Rethinking Distance in an Era of Online Learning

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This paper explores the ways in which technology in general, and online provision in particular, has contributed to a blurring of boundaries between different modes of educational provision, but makes a case for the retention of the notion of “distance” and how the challenges of distance may be overcome through conscious decisions made and budgeted for at the programme design stage. The argument made here results from an ongoing discussion within the South African Institute for Distance Education (SAIDE) in reflection on work at institutional, national and cross-border levels. It proposes a model for mapping different forms of provision within a funding framework in South Africa that looks set to continue a distinction between distance and non-distance forms of provision. The paper suggests a hierarchy of issues that should be addressed in the quality assurance and accreditation of distance programmes with varying degrees of ICT integration.

Key words: technology; online; distance education; SAIDE; quality assurance; accreditation

The Context

There is need to expand the capacity and effectiveness of the post-schooling system in many countries in Africa generally, and in South Africa in particular. However, most traditional contact-based institutions have already reached their capacity to support full-time students. In addition, there is increasing demand for more flexible provision of learning opportunities which allow lifelong learning to take place alongside other life commitments such as work, family and community engagements. There is evidence that designed and implemented well, distance provision can reach larger numbers and cater for more diverse student needs; and do so in ways that maintain or improve quality while achieving some cost-per-student savings through economies of scale (and for students, savings on costs of residence and travel). For these reasons, national policy in South Africa foresees and encourages expansion in provision of high quality distance education.

Although distance education can offer a way of breaking out of “the iron triangle defined by the vectors of access, quality and cost” (Daniel & Kanwar, 2006, p.7) by increasing access, improving quality and cutting costs, it is also true that often distance education is not properly planned, does not deliver what it promises, and is not cost-effective. This is because it is complicated to plan and manage, and because the mistakes are less easy to conceal and/or overcome with a large, dispersed student body. Systemic evaluations of distance provision have provided evidence that much provision is far from ideal (CHE 2004). In addition, there seems to be a widespread assumption that education

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delivered by means of ICT integration can improve the quality of educational provision in developing countries, not least in institutions of higher learning. Governments and higher education institutions in such countries are spending enormous sums of money in this regard. The “roll-out” of ICTs into schools, higher education institutions and community learning centres, together with more provision of on-line distance education courses, are increasingly advocated as the means to increase access to education and improve the quality of its delivery. The suggestion is that, particularly in countries which face serious educational shortcomings and whose educational institutions remain underdeveloped, Information and Communication Technologies (ICTs) can make the difference.

However, even accepting the assumption that ICT integration can make an important contribution, the question of the quality of educational delivery and support using ICTs requires much deeper analysis. Simply “throwing computers at higher education institutions” is not enough. While issues of the provision of ICT hardware, the improvement of connectivity, and the upgrading of communications and general technology infrastructure are clearly important, it is only when actual issues of the improvement of teaching and learning are addressed that claims made for the educational potential of ICTs can be confirmed or refuted. In South Africa, we are increasingly at this juncture.

Institutions now have a much wider range of possibilities to consider about what content to use, how to mediate it and how to assess learning. Depending on the learning context, the nature of their target learners and their vision and mission, institutions might opt for a minimal engagement with ICT in which the ICT supports other forms of teaching or, at the other extreme, a form in which ICT is integral to the design of the programme. All institutions will likely need to use a variety of ICT to maintain and improve communications, for example, but whether or not to use the affordances of ICT for a highly interactive form of engagement during the teaching process will have profound implications both for cost of provision and for the access and competences required of both students and staff. Institutions need to select appropriate technologies to use in appropriate ways, taking into account their differing contexts of provision: a one-size-fits-all approach will not be possible.

