MBA programme and maybe some shorter programmes in events management, it might be possible both to offer a high quality practical programme and generate revenue, since most of the work would be done by the students.

After the convening meeting in May 2016 and ANU's engagement with the CUE re-accreditation process, the university appointed a new Director for IODL.

During August 2016, several email exchanges took place. Also, a face-to-face meeting was held in Nairobi involving the OER Africa project Director, the new ANU IODL Director and the ANU DVC Academic. At this meeting, the following short term goals were collaboratively agreed:

1. **Proposed ANU Business Model:** it was agreed that the ANU team would review the proposed model provided to them. Input would be requested from IODL, Finance and other key stakeholders to enable ANU to arrive at a clear picture of all the implications of adopting the proposed model. The new IODL Director would co-ordinate one or more internal meetings to this end and collate written feedback to the candidate on ANU's proposed way forward (i.e., any amendments/additions they would propose to the model and any thoughts about how/when to implement it).

2. **Materials Development Plan:** An internal meeting was to be convened to ascertain the most popular ANU programs for delivery via distance/mixed mode. The next step would be to prioritise which courses needed materials development to fill resource gaps and then to plan a sequence of materials development to fill those gaps. Discussions were also to be held about the best possible course delivery mechanisms (e.g., interactive on-line manuals vs static print-outs).

3. **ANU ODeL Conference:** although this was a wide-ranging discussion, it was agreed that ANU had sufficient experience and expertise to organise such a conference. It was suggested that such a conference would be an opportunity for ANU to demonstrate leadership in the field through frank interactions regarding the following: opportunities afforded by OER and DE for delivery of high quality education to a diversity of students; challenges posed by current regulatory systems/policies to delivery of high quality education using resource-based DE; and the need for capacity building of faculty and students to ensure best practices in moving from face-to-face to a blended mode of higher education programs. It was recognised that the current Cabinet Secretary for Education is "hungry for reform" of the education sector across the board, and that this conference might be an appropriate platform for higher education practitioners across Kenya and the region to share strategies with the Cabinet Secretary, for positive reform of not just higher education, but national and regional education systems more generally.

5.4.3 Study visit

Following on from the discussion held in Nairobi in August 2016, and after further discussion by email and Skype, the candidate facilitated a study visit to South Africa for the new IODL Director. The purpose of the visit was to provide an opportunity for reflection and support regarding the three goals agreed in August 2016, but also to create opportunities for the new IODL Director to benchmark guidelines and practices with Saide, UP UDE, Unisa and North West University Unit for Distance Education. Appendix 4.5 contains the collaboratively developed agenda.

One of the most significant changes introduced by the new Director of IODL was to relocate accountability for distance provision back to the relevant academic departments, repositioning IODL

as a support unit. Staff contracts were then reviewed to include support for ANU's distance learners as part of each staff member's job description.

During the study visit, the following outputs were achieved:

- A new ANU business model proposal
- A budget for an Open Education conference to be hosted by ANU in June 2017
- Identification of potential funders for ANU's materials development funding application.

5.4.4 Wrapping up and handing over

As noted earlier, part of the intent for this study was that it should be completed in time to inform ANU's new strategic planning cycle from 2017. In addition, the candidate's move from Saide to a full-time position at the University of Pretoria made further visits to ANU difficult. Accordingly, a further visit was planned to ANU for November 2016 to follow up on the three goals agreed previously and to introduce a new Saide colleague, one of two who would support ANU to the end of June 2017 and the end of the current OER Africa grant period. Appendix 4.6 contains the collaboratively developed agenda both as planned and as it materialised in practice. As with Section 5.3.2, the narrative presented here was developed specifically for this study but a draft was shared with ANU prior to inclusion in the form of a Report (Mays, 2016e). In the version included below, the names of any ANU individuals have been removed where appropriate.

Day 1, Session 1 involved a discussion between the OER Africa consultants and the IODL Director and core team. The focus of this first discussion was the development of a Call for Papers for the Open Learning conference planned for June 2017. This can be found in Appendix 4.7.

In addition to the call for papers, the following issues were discussed as follow-up activities for IODL:

- Meeting with the ANU conference committee to align planning for the Open Learning conference with established conference hosting protocols
- Meeting with Marketing to maximize the marketing and communications impact of the conference
- Meeting with Finance to finalise the budget
- Finalisation of the conference committee which is likely to include: The IODL Director as chair and each member of the core team taking responsibility for one of communications, abstract management and programme development, working with finance on conference invoices, receipts and overall budget, the OER Consultants as advisors, as well as representatives of Faculty.

- It was noted that there was need to formally invite keynote presenters even though these would be from OER Africa/Saide (in line with the nature and purpose of the conference and to reduce the costs thereof).
- The meeting then discussed measures to ensure the quality of ODeL provision. The following points were noted:
 - In the academic environment, gaining buy-in and developing a culture of quality is likely to have more impact than a control and sanction approach.
 - It was noted that in the past, development of materials and support for distance learners was regarded as additional work for which extra payment was made. With the combining of contact, part-time and distance classes, the incentive of extra payment fell away and staff motivation decreased. It was noted, however, that part-time staff still needed to be paid for the work they did for distance provision.
 - It was suggested that new contracts include materials development as part of the job, rather than as a separate additional requirement, but that work time allocations would need to take appropriate account of this.
 - It was suggested that the materials development associated with distance and online provision should be part of the performance management system of academic staff within their teaching and learning portfolio.
 - It was suggested that a monthly meeting of HoDs, including IODL, could be used to flag problem areas needing attention (as happens at the University of Pretoria, for example). Where module coordinators do not meet the expected and contracted minimum requirements, and where interventions by IODL with the relevant academic staff do not result in improvement, the issue needs to be escalated to the Head of Department as line manager, and possibly eventually to the appropriate Director.
 - It was noted that minimum requirements as well as a calendar of events and deadlines needed to be communicated with all relevant staff in advance with regular reminders of looming deadlines.
 - It was noted that there was need to monitor the actual use of eNAZ against the expected minimum requirements.
 - It was noted that management of contracts, performance and claims of part-time staff were all tasks that required attention.
 - It was noted that the above three tasks needed to have dedicated staff and time and be costed accordingly.

- It was observed that data analytics should be used to help identify areas for focused improvement. This is the focus of another Saide project (see www.siyaphumelela.org.za).

Day 1, Session 2 was chaired by the DVC Academic and involved the Director of IODL, the Financial Director, the Assistant Director of ICT, the HoDs of Theology, Mass Communication, Business Management and Education, as well as the two OER Africa consultants.

It was observed by the DVC at the outset that distance education was considered an important strategic initiative and that ANU was therefore keen to understand the costing and resources necessary to enable sustainable quality provision. He observed that from January 2017, ANU would have an additional DVC with responsibility for Administration, Finances and Planning, but that processes had already started in preparation for the development of the new strategic plan from 2017.

The meeting was then informed that due to the candidate's move from Saide to the University of Pretoria, OER Africa would support ANU to the end of the grant in June 2017 through two new Saide staff members.

The candidate then led the discussion on the proposed new business model based on a discussion document and presentation supplied separately. The following issues arose in discussion:

- In South Africa, there was an increasing trend among campus-based students not to attend classes due to competing demands, such as working to pay fees or supplement their bursary. There was therefore an increasing demand from RSA students for online access and support.
- It was observed that ANU's current school-based provision is a subset of workplace-based provision.
- It was observed that eNAZ should be used not only to provide access to content, but also to support learners and to encourage active engagement.
- There was need to think about additional ICT support for more remote students.
- Currently eNAZ is required to be used for DE programmes only. Although eNAZ is recommended for use also for full-time campus-based provision, currently most use is made of CAMS which lacks the interactive elements of eNAZ.
- ANU is encouraging use of Turnitin which integrates well with eNAZ.
- It was noted that not all programmes would be able to migrate to eNAZ in 2017. Rather, it was suggested that new programmes and updated programmes should be designed for ODeL provision based on eNAZ as the core and then additional layers of contact-based support might be layered on (at increasing cost) for work- or school-based provision, part-time studies and campus-based provision.

- While the draft business model discussion document argues for differentiated fees, the trend at ANU has been towards standardising fees, at least within modes of provision. However, it was acknowledged that it is necessary to understand the actual costs of offering different programmes in different ways.
- It was noted that the allocation of costs and income for university common courses needed to be clarified.
- It was agreed that the OER Africa consultants should meet with the ANU financial manager to explore the costing of ANU DE further.
- It was agreed that the new strategic plan should clarify the revised role of IODL and the budgeting thereof as a service department.
- It was suggested that ANU should undertake a study of institutional bandwidth usage across different modalities of provision.
- It was agreed that there was need during marketing to emphasize and explain the implications of an increasing online component in ODeL provision, to provide adequate ICT/eNAZ orientation on registration but also to provide ongoing support thereafter. (At the University of Pretoria, the Unit for Distance Education employs students in a part-time basis to run a call-centre.)
- It was noted that increasingly the trend is towards use of personal mobile devices rather than establishing new computer labs.
- It was suggested that there was need to explore alternative assessments, such as audio assignments, to make better use of the affordances of ICT and to reduce costs for both students and ANU.

The second day of the visit started with a discussion between the ANU Finance Director and the OER Africa consultants. The following points arose:

- It was agreed that there was need to undertake a costing exercise to check viability prior to investing in the development of new programmes, regardless of the mode of provision.
- Various kinds of payment schedules were discussed. It was suggested that for short- and one-year programmes, it was not unreasonable to expect payment of fees in full up-front.
- It was noted that time for development of learning materials would vary depending on the experience of the developer. Time needed to be allocated for involvement in programme and unit design as well as actual materials development. The development time per one hour of student learning is likely to range from 5 hours for print-based materials to 15 hours or more for fully online interactive materials.

- It was reported that a materials development fee had been added to distance education fees (currently about 7.5 USD/Unit).
- It was noted that in contact mode, it was usually the case that materials were developed as needed. However, in DE and online mode, the materials need to be developed in full at least one trimester in advance so that everything is ready for use from Day One.
- It was noted that ANU might need to contract out some materials development and that this is often done in distance provision, although the relevant full-time module coordinator should still be accountable for the overall academic quality and integrity of the materials.
- It was observed that feedback on assignments is a critical teaching opportunity in distance and online learning and time allocation/remuneration of full- and part-time staff should be commensurate with the provision of quality feedback.
- It was noted that there were currently about 1,400 distance students, but these were split across so many different electives that most classes were too small to be viable.
- Current internal modelling suggested that for a single unit involving provision of materials, two assignments, an examination and support in the form of face-to-face classes or video/computer-conferencing on two occasions, 29 students would be needed for viability. Most current distance groups were, however, smaller than this.
- It was noted that at scale, often design and development, ongoing support and marking are disaggregated functions, rather than being managed by the same person as in contact provision.
- It was reported that most decentralised distance education support centres had been closed. For face-to-face contact sessions, then, distance students now need to travel either to Eldoret or the main campus in Ongata-Rongai. Therefore, other alternative means of providing support such as video- and computer-conferencing are being trialled.
- However, the move to more digital support comes with its own costs, with tutors now requesting payment for extra bandwidth and air-time, for example.
- There is similar diversity in ICT skills among full-time and part-time staff as among students.
- It was again suggested that short CPD courses lend themselves to sustainable high quality distance provision.
- The Finance Manager noted that trends in student demand suggested possible further expansion of distance provision in the fields of counselling, peace and security, monitoring and evaluation and the MBA. However, it was noted that IODL had identified the BCom as a focus for redevelopment.

- The Finance Manager indicated that the Saide/Nadeosa costing tool was a useful addition and he would workshop ANU assumptions with IODL to help them to undertake scenario planning ahead of recommending new programmes for distance provision.

The balance of Day 2 was spent travelling to/from and participating in another OER Africa meeting outside of ANU.

On Days 3 and 4, the OER Africa consultants met with several ANU staff who had been part of the process of engagement between ANU and OER Africa from the beginning with a view to canvassing their views on the three agreed goals for the remainder of the grant, viz. a new business model, a conference and the redevelopment of one programme for dual mode provision.

The following ANU staff shared ideas in these discussions: Respondents 1, 3, 4, 5 from the core consultative group identified earlier (Respondent 2 had left ANU's employ and Respondent 6 was unavailable) as well as a representative of ICT support services.

The following issues arose:

On the business model

- The key principles of the business model were generally supported with one respondent commenting: "I like it; I think it can work". However, one respondent had some reservations about staff workload as reported below.
- Currently eNAZ use was restricted to distance provision, so lecturers working with full-time students needed to work with a training platform within eNAZ.
- There was a challenge in eNAZ in closing a forum to new postings.
- Where lecturers already used eNAZ for both campus-based and distance learners, they tend to use the same learning resources to ensure equivalence of provision.
- Use of digital resources and e-learning was expected to grow.
- e-Learning should be dynamic – there should be space for students and lecturers to explore emerging ideas and practices – but this should be balanced against the regulatory requirement that the accredited curriculum should not change by more than 30% (if this need arises a new programme accreditation application needs to be started).
- The notion of equivalence of curriculum outcomes and content across different modes of provision was supported with the caveat that methods and processes for attaining them vary between modes.

- The target audience for provision needs to be considered in the curriculum design stage. If a programme is to be offered globally, it must take cognisance of the different contexts in which people are studying, e.g., the policy examples and debates in different countries.
- It was suggested that teaching online took more of a lecturer's time than the equivalent campus-based class. One respondent remarked: "I realise DE is time-consuming" and that face-to-face provision was "less stressful". There were several reasons for this:
 - It took more time to mark and upload digital assignments than to mark and return physical assignments.
 - Class sizes online were larger than in contact.
 - Online students required a lot more following up as they regularly missed deadlines due to connectivity and other challenges and "need to be pushed".
 - The time allocation/remuneration needed to reflect this.
 - Off-campus tutors also needed support with additional bandwidth and airtime.
- It was observed that campus-based students also paid additional library, computer and medical aid fees that were not paid / may not be paid by distance learners.
- It was noted that in future the emphasis in online provision would likely move away from the establishment of computer labs towards the creation of Wi-Fi-enabled spaces, which might well be rented for purpose and when needed, in which students would work on their own devices. However, use of cybercafes remains expensive so there is need "to come up with a better model" for distance and online provision.
- It was agreed that there was need to maintain an ICT help-desk to support both students and staff.
- It was observed that the practice at ANU of having a central technical ICT support team to design and update ICT systems and infrastructure and decentralised support staff able to support staff and student users with their use of the system is also the approach used in most RSA universities.
- With growing numbers of full-time and part-time staff using the online learning platform, there is need to find a way to monitor staff engagement automatically, as is already possible with students.
- ANU's future intention to require individual sign-ins to the ANU Wi-Fi is the established practice also at most RSA universities. This allows use to be tracked for each individual; and students, for example, who use the Wi-Fi for non-academic activities will quickly find their bandwidth allocation exhausted and will need to buy additional data themselves.

- Concern was raised about the authenticity of some assignments. It was noted that setting timed assignments could alleviate this, but that it was not usually possible to guarantee that all students could get access online for the required period.
- It was further observed that ANU's central mission involves the development of "character", but discrepancies between performance on formative and summative assessment performance suggests that some students pay other people to do their assignments for them. (A corollary is the growing incidence of parents doing their children's homework for them.)

On the conference

- The idea of a conference to build a body of practice to inform policy and regulation was supported. It was observed in this regard that a collaborative engagement with service-providers had been successful in helping to lower bandwidth costs for educational purposes and that a similar consortium approach was in process to lobby for reduced licence fees for software.
- It was noted that qualifications gained through ODeL are not universally recognised in Kenya and that some institutional leaders actively discriminate against ODeL graduates. It was noted that this reinforced the need to demonstrate equivalence of quality and outcomes.
- It was observed that changing a way of thinking is a time-consuming process and that a single once-off conference would not have much impact. Therefore, it was proposed to form an association that would have regular conferences and other interactions to build a community of practice and influence.
- It was noted that in Business Statistics it was already the practice that both campus and ODL students received the same resources and wrote the same examinations at the same time. The relative success rates can then be tracked and appropriate interventions designed as necessary.
- It was suggested that Departments needed more autonomy to manage their own budgets, as sometimes activities would have been planned but then the Finance Department might say there were no funds because of under-enrolment/over-expenditure elsewhere.

On the redevelopment

Interviewees were asked if they would be willing to continue to act as a reference group providing feedback on ideas and suggestions going forward. All agreed subject to their availability.

Quality Assurance

The OER Africa consultants also met with the new QA Director. It was observed that the central role for QA envisaged in the draft business model was consistent with the emerging strategic planning and

quality assurance alignment currently in process and the increasing move towards documenting policies, procedures and processes, auditing them and updating them as needed. An immediate concern for IODL was to ensure both student and staff engagement of quality to ensure retention and success. Distance learning and IODL were key to ANU's strategic plan from 2017. It was noted that partnerships and collaborations were also seen as central to the new strategic plan and this accorded well with both the OEP promoted in the draft business model as well as the idea of a national conference and association.

Discussion with the IODL on redevelopment

It was agreed that the BCom would be the first focus for a redevelopment initiative.

It was observed that many staff had not been trained to make best use of eNAZ to support meaningful learning. It was agreed that capacity-building requires a support process, rather than a once-off event, but that there was some urgency to support staff in developing, sourcing, adapting and then uploading resources in ways that promoted engagement. It was agreed that there should be an initial engagement in January 2017, with follow up support visits in March and June and ongoing communication in between.

It was agreed that the candidate would prepare a concept note for potential future funding, but that since preparing the full proposal would be time-consuming and involve engagement with potential partners, someone else would need to complete the full proposal, submit it and respond to the feedback from the funders.

5.5 Sustaining the conversation: 2017 and beyond

As noted in the above discussion, OER Africa will continue to support ANU till the end of the current grant period in June 2017 through workshop visits in January, March and June 2017 and culminating in a national conference hosted by ANU in 2017. However, the support provided by OER Africa will in future be provided by other Saide/OER Africa personnel. Depending on the success of the additional funding proposal process, the conversation might continue beyond June 2017.

5.6 Reflection on process

After a positive start, the process of engagement between ANU and OER Africa stalled due to staffing and costing challenges. In addition, the PAR project model has not yet fully borne fruit as it has not been possible to follow through on many of the agreed activities. However, with a new business model and strategic plan in process and a series of activities already planned for January, March and June 2017, it seems possible again for the PAR approach to be more fully realised.

It seems clear from the engagement between ANU and OER Africa that implementing a new business model is a process over time, rather than a discrete event, and that sustained engagement with OER at an institutional level requires that it be part of the business model and strategic plan and not a discrete activity. The implications of this are explored in Chapter 6.

Chapter 6: What have we learned?

The only true education comes through the stimulation of the child's powers by the demands of the social situations in which he finds himself ... The teacher is not in the school to impose certain ideas or to form certain habits in the child, but is there as a member of the community to select the influences which shall affect the child and to assist him in properly responding to these influences ... Education must be conceived as a continuing reconstruction of experience; that the process and the goal of education are one and the same thing. (Dewey, 1929, pp. 291-295).

6.1 Introduction

In line with the quotation from Dewey above, this chapter provides a summary of what the research conversation has suggested with respect to the problem statement and research questions posed at the start of this study in Chapter 1, not in the belief that final answers have necessarily emerged but, more likely that we can consolidate learnings to date as the basis for the next phase of a more nuanced conversation. The outline of this chapter is illustrated in Figure 6.1:

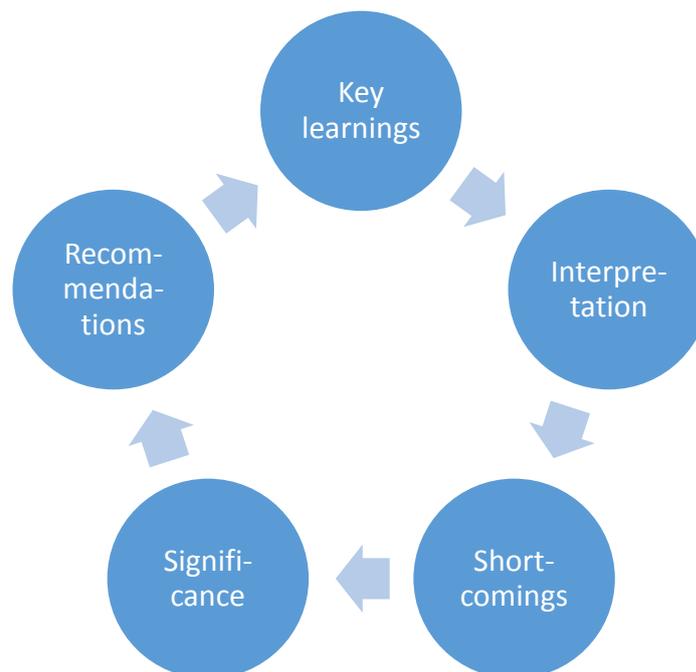


Figure 6.1: Overview of chapter 6

6.2 Summary of key learnings

The overarching question for this study, as for the wider project, was:

What conditions are necessary for successfully mainstreaming the use of OER in support of curricular and pedagogic transformation in a mixed mode HEI such as Africa Nazarene University?

