**eLearning or eKnowledge – What are we offering students?**

**Greig Krull and Brenda Mallinson**

**South African Institute for Distance Education**

**greigk@saide.org.za**

**Abstract**

Technology supported learning is becoming more commonplace in Higher Education. However, despite the potential pedagogical changes afforded by the use of technology, the implementation of educational technology often reinforces traditional ways of teaching and learning. The design of the learning intervention is thus a key concern. It is worth considering whether the intended usage of content is for informational or instructional purposes. This paper looks at the implications of distinguishing between eknowledge and elearning in the design approach. This approach challenges educators to spend less time on teaching the content itself and more time guiding learners to find, interpret, evaluate and use the content.

**Keywords**: elearning, eknowledge, learning design, educational technology, knowledge management

1. **Introduction**

Higher Education Institutions in Africa are increasingly looking to make use of technology to support and enhance their teaching and learning practices. However, the use of technology for delivery of courses does not necessarily impact positively on how teaching and learning occurs. This paper interrogates the assumption that all learning content is best communicated via courses or some other form of instruction. In the current digital society, it is increasingly easy to search for and find relevant information with the aid of technology. The learning process should not only focus on how to acquire knowledge but also to find out how to reference sources of knowledge and learn how to use it to solve more complex problems. Thus content is important, but context is required to shape the usage (Renshaw, 2012). This paper looks at the increasing provision of elearning and its intended purpose. The role of resource usage and knowledge management is explored and the implications examined between delineating instructional-focussed solutions and informational-focussed solutions.

1. **Context**

In Africa, over the past few years there has been widespread digitisation of academic content, together with a planned increase in online enrolments in higher education institutions. Many institutions are adopting elearning as a solution to the growing demand for higher education (Adkins, 2013). The use of supporting Information and Communication Technology (ICT) has an impact on teaching and learning practices. The eLearning Africa Report 2013 (Isaacs et al, 2013) reflects the two biggest impact factors as being firstly an increased access to resources, information and knowledge, and secondly the emergence of new methods of teaching and learning. Respondents emphasised the ways in which digital technologies have opened up possibilities to access content required for effective learning and the way in which technology can support and facilitate new pedagogies and promote collaboration, enable students to enhance their research skills, break the barriers of geography (promoting distance and flexible learning), and facilitate online learning communities.

With a very large number of resources now widely available via the Internet in digital repositories, the instructional role of the teacher or informational role of the local research library as the conduits for access to knowledge has changed. Educators can either respond to this changed environment, or risk becoming ineffective as learners forge ahead as best they can without the valuable guidance that could or should be provided in an educational environment.

In many universities, however, much of the deployment of supporting digital technologies such as Virtual Learning Environments (VLE) or Learning Management Systems (LMS) simply perpetuates the transmissive mode of teaching and learning (Renshaw, 2012). Institutions that adopt elearning do not always appear to take advantage of the pedagogical affordances provided by the technology. Many learners have experienced poor learning, often because the latest technology and tools have been used to improve the efficiency of the learning delivery, rather than improving and adding value to the learning experience (Rosenberg, 2013). For example, lecturers may restrict themselves to uploading slide presentations online or archive digital content for later viewing. This online content may be valuable and important, but it may not be linked to accomplishing any learning objectives (Rosenberg, 2013).

When migrating face-to-face courses to online or blended learning, many courses end up being an “information dump” where all materials and resources are put on a website or VLE and learners are expected to be able to learn and study the materials with almost no interaction with a facilitator (Renshaw, 2012). If the course is not intentionally and specifically designed for independent study or resource based learning, this diminishes the learning experience in a number of ways. It removes the discussion, problem solving, elaboration and contextualisation that a good facilitator provides. It also removes the ability of the facilitator to be sensitive to the needs of learners and adjust the learning design accordingly, and limits the learners who need to cope with massive volumes of decontextualized information and yet need to absorb or analyse it for assessment purposes (Renshaw, 2012).

