NADEOSA 10th Anniversary Conference 2006
Celebrating 10 years of Nadeosa!

Exploring the role of ICTs in addressing educational needs: Identifying the myths and the miracles.

CONFERENCE ABSTRACTS:
Use the following abstracts to get an overview of some of the wonderful presentations on offer at the conference. They will also help you to plan your time and venue choices during the course of the two days.

KEYNOTE PRESENTATIONS

Exploring the role of ICTs in addressing educational needs: identifying the myths and the miracles

John Daniel, Paul West and Wayne Mackintosh
Commonwealth of Learning

Abstract

Persistent myths have lessened the impact of ICTs on education. Happily they are balanced by miracles of theory and practice that are gradually gaining the upper hand. We counter the myth that innovation in the application of ICTs is the preserve of industrialised countries by listing examples of innovations from southern Africa that have set global trends. Developing countries have the advantage over industrialised countries in taking advantage of the fundamental miracle of educational technology, namely its ability to provide higher quality learning to increasing numbers at lower costs. The power of this miracle increases with every new generation of technology. The current trends to social software and open educational resources will benefit more and more South Africans as connectivity steadily improves.

However, things are not always what they seem. In the most difficult (and important) section of the paper we explode the myth that all open content is truly open and show how to restore the miracle of a global intellectual commons that cannot suffer the tragedy of the commons. The secret is to use 'share-alike' rather than 'non-commercial' licenses under the provisions of Creative Commons.

Date: **23 August**
Time: **10:30**
Venue: **Diamond Auditorium**

Using ICT for Curriculum Design, Development & Delivery

Prof Mary Thorpe
Institute of Educational Technology
The Open University, UK

Abstract

The presentation focuses on active and interactive learning as a key goal for the use of information and communication technology (ICT) for curriculum design, development and delivery. Researchers identify two key contributions for ICT – information rich resources and interpersonal interaction. There is currently a view that greater attention should be paid to the latter to redress the tendency to emphasise delivery of resources. Networked learning offers a useful conceptualisation of our field because it focuses on connections, between people and between communities and resources. A social constructivist approach to learning also highlights an important role for interaction in learning. Learners need opportunities to reflect on and build their own understanding, working with others. Teachers need

to create learning environments that are 'constructively integrated' – that provide consistent support for learners to develop critical understanding and skills.

Learning needs to be designed to achieve effective learner action and interaction. Learning design is a form of knowledge which is relational, situational and probabilistic. We do not have rules for how to design learning, but we can identify principles derived from theory, and exemplars based on knowledge of what things work in particular contexts. We can learn from best practice particularly through identifying the learning designs embedded within particular examples.

An example drawn from the presenter's own teaching and learning context is used to illustrate what can be learned about designing for active and interactive networked learning. The designs embedded within this example are highlighted, and evidence about how they work explored. Design does not *guarantee* outcome however, and the learner's situation will always impact on how the design works out in practice. Unintended effects are to be expected. Student workload was one such unintended effect in our best practice example, and new efforts are being made at the UK OU to address the important area of workload and study time.

Learning designs – if made explicit and evaluated – can be re-used and improved on. Re-use of learning resources has been underway at the UK OU for many years and a new and large project – Open Content Initiative – will deliver free access to open educational resources drawn from OU course materials in every faculty. Reusable learning resources offer new opportunities but also require changes in some areas of practice in Open and Distance Education. The presentation ends with a brief comment on projects focused on collaboration with our colleagues in various African countries.

Date: **23 August**
Time: **13:30**
Venue: **Diamond Auditorium**

If We Build it, They Will Come!
Exploring the role of ICTs in curriculum design and development:
The myths, miracles and affordances

Som Naidu, PhD
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Abstract

If we build it, they will come
This audience will remember this classic line from the 1989 movie "Field of Dreams" in which an Iowa farmer (Ray Kinsela played by Kevin Kostner) is convinced that if he builds a baseball field in his cornfield, many of his long deceased baseball heroes would come to play in it. Well, Ray Kinsela did build that field in his cornfields despite being ridiculed by fellow farmers -- and his heroes including the likes of Shoeless Joe Jackson and his compadres did come to play -- although only Ray and his family could actually see them play -- much to the disappointment and chagrin of the others who also came to watch the game.

Somewhat similar to Ray Kinsela's premonitions -- about the dawn of the 20th Century, with Thomas Edison's invention of the *kinetoscope* (which was a motion picture projector), many educators believed that the introduction of the motion picture in the classrooms would make schooling more attractive for children. This sentiment was powerfully depicted in the classic cartoon titled "The Changing World" in the *Chicago Tribune* in 1923, which suggested that with the help of Edison's invention, the introduction of the motion picture in the classroom would make schools a lot more attractive for children to attend (see Heinich, Molenda & Russell, 1993, p. 196).

Instead of not wanting to go to school, children would want to rush back to school and instead of rejoicing when school was out, they would be very sad to be leaving school. Well, we now know that the motion picture did not have quite that kind of presence and impact in the classroom. Some of the reasons for it had to do with the state of the movie projection technology that was available at that time. But even now with much better projection devices, the motion picture is still not something that stands to make or break schooling. Schools did, and still do show movies, but that doesn't seem to have too much of an impact on school attendance of children, does it?

Date: **24 August**
Time: **8:30**
Venue: **Diamond Auditorium**

ICTs for Education in Africa

Prof KP Dzvimbo
African Virtual University

[No abstract available at the time of printing]

Date: 24 August
Time: 11:00
Venue: Diamond Auditorium

Policy Issues: The role of professional Associations and the impact of ICTs

Anne Forster
University of Sydney, Australia
University of Maryland, University College, USA

Abstract

Open and distance learning embraces a philosophy of approach that values: access through equal opportunity to education for all; equivalence by ensuring parity of educational experience and qualifications gained; and excellence through quality in the design and delivery of education (Gough 1984). Professional associations provide an arena for individuals, who share a collective ethical stance, to interact, progress their careers and practices and gain professional development. The rapid expansion of ICT enabled learning has broadened the application of distance learning to the mainstream where access is interpreted as providing more options rather than providing perhaps the only option. To some extent, mainstreaming has also diverted funding and research efforts away from ICT for ODL.

National policy environments tend to reflect this same trend, with governments appearing confused by the technology promise and levels of activity in the sector as a whole and ignoring the disadvantaged. The policy environment for ICT enabled learning appears to be created on new territory, ignoring the evolution of instructional and interactive communication technologies applied in open and distance learning.