In trying to formulate possible responses to this central question, it was necessary to explore the following sub-questions:

1. What kinds of pedagogical transformation are envisaged at ANU and within what timeframes are these changes expected to be introduced? How does this align with the OER community's understanding of the transformative educational potential of OER?
2. To what extent can the use of OER constitute an effective catalyst in driving or supporting these envisaged pedagogical changes?
3. In what ways can a focus on pedagogical transformation serve to embed effective OER practices into mainstream institutional activities and systems, rather than these practices operating parallel to the mainstream?
4. What opportunities already exist within ANU that can be used to drive this kind of pedagogical transformation and how can these opportunities most effectively be harnessed?
5. What policy, procedural, systemic, cultural and logistical challenges and barriers inhibit these changes within ANU?
6. What strategies need to be implemented to overcome these challenges?
7. What levels of institutional political support or championing are needed for changes made to become institutionalized?

Based on the findings of this study, these seven questions will now be answered.

What kinds of pedagogical transformation are envisaged at ANU and within what timeframes are these changes expected to be introduced? How does this align with the OER community's understanding of the transformative educational potential of OER?

At ANU, an initial engagement with OER followed immediately from the initial introductory workshop. There was evidence not only of a willingness to use OER in teaching but also to produce OER among those involved in the initial engagement. The institution had already moved into the provision of distance learning and other forms of resource-based learning and had developed a customized LMS in the form of a moodle platform called eNAZ. The pedagogical transformation already underway at ANU was from a teacher-contact-based form of provision increasingly to resource-based learning; the

larger curriculum transformation issues included grappling with the demands of different modes of provision for different learning needs and contexts. Initially, there was a strong emphasis on using OER for providing access to content, but the second and third workshops offered by OER Africa helped participants to recognize the importance of developing activities that would guide students through a structured engagement with that content. It was expected that it would be possible to share three to four ANU courses per year that incorporated OER and would be shared back as OER, and in fact seven courses were part of the initial pilot, although only one was subsequently completed. It is important to note that the initial enthusiasm waned, not because of a loss of interest with the potential of OER, but because of the business model of the university which had not made sufficient budget provision for ongoing materials development and re-development nor for sustainable multi-mode provision. This was particularly important given that the bulk of distance learning provision was sourced from part-time staff. Clearly then, sustained engagement with OER at ANU required attention to addressing factors in the wider institutional environment. The need both for an enabling policy environment and time to engage with support processes is consistent with findings of other studies, such as Chae and Jenkins (2015), de Hart et al. (2015) and Miao, Mishra and McGreal (2016).

To what extent can use of OER constitute an effective catalyst in driving or supporting these envisaged pedagogical changes?

The ANU experience suggests that engagement with examples of OER can help educators think differently about content and ways in which to engage students more actively in the learning process. A key shift in the development of new and revised materials in the seven courses that were initially part of the review and redevelopment process was the inclusion of a greater number and kind of activities to guide students towards engaging more actively with the content. This is evident in the one module that was completed (see <http://oerafrica.org/resource/introduction-christian-ethics-ucc204>).

In what ways can a focus on pedagogical transformation serve to embed effective OER practices into mainstream institutional activities and systems, rather than these practices operating parallel to the mainstream?

OER Africa's initial engagement with ANU was through the IODL. As noted earlier in the study, there is a natural synergy between ODeL provision, which is resource-based, and OER. However, although the university invested extensively in its ICT infrastructure, and expanded the IODL office-space and staff, the core business model remained oriented primarily to campus-based provision. The recurring costs of curriculum and materials development and redevelopment, and the necessary quality assurance rigour to support the process, had not been factored into the university's core business

model and costing. Thus, engagement with OER remained limited to the few individuals who were part of the initial workshops and who decided to continue to engage in their individual capacities rather than as part of a mainstream institutional process.

However, the demand from potential ANU students is increasingly for more flexible provision that is not centred on the main campus in Ongata-Rongai. The growth in demand for part-time, workplace-based and distance learning places greater emphasis on resource-based forms of learning and hence on the potential of OER to avoid needing to create everything *ab initio*.

In addition, there has been recognition of a general trend towards more constructivist, resource-based and activity-driven approaches and the need for students to engage with different voices.

What opportunities already exist within ANU that can be used to drive this kind of pedagogical transformation and how can these opportunities most effectively be harnessed?

Three key factors converge – changing demand from a changing student profile, the existence of an IODL with some practical experience of this mode of provision, and institutional commitment to integrating use of the moodle-based eNAZ LMS into all forms of provision, requiring that all staff, including full-time faculty, need to source and/or develop and/or adapt learning resources to support their teaching.

What is needed going forward is to ensure that these factors inform the new business model and strategic plan of the university.

What policy, procedural, systemic, cultural, and logistical challenges and barriers inhibit these changes within ANU?

The business model of the university did not adequately support growth in non-traditional provision. The IODL, which was identified in the current strategic plan as an engine for growth in student numbers, remained isolated from the mainstream practice despite the establishment of an intra-institutional advisory board, in that for most staff, engagement with distance learning, and OER integration, was something over and above the normal workload of servicing full-time students. For part-time staff, the possible longer-term benefits of engagement with OER were likely to be even less compelling (Harley, 2016, pp. 13, 42).

Three key policy issues arose during the process relating to:

- OER/IPR policy
- HR policy
- QA.

There was need at the start to create a policy framework that would allow the sharing of ANU resources under an open licence. However, it was recognized that the development and subsequent publication of an OER policy needed to be part of a much broader debate on intellectual property rights and the extent to which the institution wished to engage with more OEP.

It also became clear early on that a move towards expanded provision of ODeL, and towards greater use of eNAZ in content provision, meant that job descriptions, performance management, training and support and related budgets would need to be amended to reflect the institution's shift towards resource-based learning approaches and the centrality of materials development and review as a core job function and business activity.

Related to both the above, it was also clear that there was need to revisit the QA process in order to have a clear sign off procedure that ensures that only OER of quality would be integrated into ANU course materials and, concomitantly, only OER of quality would be published under the ANU brand.

What strategies need to be implemented to overcome these challenges?

All the issues identified above are subordinate to the focus of the institution's new strategic plan from 2017 and the development of an appropriate business model to support that plan. As part of this process, it will be necessary to rethink the nature and role of the QA unit. During the engagement with ANU, the QA unit was staffed by one person only, who subsequently returned to her/his academic department, and the role was then taken on by an interim staff member with an administrative rather than an academic background. Such a unit needs both academic and administrative competences however, especially given the institution's plan to seek ISO certification.

What levels of institutional political support or championing are needed for changes made to become institutionalized?

Unambiguous support for OER as part of a broader shift towards resource-based learning is critical (Sapire & Reed, 2011). In the latter part of the project, and in the absence of a full-time Director for IODL, this role was increasingly played by the DVC Academic. With the appointment of a new Director for the IODL, some of this workload could be shared, but it will be critical going forward that the new Director should feel that s/he has the support and resources to function effectively.

6.3 Interpretation of key learnings in relation to policy, theory and practice

What conditions are necessary for successfully mainstreaming the use of OER in support of curricular and pedagogic transformation in a mixed mode higher education institution such as Africa Nazarene University?

Although ANU is a private institution, it must work within the prescripts of national policy. Although national policy acknowledged the potential of more open and flexible forms of provision, at the time of this study the emphasis of the regulatory framework was still on assuring the quality of campus-based provision (CUE, 2014a, 2014b). It is felt important that role-players like ANU, who are interested in ODeL provision, should begin to develop fora through which to influence national policy and regulation towards greater acceptance of ODeL provision, and to develop appropriate contextual norms for good practice, as has been the case in South Africa (CHE, 2014; DHET, 2013; DHET, 2014; Welch & Reed, 2005).

A commitment to integrating OER, as a matter of course, into resource- and activity-based flexible modes of provision needs to be reflected in the Institutional strategic plan and supporting policy framework, especially in the areas of IPR, HR management, ICT policy, infrastructure and support and QA mechanisms (among other things to ensure equivalent quality of provision across different modalities) (OER Africa, 2012).

With a clear strategic and policy framework within which to work, it is important to identify and develop an appropriate business model to enable and support the intention set out in policy. For expanded ODeL provision, lessons can be learned from the practices of existing institutions dedicated to ODeL, such as the University of South Africa (Unisa), the National Open University of Nigeria (NOUN), the Open University of Tanzania (OUT) and the Zimbabwe Open University (ZoU), as well as those of dual and mixed mode universities such as the University of Pretoria (UP), the University of the Free State (UFS) and North West University (NWU) in South Africa, among others. A key component of the business model must then be costing and budgeting that reflects the features of ODeL provision, including budget for recurring learning resource development and review as well as integrated support (Hülsmann, 2016; Kanuka & Brooks, 2010; Rumble, 1997, 2004; Simpson, 2013).

Becoming an active participant in a wider community of practice in ODeL can assist the institution in benchmarking current good practices and identifying promising new practices (Kernohan, 2012). Within the field of ODeL provision, the following are some of the significant role-players: national fora such as Nadeosa; regional associations like the Distance Education Association of Southern Africa (DEASA); continental organisations such as the ACDE, OER Africa and AVU, as well as focused initiatives such as TESSA and the African Storybook. In addition, key international role-players include the CoL and the ICDE.

The role of leadership in conveying coherent and unambiguous support for OER integration as part of the strategic direction of the university, and creating a conducive environment appropriate for this purpose, is also critical (Halfond et al., 2016; Sapire & Reed, 2011).

When OER are to be employed as part of a drive towards a wider resource-based and ODeL strategy, it is important to give attention to developing the appropriate systems and sub-systems to support that move (Moore & Kearsley, 2012).

Fitness of purpose for context is also an important consideration. Over and above the values inherent in ANU's faith-based vision and mission, ANU does operate in an African context. Letseka (2016) opines that ODeL provision in this context requires an ethic or worldview that is appropriately African. He, and the many contributors to the volume he edited, suggest that this requires an explicit agenda to overcome colonial legacies and the modernist separation of heart and mind. This agenda needs to be committed to adopt a communal approach more than an individualistic approach, that is not at odds with the common good and that embraces notions such as the extended family, solidarity, sharing of resources, respect and dignity, compassion and an ethics of care. It also needs to be rooted in team-based approaches, honesty and responsibility to the collective, all informed by a philosophy of humanism concerned with being with and for others. This seems consistent with ANU's vision, mission and values as elaborated in Chapter 1.

6.4 Limitations of the study

This study focused primarily on one unit, the IODL, in one relatively small private university, in one region of one country. Therefore, the findings and experiences from this study cannot necessarily be extrapolated to the wider community of ODeL provision.

Loss of key leadership during the study inevitably militated against achieving all the goals agreed collectively at the start. As observed by the developmental evaluator in his mid-term evaluation report (Harley, 2016), the focus of OER Africa's engagement with ANU shifted from a focus on individual courses and materials at the start of the engagement in 2014/15 to a broader discussion on the institutional business model over 2015/16.

Although, as reported in Chapter 4, a wide variety of documents, observations, focus group and individual discussions informed the findings of this study, the fact that the researcher and the institution were in different countries meant that a full immersion experience was not possible and it is probable that deeper insights might have been gained had it been possible to spend more time together.

6.5 Significance of results/gaps

Notwithstanding the limitations outlined in the previous section, the challenges faced by ANU in seeking to respond to changing student demand and increasing competition by adopting ODeL approaches, is consistent with the candidate's experience in working with a wide range of other

institutions, as outlined in his CV in Appendix 5. This study should also be seen in the context of emerging findings from the wider OER Africa project of which it formed a part, and which are and will be reported cumulatively through the OER Africa website (www.oerafrica.org).

Harley's (2016) mid-term illuminative evaluation of the wider OER Africa project provides a useful overview (Table 6.1) of how the larger project appeared to him as at July 2016. He identifies the following enabling factors influencing the mainstreaming, or not, of OER in pedagogic transformation:

- Organizational functionality (banal though it is to specify such a condition)
- Staffing: embedding OER is particularly challenging when the staff complement includes a large number of part-timers
- Prospects of teamwork across hierarchies is a real plus factor, not only in itself but as a way mitigating the effects of staff mobility
- Presence of a number of key staff who are either OER champions, or budding champions
- Possible synergy with other like-minded projects such those managed by the Commonwealth of Learning
- Prior working relations with Saide/OER Africa staff. (Harley, 2016, p. 58)

Table 6.1. Diversity across HEIs and the two regions: East Africa and South Africa

| Issue | East Africa: ANU and OUT | South Africa: OP ² and UFS |
|---|--|---|
| Project strategy for embedding and disseminating the OER model | Embedding at 'whole' institutional level, one private (ANU), one public (OUT); Dissemination from here to other institutions. | <i>OP</i> : Embedding in a high status faculty: from there to whole institution and beyond <i>UFS</i> : Embedding and dissemination through institution's CTL (dedicated to improving teaching and learning) |
| Starting point in HEIs | Project brought an entirely new initiative | Project concepts being grafted onto existing initiatives. |
| Mode of delivery | <i>ANU</i> : contact university moving to distance/blended delivery <i>OUT</i> : distance education moving from correspondence to digital and online | <i>Both</i> : Traditionally contact, interested in blended approaches using technology. |
| Institutional interest in OER | <i>ANU</i> : To have cost-effective materials for ODL <i>OUT</i> : OER to reach students at all centres; provision of affordable materials <i>Both</i> : Need for basic provision of learning materials. | <i>OP</i> : Has expertise to share; OER can help build on their status as leaders in their field; <i>UFS</i> : Focus on courses and processes to enhance student learning (OER licensing follows). <i>Both</i> : more expansive needs |
| The two means of achieving aim of pedagogic transformation | OER and policy development: concurrent | OER and policy development: more sequential than concurrent. |
| Networking infrastructure | Wi-Fi signal variable | Wi-Fi more easily accessible to staff and students on and off campus. |
| Project support | Geographic distance from Saide means project support is timetabled far in advance of IL visits. Often lengthy gaps between visits are inevitable. | Proximity of ILs – greater opportunity for more informal hands-on support according to needs as these arise |
| Implications of project support but no funding | More pressing issues of remuneration for module writers | Remuneration for extra workload generated by project appears less pressing |

(Source: Harley, 2016, p. 8)

² Onderstepoort campus of the University of Pretoria (Faculty of Veterinary Science)

6.6 Recommendations

Adala (2016) observes that the policy and regulatory framework in Kenya is now beginning to be more conducive to mainstreaming ODeL provision and integrating OER, with the notification of the intent to establish an Open University and with Kenya being a signatory to the Paris 2012 OER declaration. In addition, a regional office of Creative Commons Africa is based in Nairobi and a national OER policy is in process of development to align with Kenya's Vision 2030.

As noted in Chapters 1, 2 and 3, as well as in Section 6.3 above, the move towards mainstreaming engagement with OER is consistent with a strategic move towards a greater focus on ODeL provision and the more OEP this implies is consistent both with ANU's vision, mission and values and with recent calls for a more Africa-centric approach to ODeL provision (Aluko, Letseka, & Pitsoe, 2016; Letseka, 2016).

As Harley (2016, pp. 62-64) notes, however, such a move requires that key challenges be identified and actively addressed. These challenges include, among others, clarification of intellectual property rights and copyright regulations, development of a motivational framework supportive of ODeL provision, ensuring an appropriate level of knowledge and skills for ODeL provision, updating existing strategies and policies, making the necessary budget provisions, ensuring OER relevance and quality and the maintenance of an appropriate technology infrastructure.

ANU is now operating in changed circumstances and it is suggested that the institution should embrace the change in the opportunity provided by the need to develop a new strategic plan. It is further suggested that central to the new plan should be adoption of what Downes (2007) and Ehlers (2011) refer to as an "open ecology" which might be depicted as illustrated in Figure 6.2.

The diagram illustrates the notion that ANU's new strategic plan will continue to be informed by its faith-based vision, mission and values but suggests that the adoption of more OEP, in which collaboration and the sharing of intellectual property is encouraged, is entirely consistent with these beliefs and values and supportive of expanded provision of open, distance and e-learning, which embraces a wide range of more flexible forms of provision to suit different learning needs and target audiences.

As argued in Chapter 2, there are sound philosophical and pedagogical reasons for adopting resource-based constructivist active learning approaches across the continuum of provision, and as noted in Chapter 3, also for anticipating greater use of ODeL methods.

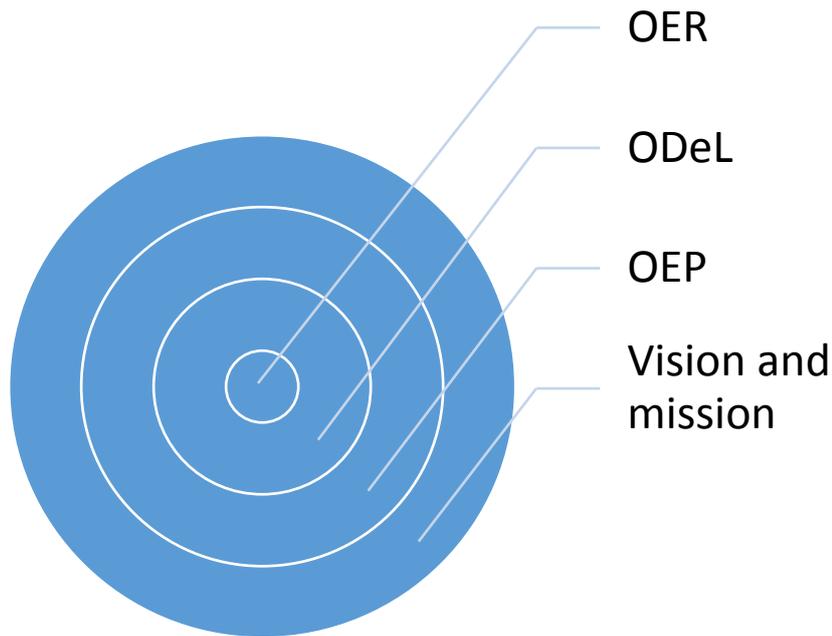


Figure 6.2: A new open ecology for ANU

In such a context, the development and review of learning resources becomes a mainstream practice, part of every academic’s job description, and with support from the library in finding appropriate OER (Salem, 2016), it should be possible to make it standard practice that in developing new courses, a search for existing OER that might be adopted and adapted is always a first step in the materials development process.

Sharing the draft and final learning resources within a community of practice, both inside and outside the institution, as observed by Conole (2012), can facilitate dialogue between teachers, enable collective aggregation, introduce peer critique and inspire creativity. Taken together, these factors should ultimately result in improved quality of the core learning resources underpinning the resource-based teaching approaches adopted in all modes of provision.

However, as discussed in Chapter 3, the learning resources are only one part of a complex whole. We need to think much more systemically about the nature of appropriate education provision in a digital era and the challenges of the associated change (Fullan & Langworthy 2014; Mehaffy, 2012; The World Bank, 2016). There is need for ANU to clarify the nature and role of the various sub-systems that support its teaching and learning mission and to ensure that all are coherently aligned. The key sub-systems requiring attention are thought to be:

- Curriculum sub-system
- Materials sub-system

- Learner support sub-system
- Assessment and certification sub-system
- Logistical and quality assurance sub-system (including tracking)
- National and cross-border provision sub-system
- Financial management sub-system (Du Vivier, 2010; Mays, 2016a; UP, 2009; Welch & Reed, 2005).

Within this systemic framework, each programme will need to go through an appropriate design phase prior to implementation and then an implementation and review phase. This is illustrated in Figure 6.3 below and elaborated in the notes that follow.