The rapid pace of technological change and increasing globalization have resulted in an exponential increase in access to sources of information, which means that teachers, whether contact or distance-based, can no longer be expected to be the sole content authority for the teaching-learning interaction. The roles and responsibilities of the lecturer, learner, and support services may be significantly changed in the online environment in particular as described by many research studies (Yang & Cornelious, 2005; Oliver, 1999). Digital technologies open up many possibilities for a more interactive engagement, but whether the affordances of ICT are used in this way must be a conscious design decision: ICT can be used simply to transmit content more efficiently. However, in institutions which consciously seek to use ICT to teach differently, the role of the lecturer is changing to that of facilitator, learning environment designer, co-learner, and may also include content curation (Plomp, 1999). The role of the learner in such institutions and programmes is then also changing, moving towards more self-directed, independent study and greater collaboration and engagement both with peers inside the institution and others outside the walls of the classroom or lecture hall (Berge, 2000; Kahn, 2012; Richardson). Burbules
and Callister (1996) observe in particular that "hypertexts actively invite and facilitate multiple, alternative readings of the same material"; they suggest that "more than just a new way of organizing information, hypertext influences the information it organizes . . . Form and content become interdependent." However, they also recognize that these potential new learning possibilities need form and content within which they can be realized—if engagement with hypertext is not, as we put it earlier, subordinated to disciplinary inquiry, then the activity it produces will dissolve in intellectual chaos, arbitrariness and “a limitless bricolage of fragments” (as cited in SAIDE, 2006).

Migration to an ICT-supported approach, whether for contact or distance or blended provision, should therefore be considered carefully and be undertaken within the context of the institutional environment as a whole.

The key point to be made here is that the way in which we use technology models particular values and uses for our students and places particular kinds of demands both on them and on their teachers. Therefore, we need to make conscious choices to use appropriate technologies in appropriate ways, taking cognizance of both our learning purposes and the technology profile of our target learners and staff (Mays, 2011). In our view, technology needs to support the teaching and learning process and not drive it.

Distance education provision and technology use

Distance Education (DE) providers have traditionally been early adopters of new technology, and different generations of DE provision have emphasised different systems and technologies issues, for example:

- 1st generation: correspondence—emphasis on mailing systems
- 2nd generation: specially prepared self-study material—emphases on materials development, storage, dispatch
- 3rd generation: print + multi-media and two-way communication—introduced importance of teams/learner support
- 4th generation: ICTs and two-way interaction—added concerns for social learning/multi-skilling

While in North America, distance education seems to have become almost synonymous with video-based and/or online learning, in sub-Saharan Africa the traditional model for distance provision has been print-based correspondence or print-based and contact supported. However, with growing access to ICT facilities by staff and students and increasingly available and affordable connectivity, this is changing.

It should be noted that small scale virtual learning environments with high levels of interactivity are usually not affordable for scaled provision. At the other end of the scale, (largely) unmediated MOOCs generally have too low retention and throughput to be an effective model for DE provision for which institutions receive subsidy and students pay fees. Effective technology supported DE delivery for formal studies must rather take into account the needs, capacities and costs to students and staff and provide the necessary support for success. Thus the effective integration of ICTs must involve a careful analysis of
learning and teaching needs and contexts so that the most appropriate use can be made of the most appropriate technologies (including print) to support the learning process.

Recently within South Africa’s dedicated distance provider, the University of South Africa - Unisa, there has been recognition of the need to think and plan more holistically in terms of the ‘student walk’ through the institution (Louw, 2007) and the fit or lack thereof between student and institution expectations, preparedness and responsiveness at each key step of the walk (Prinsloo, 2009). Key steps in the student walk have been identified as follows: marketing and orientation; the process of application (and the need for guidance and counselling so that prospective students make informed choices); registration (including RPL); teaching and learning (including orientation to the process); formative assessment; consolidation and summative assessment; second assessment opportunity and finally graduation and alumni management. Different combinations of ICT might be used in different ways in different steps of this process (Mays, 2011).

How do assumptions about learning shape how ICT is used?

It is suggested that both the selection and the manner in which resources and technology are used to support learning are influenced by explicit or implicit assumptions about the nature and purpose of teaching and learning. This is illustrated in Table 1.