ODLAA, along with many other ODL associations, has grappled with the role it could and should be playing to stimulate change within the policy environment. This presentation explores policy issues from the perspectives of an ODL Association. What are the needs of members in applying policy frameworks? What role can a professional association take to impact and influence policy change and development?

Date: 24 August
Time: 14:00
Venue: Diamond

ABSTRACTS OF PARALLEL SESSIONS

The abstracts are arranged in order of appearance, by time and venue.

Teaching & Learning with the Aid of Technology through the Establishment of a Learning Commons: Dream or reality for Unisa?

Susan Gouws and M. Botha
Unisa

Abstract

The aim of this presentation is to explore innovative means to address some of the challenges in Higher Education in South Africa: equitable access, limited resources, high dropout rate and low throughput rate. This is also applicable to Unisa.

The National plan of Higher Education (NPHE) indicated that one of the desired outcomes would be the development of a national network of learning centres, which would facilitate access and co-ordinate learner support systems. The NPHE also stated that, through the use of information and communication technology, advantage could be taken of enabling economies of scale (http://www.polity.org.za/html/govdocs/misc/higheredu2.htm)

One of Unisa's strategic objectives is to establish an integrated, service-orientated technology-enhanced learner support to increase retention and throughput. To address this objective Unisa has established regional centres country-wide. Content to this overall objective could be provided through the concept of quality service delivery through a "Learning Commons" (LC). A LC in the university's context is a student-focused, technology-enhanced learner support centre. It is a visible, centrally located facility on campus and at all decentralised regional centres.

The LC is a typical "one-stop-service". It provides a near-seamless integration of space, services, resources and staff and is able to provide cross training as and when required. The LC is therefore an area that is typified by the integration of technology and reference services and also a place that facilitates learning by any means that serves the situation best.

The LC should provide the student with a service at the point of need, time of need, place of need, level of need and format of need. It is a technology-rich 'smart area' where students would be able to access information and related services; and where they would acquire new skills needed for their studies. Students will be trained to become self-sufficient in the usage of the multitude of e-resources available to them

Date: 23 August
Time: 11:30
Venue: Diamond

E-Policy & Higher Education: from Formulation to Implementation

Dr. Moeketsi J. Sesemane
Institute of Curriculum and Learning Development
University of South Africa

Abstract

The issue of policy formulation and implementation is a highly contested domain within the South African High Education landscape. This contestation can be attributed to the lack of a wide stakeholder involvement and architecture of the policy making process. The contestation is also borne out of an absence of a systemic monitoring and evaluation mechanism to ensure adherence to policy.

In this paper, I present a document analysis of e-learning policy of 3 high education institutions (HEI's) in South Africa with specific reference to how e-policy have shaped: Access to information; e-learning as an alternate system of teaching and learning; quality assurance in e-learning; intellectual property rights (IEPR) and e-communication.

I also draw upon the similarities and differences that emerge amongst the three policies. In so doing, I provide a discourse about current international trends influencing e-policy in higher Education. In conclusion an analysis of the government's (South Africa) e-policy and its impact on higher education's e-policy is also provided.

Date: 23 August
Time: 11:30
Venue: Crystal

They've got a ticket to ride … on the information superhighway!
Towards a blended learning approach for ALL students at Unisa

Alice Goodwin-Davey & Dr Leonie Steyn
Institute for Curriculum & Learning Development
Unisa

Abstract

Unisa is a huge distance education institution with over 250 000 students enrolled in formal and non-formal higher education courses from first year through to doctoral degrees. The majority of Unisa teaching and learning happens via the medium of printed text – in textbooks, study guides, tutorial letters, etc. In addition, there are face-to-face learner support initiatives such as tutorial classes, group discussion visits, and videoconferencing. Since the start of this Millennium, Unisa has also made several components of the learning experience available online: delivery of study materials, electronic contact with university support services and with lecturers, and discussion forums in every course.

While the debate will continue to rage about online education as a panacea or expensive fad for higher education, we mustn't believe that we will actually be able to make much difference in the mad rush

along the information highway. Once a technology has become such a ubiquitous part of modern life, there is no turning back. At Unisa, we may be moving in the slow lane, but we are definitely moving in the right direction on that superhighway.

This paper will present several case studies of how online educational components are being integrated into a blended approach to ODL at Unisa. These will illustrate various uses of online components, such as discussion forums, online links to resources, schedules, etc and will also give some insight into how a traditional paper-based distance learning experience can be enhanced and supported by the available educational technologies.

While we all know that quality distance education provides a viable alternative for a large proportion of the population that cannot afford – either in money, time or resources – to attend a traditional contact educational institution. In the same way, a distance education that makes use of quality and effective online distance learning opportunities will also meets the needs of our learners who demand 'their tickets' on the educational information superhighway.

Date: 23 August
Time: 11:30
Venue: Onyx

The Ulwazi Concept – Virtual interactive and collaborative classrooms of the future

Ron Beyers
Meraka Institute

"The technologies that are coming could permit rich and compelling learning opportunities that meet all learners' needs, and provide knowledge and training when and where it is needed, all the while boosting the productivity of learning and lowering its cost."[1]

Education in South Africa follows a very clear production-line model, in which success is believed to result from the delivery of units of study at the key stages of development so that the end products are predictable and nobody is allowed to question or alter the process. The reality is that many learners are growing up in a digital age with high expectations, while what is being delivered is a recipe for bored learners with no desire to exert themselves and have no skills or means to cross over the chasm of the digital divide. This problem is complicated in government schools and further exacerbated in rural schools.

There are a growing number of interventions aimed at providing schools with full computer laboratories and connectivity. These projects are doomed to fail as they attempt to address only two elements, namely the hardware and software, ignoring the question of warmware or the human factor. Throwing financial and other resources at the problem of gearing schools up to prepare learners for life in a technological world will certainly not solve the problem if the warmware catalyst is not brought into the equation.

The Ulwazi Project is a pilot project which involved four previously disadvantaged schools in the Mamelodi district and St Alban's College in the eastern suburbs of Pretoria, some 15 km away. Using off-the-shelf technologies, it was possible to create virtual interactive and collaborative lessons between the schools for almost any subject.

This paper will look at the proof of concept emanating out of the pilot project and explore the possibilities of what could be achieved in a connected and collaborative learning community.

Date: 23 August
Time: 12:00
Venue: Diamond

Regulating the use of ICTs in Higher Education? A case for and a case against.