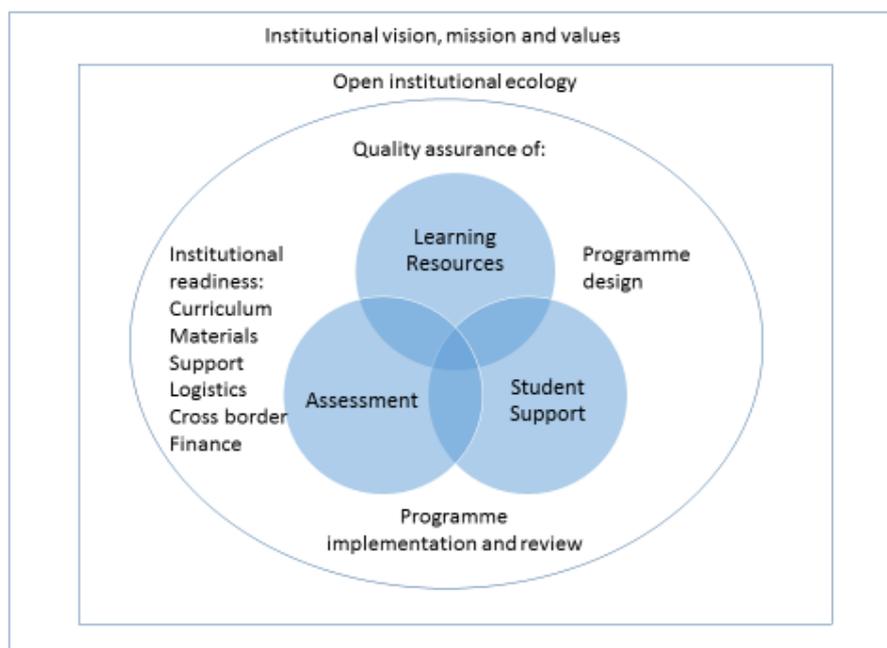


Figure 6.3: An integrated systems model for ANU

A recent report by Inamorato dos Santos, Punie and Castaño-Muñoz (2016), suggests that there are ten cross-cutting dimensions that will support the opening of educational opportunities: six are considered core and relate to being more open about content, pedagogy, recognition, collaboration, research and access; four are considered transversal by making the first six possible and comprise leadership, strategy, quality and technology. These dimensions underpin the various sub-systems that follow.

6.6.1 Curriculum sub-system

Ultimately, decisions about what programmes to offer and how they should be constituted is the responsibility of academic departments. However, a new element that will need to be added into the

ANU deliberation process is the mode or modes of delivery that will be appropriate for different learning purposes, contexts and target audiences. This kind of decision needs to be made based on market research and empirical data regarding needs and existing provision. As a rule, distance learning will probably be most appropriate for mature learners seeking continuing professional development while in service. Shorter just-in-time learning certificates and one-year formal certificates and diplomas will likely be the most cost-efficient and cost-effective focus for ANU's distance learning due to the high attrition rates associated with longer degree programmes. Thus, in teacher education, for example, it might be viable to offer both four-year BEd and one-year PGCE programmes that are full-time and campus-based but perhaps only the PGCE through distance learning (as is the case at the UKOU). Workplace-based programmes with a strong WIL component might be more viable than distance or full-time programmes fields such as pre-service level training for teachers already in service, nursing and security services. Part-time studies, in which elements of contact, distance and online learning are blended in various ways, could be appealing both to younger learners who need to work and study at the same time, as well as mature working learners who feel the need for greater scaffolding and support than is typical in ODeL provision. Key sub-issues to be addressed include programme planning, curriculum and course design, approval, admissions and learner support, accreditation and articulation, and quality assurance (CHE, 2014; Mays, 2016c, 2016d; Welch & Reed, 2005). There needs to be an appropriate sign-off process to ensure that programmes and courses meet real needs, can be designed and offered in ways that will be cost-efficient, cost-effective and sustainable and where provision is made for development, review and teaching out. There needs to be an agreed schedule for curriculum renewal. In a digital world, it is possible to update programme and course content on a continuous basis but there is also need on a regular basis to revisit the overall curriculum design and the assumptions that underpin it. It is suggested that a five-year renewal cycle might be considered and that the management thereof might be located within a renewed QA Directorate.

6.6.2 Materials development sub-system

It is envisaged that in the new ANU business model, all programmes and courses will be offered primarily through the institutional LMS, eNAZ. Once a programme and its constituent modules have been designed, it should be clear what areas and kinds of content will be needed. It is suggested that IODL should then coordinate all materials development, including exemplar assessment instruments, intended for all modes of provision working through multi-disciplinary teams involving full-time faculty, IODL technical and teaching and learning specialists, library services and others who may be necessary for unique materials development needs (e.g., engaging students in adding sub-titles to an existing video; developing an animation). It is suggested that evidence should be provided of having

searched for and failed to find any appropriate OER, before any new course materials are developed. It is suggested that the relevant academic HoD should sign off on the academic quality of any materials and IODL should sign off on the learning design thereof and the process should be managed through the QA Directorate. It is further suggested that feedback, through IODL, should be provided on the draft learning resources at the following key stages:

- To developers after completion of an introduction and first unit (focusing on level, language, approach, RPL, design, appropriate selection of technology and media)
- To developers after about half of the module is completed (focusing on sequencing, progression and the developing of cross-cutting competences)
- To developers after the first full draft (focusing on coherence, coverage of intended learning outcomes and curriculum differentiation for slower, gifted and differently abled learners)
- By external discipline and learning specialists prior to use
- By students and tutors after the first offering (CHE, 2014; Mays, 2016c, 2016d; Welch & Reed, 2005).

The development of digital learning materials using OER does not preclude the continued use of copyrighted or open textbooks, although these are likely to take on different forms and roles (Abbas, 2016). It is important that the feedback loop is closed into improved practice. The tools provided in Appendices 3.3 to 3.5 might be used or adapted for this purpose.

6.6.3 Learner support sub-system

Comparative studies have shown that retention and throughput in ODeL provision is usually lower than in similar programmes offered in contact mode (DHET, 2016; Simpson, 2013). There are many reasons for this, including but not limited to under-preparedness, financial challenges and competing demands. Tinto, one of the world's leading authorities on student success theory, who visited South Africa in 2014, argues that addressing these issues requires conscious and deliberate decision-making at the institutional level (Tinto, 1993). Figure 6.4 indicates the kinds of deliberate decisions that may need to be made based on identifying an explicit set of theoretical lenses and gathering and analysing data to develop an informed understanding of who the students are.

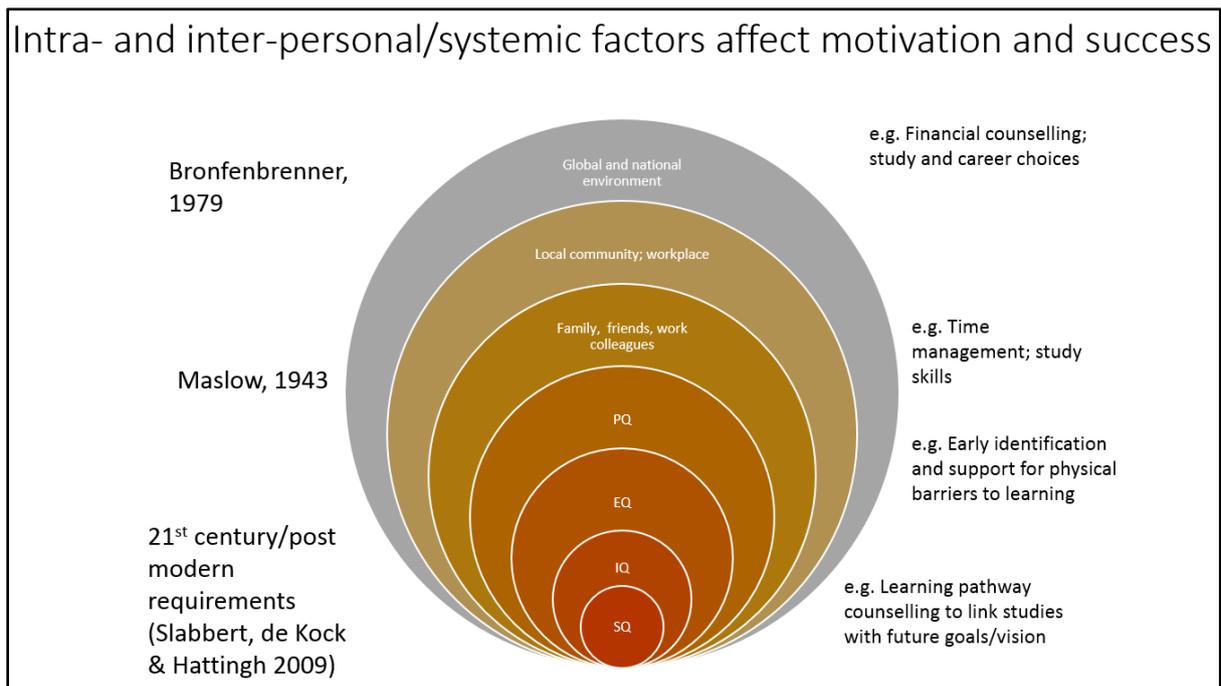


Figure 6.4: Towards development of a model for a student support sub-system

(Source: Mays, 2014c, Slide 29)

On the left-hand side, three key theoretical perspectives are considered useful lenses:

- A post-modern perspective that considers the student as a whole person whose engagement with any learning opportunity is mediated through physical, emotional, intellectual and spiritual lenses (Slabbert, de Kock, & Hattingh, 2009)
- Theory of human motivation (Maslow, 1943)
- Educational ecosystemic theory (Bronfenbrenner, 1979).

On the right-hand side are some examples of the kind of support that may be needed at this level to ensure that students are not only retained, but also motivated to engage meaningfully. Different students require different kinds of support (e.g., motivational, personal, financial, academic, administrative and technical) at different times in their learning journey. Sometimes this support will take the form of a one-on-one interaction (e.g., in person, by telephone or online), sometimes a one-to-many interaction (e.g., a group discussion in a contact session or online) and sometimes the support could be informational (e.g., access to a 'how to' text, video, audio or contact demonstration which might be licensed as OER). When designing a new programme and materials, we need to make explicit links to the more generic support that already exists, while building into the programme the kind of additional support that may be needed by that programme (e.g., placement and supervision for WIL in an initial teacher education programme, or access to laboratory and/or workshop facilities in a

range of science, technology and vocational programmes). Provision of this support needs to be integrated into the programme design and costed accordingly.

6.6.4 Assessment and certification sub-system

It is suggested that exemplar assessment instruments should be designed during the programme and module design process (and shared with students and others as OER), so that coherent learning pathways can be developed from in-course activities for self- and peer-assessment, into formative assignments for self-, peer- and tutor-assessment and into summative assessment which need not necessarily take the form of a proctored examination. It is essential when programmes are offered through more than one modality, that the same rigour is applied to the assessment expectations in each case so that no curriculum offering can be seen to be superior/inferior to another. The use of anti-plagiarism software can be very useful both as a teaching and learning activity and as a quality management procedure for both staff-developed learning resources as well as student work. Systems need to be put in place to ensure the security and quick turn-around of formative and summative assessments and the management of certification. At the University of Pretoria, for example, the identification, preparation and management of decentralised contact and examination centres is considered to be a highly specialised function that has been outsourced to a dedicated provider, allowing the University to focus on academic issues such as the development of the assessment instruments (in the case of summative assessment, two instruments for each session), the moderation of assessment and the graduation and certification of successful students.

The sub-systems presented in Sections 6.6.1 to 6.6.3 need to be coordinated together. In this respect, the Directorate for University Teaching and Learning Development (DUTLD) at Unisa and the Centre for Teaching and Learning (CTL) at the University of the Free State offer possible models for supporting an integrated design, development and review process. Within ANU, it is felt that IODL would be best placed to manage the process of programme and module design and materials development, with integrated assessment and learner support design, with a reimaged QA Directorate ensuring that agreed timelines, processes and procedures are indeed observed.

6.6.5 Logistical and quality assurance sub-system

As noted above, it is proposed that QA play a more central role in ANU's new strategic plan, a move that is consistent with the university's stated intent to seek ISO accreditation.

QA processes can help to ensure that the mass of data, and the means to analyse it, made possible by the affordances of ICT, are indeed used to inform effective decision-making about programme viability and sustainability (through financial modelling), effectiveness of programme design and implementation and the impact thereof, including the impact of differentiated approaches to

assessment and support, as well as the effectiveness of human resource recruitment, training, monitoring and review for a small core or full-time staff and a larger changing part-time staff complement (Bates, 2015, 2016; Garrett, 2016; Littlejohn & Pegler, 2015; Modise, 2016; Salmon, 2015; Siemens et al., 2015).

Three key focus areas for QA are the extent to which the overall institutional policies and systems are fit for purpose, that due process has been followed in the selection and design of new learning programmes and that processes are in place to assure the quality of programme provision in an ongoing way (by tracking, for example, student success, student satisfaction, feedback from tutors, markers and external moderators, as well as feedback from alumni and their employers). A key challenge here is making sure that the feedback loop is closed into improved practice in an optimal way (Aluko, 2007; Aluko & Hendrikz, 2012; Kilfoil, 2008; Mays & Griesel, 2010; Swanepoel & Mays, 2010), including ensuring that any surpluses are first utilised to improve the quality of the programmes generating those surpluses before being diverted to cross-subsidise other strategic offerings (Welch & Reed, 2005).

Although ANU has over the past few years begun to experiment with a range of flexible offerings – campus-based, part-time, workplace-based and distance/online – the evidence available during this study suggests that this transition had not been done in a systematic way that allowed ANU to learn optimally from the process and from what works / does not work in different modalities and contexts. It is suggested that the action-research approach previously employed by ANU to encourage professional development related to course improvement could be revived and applied more generally to provide empirical data helping the institution better to understand the implications of different models of provision and different combinations of models. This would imply somebody, or perhaps two people (probably from IODL and Research), within ANU being given dedicated time to lead such a process.

6.6.6 National and cross-border provision sub-system

ANU has for some years been offering programmes across borders, whether to Kenyans in diaspora (who typically submit assignments for assessment through email and write examinations in the Kenyan Embassy or High Commission in their country of residence) or through specific in-country programmes, such as its mission in Malawi. With increasing migration online, geographical boundaries will likely erode further and, as discussed in Chapter 3, there is need to ensure both relevance and equivalence of provision. UNESCO's guidelines for cross-border provision provide a useful starting framework (UNESCO, 2005).

6.6.7 Financial management sub-system

The context of higher education has changed globally and it is recognised that there is need for new business models (Lapovsky, n.d.). Although it is not yet clear what kinds of new business models will prove appropriate, it seems likely that issues such as market share, entrepreneurship, interaction and co-creation will be central features (Pucciarelli & Kaplan, 2016).

As noted in Chapter 3 and above, there is need for proper costing, and more efficient and effective provision that is market-related, with responsible cross-subsidisation criteria and practices (CHE, 2013; DHET RSA, 2016; Hülsmann, 2016; Noonan, 2015; Welch & Reed, 2005). It is important for sustainability and quality that projected revenues and costs are modelled at the outset based on empirical data (Fischer et al., 2014). Also, as noted in Chapter 3, there is need for longer term planning that takes account of three phases of a programme's life-cycle: development prior to enrolment and an enrolment growth phase when expenditure will exceed income; a plateau enrolment level when income will hopefully exceed expenditure (without compromising quality); and a teach-out phase when expenditure will likely begin to exceed income again as student numbers decline. It is worth observing again that a four-year BEd programme may take two to three years for development and internal and external accreditation processes prior to implementation and twelve years to teach out.

There is a financial argument for including high quality OER in this process, but this has policy and transformation implications as well (Butcher & Hoosen, 2011; Miao et al., 2016). Harley (2016) further cautions:

While one would need data from a much larger sample to make confident assertions, the case of ANU does seem to suggest that the challenge of operationalizing OER practices in private universities in developing countries can be considerable. Without the reliable funding base of public universities, investment in meaningful curriculum/content development work is surely never going to be more than a remote aspiration. (p. 41)

There are costs involved in developing learning resources, even if appropriate OER can be sourced and used, but in an ODeL context, the cost of developing learning resources is usually amortised over many student course fees. Other business models exist, however. In a 2013 paper, de Langen identifies four other possible OER-oriented models: freemium – making OER freely available as an incentive for students to register for the university's accredited programmes (see also Perryman, Law, & Law, 2013); efficiency – exchanging OER in different areas to avoid duplicated development; subsidizing – in which governments or funders support development of a range of OER that address common needs and impact positively on addressing these needs; and platforming – where an institution or organisation curates OER from several sources for a hosting fee, editorial servicing fee, advertising royalties or other means.

With respect to ODeL provision, the candidate has recommended to ANU, as he has to contact providers more generally (Mays, 2014c), that it is better to start small and focus on a few programmes with high growth and turnaround potential to develop systems, processes and staff competencies before, possibly, expanding into large-scale ODeL provision including full undergraduate degree programmes.

Decisions about what to offer, how and to whom need to be informed by a thorough understanding of needs and opportunities (OLC, 2016), current and emerging good and promising practices (consider for example the lessons being published through open access channels such as IRRODL and the OERknowledgecloud) and used to generate theory appropriate for the ANU-Kenya context (Teräs & Herrington, 2014) in order to inform future-decision making in a hermeneutic cycle of inquiry.

6.6.8 Tracking the impact of OER in ODeL provision

It will be important for ANU to track how its engagement with OER contributes, or does not, to the development of its increasingly resource-based and ODeL programme offerings. For this purpose, it needs to develop a set of metrics to track. A possible starting point in developing such a tracking instrument is provided in the following Table 6.2.

Table 6.2: Performance indicators of successful take-up of OER

| Goal | Desired effect | Performance indicator |
|------------------------------|---|--|
| Enhance reputation | | Rank |
| | Attract new students | Mutation in growth percentages of new students per year |
| | Generate funding | Success rate of proposals |
| | Collaborate with other institutes | Mutation in growth of # of collaborations |
| Support students & teachers | Offer easy ways of finding information | User evaluations |
| | Collaboration between departments | Mutation in growth of # of collaborative projects |
| | Offer insight in fee-base program for future students | Difference in first-year drop-out rates between programs with open content and programs without open content |
| Enhance quality of education | Better quality materials | Expert evaluations Average revision cycle for learning materials |
| | Better learning experiences | Compare student results of fee-based programs that provide open content with student results of programs that only offer closed content. |
| Share knowledge | Educate self-learners | # of self-learners # virtual communities active on a subject |
| | Support alumni | # of alumni website visitors # of active alumni |
| | Creation and innovation in collaboration | # of adapted materials # of contributions from individual learners # of discussion groups, or other virtual communities |

Table 3: goals, desired effects and performance indicators for the success of OER. Note: The data on number of new students, or number of collaborations need to be related to the average growth that has been observed in these numbers during the years that no OER were available, or they need to be compared to growth numbers of other departments that are similar but do not offer OER.

(Source: Helsdingen, Janssen, & Schuwer, 2010, p. 10)

6.7 Concluding thoughts

This study arose from a multi-year project that was initiated by OER Africa with support from the Hewlett Foundation.

Chapter 1 outlined the circumstances that led to engagement between ANU and OER Africa and how the candidate became involved in that process. The study addressed ANU's need for a historical account of its interaction with OER Africa, given the extensive external and internal change in the ANU environment, and OER Africa's need to explore in a more in-depth way how OER might contribute towards curriculum and pedagogic transformation. It seemed useful to complete the study in time for

the findings and recommendations to be considered during ANU's new cycle of strategic planning from 2017.

Chapters 2 and 3 explored the underpinning philosophy of the study as well as curriculum and systems issues related to more flexible provision based on ODeL principles and integrating OER.

Chapter 4 elaborated the chosen methodology and outlined the combination of document reviews, workshops, focus group discussions, interviews and in-country on-site observations that provided the information that was reviewed in Chapter 5 and which led to the observations and recommendations in Chapter 6.

As noted in the discussion, the candidate's engagement with ANU started with a review of its distance education offerings and an exploration of the potential of OER to add quality and save time in updating these programmes, but evolved into a conversation about the university's overall business model. This is a conversation that will need to continue as ANU moves into its new strategic planning and implementation phase from 2017. While the candidate may no longer be part of that conversation, he is hopeful that others will.

The candidate remains an advocate for OEP, using open, distance and e-learning methods and integrating and producing OER, and believes that this is consistent with ANU's faith-based vision, mission and values. It seems to him that higher education is more likely to meet the need for opening access with a reasonable chance of success by being open to sharing and working together. As a widespread African proverb cautions:

"If you want to travel quickly, travel alone. If you want to travel far, travel together."

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Appendices

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Appendix 1: Ethical clearance

1.1 Unisa ethical clearance



COLLEGE OF EDUCATION RESEARCH ETHICS REVIEW COMMITTEE

15 July 2015

Ref #: **2015/07/15/7317883/03/MC**

Student #: Mr TJ Mays

Student Number #: 7317883

Dear Mr Mays

Decision: Ethics Approval

Researcher

Mr TJ Mays
Tel: +2712 667 6885/+2782 371 9215
tonym@unisa.ac.za

Supervisor

Prof LJ van Niekerk
College of Education
Acting Deputy Executive Dean
Tel: +2712 429 4778
vnieklij@unisa.ac.za

Proposal: Utilising open education resources in support of curriculum transformation at Africa Nazarene University: a participating action research approach

Qualification: D Ed in Curriculum Studies

Thank you for the application for research ethics clearance by the College of Education Research Ethics Review Committee for the above mentioned research. Final approval is granted for 2 years.