The table suggests that assumptions about the nature and purpose of teaching and learning, whether or not made explicit, will influence the choices teachers make about the selection and use of both resources and technology. Although different approaches might be needed by different students at different stages in their learning journey, the overall trend is towards favouring practices towards the right of the table. This has profound implications for the ways in which learning programmes are designed, supported and assessed and consequently also for the expectations of students and staff.

For the purpose of highlighting quality issues that are involved in ICT-supported distance education, it is necessary to provide conceptual clarity on what constitutes distance education.

Concept of distance education

Currently distance education students in South and Southern Africa rarely, if ever, have the opportunity to engage directly with their teachers or peers as contact sessions are often few and far between. ICT can be used to address this but, as noted previously, this calls for a conscious design decision with consequences for how such programmes are resourced. Distance education focuses on the teaching, learning, support, assessment, technology, and learning management systems design that aim to provide educational opportunities to students who are not physically “on site”. In distance education, learners are separated from the instructional base or teacher, either in space or time, for a significant portion of their learning (ADEA Working Group on Distance Education and Open Learning). As an approach, distance education does not preclude some face-to-face contact, but such learning opportunities do not necessarily take place at school or in the presence of a teacher; neither do they have to be based on a “group structured” programme. There is greater freedom of space and time, and there is also much learner flexibility in the learning process.
Whereas online learning opportunities may be offered both to campus-based and remote students, distance education is premised on a very diverse and geographically distributed student body, a high level of independent learning and decentralised support for students who may never attend the central campus. So in our opinion, online provision and distance provision cannot be conflated: though the former can be designed specifically to meet the needs of the latter. Designing a programme for a target audience who can be assumed to have access to computer labs or a wifi network on a central campus raises different requirements from the design of a programme for distributed students who may not have that access. Even if registration requirements stipulate that students must have specific ICT devices and specific levels of connectivity, there is need to think about how distributed students can gain access to technical support (for example an online support centre; a call centre).

Where registration requirements are clear and a technical support structure is in place, the design of the learning programme itself usually makes certain assumptions about what students already know or can do: designing a programme for local students studying on a flexible study basis, or students distributed across a province, or students distributed across a whole country or region, or students anywhere in the world, raises important design questions about what examples to use; what resources to refer to; the type of language that might be appropriate; how a large and distributed student population might be divided into smaller groups for collaborative assignments (perhaps deliberately pairing students from different environments); and what learning styles and strategies might be appropriate (perhaps a greater range of options for a more diverse range of participants). So when Evans and Pauling (2010) rightfully question whether the notion of “distance education” is still relevant, we would argue that it remains useful at the programme design stage to think about where prospective students will likely be located. We believe that “geographic distance” can still exacerbate “transactional distance” (Moore, 1993, 1996) in an online environment, and activities and support strategies need to be designed accordingly.

Distance education can thus be construed as a collection of methods (including but not limited to online) for the provision of structured learning as well as a mode of delivery that avoids the need for learners to discover the curriculum by attending classes frequently and for long periods. Distance provision aims to create a quality learning environment using an appropriate combination of different learning resources, tutorial support, peer group discussion, and practical sessions (real or virtual or a combination of both). Literature shows that some of the key aspects that constitute an effective learning environment, whether it is in face-to-face or in distance education settings are that learners should be encouraged to engage with the content, to collaborate and interact during learning, to reflect on what they learn and to relate it to practice (CHE 2007; Strydom and Mentz 2010). In distance education, creating an effective learning environment entails designing activities that promote mastery of knowledge/concepts by learners; mastery of skills through doing; interacting with peers and the environment to gain deeper insights; and reflecting on what is learnt to gain wisdom without necessarily requiring teachers and learners to be in the same place at the same time. Students do not necessarily need to be “online” to do some of these things.
Decisions made regarding:

<table>
<thead>
<tr>
<th>Communicating the curriculum</th>
<th>Engaging with the curriculum</th>
<th>Applying what has been learned</th>
<th>Typical resources</th>
<th>Uses of technology</th>
</tr>
</thead>
</table>
| • 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/multimedia/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. | • Assume that learners have appropriate study skills.  
• Learners expected to master content.  
• Emphasis on recall in activities, assignments and examinations. | • Assessment by tutors only.  
• Assessment tasks require recall.  
• Assessment tasks include assignment content tests; examinations. | • Single prescribed textbook | • Focus on efficient ways to transmit content |
| • 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. | • 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. | • Assessment by self and others.  
• Assessment tasks require application of knowledge in authentic situations.  
• Variety of individual assessment tasks, including portfolios. | • Prescribed and recommended mixed resources; with intent to set up debates | • Used to create access to a wider range of resources and to facilitate two-way communication |
| • 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, 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. | • 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. | • Assessment tasks require reflection and application in congruent real-life contexts.  
• Variety of assessment tasks, including group tasks. | • No limits on resources consulted including idiosyncratic resources and resources co-constructed as part of the learning process | • Used to shift the teaching-learning transaction from content provision and testing to open-ended exploration, co-creation of new knowledge and interactions that move beyond traditional boundaries of the institution |

(Adapted from Mays 2004, p.52)
Distance versus technology-mediated conventional education: the narrowing gap

As noted by SAIDE in an earlier report:

Technologies can be applied in a range of ways, to support an almost limitless combination of teaching and learning strategies, and it is essential to keep options as open as possible. This flexibility should form the cornerstone of all planning processes. (SAIDE, 2000: iv)

The wealth of possibilities offered by mixed-mode learning is increasingly being realised by educational institutions. Thus, due to increased use of technology the distinction between distance education and face-to-face delivery is increasingly becoming blurred as is the distinction between distance learning and e-learning. At the same time, the advent of information and communication technology and its increasing ubiquity is making it more and more feasible to interact with a course facilitator and with peer learners at a distance, both synchronously and asynchronously. Distance education providers are increasingly harnessing the affordances of this technology to enhance their teaching and learning processes. So on the one hand we have a blurring of boundaries, but on the other we have a funding and policy framework in South Africa that looks set to continue to maintain a distinction for some time to come. The challenge then is where, on the continuum of endless possibilities, to draw a line between what constitutes technology-mediated contact provision and distance education. SAIDE acknowledges the complexity at the interface of distance education and technology-supported learning, and has developed a grid that serves to illustrate a number of delivery modes lying on the two continua of spatial distance on one hand and technology use on the other. Figure 1 illustrates various delivery permutations based on the two variables.

In addition to the spatial and technological dimensions illustrated in Figure 1, a third (human) dimension needs to be considered across all forms of provision. This is the underpinning educational approach and the extent to which this is fit for its purpose in terms of the target audience, the purpose and level of the course being offered, as well as the extent to which an equivalent learning experience is offered across different contexts of learning and practice. A diverse range of ICTs are now available to enable this, including more informal social networking, but they need to be selected and utilised purposefully for this potential to be realised. In an insightful paper on emergent learning and the affordances of learning ecologies in Web 2.0, Wiliams, Karousou and Mackness (2011) caution:

although social networking media increase the potential range and scope for emergent learning exponentially, considerable effort is required to ensure an effective balance between openness and constraint. It is possible to manage the relationship between prescriptive and emergent learning, both of which need to be part of an integrated learning ecology. (p.39)

Notwithstanding the growing mix of modes and methods, the realities of funding in South Africa in the short to medium term as well as a concern to differentiate provision in order to address relevant quality issues mean that the regulatory framework in South Africa will continue to distinguish between ‘contact’ and ‘distance’ provision for the foreseeable future. This in turn calls for the adoption of a single simple definition of ‘distance education’ that will apply
Figure 1: Mapping different examples of provision
across all statutory and regulatory bodies. Taking cognizance of the finding from the South African Survey of Student Engagement (Strydom & Mentz, 2010) that, on average, undergraduate students in contact programmes in South Africa spend 40% of their time involved in scheduled campus-based activities, for the purposes of this discussion, the term ‘distance education’ therefore refers to all modes of provision, including blended and technology-supported learning 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 Level 7 and initial post-graduate courses at NQF Level 8, in staff-led and conventional face-to-face, campus-based structured learning activities.