Ian Moll, Eunice Ivala & Tessa Welch
South African Institute for Distance Education

In relation to a number of its projects over the past few years, SAIDE has been involved in trying to think through the merits of seeking to regulate the use of ICTs in the higher education context. This paper draws on some of this work to reflect on the issue of whether or not it is desirable to seek such regulation in South Africa. It commences with an analysis of several prominent regulatory frameworks in

[1] http://www.technology.gov/reports/TechPolicy/Broadband_020921.pdf

countries such as the USA, the UK and continental Europe and draws out central issues and concerns that emerge from these in relation to the South African, and indeed wider African, context.

The paper proceeds to draw out, on the basis of both local higher education experience and an international comparative study, a typology of issues that could conceivably be the subject of regulation in the higher education context. It then provides an account of a consultative process which, in our view, made it clear that such focused regulation on ICTs in higher education would be counterproductive.

This is because the question of quality teaching and learning does not appear to be one that should be conceived of and answered within the conceptual frame and constraints associated with a technology of learning design and delivery. Rather, quality should only be engaged in a broader framework of curriculum, pedagogy and assessment – educational technologies, whatever they may be should be judged primarily in terms of the affordances they offer to teaching and learning.

This analysis leads us to conclude that the development of a South African regulatory framework specifically for ICTs in higher education is undesirable. However, we continue to advocate the need for regulatory frameworks aimed at promoting quality in higher education practices in general, within which ICTs come under scrutiny. The paper demonstrates how we would envisage this happening, in relation to a notion of a g*ood practice guide* for higher education delivery.

Date: 23 August
Time: 12:00
Venue: Crystal

The myth of panacea: a critical realist exploration of blended course delivery

Rob Gutteridge
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Abstract

This paper is aimed at bridging the divide between the two extremes: that the latest generations of ICTs are a panacea for all the problems facing education or, that since the majority of students do not have access to advanced ICTs and probably will not have in the foreseeable future, programme designers should ignore the potential of ICTs altogether when designing their programmes.

Rather than adopt an either/or approach, a mixture or blend of the two is proposed. A blended delivery is discussed to explain that it is more than a sum of its constituent parts, but also that its benefits and disadvantages must acknowledged. A plethora of factors impact on a blended delivery system, and some of these will be considered, using the Durban University of Technology Department of English and Communication's *Comm. Skills Online* course (PRINTS Project) as a case study.

The PRINTS Project uses a blended course delivery for a first year communication skills course, working within a multitude of factors that are experienced at most tertiary vocational training institutions throughout the country. Whilst these include lack of access to the latest technologies, the project is able to utilise existing ICT to enable our learners to use the facilities more fully when they are encountered. A description of the PRINTS Project illustrates that blended delivery enhances not only course specific learning but also provides scaffolding for broader academic literacy. The delivery process is analysed within a critical realist orientation, which is highly compatible with the constructivist learning approach of the PRINTS Project and has additional ontological dimensions which are helpful in pointing the way to social transformation.

The paper discusses a tentative empirical model of blended delivery which can be used to identify some of the key factors which contribute positively or negatively towards blended learning in multicultural settings. This may point the direction of further research and aid in course and curriculum development.

Date: 23 August
Time: 12:00
Venue: Onyx

Mobile phone technology as an instrument for student support in Africa

Dr Johan Hendrikz & Clint Raseale
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Abstract:

The University of Pretoria is the largest contact university in South Africa. The university runs a distance education programme for more than 11 000 teachers to upgrade their qualifications. The speaker will use the experience of the distance education programme to illustrate the use of cell phones as an instrument for student support.

The realities with regard to the availability of computers in deep rural South Africa and other African countries and the challenges facing providers/sponsors to make computers available, have shaped the University's e-learning strategy to accommodate the technology profile of the distance education students.

A brief overview will be given of ICT's in Africa and how this cell phone technology is benefiting Africa. The changes in cell phone technology will be illustrated.

The practical use of cell phones in the distance education programme will be discussed. This will include the application of this technology for administrative as well as academic purposes. Examples will be given of both types of applications. This will include results of pilot projects on the use of cell phones in student support.

Date: 23 August
Time: 14:30
Venue: Diamond

It's Not about the Tool, It's about the Ideology

Alan Amory
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McAllister, in his book *Game work. Language, power and computer game culture* argues that computer games consists of rhetorical acts (ways to convey truth) that are driven by ideologically informed logics, and function within a dialectic (a way to search for truth). Therefore complex game technology operates within an existing ideological dialectic constructed primarily by the idiosyncratic, homological, and inclusive ideologies of game developers. This same argument and analysis could apply to the use of technology in the classroom. To show that the use of educational technology is part of a dialectical struggle this paper explores the: current use of technology in the classroom; development of standards and approaches to learning technology; and the use of computer and video games.

The design, development, integration and use of technology in the classroom is driven by individual and institutional ideologies that support current hegemonic constructions maintained through observation and control systems. The development of standards for learning management systems (for example the Sharable Content Object Reference Model and the associated Learning Object Metadata Standard) underpin the concept of Reusable Learning Objects (RLO).

Computer game technology could be used as a powerful tool to support learning. However, many supporters of the use of games in education argue for the use of simulations that are either ideologically suspect (for example the use of game software used to train military personal as a useful educational device) or based on model-using rather that model-building.

The paper argues that technology can only be used within specific idiosyncratic, homological and inclusive ideologies that in most cases reproduce the past into the future, which is making real a neo-liberal dream.

Date: 23 August
Time: 14:30
Venue: Crystal

ICT Training at Unisa: A Learner's Perspective

Matlakalana Tshesane & Maurice Vambe
Institute for Curriculum & Learning Development
Unisa

Abstract

In 2004 the Institute for Curriculum and Learning Development at Unisa enrolled some of its staff members and other academic staff in a three months inhouse online learning training/course. The course commenced in April and ended in June.

From our experience as learners this task or activity was the most controversial in that some participants suggested that there is no conclusive evidence to say that online ensures increased throughput or pass rate. They reasoned that online is a mode of delivery as well as a strategy to reach learners studying at a distance. As such it is possible to disseminate old ideas, stereotypes, etc in the new ICTs such as online. This line of thought was modified in our discussion forums when it was argued that online provides a platform to question and interrogate these assumptions so as to bring in the discussion alternative ways of thinking and doing things.

What we do in this paper is to present the two claims and their supporting evidence. We do so in a manner that recognises that while online facilitates timeous access to information and knowledge developed elsewhere, this does not mean that these forms of knowledge are beyond contestation. In fact we argue that the online forum can encourage dialogue between and among learners and educators in manners that engage reality and open up possibilities of interactive learning. In this presentation we have sampled responses of three groups from the discussion forums by other learners including ours.