For full approval: *The application/ resubmitted documentation was reviewed in compliance with the Unisa Policy on Research Ethics by the College of Education Research Ethics Review Committee on 15 July 2015.*

The proposed research may now commence with the proviso that:

- 1) The researcher/s will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.*
- 2) Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study, as well as changes in the methodology, should be communicated in writing to the College of Education Ethics Review Committee.*



University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150
www.unisa.ac.za

Open Rubric

An amended application could be requested if there are substantial changes from the existing proposal, especially if those changes affect any of the study-related risks for the research participants.

- 3) *The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study.*

Note:

The reference number **2015/07/15/7317883/03/MC** should be clearly indicated on all forms of communication [e.g. Webmail, E-mail messages, letters] with the intended research participants, as well as with the College of Education RERC.

Kind regards,



Dr M Claassens
CHAIRPERSON: CEDU RERC
mcdtc@netactive.co.za



Prof VI McKay
ACTING EXECUTIVE DEAN



University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150
www.unisa.ac.za

1.2 ANU permission letter

3/10/2014



AFRICA NAZARENE
UNIVERSITY

To:

Mr. Tony J Mays,

Manor House No. 2,

La Rochelle Crescent/137 South Street ,

De Hoewes X22 ,

Centurion , 0157,

South Africa.

Dear Mr. Mays,

REF: REQUEST TO DOCUMENT OER ENGAGEMENT WITH AFRICA NAZARENE UNIVERSITY AS THE BASIS FOR A DED STUDY WITH THE UNIVERSITY OF SOUTH AFRICA 2014-2017

Your request to document the processes of mainstreaming OER usage at Africa Nazarene University in a doctoral study is fully supported and approved.

In accordance with the university policy you will be expected to donate a copy of your successful dissertation to Africa Nazarene University Main Library for scholarly use by students and Faculty of the Institution.

Yours Sincerely,

Mrs Mary Atieno Ooko

DIRECTOR, INSTITUTE OF OPEN AND DISTANCE LEARNING

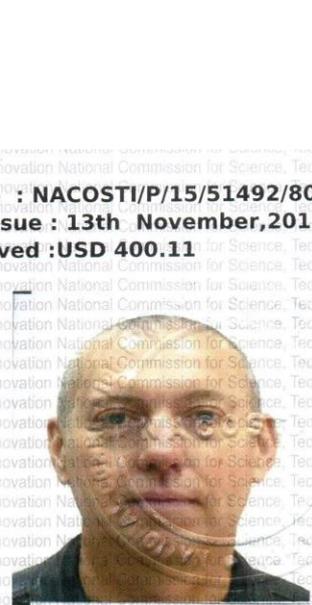
1.3 NACOSTI ethical clearance

**THIS IS TO CERTIFY THAT:
MR. TONY JOHN MAYS
of SOUTH AFRICAN INSTITUTE FOR
DISTANCE EDUCATION, Floor 14, Rennie
House, Ameshof St-2000
Johannesburg, has been permitted to
conduct research in Nairobi County**

**Permit No : NACOSTI/P/15/51492/8010
Date Of Issue : 13th November,2015
Fee Received :USD 400.11**

**on the topic: UTILISING OPEN
EDUCATIONAL RESOURCES IN SUPPORT
OF CURRICULUM TRANSFORMATION AT
AFRICA NAZARENE UNIVERSITY: A
PARTICIPATORY ACTION RESEARCH
APPROACH**

**for the period ending:
9th November,2018**



**Applicant's
Signature**

**Director General
National Commission for Science,
Technology & Innovation**

CONDITIONS

1. You must report to the County Commissioner and the County Education Officer of the area before embarking on your research. Failure to do that may lead to the cancellation of your permit
2. Government Officers will not be interviewed without prior appointment.
3. No questionnaire will be used unless it has been approved.
4. Excavation, filming and collection of biological specimens are subject to further permission from the relevant Government Ministries.
5. You are required to submit at least two(2) hard copies and one(1) soft copy of your final report.
6. The Government of Kenya reserves the right to modify the conditions of this permit including its cancellation without notice.



**National Commission for Science,
Technology and Innovation
RESEARCH CLEARANCE
PERMIT**



**NATIONAL COMMISSION FOR SCIENCE,
TECHNOLOGY AND INNOVATION**

Telephone: +254-20-2213471,
2241349, 310571, 2219420
Fax: +254-20-318245, 318249
Email: secretary@nacosti.go.ke
Website: www.nacosti.go.ke
When replying please quote

9th Floor, Utalii House
Uhuru Highway
P.O. Box 30623-00100
NAIROBI-KENYA

Ref. No. NACOSTI/P/15/51492/8010

Date:
13th November, 2015

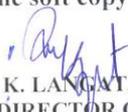
Tony John Mays
South African Institute for Distance Education
SOUTH AFRICA.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on *“Utilising Open Educational Resources in support of curriculum transformation at Africa Nazarene University: A participatory action research approach,”* I am pleased to inform you that you have been authorized to undertake research in **Nairobi County** for a period ending **9th November, 2018**.

You are advised to report to **the Vice Chancellor, Africa Nazarene University, the County Commissioner and the County Director of Education, Nairobi County** before embarking on the research project.

On completion of the research, you are expected to submit **two hard copies and one soft copy in pdf** of the research report/thesis to our office.


DR. S. K. LANGAT, OGW
FOR: DIRECTOR GENERAL/CEO

Copy to:

The Vice Chancellor
Africa Nazarene University.

The County Commissioner
Nairobi County.

The County Director of Education
Nairobi County.



National Commission for Science, Technology and Innovation is ISO 9001:2008 Certified

Appendix 2: Paradigms and practices

| Paradigm/era origins | Dominant period philosophies | Associated theoretical frameworks | Implications for teaching | Implications for research |
|---|--|--|---|--|
| <p>Transmission/ Traditional/ Technical c. 500 BC – c.1781 AD+</p> <p>Plato 427-347 BC Hegel 1770-1831 St Augustine 354-430 Locke 1632-1704 Hume 1711-1776 Kant 1724-1804</p> <p>Cf Confucianism</p> <p>Aristotle 384-322 BC Aquinas 1225-1274 BC Descartes 1596-1650</p> <p>Transition to Modernism in line with scientific and industrial development Cf Franklin Bobbitt/ Ralph Tyler for early curriculum theory</p> | <p>Idealism Search for truth and values that will stand the test of time Reasoning, intuition and revelation Emphasis on moral and spiritual reality To know is to rethink the latent ideas that are already present in the mind (Ornstein & Hunkins, 2004:33-34) 'What advantage can there be in possessing everything except what is good, or in understanding everything else while of the good and desirable we know nothing?' Plato The Republic, Book 23</p> <p>Realism Objects and matter come to be known through senses and reason A purpose-driven rational life of moderation Logic and reason Truth emanates from both science and art (Ornstein & Hunkins, 2004:34)</p> | <p>Logical empiricism (dominant Western philosophy of 18th to 20th C) Emphasis on the nature of scientific truth: truth as reason and sense experience; mediated through reasoned language Vienna Circle 1907-1938 Schlick 1882-1936 Wittgenstein 1889-1951 Ayer 1910 - 1989 Key influences: Copernicus, Galileo, Darwin See BF Skinner for early T&L theory</p> <p>Critical rationalism Truth eludes us: avoid falsity: truth as exploration Reaction to logical empiricism Trial and error will help uncover what is false not what is true = The scientific method Socrates (470 – 399 BC) Popper (1902 – 1994)</p> | <p>Planning: Curriculum as product – teaching inputs, learning outputs, content-based Emphasis on spiritual, moral or mental; unchanging; absolute, eternal values Mediating/learning: Rethinking latent ideas Teacher as a moral, spiritual leader Knowledge recall; can lead to surface learning Abstract, logical, thinking as the highest form Behaviourist, deficit model of learner Learning from experience Assessing: Summative Tests the what and related reasoning Limited feedback</p> <p>Planning: Curriculum as product – teaching inputs, learning outputs, content-based Emphasis on natural laws; objective and composed of matter; values are absolute, eternal and based on nature's laws Knowledge/subject-based includes Arts and Human and Natural Sciences Mediating: Consisting of sensation and abstraction Teacher as a moral, spiritual leader/ authority Cultivation of objective, rational thought Exercising the mind Abstract, logical thinking as the highest form Behaviourist, deficit model of learner</p> | <p>Questions: What actually happened? What are the facts? What is the relationship between incoming IQ scores and matric achievement?</p> <p>Methods: Impartial researcher separated from researched Seeks to be objective Often quantitative Logical reasoning Emphasis on experience that can be repeated, confirmed Analysis: Triangulation Tests of validity, reliability Views/findings can be challenged by others</p> <p>Questions: What went wrong? Can this be true? Why? Questions based on dissatisfaction with current explanations. Are the reasons given for the spread of HIV/AIDS or the low success rate in systemic evaluations in Grades 3, 6, 9 and 12 true? Methods: Recognition that researcher not entirely impartial Seeks to be objective Often quantitative Logical reasoning</p> |

| Paradigm/era origins | Dominant period philosophies | Associated theoretical frameworks | Implications for teaching | Implications for research |
|--|--|--|--|--|
| | <p>Leads to: Perennialism Essentialism</p> <p>'Good itself will be no more of a good by being eternal; for a white thing is no whiter if it lasts a long time than if it lasts a day.'</p> <p>'... it is puzzling to know what the weaver or carpenter will gain for his own skills from knowing this Good Itself, or how anyone can be better at medicine or leadership from having gazed on the Idea Itself.' Aristotle, Nicomachean Ethics, Book 1.</p> | | <p>Use of problem-solving requiring clear thinking, uncovering of false assumptions, open discussion (within an set curriculum)</p> <p>Assessing: Summative Tests the what Limited feedback</p> | <p>Emphasis on experience that can be repeated, confirmed</p> <p>Theories based on induction inherently flawed but multiple tests improve confidence</p> <p>Analysis: Triangulation Tests of validity, reliability Seeks a 'satisfactory' explanation Views/findings can be challenged by others Is/ought distinction</p> |
| <p>Transactional/ Translation/ Hermeneutic/ Practical c.1781 – WWI, WWII</p> <p>Cf John Dewey 1859 - 1952</p> <p>Modernist era</p> | <p>Pragmatism Change, process, relativity Knowledge as a process constantly changing Emphasis on problem-solving Patterns Emphasis on HOW rather than WHAT to think Truth not absolute: proof in relation to facts, experience and/or behaviours</p> | <p>Hermeneutics Orig. 16C interpretation of ancient texts Emphasis on life as a process of interpretation and dialogue: truth as understanding Schleiermacher 1768 – 1834 Dilthey 1833 – 1911 Gadamer 1900 – Wittgenstein 1889 - 1951</p> | <p>Planning: Curriculum as practice/process – based on teacher's professional judgement and learners' understanding Emphasis on interaction of individual with environment and therefore always changing; values are situational relative and subject to change and verification No permanent knowledge or subjects; appropriate experiences that prepare learners for change; problem-solving topics; interdisciplinary, including manual/vocational and life skills</p> <p>Mediating: An integrated model; teachers responsible to ensure meaning for all learners</p> | <p>Questions: What do you mean/think? How do/can we understand this? What do other people say? What is the significance of the Constitution/SASA/NCS? Why are some learners achieving more than others from a similar socio-economic background?</p> <p>Methods: Knowledge is socially constructed and therefore historically and culturally specific Subjective understandings are important Researcher cannot stand outside the researched context Participant-observer Focus groups</p> |

| Paradigm/era origins | Dominant period philosophies | Associated theoretical frameworks | Implications for teaching | Implications for research |
|----------------------|--|---|---|---|
| | <p>Process of reconstructing experience according to the scientific method (Ornstein & Hunkins, 2004:34-5)</p> <p>Leads to: Progressivism</p> <p>'The truth is that which works' – Dewey</p> | <p>Systems theory Life is a system of which we are a part: truth as a whole Bertalanffy (1901-) Parsons (1902-) Wiener (1894 – 1964)</p> | <p>Teacher deliberately and progressively yields control of the learning process to learners Learners actively involved in meaning-making; experiential and inquiry-based learning, learning by doing and problem-solving Constructivist approaches High interaction Subjective meanings from relationships Assessing: Test the 'how' Summative and formative Varied strategies Emphasis on feedback and deep learning</p> <p>Planning: Curriculum as practice – based on teacher's professional judgement and learners' understanding Emphasis on interaction of individual with environment and therefore always changing; values are situational relative and subject to change and verification No permanent knowledge or subjects; appropriate experiences that prepare learners for change; problem-solving topics; interdisciplinary, including manual/vocational and life skills Emphasis on the big picture and connections Mediating: An integrated model; teachers responsible to ensure meaning for all learners Teacher deliberately and progressively yields control of the learning process to learners Learners actively involved in meaning-making; experiential and inquiry-based learning and problem-solving Emphasis on reflective thinkers Connectivist/Constructivist approaches Self as system within systems requiring high interaction and communication</p> | <p>Iterative processes building on previous learning/findings and use of heuristics Grounded theory approaches Analysis: Knowledge for judgement, deliberation and refinement Triangulation through different sources including but not limited to texts Discourse analysis</p> <p>Questions: What is the overall goal? What parts of the system are working well or badly? How does this relate to ...? How do family relations and circumstances impact on educational achievement? Methods: Knowledge is socially constructed and therefore historically and culturally specific Subjective understandings are important Researcher cannot stand outside the researched context Participant-observer Focus groups Iterative processes building on previous learning/findings Grounded theory approaches Emphasis on systemic linkages and impacts Analysis: Knowledge for judgement, deliberation and refinement Triangulation through different sources including but not limited to texts Diagrammatic presentations of findings</p> |

| Paradigm/era origins | Dominant period philosophies | Associated theoretical frameworks | Implications for teaching | Implications for research |
|---|--|---|--|---|
| | | | Assessing: Test the 'how' Summative and formative Varied strategies Emphasis on feedback | |
| Transformation/ Critical/ Emancipatory Roots in past but particular post WWs Transition from Modern to Post Modern | Existentialism Stress on individualism and personal self- fulfilment Choices about what is truth and the criteria for determining truth Developing consciousness about the freedom to choose and the meaning and responsibility for one's choices (Ornstein & Hunkins, 2004:37) Leads to: Reconstructionism 'Is is up to the individual to choose the life they think best.' Existence precedes essence – contra Aristotle – Sartre | Phenomenology Human experience as a mixture of feeling, awareness and consciousness; truth as authenticity Put aside preconceptions: explore what is really happening There is an objective truth Derrida (1930-) Nietzsche (1844 – 1900) [Note synergy with African Philosophy] | Planning: Curriculum as praxis – teacher & learner together uniquely human with subjective perceptions of truth Emphasis on knowledge needed to inform personal choices; choices in subject matter including emotional, aesthetic, philosophical and socially-oriented Values and ethics that inform choice-making Mediating: Institutions out of touch with real world therefore deliberate aim at power-sharing; exploration of common concerns and support for self- and social transformation Truth as authenticity: ruthless honesty Rejection of dogma/preconceptions Teachers and learners are co-learners Social constructivist/interactionist Reflection on personal experiences Assessing: Negotiated assessment Emphasis on peer and goal-based assessment Feedback in form of critical response and contribution to action | Questions: Who am I? How do we feel about this? How is this experienced in reality? What is really happening? What is the aim and purpose of education? Methods: Knowledge is socially constructed but also politically influenced Exploration of the relationship between knowledge and power; structure and agency Researcher cannot stand outside the researched context Intensive, iterative case studies Analysis: Knowledge is validated in praxis in specific social and political contexts Phenomenologists differ from post-modernists in that phenomenologists insist that any surface has an underlying structure (Higgs & Smith 2002:77). |
| See William Pinar/Patrick Slattery for emerging curriculum theory | | African philosophy Truth has its origins in Africa because human beings have their origins in Africa Pluralist in nature Cf Mudimbe, | Planning: Curriculum approaches vary but often take African contexts and contributions as a starting point Sometimes emphasis on knowledge needed to inform choices for African contexts including indigenous knowledge systems Values and ethics that inform choice-making and speak to Africa concerns and contexts e.g. Ubuntu but no clarity on what is uniquely 'African' | Questions: What does it mean to be African/in Africa? Is there a role for ethnophilosophy? Does it work in this context? What can be done about the legacy of colonial inequalities? What is the impact of globalization on the schooling system and curriculum in SA? Methods: |

| Paradigm/era origins | Dominant period philosophies | Associated theoretical frameworks | Implications for teaching | Implications for research |
|----------------------|------------------------------|--|--|---|
| | | Hountondji, Keita, Cabral, Wiredu, Bodunrin ... | <p>Mediating: Institutions often dominated by colonial baggage therefore often deliberate aim at exploration of common concerns and support for self- and social transformation in the African context – however as often any attempt to ‘Africanise’ teaching and learning seen as a counter-productive – curricula and methods often still dominated by colonial legacy Truth as African; process of socialization into African culture Pluralist – approaches from the traditional didactic and authoritarian to the social-constructivist and transformational</p> <p>Assessing: Again varied – depending on particular African contexts</p> | <p>Knowledge is socially constructed but also politically influenced esp. by colonial legacies Exploration of the relationship between knowledge and power; structure and agency Researcher cannot stand outside the researched context Intensive, iterative case studies</p> <p>Analysis: Knowledge is validated in praxis in specific social and political contexts In certain quarters African truth would be seen as an objective reality, that is, as truth in a distinctly African context, peculiar to Africa and its peoples. In other instances, African truth would be seen as the result of Africans practicing the discipline of philosophy in its universal application. And in yet other quarters, truth would be acclaimed as African to the extent that it liberated the people of Africa from the colonial past (Higgs & Smith 2002:110).</p> |
| | | <p>Critical theory Truth is created and uncreated by human beings and very often serves the status quo There is no such thing as objective truth Cannot separate “real-life testing” from “scientific theory” Cf Feminism, new Marxism, black consciousness Frankfurt School, Horkheimer (1895 – 1973) Habermas (1929 -) Paolo Freire (1921 – 1994)</p> | <p>Planning: Curriculum as praxis – teacher & learner together viewed as social agents transforming institutions and society; politicization via contextualisation Emphasis on knowledge needed to inform personal choices; choices in subject matter including emotional, aesthetic, philosophical, political, social, economic Values and ethics that inform choice-making</p> <p>Mediating: Institutions out of touch with real world therefore deliberate aim at power-sharing; exploration of common concerns and support for self- and social transformation Truth as unmasking Rejection of dogma/preconceptions Teachers and learners are co-learners Social constructivist/interactionist</p> | <p>Questions: Who tells us what is true and false? Where do we get our ideas from? Why is it that certain groups are so privileged? Why do we all accept serious inequalities?</p> <p>Methods: Knowledge is socially constructed but also politically influenced Exploration of the relationship between knowledge and power; structure and agency Researcher cannot stand outside the researched context Intensive, iterative case studies</p> <p>Analysis: Knowledge is validated in praxis in specific social and political contexts Critical theory ... differs from postmodernism in that critical theory claims that society is structured and</p> |

| Paradigm/era origins | Dominant period philosophies | Associated theoretical frameworks | Implications for teaching | Implications for research |
|----------------------|------------------------------|--|--|--|
| | | [Note synergy with Feminism] | <p>Critical pedagogy: schooling is a tool in the hands of the powerful (Higgs & Smith 2002:89)</p> <p>Emphasis on uses of language</p> <p>Assessing: Negotiated assessment Emphasis on peer and goal-based assessment Feedback in form of critical response and contribution to action to transform society</p> | <p>that our understanding of that structure will at least partially help to amend social evil. Postmodernists ... claim that society is not structured ... (Higgs & Smith 2002:91)</p> |
| | | <p>Feminism Truth as being a woman Wollstonecraft 1792 Irigaray (1932-) Kristeva (1941-) De Beauvoir (1908 – 1968) Arendt (1906 – 1975) Odora Hoppers (1967-)</p> | <p>Planning: Curriculum as praxis – teacher & learner together viewed as social agents transforming institutions and society; politicization via contextualisation Emphasis on knowledge needed to inform personal choices; choices in subject matter including emotional, aesthetic, philosophical subjects Values and ethics that inform choice-making Focus on the contributions of women; the voices that have traditionally not been heard; gender stereotyping; sexual objectification of women</p> <p>Mediating: Institutions out of touch with real world therefore deliberate aim at power-sharing; exploration of common concerns and support for self- and social transformation Truth as being woman Rejection of dogma/preconceptions Teachers and learners are co-learners Social constructivist/interactionist Critical pedagogy: schooling is a tool in the hands of the powerful (Higgs & Smith 2002:89) Emphasis on uses of language iro gender</p> <p>Assessing: Negotiated assessment Emphasis on peer and goal-based assessment Feedback in form of critical response and contribution to action</p> | <p>Questions: What social roles are we forced to adopt? Do women experience reality differently? Traditionally, philosophy has been written by men? What has been missed as a result?</p> <p>Methods: Knowledge is socially constructed but also politically influenced Exploration of the relationship between knowledge and power; structure and agency Researcher cannot stand outside the researched context Intensive, iterative case studies Focus group interactions In-depth personal accounts/narratives</p> <p>Analysis: Knowledge is validated in praxis in specific social and political contexts Feminism insists that traditional, male Aristotelian logic, working by itself, is powerless to uncover or discover significant human truth. In ignoring the place of the emotion, sexuality, the preliterate child, the “biological”, as the sphere of woman, the patriarchal academy ironically found itself barren (Higgs & Smith 2002:59).</p> |