1. **Importance of the learning design**

Making use of the latest elearning tools and technologies does not in itself improve teaching and learning. Rather, it is the actual learning design that determines the outcome of any teaching and learning intervention be it on- or off-line (Rosenberg, 2013). An important aspect to consider is the purpose of the learning intervention or “what do learners need to learn?” (Saide, 2012). Another important design consideration is the creation of the learning community. Anderson (2008: 344) refers to a conceptual model of online learning known as the “community of inquiry” model created by Garrison, Anderson, and Archer (2000). This model postulates that deep and meaningful learning results when there are sufficient levels of three component “presences.” These presences are cognitive, social and teaching presence (Anderson, 2008: 344).

A sufficient degree of cognitive presence is required so that that serious learning can take place in an environment that supports the development and growth of critical thinking skills (Anderson, 2008: 344). For a course to achieve the intended objectives, good-quality content is only one aspect. Another component is the effective communication and interaction with the content (Renshaw, 2012).

Social presence relates to establishing a supportive environment where students feel the necessary degree of comfort and safety to express their ideas in a collaborative context, and to present themselves as real and functional human beings. The absence of social presence leads to students’ inability to express disagreements, share viewpoints, explore differences, and accept support and confirmation from peers and teachers (Anderson, 2008: 344). Content driven courses can ignore the social or interactive notion of learning or rely on standard inclusions like forums in VLEs. The forum function is usually underutilised or too poorly organised for learners to be able to make effective use of it (Renshaw, 2012). Social media have encouraged the development of communities of practice, where students share experiences, discuss theories and challenges and learn from each other (Contact North, 2012).

In an online environment, learners are sometimes provided with massive amounts of information and are asked to absorb and analyse it, without any contextualisation, elaboration, discussion or problem solving. This can be detrimental to learners who feel as though they are learning through a series of documents and files rather than through the guidance of qualified teachers who are sensitive to learner needs and context (Renshaw 2012). Teaching presence is critical in designing and organising the learning experience that takes place. Establishing the presence of the teacher involves devising and implementing activities to encourage discourse between and among students, between the teacher and the student, and between individual students, groups of students, and content resources (Anderson, 2008: 344). For the learning experience to be effective, the guided delivery of content, activities and feedback from a facilitator is crucial (Renshaw, 2012). The educator can enable learners to construct knowledge through questioning, discussion, and analysis of resources from multiple sources (Contact North, 2012). Good facilitators have a good sense of audience and are adept at orienting course content and activities to the specific needs and situations of the learners. Good teachers provide opportunities to “discover” information or theory rather than just presenting it and asking students to absorb it. Examples of these opportunities are problems or hypothetical situations with which students interact and come up with solutions and conclusions (Renshaw, 2012).

1. **Need for Knowledge Management**

Information, knowledge and skills are needed to become an “efficient and effective practitioner within a domain of activity” (Barker, 2005). There is a growing need to check that the knowledge and skills that individuals have are relevant and appropriate to the tasks and activities that need to be performed in a dynamic and changing world (Barker, 2005). In competitive, knowledge-based societies, it is vital that individuals and organisations are able to reduce the time it takes to know and do the required tasks. This involves creating better tools to facilitate the understanding and speed with which tasks can be undertaken. It creates a growing need for “on-demand” learning opportunities (Barker, 2005). This creates a particular challenge for educational institutions that have to prepare students for lifelong learning within ever-changing societies. The continuous development of new knowledge means that it is almost impossible to compress all that learners need to know within the limited timeframe of a learning programme (Contact North, 2012). This means that it is imperative to help learners how to find, analyse, evaluate and apply knowledge as it shifts and develops. This requires the development of students with the skills to manage their own learning throughout their life. Together with an appreciation for lifelong learning, there is increased emphasis on applying knowledge to meet the demands of a 21st century society. The 21st century required skills include critical thinking, independent learning, knowing how to use relevant ICT, software and data (Contact North, 2012).