We have analysed these responses in the context of exploring the potential benefits, perceived functions and technological role played by online learning in distance education. We used both quantitative and qualitative methods of analysing data drawn from three groups responding to the same activity. Our tentative conclusion derived from the analysis of the data is that there is no agreement on every point about the potential use of online learning in distance education.

Date: 23 August
Time: 14:30
Venue: Onyx

Podcasting In Open Higher Distance Learning, Why

Nico Baird & Kallie de Beer
Central University of Technology: Free State, South Africa

Abstract

Throughout history children have been taught by means of stories told by their parents, and for many centuries this was the primary method of transferring knowledge and information. As time progressed, we were spending less time listening to stories, although to this day storytelling is still being used as an education methodology. People of our modern century are used to information received in an audio format. It is natural for us to absorb information through an auditory medium, and since such information transfer takes place on such a personal level, we tend to form a personal relationship with radio presenters. They become like family members who visit every time one turns on the radio.

Podcasting has grown over the past year and is seen as a major leap forward in mobile learning, or as we like to call it, 'learning-on-the-go". The learner is able to download lectures or information to her or his iPod or any other MP3 player. When lectures are presented in this way, it of course remains the learner's responsibility to absorb the information made available to them. The whole idea of **self-regulated learning** comes to the fore and learners actually take responsibility for what they learn and the pace at which they learn.

Lecturers are advised to record their lectures and make them available online as an essential tool in the education process. Language lecturers in particular should use podcasting as the main feature of their courses. Providing learners with a podcast of information on the next face-to-face lecture and having them prepare according to what they have been told in the podcast will truly enhance learning in the lecture room and stimulate discussion.

The iPod and podcasting have changed the face of Open Higher Distance Education as we use to know it. All we need to do is jump aboard and make the most of the amazing opportunities this paradigm shift is offering.

Date: 23 August
Time: 15:00
Venue: Diamond

Technology - Tool rather than Vehicle

Fiona Bulman
Open Learning
University of KwaZulu-Natal

Abstract

In the NADEOSA Quality Criteria and Case Studies from South Africa Hilary Janks describes an on-line Masters in Education module and the power of a virtual classroom. Developing their Masters Programme in Protected Area Management the team from the University of KwaZulu-Natal and the International Centre for Protected Landscapes at Aberystwyth have chosen not to present the coursework on-line but rather to use digital media as a tool for developing a programme of authentic tasks. These will enable the coursework to achieve the primary purpose of the programme which is the development of a multidisciplinary approach that encapsulates the integrated nature of new paradigms of protected area management.

This paper describes how the team developing the curriculum have identified distance strategies that would provide students spread throughout Africa with an environment similar to that of the seminars and field trips in the traditional master's programme. In doing this they have drawn strongly from the approach outlined by Reeves in the development of a set of authentic tasks that will replace a five day integrated examination. The paper explores the way they have adapted the technology to suit the context of delivery to fairly isolated regions of Africa where limitations of bandwidth are likely to hinder full-scale online learning using instead a combination of print-based and CD resources to support internet research and email interaction between lecturers and students.

Date: 23 August
Time: 15:00
Venue: Crystal

Lessons learnt in using a learning management system in first year Economics students

K Thomas (& Johannes Cronje)
Dept of Economics, University of the Free State

Abstract

A worldwide trend in Higher Education is the expectation (from Government) that numbers should and must increase. Currently in South Africa, the goal is that participation should increase from 15% - 20% within the next decade. Furthermore, students have changed. They are no longer satisfied to attend classes where lecturers make use of outdated chalk-and-talk methods, but are part of the technological generation where IM, Google, Surfing and Downloading are part of the daily routine.

Where does it leave the lecturer? There can be no denying that interaction - with peers, lecturers, content or interface - plays an essential role in education. However, class sizes are becoming unmanageably large, individual staff members are overburdened and they are unable to foster meaning interactivity within the traditional classroom. If interaction does not take place in the traditional sense of the word – i.e. in a face-to-face manner - then other channels of interaction need to be implemented. Several authors have commented on the use of electronic media to enhance learning.

This paper reports on an ongoing case study at the University of the Free State which is in its third year. Economics first year students are taught by making use of a blended learning system where the traditional lecturer is supplemented with technology – specifically computer based learning. . All students in the classroom are not necessarily digitally fit – a large portion of the students have never before used computers. A Learning Management System is used for several different purposes – interaction, communication, assessment, socialisation and information dissemination are some of the methods used to enhance the course.

Has the inclusion of technology been successful? Have all the problems associated with large numbers and lack of interaction been solved? In this presentation, lessons learnt from the project will be discussed.

Date: 23 August
Time: 15:00
Venue: Onyx

Access & Use: The relationship between students' access to ICTs & their use for learning

Cheryl Brown & Laura Czerniewicz
Center for Educational Technology
University of Cape Town

Abstract

Recent research from higher education intuitions in the Western Cape has demonstrated that students access to Information and Communication Technologies (ICTs) is highly varied and socially demarcated particularly for student from low socio economic groups. However despite the difficulties being experienced in terms of access in higher education in our region students report that they do indeed use computers for their learning. In fact students use computers more frequently for study and finding information than academics do for teaching and research.

In this paper we explore these findings in more detail seeking to understand the reasons for non (or infrequent) use of ICTs amongst academic staff in western cape higher education institutions and explore how this may impact on students. We will draw on both quantitative and qualitative data collected in 2004 from 515 staff and 6576 students as part of a regional survey about access to computers and how they are used for teaching and learning.

The findings will then be compared with interviews of academic staff conducted as part of the ICT-UCT "Teaching Humanities with Technology project. ICT-UCT is a collaborative project with the Intermedia at University of Oslo in Norway and involves staff development workshops which explore the integration of technology into Humanities curricula and pedagogy.

It will be argued that developing a systematic and objective understanding of academics non-use of ICTs is important in seeking to map and understand the role of ICTs in addressing educational needs. We will also seek to understand how not using technology is impacting on academics in an environment where there is increasing pressure to use ICTs both from society, students and within the institution.

Date: **23 August**
Time: **16:00**
Venue: **Diamond**

The myth of the technology fix: Why we just don't know

Duan van der Westhuizen
University of Johannesburg

Abstract

This paper attempts to explore some of the recurring questions about the value of using ICT's for improved education. Currently, fewer than 30% of schools nationally have access to computers for teaching and learning. In response, the provision of ICT in government-funded schools is progressing rapidly, as numerous projects around the country are rolling out computers systems into schools

Implicit to this infusion of computers into schools come the belief that education are now (magically) going to improve, and that teaching and learning inputs and outputs are going to be enhanced.