| Paradigm/era origins | Dominant period philosophies | Associated theoretical frameworks | Implications for teaching | Implications for research |
|---|------------------------------|--|--|--|
| <p>A new era? A transcendental paradigm?</p> <p>Cf Buddhism</p> | | <p>Postmodernism We can understand neither truth nor falsity: truth as an illusion “The rage against reason” Language cannot define reality Rejection of grand narratives Instinct/emotion drive choices Lyotard (1924-Levi-Strauss Foucault Derrida</p> <p>Nihilism Human beings have an erratic and chaotic existence with no purpose or meaning</p> <p>Chaos Theory Concerned with processes that appear to be random or chaotic but which actually have their own internal order and their own kind of process principles – McMillan 2004 cf Poincare, Lorenz, Ruelle, Takens, Smale, Yorke, Langton, Mandelbrot,</p> | <p>Note: Montessori approaches would seem to fit well in this paradigm</p> <p>Planning: Postmodern thinkers probably would not work comfortably in the formal schooling system but: Focus on individual interests/choices Exploration of emotion, instinct, drive, sexuality, imagery, pervasive influence of technology</p> <p>Mediating: Institutions out of touch with real world therefore deliberate aim at power-sharing; exploration of common interests/concerns and support for self-transformation and self-understanding Truth as an illusion Rejection of dogma/preconceptions Teachers and learners are co-experiencers of reality and make their own meaning Process of personal empowerment</p> <p>Assessing: Self-assessment Self-authenticity</p> | <p>Questions: Is life worth living? What does it mean to me? What are the moral/ethical considerations that inform the NCS and the schooling system?</p> <p>Methods: Personal self-reflection</p> <p>Analysis: Does it make sense to me? Do I want to explore this with someone else?</p> |

| Paradigm/era origins | Dominant period philosophies | Associated theoretical frameworks | Implications for teaching | Implications for research |
|----------------------|------------------------------|---|---------------------------|---------------------------|
| | | <p>Feigenbaum, Libchaber</p> <p>Complexity Theory</p> <p>Complexity science (including chaos), challenges much of the established, classical, scientific view:</p> <p>Small details important</p> <p>Interested in paradoxes, contradictions and irregularities</p> <p>Prefers holism to reductionism</p> <p>Uses qualitative alongside quantitative analysis</p> <p>Uses computer simulations to identify patterns and flows</p> <p>Key concepts: self-organisation, complex adaptive systems, emergence, new concepts of evolution</p> <p>Cf Prigogine, Haken, Kauffman, Goodwin, Stewart, Maturana, Vaerla, Hooand, Gelman, Langton</p> <p>McMillan, 2008</p> | | |

Appendix 3: Instruments

3.1 Consent letter

Dear Colleague

Agreement to participate in a research study: Utilising Open Education Resources in support of curriculum transformation at Africa Nazarene University: a participatory action research approach

As part of the ongoing collaboration between Africa Nazarene University (ANU) and OER Africa to explore the mainstreaming of OER at ANU in support of improved teaching and learning, particularly through ODeL, you are invited to participate in the related research study whose title is given above. Please note that participation in this research agenda is voluntary and you may withdraw at any time without consequence.

The study will be undertaken by Tony Mays in the form of an autoethnographic doctoral thesis in curriculum studies through the University of South Africa under the supervision of Professor L J van Niekerk, the Acting Deputy Executive Dean of the College of Education.

The study aims to document the process and findings related to mainstreaming OER at ANU in order not only to contribute to achieving the wider goals of the project as set out in the MoU between the two organisations but also to provide a record for posterity of the process and findings within ANU for the ANU library.

As a member of the core team involved in the implementation of ODL at ANU and/or your role in supporting processes such as policy review and development, curriculum and materials development, quality assurance, capacity-building and/or ICT support you will be requested from time-to-time to participate in discussions, some of which will be audio recorded with permission in advance to facilitate analysis, to supply documents and on two occasions to complete a formal survey instrument which will form the principle data for the study over the period November 2015 to November 2016. You will be one of between 10 and 20 ANU staff to be involved in the process based on purposive sampling related to your role (determined within ANU) in mainstreaming the use of OER in teaching and learning at ANU, particularly for but not limited to ODeL provision.

Participation in the process will help you both to co-determine the goals and activities involved and also provide a means for you to comment on what is being learned from the process itself.

Participation will not involve any additional time commitment from what we collaboratively agree to be necessary for the process of unfolding the MoU between ANU and OER Africa and the plans we have made together.

You are assured that anything you say or do in support of the process will be kept strictly confidential excepting where you publish anything under an open licence that then becomes part of the documentary evidence for the thesis. You can withdraw from the process at any time subject to the directives of ANU management. Professor Ethangatta is fully aware of and supports the study, will have access to all draft documentation and will be able to address any questions as to why ANU supports the study or any questions you have about ANU's internal procedures in relation to the study.

Ethical clearance for the study has been obtained from the University of South Africa, ANU management and the Ministry of Higher Education, Science and Technology in Kenya.

You can contact me at any time with questions about the study as set out below.

I hope that you will feel ready and able to participate in the study on the above terms and will demonstrate your consent by signing the consent letter below.

Thank you in anticipation.

Tony Mays

Email: tonym@saide.org.za

Phone: +27 82 371 9215

I,FULL NAME, of

.....DEPARTMENT, of Africa Nazarene University agree to participate in the study **Utilising Open Education Resources in support of curriculum transformation at Africa Nazarene University: a participatory action research approach** over the period September 2015 to December 2016 in line with the agreement of ANU management.

I understand that personal contributions made to this research will be kept confidential (unless I explicitly request in writing that my opinion be recorded as part of the public record) and I undertake in return not to divulge any information that I learn as part of the process (or until such information is made public under an open licence).

Name:

Title:

Email:

Signature:

3.2 Survey instrument

The survey instrument on the following pages was used at the start and towards the end of the data collection cycle.

| |
|--|
| Summarising your own understanding of and engagement with OER |
| Define OER in your own words. |
| |
| |
| |
| |
| Explain how you have engaged with OER in the past six months, if at all. |
| |
| |
| |
| Outline your planned engagement with OER in 2015/2016, if at all. |
| |
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| |

OER Maturity Index

This OER Maturity Index (adapted from an EduCause tool for data analytics) has been formulated as a general assessment of progress in mainstreaming use of OER. You may find that the scores along the six dimensions (Expertise/ Policy and Procedure/ Quality Assurance/ Infrastructure/ Culture and leadership/ Investment) will differ depending on the department or immediacy of engagement with learning resources generally and OER in particular.

The index should be used more than once and by multiple stakeholders as a stimulus to dialogue in the institution regarding the next steps needed to mainstream the use of OER. Additional indicators might be added in time.

| | Strongly agree | Agree | Neutral | Disagree | Strongly disagree | Total |
|---|----------------|-------|---------|----------|-------------------|-------|
| Expertise | | | | | | |
| 1. We have a sufficient number of staff who know what OER are. | 5 | 4 | 3 | 2 | 1 | |
| 2. We have a sufficient number of staff who know where/how to find OER. | 5 | 4 | 3 | 2 | 1 | |
| 3. We have a sufficient number of staff who know how to evaluate OER. | 5 | 4 | 3 | 2 | 1 | |
| 4. We have a sufficient number of staff who know how to adapt OER. | 5 | 4 | 3 | 2 | 1 | |
| 5. We have a sufficient number of staff who are able to clear third-party copyright. | 5 | 4 | 3 | 2 | 1 | |
| 6. We have a sufficient number of staff who are able to prepare resources for publication as OER. | 5 | 4 | 3 | 2 | 1 | |
| Total: x / 6 | | | | | | |
| Policy and procedure | | | | | | |
| 1. There are clear institutional policies and procedures regarding IP, copyright and plagiarism. | 5 | 4 | 3 | 2 | 1 | |
| 2. There are clear institutional policy guidelines on how OER should be used and published. | 5 | 4 | 3 | 2 | 1 | |
| 3. There are clear procedures, checks, balances and support for each stage of the OER life-cycle (find/evaluate/adapt/clear copyright/publish/use/revise) | 5 | 4 | 3 | 2 | 1 | |
| 4. HR recognition, support and rewards support quality learning resource development in general and use of OER in particular. | 5 | 4 | 3 | 2 | 1 | |
| 5. ICT policies and processes support quality learning resource development in general and use of OER in particular. | 5 | 4 | 3 | 2 | 1 | |
| 6. There are ICT policies and procedures for backing up, archiving, versioning and reversioning learning resources. | 5 | 4 | 3 | 2 | 1 | |

| | Strongly agree | Agree | Neutral | Disagree | Strongly disagree | Total |
|---|----------------|-------|---------|----------|-------------------|-------|
| Total: x / 6 | | | | | | |
| Quality assurance | | | | | | |
| 1. There are staff dedicated to quality assurance who are also knowledgeable about OER and related issues. | 5 | 4 | 3 | 2 | 1 | |
| 2. There are quality guidelines and processes to ensure programmes are designed which are coherent and fit for purpose including ensuring equivalence of provision across different modes – campus-based/part-time/school-based/distance ... | 5 | 4 | 3 | 2 | 1 | |
| 3. There are quality guidelines and processes to ensure that learning resources for constituent courses are fit for purpose including ensuring equivalence of provision across different modes – campus-based/part-time/school-based/distance ... as well as addressing issues of level of demand, interactivity, sequencing and progression. | 5 | 4 | 3 | 2 | 1 | |
| 4. There are quality guidelines and processes to ensure that assessment strategies are valid, reliable and equivalent across different modes of provision. | 5 | 4 | 3 | 2 | 1 | |
| 5. There are processes and procedures to ensure the clearance of third party copyright in all learning resources. | 5 | 4 | 3 | 2 | 1 | |
| 6. Feedback from key stakeholders such as learners, teachers, external examiners, employers and professional bodies is demonstrably fed back into quality improvement of programmes, courses and learning resources. | 5 | 4 | 3 | 2 | 1 | |
| Total: x / 6 | | | | | | |
| Infrastructure | | | | | | |
| 1. Staff and students have access to sufficient ICT software, hardware and ongoing support to develop and use learning resources that are increasingly digital in nature. | 5 | 4 | 3 | 2 | 1 | |
| 2. Plagiarism software is available and is used to scan content developed by both students and staff. | 5 | 4 | 3 | 2 | 1 | |
| 3. The systems for backing up, archiving, versioning and re-versioning learning resources are functional and robust. | 5 | 4 | 3 | 2 | 1 | |
| 4. Specialist multi-media development capacity is available and sufficient for projected growth in the use of digital learning resources. | 5 | 4 | 3 | 2 | 1 | |

| | Strongly agree | Agree | Neutral | Disagree | Strongly disagree | Total |
|---|----------------|-------|---------|----------|-------------------|-------|
| | | | | | | |
| 5. There are policies and procedures that specify rights and privileges regarding access to institutional and individual data and resources. | 5 | 4 | 3 | 2 | 1 | |
| 6. We have sufficient capacity to store, manage, route, analyse and monitor large volumes of data, resources and student queries and assessment. | 5 | 4 | 3 | 2 | 1 | |
| Total: x / 6 | | | | | | |
| Culture and leadership | | | | | | |
| 1. Our senior leaders are publicly committed to the use of quality resource-based learning approaches in general and to use of OER in particular. | 5 | 4 | 3 | 2 | 1 | |
| 2. We have a culture that recognises that education and the sharing of intellectual property are desirable things. | 5 | 4 | 3 | 2 | 1 | |
| 3. Our internal quality assurers understand and support the appropriate use of appropriate OER. | 5 | 4 | 3 | 2 | 1 | |
| 4. Our external quality assurers understand and support the appropriate use of appropriate OER. | 5 | 4 | 3 | 2 | 1 | |
| 5. Our faculty largely understand and support the appropriate use of appropriate OER. | 5 | 4 | 3 | 2 | 1 | |
| 6. Our students largely understand and support the appropriate use of appropriate OER, including resources they might have developed themselves. | 5 | 4 | 3 | 2 | 1 | |
| Total: x/6 | | | | | | |
| Investment | | | | | | |
| 1. Our funding level for quality curriculum and resource development is sufficient to meet our current needs. | 5 | 4 | 3 | 2 | 1 | |
| 2. Funding for the sourcing/adaptation/development of quality learning resources is seen as a necessary investment (rather than as a cost to be subsidised by unpaid overtime). | 5 | 4 | 3 | 2 | 1 | |
| 3. We have an appropriate number of staff involved in the development of quality curriculum and supporting learning resources. | 5 | 4 | 3 | 2 | 1 | |
| 4. We invest in training related to curriculum and learning resource development including the use of OER. | 5 | 4 | 3 | 2 | 1 | |

| | Strongly agree | Agree | Neutral | Disagree | Strongly disagree | Total |
|---|----------------|-------|---------|----------|-------------------|-------|
| 5. Our ICT support staff are sufficient in number and expertise to support progression to increasing use of digital resource-based learning. | 5 | 4 | 3 | 2 | 1 | |
| 6. We make provision for processes of planning, developing, trialling/piloting, monitoring and regular curriculum and learning resources review and revision. | 5 | 4 | 3 | 2 | 1 | |
| Total: x / 6 | | | | | | |

| Dimensions | Totals | |
|------------------------|--------|-------------|
| Expertise | | |
| | | |
| Policy and procedure | | |
| | | |
| Quality assurance | | |
| Infrastructure | | |
| | | |
| Culture and leadership | | |
| | | |
| Investment | | |
| Total | | /6 = |
| | | |

DESIGN Worksheet: OER Maturity index

| |
|---|
| |
| Identify and prioritise the steps that need to be taken to improve in each dimension. |
| |
| |

IMPLEMENTATION Worksheet

| |
|---|
| |
| Vision 2018 |
| Describe your vision for 2018 in relation to use of OER and impact thereof: |
| |
| |
| |

| | |
|---|--|
| To achieve the vision, identify the key goals and interventions necessary: | |
| 2017-2018 | |
| | |
| | |
| | |
| 2016-2017 | |
| | |
| | |
| | |
| 2015-2016 | |
| | |
| | |
| | |
| | |

Now detail what needs to be done, how and by whom in 2015-2016

| | | | | | |
|---|-------------------|--------------------|--------------------|------------------|------------------|
| Objectives | | | | | |
| (Specific, Measurable, Acceptable and Accountable, Realistic and Trackable) | | | | | |
| Objective | Activities | Responsible | Accountable | Resources | Start/End |
| 1 | | | | | |
| | | | | | |

Acknowledgement: The process and templates used here have been adapted from an EDUCAUSE resource related to Learning Analytics <http://www.educause.edu/ecar/research-publications/ecar-analytics-maturity-index-higher-education>

3.3 ACHIEVE Open Education Resources Evaluation Rubric

Open Education Resources Evaluation Rubric

| Categories of Criteria | 3 – Superior | 2 - Limited | 1 – Weak/NA |
|---|---|--|---|
| Alignment to Course Objectives <ul style="list-style-type: none"> Alignment to individual course objectives | Course objective fully aligned and addressed comprehensively. | Course objective partially aligned and addressed. | Course objective neither aligned nor addressed. |
| Explanation of the Subject Matter Is the <ul style="list-style-type: none"> Content valid and appropriately current? Content understandable by target audience? Content authoritative and appropriate (age level, language, visuals, cultural sensitivity)? Does the <ul style="list-style-type: none"> Content present main ideas clearly? Content connect associated concepts? | Content is valid, appropriately current, understandable by target audience, authoritative, and appropriate. Content presents main ideas clearly and connects to associated concepts. | Content is partially valid, less than appropriately current, garners less than complete understanding by target audience, is incomplete in elements of authority and appropriateness. Content presents most main ideas clearly and connects to some associated concepts. | Content is invalid, outdated, not understandable by target audience, deficient in authority and appropriateness. Content neither presents main ideas clearly nor connects associated concepts. |
| Utility for Instruction <ul style="list-style-type: none"> Are instructions for use provided? Do the components of the OER function as intended? Does functionality require specific software or hardware? Is the OER licensed for open use? (CC license for reuse, remix, revise, redistribution) Is content adaptable or revisable? Is metadata available? | Comprehensive instructions are provided; components function as intended; functionality does not require additional software or hardware; OER is licensed for open use; content is adaptable and revisable; and, metadata is available. | Instructions are incomplete; some components do not function as intended; some functionality does require additional software or hardware; OER license is partially open; content is not easily adaptable and/or revisable; and, metadata is incomplete. | Instructions are not provided; components do not function as intended; functionality requires additional software or hardware; OER is not licensed for open use; content is not adaptable and/or revisable; and, metadata is not available. |

| Categories of Criteria | 3 – Superior | 2 - Limited | 1 – Weak/NA |
|---|---|---|--|
| <p>Quality of Assessment</p> <ul style="list-style-type: none"> • Is assessment aligned to the content? • Does the assessment measure and appropriately weight the major concepts of the content? • Does the structure of the assessment support an accurate measurement of proficiency? | <p>Assessment is aligned to the content; measures and appropriately weights the major concepts of the content; and, the assessment structure supports an accurate measurement of student proficiency.</p> | <p>Assessment is moderately aligned to the content; inconsistently measures and weights the major concepts of the content; and, the assessment structure compromises an accurate measurement of student proficiency.</p> | <p>Assessment is misaligned to the content; does not measure or appropriately weight the major concepts of the content; and, the assessment structure does not support an accurate measurement of student proficiency.</p> |
| <p>Quality of Technological Interactivity</p> <ul style="list-style-type: none"> • Does the OER functionality allow individualized learning by being flexible or adapting to individual control? • Is the OER functionality well designed and functions as expected on the intended platform? • Does the OER functionality invite student use or encourage learning? | <p>Functionality allows an individualized learning experience; is well-designed; and, encourages student use or learning.</p> | <p>Functionality moderately allows an individualized learning experience; the design is deficient in some areas; and, may not encourage student use or learning.</p> | <p>Functionality does not allow an individualized learning experience; has design flaws; and, discourages student use or learning.</p> |
| <p>Quality of Instructional and Practice Exercises</p> <ul style="list-style-type: none"> • Does the OER offer more exercises than needed for the average student to master elementary content? • Does the OER offer one to two rich practice exercises for complex content? • Are exercises clearly written? • Are exercises keyed and scored with appropriate documentation? • Is there a variety of exercise types and formats appropriate for the intended content? | <p>OER offers appropriate number of exercises for mastery of elementary and complex content; offers clearly written, keyed, and scored exercises with documentation; and, provides a variety of types and formats of exercises.</p> | <p>OER offers an insufficient number of exercises for mastery of elementary and complex content; question clarity or documentation for keying or scoring is insufficient; and, provides little variety in types and formats of exercises.</p> | <p>OER lacks an appropriate number of exercises for mastery of elementary and complex content; does not offer clearly written, keyed, and scored exercises with documentation; and, provides no variety of types and formats of exercises.</p> |
| <p>Opportunities for Deeper Learning</p> <ul style="list-style-type: none"> • Does the OER offer opportunities for deeper learning by incorporating at least three of the following: <ul style="list-style-type: none"> 1. Thinking critically and solving complex problems | <p>OER provides opportunity for deeper learning through at least three areas of higher level thinking skills;</p> | <p>OER provides opportunity for deeper learning through fewer than three areas of higher level</p> | <p>OER does not provide opportunity for deeper learning through higher level thinking skills; does</p> |

| Categories of Criteria | 3 – Superior | 2 - Limited | 1 – Weak/NA |
|---|---|---|---|
| <ul style="list-style-type: none"> 2. Working collaboratively 3. Reasoning abstractly 4. Constructing viable arguments and critiquing the reasoning of others 5. Communicating effectively 6. Applying discrete knowledge to real world situations 7. Constructing, using, or analyzing models? • Does the OER offer a range of cognitive demand that is appropriate and supportive of content? • Does the OER provide appropriate scaffolding and direction? | <p>offers a range of cognitive demand commensurate with the content; and, provides appropriate direction and scaffolding.</p> | <p>thinking skills; offers a range of cognitive inconsistently matched with the content; and, provides incomplete direction or scaffolding.</p> | <p>not offer a range of cognitive demand commensurate with the content; and, does not provide appropriate direction or scaffolding.</p> |
| <p>Accessibility</p> <ul style="list-style-type: none"> • Does the OER comply with current ADA accessibility standards? http://aim.cast.org/learn/e-resources/accessibility_resources | <p>Components and functionality of OER comply with current ADA accessibility standards.</p> | <p>Parts of OER components or functionality comply with current ADA accessibility standards.</p> | <p>OER does not comply with current ADA accessibility standards.</p> |

*Synthesized from Eight Rubrics developed by ACHIEVE, under the Creative Commons Attribution 3.0 License.