A critical challenge today is keeping up to date with what is happening. The electronic “information explosion” has increased as geographical boundaries fade (Barker, 2005). Filtering mechanisms are needed to make sense of the high volume of additional digital information with which people are confronted. The global community is creating more information and knowledge that individual are able to cope with (Barker, 2005). New tools, mechanisms and processes are needed in order to cope with and make sense of the plethora of information. A variety of performance support mechanisms have emerged as powerful tools to aid the management of information, skills and knowledge (Barker, 2005). Knowledge management aims to make use of the intellectual capital of an organisation by collecting, organising and sharing the organisational information and experiences in order to create additional value (Sveiby, 2000 in Mallinson and Vos, 2009). There is increasing interest in bridging the gap between knowledge management and elearning (Asgarkhani, 2004). The creation, acquisition, transfer, and exchange of knowledge are helping to define the character of knowledge-based (or information-based) economies. The primary assets of data, information, and knowledge increasingly manifest digitally, facilitated through ICT. Knowledge management, performance support and social learning can represent an expansion of the elearning domain (Mason, 2005).

1. **Convergence of knowledge and learning**

Lytras and Sicilia (2005) observe that there are several schools of thought on the nature of knowledge and learning and debate around knowledge and learning performance. Elaborating on recent literature, Lytras and Sicilia (2005) describe five key pillars in the convergence of knowledge and learning as related to the following aspects:

* Knowledge and learning objects – the artefact perception of knowledge and the learning content dimension of learning
* Knowledge and learning processes – the development of infrastructures that support the supply and demand side of knowledge as well as well-defined learning activities embedded in the instructional design approach
* Knowledge and learning strategies – knowledge and learning strategies provide the context and set the priorities, objectives and measures for knowledge and learning implementation
* Knowledge and learning systems – emerging technologies provide opportunities for new applications, services and tools within knowledge and learning
* Knowledge and learning performance – the issues of knowledge and learning performance relate to control mechanisms, standards and measures.

Figure 1 illustrates the convergence of the various themes.



Figure 1 Knowledge and Learning Key Pillars (Lytras and Sicilia, 2005)

1. **Provision of eKnowledge**

If the content provided for learners is simply information, this can be referred to as eknowledge. eKnowledge represents the convergence of eLearning and Knowledge Management, where the primary goal of each of these is to share information (Clark and Mayer, 2003). Many of the resources that are provided for learners in the form of presentations, documents, videos, podcasts, blogs etc, are informational, not instructional (Rosenberg, 2013). Eknowledge can be chunked in ways that are more digestible, especially in short spurts. Considerable effort can be devoted to enabling the appropriate volume of content to be available at the moment of need. This involves a focus on tagging, keyword searching, and other techniques to make the information easily and appropriately accessible via its meta-data.

Creating a learning intervention takes time and costs money. If the assumption is made that all content needs to be communicated via learning interventions, then this can limit the amount of content to deliver to students or employees. It leads to choosing between which content is to be included and which is not, and limiting the audience to specific courses (Rosenberg, 2013). Before planning a learning intervention, it is useful to determine whether the learner must remember or practice the content. If the learner does not need to remember or practice the content, and only needs to reference it, then a learning design should not be necessary (Rosenberg, 2013). Employees or students should not have to memorise information, but should know how to reference it and learn how to use it to solve more complex problems. Content is important, but context is required to shape the usage (Renshaw, 2012). There is a large amount of content that lecturers and trainers may force into an instructional paradigm where it would perhaps have been more useful as well-designed information. Educators may think they have designed a sound learning programme, when in fact there is just a collation of content (Renshaw 2012).

1. **Provision of eLearning**

Elearning can occur in a multiplicity of settings, from formal to informal and contributes to the drive of transformation of traditional institutions of learning (Mason, 2005). Early investments in elearning endeavours were heavily content-driven. However, content only describes the “I” of ICT, while the “C” describes the connectedness, community, communications, context, interactions and engagement (Mason, 2005). The context always shapes the usage of content (Mason, 2005; Renshaw, 2012). The intended usage of the content needs to be considered, whether it is intended for informational or instructional purposes.