Moreover, at institutions of Higher Education, the ICT's are increasingly being used in the curricular offerings of these institutions. In addition, the argument is posited that students are being prepared to function in a globalised world, and that it therefore imperative that learners and students are exposed to the technologies of the modern world.

It would not be unreasonable to assume that the massive and financial and material investment in ICT's in both the school and higher education contexts are underpinned by significant assumptions about the efficacy of using computers for learning. In this paper the focus is not that these positive assumptions are false, but, that the knowledge on which these assumptions are based is up for significant scrutiny.

In this paper, the use of developmental research is advocated as a means of generating a body of knowledge that one can have faith in about the use of ICT's in education. Ultimately, ICT's for education need to be engineered via an integrated theory of online learning, which, in turn, will have to be developed in an integrated research programme. Therefore, appropriate and rigorous examination of ICT's in Education by means of development research approaches may contribute to fundamental understanding of these situations. It is further suggested that the most appropriate way to research the

effectiveness of ICT's for learning is by making use of these types of designs with intact groups and also longitudinally.

Date: **23 August**
Time: **16:00**
Venue: **Crystal**

eIFL's Open Access Program

Melissa Hagemann
OSISA

Abstract

The Electronic Information for Libraries Network (eIFL.net) is an international foundation which advocates for and supports the wide availability of electronic information for libraries in developing and transition countries. Our global network embraces nearly 4,000 leading libraries serving millions of users in 50 countries in Eastern Europe, the former Soviet Union, Africa, Asia, and the Middle East.

eIFL's Open Access Program builds upon the principles outlined in the Budapest Open Access Initiative (BOAI) and aims to assist the international effort to make research articles in all academic fields freely available online. To achieve open access, the BOAI recommends two complementary strategies: the development of institutional repositories and open access journals.

The presentation will focus on eIFL's Open Access Program which is working to raise awareness of the benefits of open access among eIFL's members in 50 developing and transition countries. Open Access will allow scientists and academics in developing and transition countries to not only access the vital material which they need to conduct their research, but will also allow them to more efficiently contribute their important work to the global research community. By developing Open Access repositories and encouraging authors within these countries to publish their articles in Open Access journals, the research being done in these countries, will be more easily available to scholars throughout the world.

The presentation will describe eIFL's Open Access Program which provides trainings and workshops on Open Access within eIFL participating countries, as well as supporting the creation of institutional repositories and Open Access resources. Thus far eIFL has held Open Access conferences in South Africa, Lithuania, China, Serbia, Ukraine and Zimbabwe. More are currently planned in Poland, Russia as well as a conference which will include seven Southern African countries. The results of these workshops, as well as the continuing grassroots efforts which the eIFL members in each country are carrying out will be included in the presentation.

Date: **23 August**
Time: **16:00**
Venue: **Onyx**

Are our institutions genuinely ready to support technology-supported learning? The kind of competencies & support required to develop a Chemistry 101 CD for a distance learning course

Rita Kizito
Institute for Curriculum & Learning Development
Unisa

Abstract

Often in our teaching we find that many students end up having a surface level understanding of facts, carry on with misconceptions even after good instruction and find it extremely difficult to reason about, explain or apply what they learn the world around them. Simply presenting material, giving students problems, and accepting answers back is not enough for efficient learning. According to a **constructivist** perspective, real learning can only occur when the learner is actively engaged in learning.

For designers of technology-enhanced learning environments, the challenge is to find a way of compensating for the absence of an environment in which students can ask questions, use visual models to explain difficult concepts in order to improve learning. The development and use of visually-enhanced **tutorials** could help simulate those experiences. In DE Science, visualisation can assist with, modelling of difficult science concepts, creating opportunities for formative assessment (to track, correct and guide student learning) and summative assessment (to evaluate learning) and presenting expensive laboratory activities.

This report is an evaluative account of the learning design experiences of developing a chemistry CD on VSPER (Valence Shell Electron Pair Repulsion Theory) as part of the CHE101 chemistry module. Starting with a demonstration of the resulting product, the writer goes on to illustrate what was required as an instructional technologist to produce the CD.

The instructional technologists' competencies go beyond knowledge about learning theories, cognitive styles, pedagogy, and curriculum issues or technical knowledge of computer hardware and software. They extend to competencies of being able to communicate effectively, demonstrate excellent problem solving skills and posses an understanding of the 'big picture' as it relates to learner outcomes within the specific institution. All this cannot be achieved if the instructional technologist has no support from authorities within the institution.

The paper ends by making a recommendation of what would be ideal in terms of these competencies in an African context of ICT learning delivery.

Date: 23 August
Time: 16:30
Venue: Diamond

ICTs Promise & Pitfalls in Open and Distance Learning

Lucy Kamanja
Institute for Curriculum & Learning Development
Unisa

Abstract

ICTs have for long been celebrated as the solution to access in education. New communication technologies have created new opportunities for information distribution and all sorts of documents can now be transferred through local regional or international telephone/computer networks. These new innovations are a great opportunity for mass delivery of education especially in Africa where governments and institutions are struggling to equip the people with much needed skills for development.

The African ministers of education attending the Regional conference on Education for All by 2015 in Johannesburg in 1999, advocated the adoption of appropriate and cost-effective technologies to achieve this goal. They recommended that 'new, appropriate and cost-effective technologies shall be adopted, to complement the integration of indigenous educational methodologies'. (Unesco; 2001)

Lecturers in both face to face environments and those teaching at a distance acknowledge that using ICTs enhances learning through flexibility and interactivity. This article explores the extent to which blending of various ICTs have been used, not so much to lessen the work of the lecturer but to supplement it. The article also examines the constraints that individual learners in Africa must face as a result of the digital divide and other constraints which are faced by institutions of higher learning. It is the author's contention that blending of ICTs is essential in delivery of education and goes a long way in supplementing and enhancing the lecturers work.

Date: 23 August
Time: 16:30
Venue: Crystal

Using Corpus software to evaluate ODL materials: analyzing student-centredness in ODL texts

Dr Gerda Mischke
Institute for Curriculum & Learning Development
Unisa

Abstract

The main objective of the research project reported on here was to develop and test an electronic mechanism ('tool') by means of which the discourse of distance education teaching texts can be analysed objectively to determine how student-centred such texts are. This aim links directly with the shift in South Africa from an objectivistic, content-centred teaching approach towards an outcomes-based, student-centred one. Partly because few guidelines exist as to what the linguistic characteristics of student-centred texts are, developers and assessors of such texts in a distance education environment face many challenges and thus, a secondary, more indirect aim of the research project was to benefit developers and assessors of distance education study materials.