Within this framework, “distance education” therefore refers to practices towards the right-hand side of the grid in Figure 1 in which it is assumed that students will rarely, if ever, be in the same time and place as their teacher. This has profoundly different implications for student and staff roles and also for what facilities need to be put in place and maintained at the extremes of practice, notwithstanding that there may be some programmes converging towards a blended mode of provision. Critical for the current discussion is a consideration of how ICTs are utilised to facilitate active student engagement with the curriculum, to provide a wide range of learning support strategies and to enable reliable assessment that is consistent with the overall purpose of the programme, without necessarily requiring teachers and students to be in the same place at the same time. We are thus looking to uses of technology that involve far more than simply providing “print behind glass.” Probably the most important and perhaps the most difficult transition to the online/blended mode for both the instructor and learner is that of adjusting to the online communication medium, be it used synchronously or asynchronously. This includes concepts and practice surrounding teaching and learning interaction, engagement, and facilitation.

Programme design needs to be guided by an upfront decision concerning the level of mediation that is to be employed in the online component of the course by the responsible academic. In addition, large student numbers would indicate the employment of tutors to manage small virtual group online interaction. In the first instance, interactions would typically be tutor to learner, and learner to learner. However, the online environment offers greater potential for an expanded environment, including with expertise residing outside of the institution. Figure 2 illustrates one model of the many possible interactions.

Not all aspects of Anderson’s model above will necessarily feature in all programme designs. For example, the development of simulations and games or virtual labs is time-consuming and may not be appropriate to all contexts. However, it does seem to make sense for all programmes to create opportunities for greater student-content interaction (through the design of meaningful activities with automated feedback for example); opportunities for student-teacher interaction outside of normal office hours by email and through online fora; as well as student-student interaction as students can often support one another in the learning process and an online community of learning can help overcome the sense of isolation that often characterizes distance provision.

Although perhaps more extreme in Sub-Saharan Africa for a host of historical and current reasons, similar challenges regarding how to teach effectively are evident elsewhere as society adapts to the increas-
ing availability of and demand for information enabled by the ubiquitous availability of technology. Laurillard (2002, 2006) suggests that there is consequently a need to rethink the way we teach in the new knowledge society including adopting a more professional research-based teaching approach that parallels the professional approach the sector has always adopted towards research; placing a greater emphasis on the development of the long-term high-level cognitive skills of scholarship and utilising technology to promote meaningful interaction and engagement.

Expansion of distance education provision in higher education is increasingly being associated with more use of educational technology for these kinds of reasons. In South Africa, although there is currently only one dedicated distance education institution, there has been considerable increase in the number of students studying on distance education programmes at predominantly contact institutions, a process that is supported by evolving policy guidelines for post-schooling provision generally. The increasing use of ICTs for teaching and learning has made it possible for more providers to engage students that are not in the same place at the same time, i.e. reach students ‘at a distance’. This has meant that many institutions/programme that would characterise themselves as contact/face-to-face are often moving into distance provision without necessarily making a conscious decision to do so. Stakeholder submissions to the research process for the Council on Higher Education report submitted in 2009 emphasised that face-to-face institutions could not ignore the wealth of possibilities offered by mixed-mode or blended e-learning (Council on Higher Education, 2009: 9-14)). This was seen to be essential in terms of opening access and increasing graduate output.