3.4 Saide quality criteria for review of distance learning materials

Quality indicators for self-learning materials

You can use the following indicators to assess the quality of materials designed for self-learning in a blended distance learning programme.

The quality indicators are divided into 7 broad categories

1. Introduction and orientation
2. Selection and coherence of content
3. View of knowledge
4. Presentation of content and interactivity
5. Activities, feedback and assessment
6. Language
7. Layout and accessibility.

Introduction and orientation

Orientation to programme, introductions, aims & learning outcomes

This category for review is about the way that clear and relevant information can motivate and direct students effectively in their study. Students need to understand from the outset the requirements of the various components of the Programme and Module. As students, they need to be motivated by relevant introductions and overviews within each individual module/unit and how this relates to their professional development needs. They also need to be clear about what they have to achieve in each unit and these aims and learning outcomes should be consistent with the goals of the Programme and Module.

- Is there an introduction to the Module and to each Unit?
- Does the introduction provide an overview of the Module/Unit?
- Does the introduction recognise and build from the assumed prior learning and experience of the student?
- Does the introduction locate the unit within the larger paper and programme?
- Is the overall workload required consistent with the credit rating and time commitment expected of the students?

Additional quality indicators:

Orientation to programme, introductions, aims & learning outcomes

- Introductions to programmes/modules/units/sections
 - Explain the importance of the topic for the student and create interest in the material
 - Provide an overview of what is to come
 - Forge links with what the students already know and what they are expected to learn

- Point out links with other units/sections
 - Provide some indication of intended learning outcomes in ways that are directly relevant and useful to the students
 - Give indications of how long the student should spend on the material in the unit so that the students can pace themselves.
- Learning outcomes
- Are stated clearly and unambiguously
 - Use active and assessable verbs
 - Describe what the students need to demonstrate in order to show their competence
 - Are consistent with the aims of the paper and programme
 - The content and teaching approach support students in achieving the learning outcomes.

Selection and coherence of content

What is at issue here is rigour, interest and relevance. The content should be well-researched, up-to-date and relevant to the Bihar State context. The students should also be able to see how the content is related to the learning outcomes and goals of the paper and programme. Coherence is also important. If the components of a paper are contradictory or unrelated to each other, the impact of the programme will be considerably lessened.

- Is the content selected consistent with the approved curriculum?
- Is it up-to-date with the most recent policy developments?
- Is it appropriate for the target audience?
- Is there appropriate cross-referencing between different Units and different Modules of the Programme?
- Are references and source materials acknowledged properly?
- Are the references contemporary?

Additional criteria:

- Selection of content
 - Content is contemporary and reflects current thinking and recent references
 - Content is appropriate both to the intended outcomes of the programme as well as recognising prior learning
 - Content builds on students' experience where possible
 - There is appropriate variety in the selection of content.

View of knowledge and use of students' experience

In the traditional contexts, where rote learning and authoritarian views of knowledge have been the norm, particular attention needs to be paid to the way knowledge is presented. The perspective we would wish to promote is that knowledge should be presented as open and constructed in contexts, rather than merely received in a fixed form from authorities. Students should be given opportunities to interrogate what they learn, and their prior knowledge and experience should be valued and used in the development of new ideas and practices. Frequent opportunities and motivation for application of knowledge and skills in the workplace, where relevant, should be provided, but this should be done in a reflective rather than mechanical way.

View of knowledge and use of students' experience

- View of knowledge and RPL
 - Students' own experiences and understanding are seen as valid departure points for discussion
 - Knowledge is presented as changing and debatable rather than as fixed and not to be questioned
 - Students are encouraged to weigh ideas against their own knowledge and experience and to question ideas/concepts that do not seem to be adequately substantiated
 - Students are helped to contextualise new knowledge appropriately and a concerted effort is made to empower students to use theory to inform practice.

Presentation of content and interactivity

This is to do with how the content is taught. There is no one 'right' way to teach content - it will vary according to the subject and the audience. However, there are certain pointers for a reviewer. These include, clear explanation of concepts and a range of examples, as well as sufficient and appropriate ways for students to process new concepts, rather than merely learn them off by heart. Content is presented as an ongoing discussion within which teachers are co-contributors.

- Is content presented in a way that assumes knowledge is constructed and contested?
- Does the material establish and maintain a dialogue with the teacher in the process of unfolding the content?
- Does the material create a friendly learning environment of collaborative engagement?

Presentation of content and interactivity

- Presentation of content
 - Concepts are developed logically
 - Concepts are explained clearly using sufficient and relevant examples
 - New concepts are introduced by linking to students' existing knowledge
 - Ideas are presented in manageable chunks

- A variety of methods are used to present the content and succeed in keeping the students' interest alive
- Theories are not presented as absolute – debate is encouraged
- The course materials model the processes and skills that the students are required to master – i.e. they practise what they preach.

Activities, feedback and assessment

A major strategy for effective teaching in course materials is the provision of a range of activities and strategies to encourage students to engage with the content. If the course designer provides feedback or commentary on these activities, then students will experience a form of the discussion that takes place in lively classrooms.

Furthermore, because students work through the materials largely on their own, they need some means of assessing their own progress. Comments on the activities in the materials can help to do this. The assessment criteria for the programme as a whole should be made clear to students and should be appropriate to the intended learning outcomes.

- Are there activities in each of the following categories?
 - Self-study/self-reflection activities
 - Classroom-based activities
 - Study-centre-based activities
 - ICT activities
- Are the activities practical?
- Do the activities contribute to the overall outcomes of the unit/module?
- Is the estimated time for the activities included and realistic?
- Is feedback provided and appropriate?
- Is the overall assessment strategy appropriate for the purpose, target audience and context?
- Will the overall assessment scheme require evidence of improved practice and improved student achievement?

Activities, feedback and assessment

- Activities**
 - The activities are clearly signposted and students know where each begins and ends
 - Clear instructions help the students to know exactly what they are expected to do.
 - The activities are related to the learning outcomes.
 - Activities reflect effective learning processes
 - Activities are sufficient to give students enough practice
 - Activities are distributed at fairly frequent intervals throughout a section
 - Activities show a range of difficulty
 - Activities are sufficiently varied in terms of task and purpose
 - Activities are life/work related

- Activities are realistic in terms of time indications and resources available to students.
- Feedback to students
 - Feedback to students is clearly indicated
 - Feedback is offered in the form of suggestions and is only prescriptive where necessary
 - The students are able to identify the errors they have made, and they are able to assess their progress from their responses
 - Where calculations are required, the stages in the working are displayed and explained.
- Assessment
 - There is an assessment strategy for the course as a whole
 - The assessment tasks are directly related to the learning outcomes
 - Formative and summative assessment strategies are employed
 - Assessment criteria are made known to students and feedback is provided on interim assessments which helps students to improve
 - Mechanisms exist for students to respond to feedback on assessment and these are clearly explained in the courseware.

Language

Aside from the obvious importance of clear, coherent language at an appropriate level for the students, the kind of style that is used is crucial. The style can alienate or patronise the reader, or it can help to create a constructive learning relationship with the reader. Style needs to be judged in terms of specific audience and purpose, and so a standard set of criteria is not useful. However, it is always helpful if new concepts and terms are explained and jargon is kept to a minimum.

- Language level
 - New concepts and terms are explained simply and these explanations are indicated clearly in the text
 - The language used is friendly, informal and welcoming
 - Students are not patronised or 'talked down to'
 - The discourse is appropriate to the learning intended
 - The language is sensitive as far as gender and culture are concerned
 - The language takes cognisance of the multilingual reality of the context
 - The language is active and sufficiently interactive
 - A glossary is provided.

Layout and accessibility

Effective layout of printed materials maintains a creative tension between consistency and variety. It is important that learners are able to find their way through the various units and sections by the provision of contents pages, concept maps, headings, subheadings, statements of aims and learning outcomes, and other access devices. The text also needs to be broken up into reasonable chunks, and the layout should assist the logical flow of ideas.

At the same time, a very predictable format can lead to boredom. A good way of introducing variety is through the use of visual material such as concept maps, pictures and diagrams. This has the added advantage of catering for learners who learn best through visual representations of ideas. Where appropriate, concept maps, pictures and diagrams should be included.

Where the course is presented through another medium, or where other media are used to support printed course materials, similar issues of accessibility need to be applied to the other media employed. The medium chosen, and the way it is used, should be appropriate for the intended learning outcomes and target audience.

- Learning skills
 - Summaries and revision exercises are included at frequent intervals to assist the students to learn
 - Skills for learning (such as reading, writing, analysing, planning, managing time, evaluation of own learning needs and progress) are appropriate to the outcomes of the course and integrated into the materials [especially important in the Semester 1 Papers]

- Access devices (in texts; corresponding features will be looked for in other materials, e.g. videos)
 - The numbering/headings system makes it easy for students to find their way through the text
 - The text is broken up into reasonable units
 - Headings and sub-headings are used to draw attention to the key points of the lesson. This makes it easy for the students to get an overview of the lesson at a glance. It also makes it easy to find parts the students want to refer to.
 - There is a contents page
 - Pre-tests are used wherever feasible to help the students know what skills or knowledge they need to have before starting the lesson/section
 - Links with previous knowledge and experience, with other parts of the same lesson and with other lessons are indicated.

- Visual aids (pictures, photographs, diagrams and cartoons) (in texts)
 - The visual aids used complement the written text

- Line pictures, cartoons are well-drawn and appropriate for target students. They are gender and culture sensitive.
- Where appropriate, concept maps and diagrams are included to help the students to get an overview of the material and to assist the learning process.
- Captions and explanations accompanying visual aids are adequate and give the students a clear idea of what their purpose is.
- Instructions/explanations accompanying diagrams are clear and students know what they are expected to do.
- Visual aids are well placed in the text.
- Visual aids are of suitable size.
- Where printed materials are supported by other media, use of the other media is clearly indicated in the materials and appropriate for the intended learning outcomes.

3.5 Materials review instruments

The following materials review instruments are based on criteria developed collaboratively within Saide, including the researcher, and adapted slightly for the purposes of this project.

Review instrument: Expert review of learning resources

Thank you for agreeing to review materials from the ANU XXX programme. Please familiarise yourself with the module/programme outline attached included as Resource 0.0 before starting your review.

Please note that the review instrument has two main questions:

1. Are we teaching the right things?
2. Are we teaching things in the right way?

Name of reviewer:

Date reviewed:

Are we teaching the right things?

Please comment on the following aspects of the materials.

1. Identify any factual errors in the content and provide the correct facts or a suitable reference.
2. Identify any plagiarism/copyright issues you have noticed.
3. Given the stated purpose of the module/programme, identify any concept/issue which should have been introduced but has not been.
4. Given that this module is part of a larger programme and learning pathway, suggest themes/focus areas for more in-depth follow up study.

Are we teaching things in the right way?

These materials will largely be engaged with independently, although there will be discussion-based contact sessions on a regular basis. The materials therefore need to teach and not simply provide content.

Taking the above information into account, comment on the following issues.

5. *Introduction and orientation.* How well do the materials orientate students to the subject/topic, to its place in the wider field/discipline, and to new learning and to new ideas? Cite specific examples to justify your judgement and provide practical examples of how this aspect could be improved where applicable.
6. *Selection and coherence of content.* Is the content selected appropriate to purpose and audience? Are concepts presented as part of an unfolding and coherent argument or as

discrete bits of information? Cite specific examples to justify your judgement and provide practical examples of how this aspect could be improved where applicable.

7. *View of knowledge and use of student experience.* Given that the stated target audience is appropriate cognisance taken of their likely everyday knowledge of the issue under discussion and is content presented as fixed and unchanging or as constructed and contested? Cite specific examples to justify your judgement and provide practical examples of how this aspect could be improved where applicable.
8. *Presentation of content and interactivity.* Do the materials present content as something to be memorised and reproduced or as something to be interpreted and engaged with? Cite specific examples to justify your judgement and provide practical examples of how this aspect could be improved where applicable.
9. *Activities, feedback and assessment.* Are activities appropriate to the learning purpose and outcomes? Is appropriate feedback provided to motivate further learning? Cite specific examples to justify your judgement and provide practical examples of how this aspect could be improved where applicable.
10. *Language.* Is the language accessible for the target audience? Cite specific examples to justify your judgement and provide practical examples of how this aspect could be improved where applicable.
11. *Layout and accessibility.* Are the materials easy to navigate? Is there sufficient variety of presentation to retain interest but not so much as to cause confusion? Cite specific examples to justify your judgement and provide practical examples of how this aspect could be improved where applicable.

Finally, you are welcome to make any open-ended comments about the programme or this specific set of materials.

Review instrument:

Student review of learning resources

Thank you for agreeing to review materials from the ANU XXX programme. Please familiarise yourself with the module/programme outline attached included as Resource 0.0 before starting your review. Your feedback will help us to improve the learning resources for future students.

Name of reviewer:

Date reviewed:

Comment on the following issues.

1. *Introduction and orientation.* How well do the materials orientate you to the learning purpose, to its place in the programme, and to new learning and to new ideas? Cite specific examples to justify your judgement and provide practical examples of how this aspect could be improved where applicable.
2. *Selection and coherence of content.* Is the content selected appropriate to purpose and accessible to you? Are concepts presented as part of an unfolding and coherent argument or as discrete bits of information? Cite specific examples to justify your judgement and provide practical examples of how this aspect could be improved where applicable.
3. *View of knowledge and use of student experience.* Given the intended target audience is appropriate cognisance taken of their likely everyday knowledge of the issue under discussion and is content presented as fixed and unchanging or as constructed and contested? Cite specific examples to justify your judgement and provide practical examples of how this aspect could be improved where applicable.
4. *Presentation of content and interactivity.* Do the materials present content as something to be memorised and reproduced or as something to be interpreted and engaged with? Cite specific examples to justify your judgement and provide practical examples of how this aspect could be improved where applicable.
5. *Activities, feedback and assessment.* Are activities appropriate to the learning purpose and outcomes? Is appropriate feedback provided to motivate further learning? Cite specific examples to justify your judgement and provide practical examples of how this aspect could be improved where applicable.
6. *Language.* Is the language accessible? Cite specific examples to justify your judgement and provide practical examples of how this aspect could be improved where applicable.
7. *Layout and accessibility.* Are the materials easy to navigate? Is there sufficient variety of presentation to retain interest but not so much as to cause confusion? Cite specific examples to justify your judgement and provide practical examples of how this aspect could be improved where applicable.

Finally, you are welcome to make any open-ended comments about the programme or this specific set of materials.

Appendix 4: Agendas for PAR-related site visits to ANU

4.1 Agenda for 22 to 26 September 2014 (introducing PAR)

Outcomes:

By the end of the workshop, participants will:

1. Identify enabling and inhibiting factors for effective resource-based education provision
2. Identify enabling and inhibiting factors for mainstreaming OER (both use and publication)
3. Identify strategies for overcoming challenges in relation to 1 and 2
4. Have reviewed and revised the workplan for the updating of distance education course materials
5. Agree on a participatory action research-based strategy for moving forward for mainstreaming OER use in general and within distance provision in particular.

| Time | Activity | Responsible/resources |
|------------------------------|---|---|
| Pre-workshop | Refining workshop plan; resourcing the workshop plan | OER Africa with ANU lead team ANU team |
| Day 1 | | |
| 08:30 – 10:30 Session 1 | Introductions and expectations Developments in OER and ODeL since last meeting Reflection on revised draft DE materials shared for review | OER Africa, all PPT and CDR |
| 10:30 -10:50 | Comfort break | |
| 10:50 – 12:30 Session 2 | Presentations from ANU staff involved in updating DE resources: successes and challenges; update on status of OER policy | ANU team |
| 12:30 – 13:15 | Lunch break | |
| 13:15 – 15:45 Session 3 | Introducing a participatory action research agenda for continued engagement between ANU and OER Africa 2014-2016 | OER Africa |
| 15:45 – 16:00 | Wrap-up and preparation for next day | OER Africa |
| Homework | Identify draft/revised draft DE materials for Day 2 | ANU Team |
| Day 2 | | |
| 08:30 – 10:30 Session 4.0 | Revisiting the role and design of activities and feedback in distance education materials | OER Africa, all PPT and CDR |

| Time | Activity | Responsible/resources |
|------------------------------|---|------------------------------|
| 10:30 -10:50 | Comfort break | |
| 10:50 – 12:30 Session 4.1 | Developing introductory activities and feedback | ANU team |
| 12:30 – 13:15 | Lunch break | |
| 13:15 – 14:45 Session 4.2 | Developing developmental activities and feedback | ANU team |
| 14:45 – 16:00 Session 4.3 | Developing consolidating activities and feedback | ANU team |
| | Homework: complete at least one example of each for Friday feedback session | |
| Day 3 | | |
| 08:30 – 10:30 | Interviews with key staff iro PAR | OER Africa and ANU staff |
| 10:30 -10:50 | Comfort break | |
| 10:50 – 12:30 | Interviews with key staff iro PAR | OER Africa and ANU staff |
| 12:30 – 13:15 | Lunch break | |
| 13:15 – 16:00 | Interviews with key staff iro PAR | OER Africa and ANU staff |
| Day 4 | | |
| 08:30 – 10:30 | Engagement with ANU strategic planning and policy framework | OER Africa |
| 10:30 -10:50 | Comfort break | |
| 10:50 – 12:30 | Engagement with ANU strategic planning and policy framework | OER Africa |
| 12:30 – 13:15 | Lunch break | |
| 13:15 – 16:00 | Drafting possibilities for PAR agenda | OER Africa |

| Time | Activity | Responsible/resources |
|----------------------------|--|------------------------------|
| Day 5 | | |
| 08:30 – 10:30 Session 8 | Presentations of DE activities completed for homework and reflection on lessons learned | ANU team |
| 10:30 – 10:50 | Comfort break | |
| 10:50 – 13:00 Session 9 | Collaborative development of participatory action research (PAR) based workplan over 3 years in broad; over 1 year in detail – including workshop/visit schedule | |
| | Post-workshop Writing up of action plan and revision of drafts via email exchange | |

4.2 Agenda for 16 to 20 March 2015 (progress report and refining research agenda)

It should be noted that the schedule of activities and target audiences listed below were suggested only. No ANU staff needed to attend every session but ANU was welcome to invite whomever it deemed fit (including participants from outside of ANU). OER Africa provided workshop resources on CD for 50 participants, although not all 50 needed necessarily be present on any one day.