As my intention was to analyse the discourse of print based texts, I also had to find a way to interpret the notion of >student-centredness= in linguistic terms. Thus, the second outcome of the project was that some of the most pertinent linguistic characteristics of student-such texts were identified. These characteristics were used to analyse and compare the discourse of six different distance education teaching texts (study guides) from three different academic departments at the University of South Africa. The linguistic characteristics used to analyse and compare the study guides were thus intended to expose the student-centred nature of the new guides.

The analyses were done by using the WordSmith Tools 3.0 program (WordSmith Tools is an integrated suite of programs for analysing a large corpus of texts). It is a program that allowed me to determine the frequency with which each linguistic feature associated with student-centredness occurs in each of the study guides analysed.

The research results showed that the new guides have significantly higher counts for the linguistic features associated with student-centredness than the old guides. In other words, the analytic method used clearly exposed the student-centred nature of the new guides.

Date: 23 August
Time: 16:30
Venue: Onyx

DAY TWO ABSTRACTS

Use of ICT in School Empowerment Programme in Kenya. Experiences with innovation

James Sankale
Ministry of Education, Kenya

Abstract

The Government of Kenya has placed the highest priority on education, introducing Free Primary Education (FPE) in January 2003. The provision of FPE led to an increase in primary enrolment of over one million extra students. The number of pupils increased in individual schools between 10% and 25%. As a result, many teachers are now managing substantially larger classes and, at the same time, they have to deal with the special needs of new entrants, who include HIV/AIDS, orphans, street children, overage pupils and children of pastoralist families.

As a result of FPE it was found necessary to equip teachers with skills to deal with the problems brought by the influx. The Government has to come up with innovative approaches that would meet the challenge of empowering teachers. One of these innovations is the School Empowerment Programme (SEP) which is a national programme which has been designed to provide a blended learning he experience for all teachers in Kenyan primary schools. Information and communication technology skills play a key role in promoting the economic development of a country.

The SEP programme is a school based multi-media in-service course using print, audio, and video to support professional development in the Kenyan primary schools. At the same time supporting learners especially during in-service teacher training becomes complex especially when the number of students is large. Another emerging technology is mobile technology. With SMS text messaging, it is easier to support teachers using text messaging.

This paper is based on practical experiences in developing and implementing innovative training courses for teachers in Kenya and the relevance of ICT as an enabling tool. The aim is to share experience and with a view to putting use of technology in to perspective from an African point of view. Its in this context and emerging needs of the educationist envisaged in school empowerment program.

Date: **24 August**
Time: **09:30**
Venue: **Diamond**

The Role of Ict's in the Design, Development & Delivery of A Service-Learning Module

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Division E-learning, University of the Free State

Abstract

There is an extremely rich history of community-based learning at universities in many parts of the world, and most mission statements of institutions now carry some statement committing themselves to this kind of initiative. At the University of the Free State one form of such learning is linked to service – in which students are placed in communities and other integrative settings to work and to learn.

Students involved in Service-Learning usually operate in groups, where various problems in group functioning and dynamics can hinder their learning experience. In this paper the focus is placed on how the experiential learning theories of David Kolb and Kurt Lewin were implemented and supported by the use of ICT's in the design, development and delivery of a Service – Learning module.

Students were responsible for managing their own online learning communities, addressing the specific needs of the students in their groups in support of their Service-Learning project. Although an online component was managed by the lecturer herself, students saw this as a online – skills pack, where relevant information could be obtained and then filtered through to their own site.

In conclusion the paper addresses the needs of students in managing their own learning, not only by selecting information needed, but also in the design of their own online community in order to eliminate some of the problems experienced in group dynamics and thus enriching the Service - Learning experience.

Date: **24 August**
Time: **09:30**
Venue: **Crystal**

Facilitating success through online access, videoconferencing, DVD/CD-based videos & satellite broadcasting in Science ODL

Mrs Hentie Wilson
Institute for Curriculum & Learning Development
University of South Africa

Abstract

This paper aims to describe how a variety of ICTs play a role in the management, design, development and delivery of foundational course provision for academic success in selected Science courses at the University of South Africa (UNISA).

First-year students at UNISA, South Africa's open distance learning university, tend to have a high failure rate. UNISA partnered with the South African Government's Department of Education (as funding partner) to address academic failure in science courses. Although many institutions participated in this intervention from 2004-2006, UNISA as the only distance education institution was required to adapt the contact models for foundational provision to a distance learning model. This model was cooperatively developed by a variety of role-players such as learning developers, project managers, academics, student-support facilitators, and many function-specific administrators. The model includes the following aspects: (1) a post-enrollment skills test per academic area, with feedback, (2) a newly structured Tutored-Peer group learning-Skills Facilitated system, (3) a quality assurance system, (4) a technology-enabled communication and training system. The model is centrally managed but regionally delivered.

This paper will evaluate the use of technologies for Foundational Programme provision. These technologies include: (1) online access, (2) two-way videoconferencing, (3) satellite broadcasting, and, (4) DVD/CD-based video case studies, examples and introductions. The authors will describe the

successes during the design of the model and its piloting, while looking at the observed limitations in managing, designing, developing and delivering the pilot within the distance context, while having to collaborate with the many role-players involved in the project. The recommendations aim to provide other African institutions with directions on using technologies to support the successful completion of science students.

Date: **24 August**
Time: **09:30**
Venue: **Onyx**

The potential impact of computer aided assessment technology in higher education

Azwindini Ernest Tshibalo
University of South Africa, Pretoria, South Africa

Abstract

Distance learning generally separates students from educators, and demands that interventions be put in place to counter the constraints that this distance poses to learners and educators. Furthermore, "Increased number of students in Higher Education and the corresponding increase in time spent by staff on assessment has encouraged interest into how technology can assist in this area" (Mogey & Watt, 1999:1).

As student assessment is an important challenge faced by Higher Education institutions, this paper investigates the role that Computer Aided Assessment (CAA) technology can play for distance learning institutions. The discussions include the definition of CAA, its rationale, potential benefits, limitations, impacts on student learning and strategies for developing effective computer-based assessment. Research has indicated that when students are actively engaged by giving them more tests, assignments or examinations, the pass rate increases. CAA is one of the methods that can be used to engage students actively in their learning. It allows marking, immediate feedback, the recording of student scores, and the analysis of student performance to be processed by computer and thus alleviate the burden on educators.