A growing body of literature provides insight into the possible advantages and the minimum requirements for integrating ICTs into learning provision more generally (Simonson, Smaldino, Albright, & Zvacek, 2003) and on the unique opportunities provided by the online environment in particular (Anderson & Elloumi, 2004). The literature suggests the need to recognize the increased diversity of the potential learners and to design with different learning needs in mind from the outset (Ehlers, 2004; Davis, 2007; as cited in Moore, 2007), including the need to address issues of cultural diversity (Gunawardena & LaPointe, 2007; as cited in Moore, 2007) and make the necessary investment in appropriate curriculum design ahead of marketing and registration (Butcher, 2001). It is then necessary to create awareness of the nature and demands of distance and technology mediated learning prior to registration (Simpson, 2004; Davis, 2007; as cited in Moore, 2007) and give attention to the ways in which both tutors and learners are prepared, monitored and supported in an online or technology mediated learning environment (McPherson & Nunes, 2004) throughout the learning process. The design of the learning process may usefully be informed by an understanding of adult and possibly self-learning theory (Davis, 2007; as cited in Moore, 2007; Hase and Kenyon 2001) and the changing expectations and preferred learning styles of students (Dede, Dieterle, Clarke, Ketelhut, & Nelson, 2007; as cited in Moore, 2007) and in particular the need for interaction, customization and reciprocity in learning partnerships (Beldarrain, 2006). Caplan, Thiessen, and Ambrock (as cited in Anderson & Elloumi, 2004) point to the need for multi-disciplined teams to develop these kinds of programmes which will obviously have implications for project management, time and cost and in turn models a particular form of professional practice.
Figure 2: A model for online learning (Anderson, 2008, 61)
Welch, Drew, and Randall (2010) report on a SAIDE engagement with an on-line learning process to explore how to train tutors to support distance learning on-line. They noted the usefulness of Salm-on’s (2004) model for structuring a learning programme on-line overall and Gunawarden et al.’s (2006) Wiscom model for designing particular learning activities. They conclude that, designed appropriately, an on-line course can result in greater engagement and interaction but indicate that the approach needs to be thought about very carefully if large-scale provision is required. The recruitment, selection, training, monitoring and ongoing support of tutors working with sub-groups of the student population becomes a management task in its own right and has implications for the ways in which learning management systems are constructed. Thus a meaningful migration towards ICT integration involves much more than simply making resources available on line.

Accreditation of technology-enhanced distance education: an international perspective

Whilst distance education is gaining prominence in higher education, many challenges are faced in terms of enhancing the quality of delivery. Key challenges of distance learners to be addressed by a provider include overcoming the difficulty of students sharing their experiences with other students; providing opportunities to interact with teachers outside of normal hours; providing appropriate and timely interactive learning materials; making available expert guidance and support in order to derive maximum benefit out of the learning materials. Many of these traditional challenges can be addressed through appropriate use of technology, but only if the integration of technology is designed for the purpose and the impact on students, staff and systems taken into account and provided for.

The prominent quality assurer in higher education, David Woodhouse (2009) identifies key characteristics of distance education that often pose quality challenges to providers:

- more stakeholders or sites involved in the creation and delivery of a course or programme;
- longer chains of communication;
- often larger scale;
- more separate activities and roles to be co-ordinated;
- greater administrative needs (such as record keeping);
- more delegation of assessment in competency testing;
- achieving consistency of practice over a distributed organisation or a collaboratively delivered programme or course;
- a different interpretation of what constitutes teaching (for example, in the separation of roles in providing learning content and support);
- a more careful and deliberate process of planning and development of courses and systems than is common for conventional delivery;
- greater issues of credibility;
- complications raised by a transition from a largely correspondence-based ODL programme to an increasingly on-line system;
- QA processes that are accepted as integral to the ODL programme provide models for the assessment of quality in campus-based programmes.
Implications for the review of distance provision

In understanding mode of delivery, consideration needs to be given not only to the extent of temporal or spatial separation of teacher and learner, but also the extent to which digital technology is used to support the teaching and learning in a programme. The flexibility of the temporal dimension in technology-supported teaching and learning provides a great pedagogical strength. Interaction can either be synchronous (at the same time) or asynchronous (with delays). The asynchronous nature of many of the communication and collaboration technologies currently available allows learners to reflect and contribute more meaningfully in an online dialogue, thus developing and improving their critical thinking skills.