If a learning intervention is being considered, it should be designed with the medium (whether online or blended) in mind to maximise the learning opportunities according to the characteristics of the online environment (Renshaw, 2012). Elearning is deployed where there is a particular learning need. When determining whether to utilise elearning, the designer considers if learners need to remember or demonstrate their learning, and what guidance and support is required to achieve the purpose. Once the instructional need is identified, an instructional design approach can be used to develop the materials. The use of elearning tools and technology can support this process. This process will include organising the learning pathway, building meaningful interaction and practice, reinforcing the learning, assessing the results and providing quality feedback (Rosenberg, 2013). Another important design consideration is activities: interactive games, role play, or lighter activities should be featured and interspersed with the content (Renshaw, 2012).

1. **Independent and Adult Learning**

According to Moore and Kearsley (1996), the separation of teacher and learner (transactional distance) dictates special teaching behaviours that can be broadly grouped into dialogue and structure. In the online environment, the dialogic aspect concerns the extent and manner of lecturer-student and student-student communication and interaction. It could also refer to guidance by the lecturer/facilitator in terms of designed student-content interaction. Opportunities for this dialogue should be explicitly designed and built into the course or programme. The learning design itself is the structural element referred to by these authors. The current opportunities provided by the ubiquitous availability of information and knowledge due to the Internet, promotes the ability to design courses containing a high degree of learning autonomy. Students are able to access content from multiple sources and collect digital examples and data that can be edited, stored and used in student work. Therefore managing a set curriculum in terms of limited content selected by the facilitator becomes less meaningful. A shift is required to identifying what is relevant within the subject domain and for particular learners (Contact North, 2012).

The use of the term ‘andragogy’ or an approach to adult learning, is reported to have been popularised by Knowles in the USA in the 1970s (Whitmyer, 1999) as a “specific theoretical and practical approach, based on a humanistic conception of self-directed and autonomous learners and teachers as facilitators of learning” (Wikipedia, 2013). The associated assumptions of increased self-direction, bringing own experience into play, motivation to learn, and desire to apply learning, are recognised as having a direct bearing on members of the current knowledge-based society who may be undertaking their learning online, or have access to online resources. Laurillard (2002, 2006) suggests that there is a need to rethink the way in which educators teach in this knowledge society, placing a great emphasis on the development of the long-term high-level cognitive skills of scholarship and utilising technology to promote meaningful interaction and engagement. Syverson’s (2006) five interwoven dimensions of learning support these andragogical learner attributes. They comprise: confidence and independence, skills and strategies, knowledge and understanding, use of prior and emerging experience, and reflection, with an optional sixth dimension of creativity, originality, and imagination. Learners have multiple needs. Within the framework of the learning objectives, more flexible approaches to content choice, delivery and assessment are needed. Learners also need to take responsibility for their own learning and educators need to approach this as a key skill to be taught and developed. The development of 21st century skills requires active learning in rich and environments, with opportunities to apply and practice these skills (Contact North, 2012).

1. **Implications**

If a distinction is drawn between elearning and eknowledge, this prompts learning designers to rethink course outlines as well as learning objectives and create a sharper focus on instructional resources that are required (Rosenberg, 2013). The implication of this distinction is that if the eknowledge components of a learning intervention are limited, the design becomes more focussed on the important instructional resources. Additionally the important eknowledge resources can be used purposefully to enable well-structured informational content to be found by the relevant people at their moment of need, utilising knowledge management systems. It may be useful for educators to relook at designing instructional-focussed solutions and informational-focussed solutions. The implementation considerations for both are similar, involving technological, cultural, economic and strategic initiatives (Mallinson and Vos, 2009) to benefit learning and/or knowledge acquisition. The distinction between the two may certainly be a fuzzy initially, but the discussion that arises may be very useful in clarifying the approach best suited to a particular learning purpose.

This approach challenges the educator to move away from selecting and transmitting information in large chunks, such as an hour lecture (Contact North 2012). Lecturers and trainers can spend more time guiding learners to find, interpret, evaluate and use content and less time on teaching the content itself (Rosenberg, 2013). The role of the educator moves more to that of facilitator with less control over where and how learning takes place and perhaps entering into negotiation over exactly what the content is (Contact North, 2012). A benefit of a renewed focus on eknowledge may be the opportunity to reuse limited and precious learning resources transforming them into new and more important learning interventions (Rosenberg, 2013). Eknowledge resources can be treated differently to elearning resources. For example, eknowledge resources can be made available in a knowledge management system, while elearning resources can be made available in a virtual learning environment (Rosenberg, 2013).