Computer Aided Assessment is described as Aany instance in which some aspect of computer technology is deployed as part of the assessment process. These may include:

- Interactive exercises and tests completed on a computer
- Onscreen marking of students' word-processed writing
- Use of revision software
- Using of spreadsheet or database to keep a record of student marks
- Use of e-mail to send coursework and to receive marks and feedback etc.

This paper is founded upon a literature base and presents the arguments surrounding CAA technology and its application in higher education.

Date: **24 August**
Time: **10:00**
Venue: **Diamond**

From Digital Divide to Digital Connection: Views on ICTs for Education in Africa & Developing Countries

Dr J F Heydenrych
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Abstract

Little more than a decade ago we became used to the idea that we can have access to millions of computers all over the world. Today we are living in a world of wikis, blogs, winks, and nudges. Not only do these features structure our online communication and easy access to information but they are personalizing the way we communicate.

While these developments are happening in the online world, other technology and media developments have brought the global village into the homes of billions of people. Bahgdad is in everybody's lounge (live television) and we press a button to vote on the justification for the "war on terror". In a techno-utopia we can visualize people from the Cape Flats, in the Kalahari, at the foot of the Ngong Hills in Kenya and in the mountains of Morocco walking with mobile devices accessing health information, furthering their education, seeing what is going on in the rest of the world and communicating with relatives and friends… But how realistic is such a picture from our perspective? Can ICTs be the

panacea for all ills? Or should we on the other hand simply immerse ourselves in a depressive innovation paralysis and ignore it all?

These developments (integration of technologies and media) predict the radical transformation of the way people learn, work and play. Developing countries, and specifically Africa, still have to address tremendous needs at all levels of education. In this regard it is almost impossible to ignore the pull-effect of ICTs in today's world. In order to understand the challenges and to present some solutions this paper will provide more information and suggestions on the following issues:

- Technology and society
- Technology and education
- The corporate link
- Access in the developing world
- Evidence of innovation
- Strategies to increase access and use

Date: 24 August
Time: 10:00
Venue: Crystal

ICT's - The role of UNISA Regional Service Centres

Michelle Frauendorf & Kinsley Mokomane
Ekurhuleni Regional Service Centre
Unisa

Abstract

Regional Service Centres (RSCs) serves as an interface between learners and UNISA the institution and promotes interaction between learners and academic staff. RSCs offer a range of services in different phases of the academic cycle and include administrative learner support and academic learner support. This paper will focus mainly on access and availability of ICT's and the delivery and facilitation of learning which forms part of the tuition phase.

RSCs are the decentralized geographical location and point of delivery for a range of ICT services. The decentralized regional infrastructure is ideally placed and promotes access for the geographically separated learners. RSCs provide access to ICT resources, the physical environment and equipment but more importantly, contributes to the facilitation of learning. A variety or range of ICT services include: computer labs for general access computers; the facilitation and practice of Integrated Computer Drivers' License (ICDL) and satellite delivery.

The planning, design and delivery or availability of the ICT resources is a critical process in order to render an effective service. Access and availability alone is however no guarantee for learning and therefore facilitation of learning is required to improve pass and retention rates.

This paper is a practice paper that refers to background and explanations of what has been done, what was gained and what is recommended for the future.

Date: 24 August
Time: 10:00
Venue: Onyx

Computers in schools: implementing for sustainability: Why the truth is rarely pure and never simple

HE Thomas (& Johannes Cronje)
Centre for Higher Education Studies and Development
University of the Free State

Abstract

This study investigates influences on the sustainability of a computers-in-schools project during the implementation phase thereof. The CALIS Project (1992-1996) is the unit of analysis. A qualitative case study research design is used to elicit data, in the form of participant narratives, from people who were involved in the regional management of the Project, as well as teachers who implemented the Project in their classrooms. These narratives are then analysed from a post-modern perspective (Kvale, 1996). The analysis reveals personal, programmatic, physical and systemic influences on the Project. These influences can be identified on all structural levels of the education system (Mooij and Smeets, 2001).

Furthermore, metaphoric patterning across narratives is analysed in terms of implicatures, postulated by Relevance Theory (Sperber and Wilson, 1995).

Analysis of the data provides evidence in support of Fullan's (2005) definition of sustainability as a quality of dynamic, complex systems. Personal, programmatic, physical and systemic influences on the Project are found to be interrelated on, and across, structural levels of the system. In addition, influences are dynamically related to the changing Project in particular host environments (Cavallo, 2004). The resulting ecological or viral growth is characteristic of complex systems, where further development is indeterminate.

Finally, suggestions are made regarding the possible implications of these findings for policy and practice, on the one hand, and further research, on the other.

Date: 24 August
Time: 13:00
Venue: Diamond

Print Based Learning might still be the answer to the digital divide

Dr Grif Smith, Dr Christo du Preez with
(Dr Jean Mitchell, Dr Willa Louw, Ms Mpho Tshesane, Ms Mariana Petersen-Waughtal)
Institute for Curriculum & Learning Development
Unisa

Abstract

There seems to be a belief world wide, that by going online and including learning technologies in learning packages learner success and economies of scale will be ensured in open and distance learning (ODL). Recent literature suggests that ODL and online delivery are regarded as synonymous. Everyone seems to be jumping onto the learning technology bandwagon. It seems as if the vision of distance education as a means to provide education to those who have been denied it is being undermined by the overriding enthusiasm with technology.

The perception seems to be that if a student is computer literate he or she will be able access the world of information that the Internet, and other electronic media can deliver and thus become educated. From an institutional point of view there seems to be a perception that the high cost of distance education delivery will be drastically minimised once courses are delivered on line. However, we believe that we must not throw out the learning baby with the print-based bath water.

This paper aims to illustrate that well designed paper-based materials can be as interactive, learner friendly and cost effective as any electronically delivered or supported materials. When one considers the logistical, practical and even emotional nature of the problems many students have in getting access to electronic media, perhaps it is more important to first concentrate on the whole learning experience offered to learners in the most basic format, namely print, and only then to consider other, more innovative and creative methods of delivery. We feel that distance education institutions should not forget about paper and that the paper-based delivery should be as interactive, and engaging, as possible so that they can provide a variety of meaningful learning experiences that will enhance learning and motivate their participation.

Date: 24 August
Time: 13:00
Venue: Crystal

No middle ground, but many mansions: how a consideration of the functional architecture of communication can assist the design of effective mixed mode courses

Dee Pratt
Online Learning Centre
Durban University of Technology

Abstract

One of the key problems facing any kind of analysis of mixed mode delivery is the dearth of suitable functional models describing the nature of communication itself, as well as the nature of learning. Existing models tend to describe what online courses *should* do, but these reflect value systems rather than systemic functional relations transferable across different educational media, and which will remain relevant in diverse socio-cultural contexts, especially multicultural contexts. The current state of affairs

reflects the postmodern tendency to posit reality as discursive, and learning - and literacy - as being so context-specific that generalisation is near-impossible.