In fully online programmes all interactions with staff and students, educational content, learning activities, assessment and support services are integrated and delivered online. Blended programmes with some elements of online participation could also be digitally supported offline e.g. by use of CD/DVDs. In the context of a developing economy, this could alleviate excessive and expensive downloading of multimedia materials.

When designing or transforming a course for online delivery, the presence of the learning pathway becomes more important than ever and needs to be carefully designed and implemented, so that the navigation framework for the course is entirely clear.

The potential of the digital medium should be exploited to the full within the constraints of the target teaching and learning environment, ICT infrastructure and available budget. Multimedia (MM) elements could be incorporated where appropriate. However, careful consideration should be paid to the pedagogical purpose (the primary driver) of any MM learning object – this should always be supported by the appropriate use of ICTs.

When redeveloping materials for online delivery, it should not be assumed that the activities, assignments and assessment would necessarily be scheduled to take place online. The potential of the new environment should be exploited only if and when it is deemed to be relevant and appropriate. The instructions and guidance for each activity should be entirely explicit, as this environment will form the learner’s primary source of reference for their engagement with the course.

With regard to online assessment, there are a variety of assignment and question types that are typically supported by virtual learning environments (VLE/LMS). However, it is important to note that the usual considerations around the validity and security of assessment apply. The deployment of automated online assessment can be used more easily for formative rather than summative assessment, unless a proctored examination venue is utilized, and a variety of appropriately structured and valid assessment forms are designed.

When engaging in a mediated online course, the teacher’s presence is of paramount importance. Learners should also be given the opportunity at the beginning of a course to establish their own online presence and acknowledge other learners as part of their group embarking on this learning experience together. Again, this should be explicitly built in at the design stage.

Taking into account the flexible nature of materials presentation in an online environment, the layout and layering of the various pedagogical elements requires particular attention. The layering refers to the
information that the student first sees on the online course landing page; what course elements are then available via a hyperlink, and how they are presented; what activities and assessment are designed to support learning; how these are supported by ICTs; and how the learners are to be engaged with the materials, their instructor and each other, all to be accomplished through making the most of opportunities afforded by the online environment. The elements of each section of a landing page would typically include: the title of the sub-topic; some textual narrative explaining what the section is about; a clear indication of what the learner is expected to undertake in this section; and how they should go about it. In order to keep the landing page uncluttered, the detail of any resources and activities is available via a link.

People considerations

When embarking on a new mode of delivery for a particular course, there are a number of additional elements to be considered in order to promote the success of an online/blended programme.

Learners: computer literacy skills should be ascertained and any remediation deemed necessary should be undertaken prior to their engagement with the online course. Of primary importance is the verification that each learner has reasonable access to the online environment. This would include provision for their device that is to be used to access their course, as well as regular internet access at a reasonable cost. They should also be provided with a brief orientation to their online environment that would include a training session in order for them to explore the features and functions of the software with which they are expected to engage, and importantly, an orientation to the pedagogical purpose within their course.

Lecturers/Tutors: should be equipped with the skills to facilitate the course online in a manner that supports and engages the learner in the changed environment.

Extended support team: it should be made explicitly clear to lecturers/tutors and learners who is available to support them, when those people are available, and what kind of support can be expected from them, and how they should be contacted. This information should be embedded in the start-up information for each programme. In order to achieve this, good inclusive relationships should be developed within the institution between academic and support staff in their quest to provide an effective online teaching and learning environment.

Towards a hierarchy of review

There is a hierarchy in evaluation implied by the discussion in this section:

- First, we need to look for a curriculum design that models good teaching and helps students develop the necessary competencies for success, regardless of the mode of provision.
- Second, we need to look for learning pathways and learning activities that model the desired approaches to knowledge, learners and technology usage within a distance context of diverse and geographically distributed students.
- Third, we then need to establish whether the most appropriate technologies are used in the ways most appropriate to the learning intention, taking cognizance of the technol-
ogy profile of the learners, their teachers, and their contexts of practice.

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