Outcomes:

By the end of the workshop we should have:

- Reported on progress against the plan drafted in September 2014 and amended forward planning accordingly
- Clarified any MoU issues and updated the MoU as necessary
- Developed a research plan to support the revised implementation plan
- Clarified copyright and policy issues
- Clarified quality assurance issues
- Reviewed materials development work in process.

| Time | Activity | Resources | Target audience |
|------------------------|---|---|---|
| Monday 16 March | | | |
| 0830 – 0845 | Opening | | |
| 0845 – 0930 | Report on September workshop and revisiting of draft plan | OER Africa CD Data projector | IODL core group (incl Research Directorate) |
| 0930 – 1030 | Progress report | ANU reportback | “ |
| 1030 – 1045 | Comfort break | | |
| 1045 – 1115 | Unpacking an OER/ODeL reflexive PAR research agenda | OER Africa CD Data projector | “ |
| 1115 – 1245 | Teams work on OER/ODeL reflexive PAR research proposals | Laptops/flipcharts | “ |
| 1245 – 1330 | Lunch | | |
| 1330 – 1530+ | Teams work on OER/ODeL reflexive PAR research proposals | Teams work on OER/ODeL reflexive PAR research proposals | “ |

| Time | Activity | Resources | Target audience |
|----------------------------------|---|--------------------------------------|---|
| <i>Tuesday 17 March</i> | | | |
| 0830 – 0845 | Opening | | |
| 0845 – 1030 | Teams present OER/ODeL reflexive PAR research proposals | Laptops/flipcharts Data projector | IODL core group (incl Research Directorate) Useful also for senior management to attend e.g. DVC |
| 1030 – 1045 | Comfort break | | |
| 1045 – 1245 | Discussion and development of integrated OER/ODeL reflexive PAR research proposal | Laptops/flipcharts Data projector | “ |
| 1245 – 1330 | Lunch | | |
| 1330 – 1530+ | Planning of research initiatives and identification of any MoU implications | Laptops/flipcharts Data projector | “ |
| <i>Wednesday 18 March</i> | | | |
| 0830 – 0845 | Opening | | |
| 0845 – 0945 | Quality Assurance: internal ANU requirements and strengths and weaknesses of practice | ANU QA Directorate Data projector | IODL core group (incl QA Directorate), HoDs, DVC and Finance Director |
| 0945 – 1030 | QA an ODeL perspective | OER Africa CD Data projector | “ DVC and Finance Director |
| 1030 – 1045 | Comfort break | | |
| 1045 – 1145 | QA an OER perspective | OER Africa CD Data projector | “ |

| Time | Activity | Resources | Target audience |
|--------------------------|--|---------------------------------|---|
| 1145 - 1245 | Teams work on formulating ODeL/OER quality guidelines and targets for ANU | Laptops/flipcharts | “ |
| 1245 – 1330 | Lunch | | |
| 1330 – 1530+ | Teams present quality guidelines and targets which are aggregated in plenary | Laptops Data projector | “ |
| Thursday 19 March | | | |
| 0830 – 0845 | Opening | | |
| 0845 – 0915 | Recap on OER | OER Africa CD Data projector | Library support services (and other interested parties) |
| 0915 – 1030 | Knowledge management policy implications of OER mainstreaming | OER Africa CD Data projector | “ |
| 1030 – 1045 | Comfort break | | |
| 1045 – 1200 | Exploring copyright and open licensing issues | OER Africa CD Data projector | “ |
| 1200 - 1245 | Teams work on formulating knowledge management, copyright clearance and open licensing framework for ANU | Laptops/flipcharts | “ |
| 1245 – 1330 | Lunch | | |
| 1330 – 1530+ | Teams present draft frameworks which | Laptops Data projector | “ |

| Time | Activity | Resources | Target audience |
|------------------------|---|--|---|
| | are aggregated in plenary | | |
| Friday 20 March | | | |
| 0830 – 0845 | Opening | | |
| 0845 – 0915 | Recap on quality guidelines for ODeL materials as OER | OER Africa CD Data projector | Staff currently involved in materials development |
| 0915 – 1030 | Development teams swap draft materials and provide one another with feedback | Laptops/flipcharts | “ |
| 1030 – 1045 | Comfort break | | |
| 1045 – 1200 | Materials development teams update draft materials in light of feedback | Laptops/flipcharts | “ |
| 1200 - 1245 | Teams present examples of revisions based on feedback | Laptops/flipcharts Data projector | “ |
| 1245 – 1330 | Lunch | | |
| 1330 – 1530+ | Reflection on lessons of experience and linking of examples of good practice to criteria/guidelines | ANU draft materials Laptops Data projector | “ |

4.3 Agenda for 9 to 13 November 2015 (progress update, research data collection and forward planning)

PROGRAM FOR TONY MAY'S VISIT

- 1. Sunday 8/11/2015:**
2. Arrival From Johannesburg
- 3. Monday 9/11/2015:**
4. AM meeting with core team and the leads of the internal ANU OER research projects to outline the overall OER research agenda and to get progress reports on the sub-projects; including the CPD initiative.
5. PM individual discussions with research leads per sub-project
- 6. Tuesday 10/11/2015:**
7. Meeting with Initial OER content Developers:
8. Follow up with materials developers; including finalising survey instruments and processes to elicit feedback from students and tutors on efficacy of incorporating OER and a more activity-based approach
- 9. Wednesday 11/11/2015:**
10. Follow up on policy issues e.g. IPR policy, HR policy, ICT policy in support of mainstreaming OER; any other policy issues.
- 11. Thursday 12/11/2015:**
12. Discussions with acting Director and IODL Staff.
- 13. Friday 13/11/2015:**
14. AM core team forward planning e.g. funding proposal, Nadeolke proposal, other activities including schedule of Tony's visits for 2016 and focus areas
15. Catherine from OER (Africa) and Tony meet with the VC/DVC to provide project update at a time convenient to them.
16. PM Tony writes up report
- 17. Saturday 14/11/2015**
18. Departure from Nairobi.

4.4 Agenda for 16 to 20 May 2016 (progress update, research data collection and forward planning)

Draft schedule of visits at ANU 16 and 20 May 2016

| Date/time | Evaluator and Funder representative | Tony Mays |
|------------------|---|---|
| 16/05/16 | | |
| 0830-1000 | Interviews with: ANU Director of Research Purpose, nature and examples of action-research CPD programme. Possibilities for OER focus and open access publication on OpenANU Progress on other proposed OER-related research projects e.g. regional centres, take-up across departments. Education lecturer completing a PhD Rationale for and preliminary findings of PhD study on OER take-up by students in Kenya. | Workshop chaired by DVC Academic to explore a new business model for ANU involving: Registration Finance IODL Academic Deans ICT Examinations and certification QA Marketing Management Information System (MIS) |
| 1000-1030 | Break | |
| 1030-1115 | Interview DVC Academic ANU context Work in progress and plans iro OER Reflection on engagement with OER Africa | Focus group interview Finance |
| 1130-1215 | Interview with IODL team IODL context Work in progress and plans iro OER Reflection on engagement with OER Africa | Focus group interview Registration, Marketing |
| 1215-1300 | Interview with Library services Library context Work in progress and plans iro OER Reflection on engagement with OER Africa | Focus group interview Academic Deans, QA, IODL |
| 1300 – 1345 | Break | |
| 1345 – 1430 | Focus group interview with materials developers Materials development at ANU Work in progress and plans iro OER Reflection on engagement with OER Africa | Focus group interview Examinations and certification, MIS, ICT |
| 1430-1500 | Interrogation of Tony's reports/ issues to pursue during convening | Prelim feedback to DVC |
| 1500-1530 | Courtesy meeting with Principal and VC | |

| | |
|-----------------------|--|
| 17/05/16- 18/05/16 | <p>OER Africa convening meeting</p> <ol style="list-style-type: none"> 1. <i>Day 1 - Session 1:</i> Nominate a representative from your respective institutions to offer a 5-minute reflection on keynote presentations 2. <i>Day 1 – Session 4:</i> Group discussion based on experience so far including Tony’s focus group interviews on the 16th. Report back. 3. <i>Day 1 – Session 5:</i> Nominate a representative from your respective institutions for the debate. 4. <i>Day 2 – Session 3:</i> Director of Research provides a 10-minute report on action-research-based CPD programme at ANU 5. <i>Day 2 – Session 4:</i> Group discussion. Institutional rep to report back |
| 19/05/16 | <p>Internal OER Africa meeting</p> |
| 20/05/16 | <p>0830 – 0930 Tony meets with materials developers 0930 – 1230 Tony’s follow up interviews based on discussion with Prof Reed on 16/05 and issues emerging from convening 1230 – 1730 Tony returns to hotel to write report for comment by ANU</p> |
| | |

4.5 Agenda for study visit 13 to 19 October 2016

Purpose

A new Director has been appointed at the Institute for Open and Distance Learning at Africa Nazarene University (ANU). Prior to the new engagement, ANU had expanded into distance, work-placed based and part-time studies quite rapidly and quite soon the majority of students were non-traditional and not campus-based. However, the business model was not adjusted to take account of the new reality and in many ways assumptions about the costs and processes of contact provision were used to make decisions about ODeL provision, with the costs associated with ODeL curriculum and materials development and renewal in particular not appropriately addressed in financial planning. ANU realised the need to explore a new business model in which all provision is resource-based but different levels and kinds of support can be offered, at different costs, for different purposes, contexts and audiences. It was thought that NWU and UP might provide two useful models for ANU to explore in terms of dual mode provision, while Unisa would offer insight into a possible alternative development pathway.

Itinerary

| | |
|----------|---|
| 13/10/16 | Arrival in SA and transfer to Centurion overnight |
| 14/10/16 | 0700 departure for a series of discussions at Saide in Johannesburg on: <ul style="list-style-type: none">• ODeL governance, policy and financing• Curriculum design and materials development• Quality assurance 1130 transfer to Pretoria to meet with UP UDE on: <ul style="list-style-type: none">• Financial modelling and management• Learning design• Quality assurance and research• Administration• Reflection and planning over supper with Tony Mays |
| 15/10/06 | 0730-1830 Observe UP UDE contact session in Polokwane |
| 16/10/16 | At leisure |
| 17/10/16 | 900-1215 Unisa 1300-1700 UP UDE student admin support/work on business model and conference |
| 18/10/16 | 0730-1530 Visit to NWU UDE, Potchefstroom |
| 19/10/16 | 0730 Transfer Centurion to ORT for return to Kenya |

4.6 Agenda for 20 to 24 November 2016

Itinerary

| Date | Planned | Actual |
|---|--|---|
| Sunday 20 th November,2016 | Transfer of OER Africa consultants from JKIA at 1500hrs to ANU by ANU driver Welcome to ANU by IODL | As planned |
| Monday 21 st November,2016 | <p>10.00-12.30pm Discussions with IODL, Heads of departments, Deans, DVC(AA),Finance Director and OER Africa consultants on the following issues</p> <p>Business model: any clarification or further support needed</p> <p>Conference: announcement, call for papers, draft programme</p> <p>Planning support for revision of DE programme/s: what, when, who in relation to:</p> <ul style="list-style-type: none"> ○ Redesigning the curriculum for multi-mode delivery ○ Redesigning the constituent modules for multi-mode delivery ○ Redesigning the materials, including OER integration, for multi-mode delivery. <p>Any other support needs of ANU in the period to June 2017</p> | <p>10:00 – 12:30 Meeting with IODL core team to discuss conference planning and wider IODL concerns</p> <p>14:00 – 16:15 Meeting with DVC, IODL, Finance, ICT, Academic HoDs to discuss proposed business model</p> |
| Tuesday 22 nd November,2016 | 12.00pm-3.00pm Presentation to Management Board – postponed to Wednesday and then subsequently cancelled. | 0800-1100 Meeting with ANU Finance Manager and drafting of report 1100-1930 External OER Africa travel and meeting |
| Wednesday 23 rd November,2016 | 10.00-12.30pm Discussions with IODL ,DVC(AA),Heads of Departments, Deans, Finance Director and OER Africa consultants | 0800-1600 Discussions with various ANU staff on the new goals and proposals to June 2017 to solicit suggestions and feedback Discussion and follow-up planning with IODL Director on a redevelopment process for the BCom |
| Thursday 24 th November,2016 | 8.00am Transfer to OER offices of OER Africa consultants | 0800-0930 Discussions with various ANU staff on the new goals and proposals to June 2017 to solicit suggestions and feedback Discussion at OER Africa offices Return to SA |

4.7 Call for papers

Open Learning Conference 2017

CALL FOR PAPERS

Africa Nazarene University invites interested parties to participate in a conference on the following theme

Innovative open learning practices to enhance access and success in higher education in Kenya

28-30 June 2017 at Africa Nazarene University in Ongata Rongai

CONTEXT

Kenya is currently pursuing an agenda of increasing enrolment in higher education by 10 000 participants a year to enhance participation rates from the average of 6% prevailing in much of sub-Saharan Africa to the levels appropriate for active participation in the global knowledge economy. By way of comparison, South Africa's new target participation rate is 25% and Singapore's is 45%.

However, it is increasingly difficult for institutions and for individuals to cover the costs of full-time campus-based study. Distance education methods, based on open learning principles and making appropriate use of ICTs, can support expanded provision in ways that are more flexible and accessible than in the past – allowing students to learn while working for example.

However, there is need to build a community of learning and practice around such methods so that expansion of distance education and open learning practices is informed by evidence-based decision-making and a shared commitment to quality provision. Africa Nazarene University has recognised the demand from students for more flexible provision and the need to develop a better understanding of how best to meet such provision in the Kenyan context and has therefore planned to host a conference on this issue.

PURPOSE OF THE CONFERENCE

The purpose of the 3-day conference is to provide academics and education practitioners from different academic and training institutions with an opportunity to meet and exchange ideas on various aspects regarding policy, theory, ethics and practice of open learning and distance education. The conference will encourage both reflective accounts of practice and discussion on practical issues and challenges as well as formal research-based papers. It will explore the possibility of establishing a national association for the purpose of building and maintaining a community of learning and practice.

OBJECTIVES

- To share good practice
- To develop quality guidelines for practice
- To inform the policy and regulatory framework on ODeL
- To increase the lobbying power of practitioners in engaging with government and other stakeholders

- To establish a national association to meet the above objectives
- To establish a journal for ODeL.

CONFERENCE COLLOQUIUM

The conference will offer educators opportunities to participate in a colloquium that will focus on the following theme:

Establishing a national association for distance education and open learning in Kenya to support a community of learning and practice

This half-day colloquium will explore the rationale for a national association and will table a suggested draft constitution, code of ethics and membership structure for such an association. We hope to have members of the executive committee of the National Association for Distance Education and Open Learning in South Africa (www.nadeosa.org.za) to lead the discussion with support and input from the Distance Education Association of Southern Africa (DEASA), the African Council for Distance Education (ACDE) and the Commonwealth of Learning (CoL).

CONFERENCE THEME

Innovative open learning practices to enhance access and success in higher education in Kenya

The conference theme will be explored through the following sub-themes, focusing on both technical and vocational education and training (TVET) and higher education as well as other post-schooling initiatives:

- Differentiated forms of admission requirements and articulation across the Further Education and Training/Higher Education interface
- Uses of technology to develop quality flexible learning programmes
- ICT infrastructure for management of an integrated post schooling system.
- Policy, theory and research in open, distance and e-learning (ODeL) and Open Educational Resources (OER)
- Opportunities and challenges for collaboration in building capacity
- Best Practice in the design and development of flexible learning programmes.
- Curriculum Development and articulation for Higher Education Certificates and Diplomas
- Developing flexible learning opportunities for those in the workforce
- Professional development for open learning practices.

WHO SHOULD ATTEND

This conference will be of interest to all educators, education managers and decision-makers, who aspire to provide quality educational experiences in ways that are sustainable and contribute to the goals of

development. There will be space to explore both TVET and Higher Education as well as public-private interfaces through World Cafe-type activities as well as formal paper presentations.

ABSTRACT AND PAPER

We invite you to send a **200 - 400** word abstract (excluding references) to the conference e-mail address, by end **March 2017**. Selected authors will be notified by **end April 2017** as to whether or not their presentations will be included in the conference programme. In order to include your paper in the conference proceedings we will need to receive your full-length paper at the above email address by 2nd week of **May 2017**. These full-length papers will be taken up in the conference proceedings in the form of a CD comprising all the presentations. Each participant will receive a free copy of this CD at registration.

Submission requirements

Your abstract as well as your full-length paper should be in the following format:

First page

- Please use the cover sheet at the end of this document for your submission.

Second page (and onwards):

- Abstract: 200 - 400 words
- Full-length paper: 4 000 - 6 000 words

Structure

- State the strategy problem or issue being reported on
- Describe how you implemented the strategy or explored the problem or issue
- Report your findings
- Draw some conclusions that will guide others facing the same problem or issue
- References (where applicable) should be cited using the Harvard method.

Format

- One-and-a-half spacing, Arial font 12 in Word.

Further information

Further Information regarding registration, the programme and logistical arrangements will be available on the ANU website in due course.

COVER SHEET FOR CONTRIBUTION TO OPEN LEARNING CONFERENCE 2017

I am/we are submitting the following contribution to the Programme Committee for consideration for presentation at the 2016 DE and OL conference.

NOTE: Please complete a separate cover sheet for each presentation you are proposing.

| | |
|--|--|
| Title of presentation: | |
| Initials and surnames of ALL authors: | |

| Details of author to whom feedback must be submitted | |
|---|--|
| Name: | |
| Institution/organisation: | |
| Postal address: | |
| Work telephone number: | |
| Home telephone number: | |
| Fax number: | |
| Cell/mobile phone number: | |
| E-mail: | |

Abstract



Appendix 5: Researcher's CV

Personal Information

Family name: Mays
 Given names: Tony John
 Date of birth: 16/04/63
 Nationality: British (RSA Permanent Resident)
 Contact details: 082 371 9215, tonymays0@gmail.com



Education:

| | |
|---------------|--|
| Institution | University of South Africa |
| Date | 2015-2017 |
| Qualification | DEd in Curriculum Studies in process |
| Institution | University of South Africa |
| Date | 2005 |
| Qualification | MEd Didactics (Distinction) |
| Institution | University of Natal |
| Date | 2002 |
| Qualification | BEd Hons (Cum Laude) |
| Institution | Westminster College, Oxford |
| Date | 1985 |
| Qualification | PGCE – English, Mathematics, Special Needs |
| Institution | University of Wales, Swansea |
| Date | 1984 |
| Qualification | BA Hons (Magna Cum Laude) English I, II, III; Economics I, Philosophy I, Old Norse |

Overview of DEd studies in progress

Title: *Utilising Open Educational Resources in support of curriculum transformation at Africa Nazarene University: a participatory action research approach*

Summary: The pressure to increase participation rates as well as to meet the needs of new generations of students for more flexible and affordable provision has seen growing interest in the use of open, distance and eLearning (ODEL) approaches as well as more flexible campus-based methods among African higher education institutions. Open Educational Resources (OER) should be able to support the move towards such approaches and a four-institution and three-country project is making use of a participatory action research process to try

to understand the factors that both enable and raise barriers to making this possible. This particular study focuses on the case of Africa Nazarene University (ANU) in Kenya where the researcher is the institutional project lead. Using an autoethnographic approach to identify, analyse and report on emerging learnings, the study seeks to help the university, the project as well as the wider open educational community gain a better understanding of how OER can support ODeL and the adoption of more effective and more flexible curriculum practices.

Progress: Draft thesis completed and submitted for examination.

Language skills: (1 to 5, with 1 indicating home language competence)

| Language | Reading | Speaking | Writing |
|----------|---------|----------|---------|
| English | 1 | 1 | 1 |

Membership of professional bodies:

National Association for Distance Education and Open Learning in South Africa (Nadeosa) – President 2000-2002, 2008-2010, current Vice-President

DEASA Honorary Treasurer from March 2016

South African Education Research Association (SAERA)

Member of GetSmarter Academic Board, Unisa IODL advisory committee as well as academic and curriculum advisory committees of several private HEIs.

Awards:

“Recognising 16 years of outstanding service” from Saide, April 2016.

Excellence in Tuition Award from Unisa, September 2004 for work on NPDE programme.

Work-Related Information

Present position: Manager of Unit for Distance Education, Faculty of Education, University of Pretoria

Years within the organisation: From 01 March 2016

Responsibilities:

Strategic leadership and operational management for distance education provision at the University of Pretoria.

Seven KPAs: strategic leadership on DE issues; operational planning, coordination and monitoring; management of UDE staff and external relations; effective support and administration of students; effective and ethical marketing; research, monitoring and evaluation; ethical and sustainable financial management.

Key skills:

| |
|---|
| <p>Areas of Specialisation</p> <p>Curriculum design and evaluation</p> <p>Materials design and development</p> <p>ODeL research design and implementation</p> |
|---|

ODeL policy and systems review and development
 OER policy and practice
 Understanding and application of different curriculum development models
 Facilitation and support
 Understanding and application of assessment principles and models
 Assessment design
 Programme and course costing
 Teacher education.
 Skills & Knowledge
 In-depth knowledge of SA curriculum and regulatory framework in education
 Funding skills
 Project management skills
 Time management skills
 Negotiation skills
 Interpersonal skills
 Report writing skills
 Presentation skills.