1. **Conclusions**

This paper has considered the usage of technology in the teaching and learning practices in higher education. Specifically it has argued for the purpose of the design to be explicit and that a distinction can be made that content that is provided for students may be information-focussed or instructionally-focussed. The current knowledge society lends itself to using a more informational approach where appropriate, and learning designers should not restrict themselves to only making use of an instructional approach.

**References**

Adkins, S. (2013) The Africa Market for Self-paced eLearning Products and Services: 2011-2016 Forecast and Analysis Abstract. Ambient Insight: Monroe.

Anderson, T. (ed) (2008) Teaching in an Online Learning Context. *The theory and practice of online learning*. Athabasca University Press: 343-363.

Asgarkhani, M. (2004) The Need for a Strategic Foundation for Digital Learning and Knowledge Management Solutions Electronic Journal of E-Learning Vol. 2, No.1, pp. 31-42.

Barker, P. (2005) Knowledge management for e‐learning. Innovations in Education and Teaching International 42(2).

Clark, R. and Mayer, R. (2003) E-learning and the science of instruction: Proven guidelines for consumers and designers of multimedia learning. Pfeiffer: San Fransisco.

Contact North (2012) A New Pedagogy is Emerging... And Online Learning is a Key Contributing Factor. Trends and Directions. Available: <http://www.contactnorth.ca/trends-directions/evolving-pedagogy-0/new-pedagogy-emergingand-online-learning-key-contributing>

Isaacs, S., Hollow, D., Akoh, B. and Harper-Merrett, T. (2013) Findings from the eLearning Africa Survey 2013 in Isaacs S (ed) 2013. The eLearning Africa Report, ICWE: Germany

Laurillard, D. (2002) Rethinking university teaching: A conversational framework for the effective use of learning technologies (2nd ed.). Routledge Falmer, London.

Laurillard. D. (2006) E-Learning in Higher Education. In Ashwin, P. (Ed.) Changing Higher Education: The Development of Learning and Teaching. London: Routledge. 1-12.

Lytras, M.D. and Sicilia, M.A. (2005) The Knowledge Society: a manifesto for knowledge and learning, *Int. J. Knowledge and Learning*, Vol. 1, Nos. 1/2, pp.1–11.

Mallinson, B. and Vos, L. (2009) A Theoretical Investigation of the Synergy Between Enterprise E-Learning and Knowledge Management in Barry, C., Conboy, K., Lang, M., Wojtkowski, G. and Wojtkowski, W. (eds.) *Information Systems Development*, 483-494. Springer.

Mason, J. (2005) From e-learning to e-knowledge in Madanmohan Rao (ed.) *Knowledge management tools and techniques*, 320-328, Elsevier, London.

Moore, M.G. and Kearsley, G. (1996) Distance Education: A Systems View. USA: Wadsworth

Renshaw, J. (2012) Taking your course online? Beware the belittling 'information dump'! English Raven Blog. Available: <http://jasonrenshaw.typepad.com/jason_renshaws_web_log/2012/07/taking-your-course-online-beware-the-belittling-information-dump.html>

Rosenberg, M. (2013) eLearning vs eKnowledge. Learning Solutions Magazine. Available: <http://www.learningsolutionsmag.com/articles/1102/marc-my-words-elearning-vs-eknowledge>

Saide (2012) Course Design and Material Development Guide. Available: <http://www.saide.org.za/design-guide/>

Syverson, M.A. (2006) The Five (or Six) Dimensions of Learning. *The Learning Record.* Available: <http://www.learningrecord.org/dimensions.html>

Whitmyer, C. (1999) Andragogy versus Pedagogy. FutureU Press. Available: <http://www.buildyourcourseonline.net/articles/andragogy_versus_pedagogy.pdf>

Wikipedia (2013) Andragogy. Available: <http://en.wikipedia.org/wiki/Andragogy>