Immediate previous employment

SAIDE Feb 2000 – Feb 2016 Senior Programme Specialist: Higher Education

Selected Professional Experience at SAIDE:

| Dates | Full name of project | Location of project? | Role in project |
|---|----------------------|----------------------|-----------------|
| 2009-2017 | OER Africa | Kenya | Consultant |
| 2010 Supported OER orientation and policy discussions in Ghana and Tanzania 2012-2014 Responsible for building and maintaining African Teacher Education OER Network 2013-2014 ODeL systems review and OER orientation and development at Africa Nazarene University 2014-2016 Mainstreaming OER at ANU References: Catherine Ngugi – OER Africa Director, Kenya. catherine.ngugi@gmail.com | | | |

| Dates | Full name of project | Location of project? | Role in project |
|---|----------------------|----------------------|-----------------|
| 2014-2016 | Siyaphumelela | South Africa | Project Lead |
| Proposal developer and initial project lead for a four-year project involving 4, and subsequently 5, SA Universities in use of data analytics to improve student performance (October 2014 to March 2016). Project funded by Kresge Foundation. | | | |

| Dates | Full name of project | Location of project? | Role in project |
|--|-----------------------------|----------------------|-----------------|
| Nov 2014 – Nov 2015 | Teacher Development Project | Nigeria | Consultant |
| Co-develop and build capacity in the process for curriculum design, module design, materials development, materials review and facilitation for CPD for teacher-educators Collaboratively develop a set of Teacher Standards to be applied in the States of Zamfara, Katsina and Jigawa | | | |

| Dates | Full name of project | Location of project? | Role in project |
|--|------------------------------|----------------------|-------------------------------|
| 2000 to 2016 | Supporting teacher education | Unisa | Programme manager; consultant |
| 2000 – 2003 Contribute to conceptualisation and manage the practical implementation of the Unisa National Professional Diploma in Education 2003 – 2009 Support Unisa preparations for and responses to teacher education programme re-accreditation including curriculum review of MEd Education Management, BEd Hons, BEd and PGCE 2009 - 2010 Support conceptualisation and implementation of Teaching Practice and co-develop a manual 2011-2013, 2015-2016 Support PQM renewal | | | |

Other professional activities

President of the National Association for Distance Education and Open learning in South Africa (Nadeosa) 2000-2002, 2008-2010 and Chair of the Organising Committee for the 2nd Pan-Commonwealth Forum on Open Learning held at the ICC, Durban in August 2002. Current vice-president.

Former member of the Technical Advisory Committee to the Working Group on Distance Education and Open Learning of the Association for the Development of Education in Africa (ADEA).

Former member of the Education Advisory Committee of Lyceum Colleges.

Member of external review panels for the University of the Witwatersrand College of Science (2003), University of Natal School of Education (2004), University of Natal School of Accounting (2005), University of Pretoria Unit for Distance Education (2007 Chair), Unisa School of Accounting (2008), University of Pretoria Unit for Distance Education (2014).

Occasional reviewer for: Africa Education Review, Progressio, Unisa Press, Journal of Education, DETA, Perspectives in Education, International Journal of Educational Development, International Review of Research in Open and Distance Learning, Internet Learning Journal, Oxford University Press.

External examiner of an MEd for NWU.

Part-time lecturer/supervisor for MEd ODL, Unisa.

Regional/International Experience

| Country / Date | Assignment |
|--|---|
| Angola: 2005, 2008 | Workshops aimed at developing capacity in distance education delivery |
| Botswana: 2003/4, 2009, 2014 | Initiation and capacity-building for Unisa NPDE delivery in Botswana through a local partner organisation; development of accreditation portfolio; Exploring OBE workshop for Department of Curriculum development and Evaluation of Ministry |
| Ghana 2009 x 2 | Policy development for OER |
| India 2013 x 2 | Support curriculum development for teacher education in Bihar State on behalf of World Bank |
| Kenya: 2003; 2011 - 2016 | Co-led a national workshop hosted by KTTC and funded by the Belgian development agency offering a Unisa perspective on the potential of DE; OER Africa convening meeting and follow-up planning and reviews x2; support to HEALTH Alliance initiative; ODeL review and OER orientation for Africa Nazarene University; curriculum design and materials development for ANU; activity-based ODeL materials for ANU, OER integration at ANU |
| Lesotho: 2013 | Capacity-building workshop for Council on Higher Education |
| Malawi: 1985-88 | Teacher, HoD, Principal, Exam Marker at a public school |
| Mauritius: 2002, 2003, 2006 | Technical Committee of the ADEA Working Group on DEOL – reporting on assigned research projects and involved in planning possible WG activities |
| Mozambique: 2002, 2004, 2007, 2010 | Workshops on management and materials development in distance education for MoE; DE systems review for Catholic University, Beira |
| Namibia: 2004, 2008, 2011 | Needs assessment on readiness to integrate ICTs into programme delivery at Namcol; Unesco project planning meeting for Angola; Report to Namcol Board on HR strategy review |
| Nigeria 2014-2015 | Collaborative development of a curriculum and materials for the CPD of teacher educators; training facilitators; training of teachers in critical thinking in the classroom; development of Teacher Standards |
| Rwanda: 2006, 2016 | Evaluation of the Kigali Institute of Education Distance/Unesco Teacher Training Programme; planning for DETA 2017 conference to be hosted by URCE. |
| Swaziland: 2004/5 | Initiation and capacity-building for Unisa NPDE delivery in Swaziland using local tutors |
| Tanzania: 2004, 2009; 2011; 2012. 2016 | Costing exercise with OUT as part of a SAIDE-OUUK-World Bank project; policy development for OER; OER workshops in Iringa. OUT OER policy development in partnership with CoL |
| Trinidad and Tobago: 2013 | Facilitate an OER orientation and policy development workshop for UWI on behalf of CoL |
| Uganda: 2006; 2010, 2011; 2012; 2013 | Invited to make a presentation on cost-effectiveness in ODL to a national forum; Assessment design support for Faculties of Agriculture and Veterinary Science and Makerere University; facilitation of proposal regarding a regional MPH programme |

| | |
|--------------------------|---|
| Country / Date | Assignment |
| | based on shared OER; DE quality audit for Makerere University Business School and follow-up curriculum development and OER capacity-building workshop (for CoL) |
| Zambia: 2005, 2011; 2012 | Workshop on curriculum design and materials development for Technical and Vocational teacher training; workshops on ODL learner support and OER |

Previous professional experience

| Dates | Organization | Brief description of responsibilities | Position |
|-------------|---|--|---|
| 1989 - 2000 | Promat Colleges | Teaching (2.5 years) Materials development (9.5 years) Managing a team (9 years) | Teacher Director of Studies: Promat Unit for Resource-based Learning |
| 1985 – 1988 | Voluntary Service Overseas/ Government of Malawi | Teaching (3 years) | Teacher HoD Arts Day School Principal Night School |

Post-graduate supervision:

Modise, M. P. 2016. *Towards an effective and empathetic student support system in an open and distance education and e-learning environment; a case study from a developing country context*. MEd ODL. Pretoria: Unisa. Awarded with distinction.

Ntuli, C. H. S. 2016. *Tutors' perceptions of effective facilitation through the use of an integrated tutor model (ITM) in an open and distance learning (ODL) environment*. MEd ODL. Pretoria: Unisa.

Bates, A. 2016. *Designing a professional development programme for higher education lecturing staff in pedagogical and digital fluency*. MEd ODL. Pretoria: Unisa. (To be awarded with distinction during a graduation ceremony in 2017).

Publications / reports/conference papers:

Journal articles

2013a. Developing Practice: A Particular Challenge for Teacher Development through Distance Education, Especially in Rural Areas. *Stud Tribes Tribals*, 11(1):97-104 (2013). Mbunyuza-deHeer Menlah, Ntomebandla & Mays, Tony.

2013b. Rethinking Distance Education in an Era of Online Learning. *Internet Learning Journal*, 2 (2), 2013. By Glennie, J. & Mays, T.

2013c. Beyond access: Tailoring ODL provision to advance social justice and development, *SAJHE*, 27(6): 1384-1400. By Makhanya, M, Mays, T & Ryan, P.

2011. Developing practice: teaching teachers today for tomorrow. *US-China Education Review*, December 2011. By Tony Mays.

2010a. Quality assurance at Unisa: towards a framework to support transformation in *Progressio: South African journal for open and distance learning practice*, 32(2), 2010. By Louie Swanepoel and Tony Mays.

2010b. Supporting rural teacher development in *Commonwealth Youth and Development*, 8(1), 2010, 20-36. By Ntombandla Mbunyuza-De Heer Menlah and Tony Mays.

2009. Teacher education through distance education: rising to the challenge in *African Journal of Distance Education*, 1, 2009, 3-32. By Jennifer Glennie and Tony Mays.

2008: Student perceptions of the impact of a preparation programme in education management on practice: an exploratory study. *Journal of Education Studies*, 7(1). By G M Steyn and TJ Mays.

2005: Costing Distance Education and Open Learning in Sub-Saharan Africa *Journal for Open Learning: Volume 20, Number 3, 2005*. 211-225. By Tony Mays.

2003: Distance Education and Open Learning: The Challenge for Satellite Campuses in *Journal for New Generation Sciences: Year 1, No. 2, 2003*. 41-58. By Tony Mays.

2003: Learner assessment in practice: Lessons from the NPDE in *Perspectives in Education: Volume 21, Number 1. March 2003*. 81-99. By Profs S. Mothata and LJ Van Niekerk and TJ Mays.

Research reports

2011. *Programme modelling: a Nadeosa investigation into the cost and human resource implications for different models of ODL provision – draft post-conference version 5*. Nadeosa and Saide. Johannesburg.

2008a. *Quality programmes, quality materials. Report on current practices at Unisa in the context of regional and international best practice*. For: DSPQA Unisa

2008b, c and d. *Quality programmes, quality materials*.

Gap Analysis – Design.

Gap Analysis – Development

Gap Analysis – From delivery to communities of learning and practice

For: DSPQA Unisa

2004. Contributed to: Council on Higher Education (CHE). 2004. *Enhancing the contribution of Distance Education in South Africa. Report of an investigation led by the South African Institute for Distance Education*. Pretoria: CHE (Contributed pp 114-128 and Background Paper 3 Costing Summary of Ten South African Case Studies on [www.che.ac.za/projects/distance education](http://www.che.ac.za/projects/distance%20education)).

2003: *Costing Distance Education and Open Learning in Sub-Saharan Africa*. Research report co-authored with Neil Butcher for COL/ADEA (published by ADEA in 2004; presentation on the report to ADEA in Mauritius mid-March 2004) see www.adeanet.org.

2002: *Distance Education and Open Learning in Sub-Saharan Africa – Literature Review* Co-authored with J. Komane - COL/ADEA (published by ADEA in 2003) see www.adeanet.org.

Books/textbooks

2015: *Getting Practical: A guide to teaching and learning. 3rd Edition. Revised edition*. Cape Town: OUP/Saide.

2012: *Getting Practical: A guide to teaching and learning. 3rd Edition*. Cape Town: OUP/Saide. (ISBN 978 0 19 905535 7) with Grosser and De Jager. Revision of first edition by Criticos, Long, Moletsane, Mthiyane and Gultig, Steilau (Eds).

2009: *Getting Practical: About classroom-based teaching for the National Curriculum Statement. 2nd Edition.* Cape Town: OUP/Saide. (ISBN 978/0/19/598651/8) Revision of first edition by Criticos, Long, Moletsane, Mthiyane and Gultig, Steilau (Eds).

1998: *English Language for Grade 11 – 12* (3 books) Kagiso Publishers/Promat Colleges Partnership (ISBN 0-7986-5064-8/0-7986-5114-8/0-7986-5115-6)

Editor for 7 other published and 6 other unpublished Grade 11-12 titles.

1992: *English Language for Matriculation.* Johannesburg: Lexicon Publishers/Promat Correspondence College. (ISBN 1-868-13-327-3)

1991: *English Literature for Matriculation.* Johannesburg: Lexicon Publishers. (ISBN 1-868-13-320-6)

Chapters in books

2016. Chapter 7: Programme design in ODL in Aluko, F. R., Letseka, M. & Pitsoe, V. 2016. *Assuring Institutional Quality in Open Distance Learning (ODL) in the Developing Contexts.* New York: Nova Publishers.

2014. Chapter 6: Teaching, learning and curriculum resources in du Preez, P. & Reddy, C. Eds. 2014. *Curriculum Studies: Visions and Imaginings.* Cape Town: Pearson.

2014. Open Content. Article in *International Encyclopedia of Digital Communication and Society:* John Wiley & Sons, Inc. by Björn Häbler and Tony Mays.

<http://onlinelibrary.wiley.com/doi/10.1002/9781118767771.wbiedcs154/full>

<http://onlinelibrary.wiley.com/doi/10.1002/9781118767771.wbiedcs154/pdf>

2005. Learner support in the Unisa NPDE. A case study in Welch, T. & Reed, Y. (Eds) 2005. *Designing and Delivering Distance Education: Quality Criteria and Case Studies from South Africa.* Johannesburg: Nadeosa. pp. 117-128.

Peer reviewed conference proceedings

2013. Open Educational Resources (OER): Do they make a difference and how do/will we know? In Gouws, F. E, & Wolhuter, C. C. 2013. Eds. *SAERA 2013 Conference Proceedings. Educational research in South Africa: Practices and Perspectives.* Cape Town: OUP. 123-146

2010. Curriculum as Process and Praxis: an ODL Perspective by Tony Mays and Louie Swanepoel. Canada International Conference on Education, *CICE 2010 Conference Proceedings.* ISBN 978-0-9564263-2-1. 343-348

Conferences

2016. *Designing and developing programmes in ODeL.* Full-day pre-conference workshop. Nadeosa conference 2016, Monash University, 13 July 2016.

2015a: *Open Educational resources for Activity-Based Distance Provision* (pre-conference workshop presentation) and *Introducing ODL* in main conference. Nadeosa conference 2015, Durban University of Technology, July 2015.

2015b: *Teaching the teachers of teachers of teachers. Continuing professional development for teacher-educators – overview of an initial “certificate” programme.* DETA conference 2015, MIE – Mauritius, July 2015.

2015c: *Opening continuing professional development.* Invited speaker at SACE national workshop on online CPD, Centurion, September 2015.

2015d: *Programme design for ODeL.* Invited speaker for a CHE workshop with private higher education providers, Birchwood Hotel, October 2015.

2014: *Open approaches to improve access with success*. Nadeosa conference 2014, June, University of Pretoria, Groenkloof campus.

2013: *Open Educational Resources (OER): Do They Make a Difference and How Do/Will We Know?* Presentation to the Southern African Education Research Association Conference, January 2013.

2012a. Chair Open Seminar and Exhibition (as well as panellist representing Nadeosa in one session), *OER World Congress*, UNESCO, Paris, June 2012.

2012b. *Introducing OER for Teacher Development in African Universities*. Presentation at the 1st Unisa Conference on Open and Distance Learning, Pretoria 29th and 30th August 2012. With Greig Krull.

2012c. *Collaborative development of a professional learning resource in Sub-Saharan Africa to support interactive teaching in science and mathematics using ICT*. ISTE conference, KNP, October 2012. with colleagues from Unisa CEDU and University of Cambridge.

2011a. *Programme modeling: a Nadeosa investigation into the cost and human resource implications for different models of ODL provision*. Nadeosa Conference, Johannesburg, 29 August 2011.

2011b. *Integrating technology into primary school classrooms in Zambia*. Co-presented by Drs Hennessey and Hassler of University of Cambridge and Tony Mays of OER Africa at UKFIET Conference, Oxford, September 2011.

2010a. *Towards a curriculum framework for teacher education*. Paper and presentation prepared by Louis Van Niekerk and Tony Mays at Unisa School of Education Research Conference, Joubert Park, Hotel, Pretoria, 21 July 2010.

2010b. *Value for money – a guiding principle for financing (teacher) education*. Paper prepared and presented by Tony Mays and Liana Griesel at Nadeosa Conference 2010, Potchefstroom, 06 September, 2010.

2010c. *Teacher Education through Distance Education*. Presentation by Tony Mays at Education Week, Emperor's Palace, Isando, 29 September 2010.

2010d. *Costing teaching practice*. Presentation by Tony Mays at Teaching Practice Symposium hosted by NWU, Quest Conference Centre, Vanderbijlpark, 01 November 2010.

2010e. *Teacher development: teaching teachers today for tomorrow*. Paper prepared and presented by Tony Mays at 6th PanCommonwealth Forum on Open Learning, Kochi, India, 25 November 2010.

2009a. *Absence and Presence*. Paper prepared with Prof L J Van Niekerk for ICDE conference, Maastricht, Netherlands, June 2009.

2009b. *Quality Assurance at Unisa: towards a framework to support transformation*. Paper prepared with Prof Louie Swanepoel for Nadeosa conference, Pretoria, RSA, August 2009.

2009c. *A curriculum for teacher development in ODL*. Paper prepared with Prof L J Van Niekerk for IAACS conference, Somerset West, Cape Town, RSA, September 2009.

2008a. *Teacher Education through Distance Education*. Paper prepared with J Glennie for ACDE 2nd Conference, Nigeria.

2008b. *Innovation in programme design: running before we can walk in an Honours programme*. Paper prepared for and delivered at Nadeosa conference, August 2008.

2005a. *Throughput in the Unisa NPDE*. Paper and presentation prepared for a national workshop on Provider Readiness for Distance Education hosted jointly by the CHE/Nadeosa/Unisa at Unisa in Pretoria in February 2005.

2005b. *Of Ivy Leagues and Calabashes*. Paper delivered in the curriculum issues stream of the SAARDHE conference held in Durban in July on the theme The African University of the 21st Century.

2004. The following paper was accepted for the Pan-Commonwealth Forum on Open Learning 3, Dunedin, New Zealand. *Developing a community of practice among educators: a case study of the National Professional Diploma in Education (NPDE) in South and Southern Africa*. www.col.org/pcf3/papers.

2003: *Teach a teacher and teach a nation*. Paper delivered at the Nadeosa conference held in Johannesburg. (www.nadeosa.org.za)

2003: *NPDE Workshop: Sharing lessons of experience*. Presentation and workshop led at the Nadeosa conference in Johannesburg. (www.nadeosa.org.za)

2001: *Walking with Dinosaurs: DE Evolution or Extinction and the NPHE*. Paper delivered at the NADEOSA conference held in Johannesburg (see www.nadeosa.org.za)

2001: *Assessment in distance education*. Workshop led at the NADEOSA conference held in Johannesburg (see www.nadeosa.org.za)

2000: *Learner Support: A South African Programme Perspective*. Keynote address at NADEOSA conference held in Pretoria (based on a Saide research project completed by the author) (See www.saide.org.za)

Other materials

2000-2016: Regular contributor to the SAIDE newsletter Open Learning through Distance Education (OLtDE) and blog (see www.saide.org.za)

2007-2009: Manager/editor/co-author for the development of a national curriculum and materials for an Advanced Certificate in School Management and Leadership under the auspices of the DoE and involving 17 HEIs, teacher unions and several NGOs.

2009: Developed a module on Lead and Manage People and two supporting skills development workshops for Mathew Goniwe School of Governance and Leadership.

2006a/2008: Co-author of study materials for the new BEd Hons programme at Unisa on Theoretical Frameworks, Teaching and Learning, People-centred Schools.

2006b/2007/2008: Author of workshop manuals for Ukukhula Projects on Language for learning and teaching, Assessment for learning and teaching, NCS planning for Principals, NCS planning for HoDs, Classroom management, Leading and managing the school as an organisation, Conflict management, Leading and managing people.

2005a: Wrote four modules with Anusha Naidu for the Mathew Goniwe School of Governance and Leadership/University of Johannesburg ACE in Educational Leadership: Core modules on Teaching and Learning and Leading and Managing People, as well as elective modules on the same issues but directed at HoDs.

2005b: Wrote a training manual and ran a workshop for Grade 10 Language teachers on the implementation of the NCS for GDE/Unisa.

2005c: Developed the curriculum for the new 360-credit NPDE programme offered by Unisa, co-wrote four of the modules and developed tutorial letters for the programme as well as for eight first level modules.

2002/3. Critical reader/module designer and/or co-writer for approximately 40 modules of the Unisa NPDE programme.

2001/2. Development of implementation plans, budgets, study and assessment materials for the first year of the Unisa NPDE programme (60 hours of contact per student, 5 modules, 60 tutors, 35 centres, 2200 students).

2000: Lead writer for various FETI Governor training modules for CCF/NBI/DoE: Introduction to governance, strategic governance, financial governance, governance of human resources, governance of student support, governance of curriculum development, governance of communication and marketing.

1999a: *Seven Steps to Successful Study*: Promat/NPDoE/GDE

1999b: Lead writer for various OBE training guides for GDE

1999c: *English Literature Study Guide for Flight and Macbeth*. Promat/Bochum

1993-7: Editor/instructional designer/DTP for over 100 Promat Distance Education modules

Technical skills:

Turnitin Plagiarism Detection Course, University of Pretoria Learning and Development, 10/08/16

clickUP (UP's BB-based LMS) Management Course, University of Pretoria Learning and Development, 10/06/16

Orientation Programme, University of Pretoria Learning and Development, 12/05/16

Theory of change workshop offered under the auspices of DPME, Pretoria, November 2015

Project Management, Project Management Institute, March 2000

University of the Witwatersrand TV School, 30-hour practical training course, 1996

Damelin Computer School, Diploma in Personal Computing, 1992.