As UNESCO has warned, this approach tends to diffuse definitions of literacy, and, more ominously, to "ghetto-ise" non-western ethnic groups and make it difficult for them to gain access to mainstream literacy practices. In a multicultural educational setting a perspective is needed which posits social communicative functions as universally human, so that their infinitely diverse manifestations can be accommodated no matter what culture or context is involved.

This paper deals with research into the system of functions involved in human communication, which, it is hoped, will throw light on to the functional architecture of hypermedia communication and provide a useful template for analysing mixed mode course design. The theory is the output of research into the nature of communication in written mode. It has offered insight into the nature of human communication, as well as terms such as "asynchronous" and "asynchronous".

The hypotheses outlined in this paper are illustrated with specific reference to doctoral research on communication in written mode, and data gathered from over twenty mixed-mode courses run at the Durban University of Technology from 2002 – 2006. It is hoped this account will help to explain why/how some mode-mix options work better than others, and how some mix combinations lead to more effective communication (and therefore, learning) than others.

Date: **24 August**
Time: **13:00**
Venue: **Onyx**

ICTs in Education – Exploring the Role of ICTs in General

Lekopanye Tladi & Boingotlo Moses
Botswana College of Distance & Open Learning
(BOCODOL) Botswana

Abstract

The paper explores the roles of ICTs in general and how it could be used in expanding education for the benefit of all. It starts by trying to give a brief description of what Open and Distance Education (ODL) is, and what are the different technologies that are normally put to use to deliver and support ODL.

The paper also highlights the development of ODL in Botswana. It gives a brief history of its evolution from when it was just print based known as correspondence to the current sophisticated system which uses some of the latest technologies to deliver and support instruction. Different types of technology used in ODL are discussed briefly. There is also the issue of collaboration which can be very useful especially in developing countries where the cost of developing new course material can be very high. The last part of the paper looks at the situation at Botswana College of Distance and Open Learning (BOCODOL). It discusses the different programmes offered at different levels of education.

Based on research undertaken, the paper will briefly show how ICT could be used to deliver some of the latest courses in the BOCODOL pipeline looking at the calibre of the learners that could benefit from it. In so doing it will try to draw comparison with other countries where ODL is in practice.

Date: **24 August**
Time: **13:30**
Venue: **Diamond**

A constructivist critique of the Nadeosa Courseware Criteria

Ian Moll
South African Institute for Distance Education
Wits School of Education

Abstract

The criteria that have been employed by Nadeosa over the past three years to make judgements about which materials should receive its courseware award trade on a series of fourteen oppositions of the following kind: *instructivist—constructivist, behavioural—cognitive, abstract—authentic,* etc. While the fourteen oppositions are not necessarily equivalent, and while the guidelines envisage their use by evaluators in various ways, they all assume some version of a claim that *instruction* is to be opposed to *construction* in learning and the development of knowledge. The guidelines also tend to suggest that the former is less desirable than the latter as a core principle to guide the development of designed learning materials.

This paper argues that a notion of rigorous instruction has always been central to cognitive constructivist theory, and that the distinction between construction and instruction is therefore a false one. This point is demonstrated in relation to the mainstream roots of constructivism in Piaget and Vygotsky, and is sustained in relation to its contemporary versions, ranging from connectionism to activity theory. Systematic instruction is a necessary part of the construction of knowledge, not least in formal education contexts. The only construal of "constructivism" that can possibly sustain a so-called constructivist dismissal of the importance of instruction in education is one associated with a fashionable, post-modernist sense of *social constructivism* in social theory.

Through a history of ideas, this paper argues that cognitive constructivism (including its own distinctive sense of social constructivism) remains the most viable theoretical framework against which we make judgments of quality in designed learning materials. The paper concludes by speculating what the consequences might have been, of using a set of criteria based on false dichotomies, for the Nadeosa courseware judgements in the past.

Date: **24 August**
Time: **13:30**
Venue: **Crystal**

A Research Agenda for Open Educational Resources: summary of a discussion conducted by the International Institute for Educational Planning

Kim Tucker
Meraka Institute, CSIR

Abstract

This presentation summarises an on-line discussion convened by the International Institute of Educational Planning. The discussion was initiated by asking the community to generate important research questions. These were classified and formed the basis for much of the discussion which covered: existing OER initiatives, current levels of use, collaborative authoring, technology, learning from other "open" initiatives, quality assurance, dissemination and access (in the broadest sense, covering searching and location, connectivity, cost, reusability, licensing, equality, socio-cultural factors, etc.). The presentation covers selected topics which may inspire action in Africa.

Date: **24 August**
Time: **13:30**
Venue: **Onyx**

The Convergence of Open Source and Open Access: Ensuring technical and social interoperability between teaching and research at institutions of higher learning

Leslie Chan
OSISA

Abstract

The Open Access to scholarly literature movement and the Open educational resources movement have the potential to create a truly global learning and knowledge commons. These two movements have been developing somewhat independently, with different agendas, strategies, technical tools and standards. Both movements, however, are supported by the development of open source tools, reflecting the common philosophy of knowledge sharing and community building. Their independent development reflects to some extent the separation between teaching and research in most higher education institutions, where research tends to be more highly regarded and rewarded. It is time for a more coordinated effort between the two movements, and more emphasis on ensuring interoperability between open access scholarly repositories, learning management systems and learning objects repositories.

In this presentation, I discuss the benefits as well as challenges facing the integration of the two movements. Using projects at the University of Toronto as illustrations, in particular a DSpace institutional repository and a Sakai based LMS, I highlight the institutional policy issues, technical support considerations, standards issues, and pedagogical rationales that need to be examined in order

to design services and community platforms that would benefit members of the institutions, including faculty and students. Some of the lessons learned from these projects are presented, as well as projects

Date: **24 August**
Time: **14:00**
Venue: **Crystal**

Providing Practical Science Experiences At Home For Students Studying Science Through Distance Education

Binaben Akoobhai
RADMASTE Centre, Faculty of Science
University of the Witwatersrand, Johannesburg

Abstract

The role of practical work is crucial to the learning and teaching of science (Woolnough and Allsop, 1985). Depending on the design of the activity it can become a powerful tool for making concrete a subject which is abstract and inherently difficult to understand. The current practice in developing countries (including South Africa), for providing practical work experience for learners studying science through distance education, is a week long session where learners are bombarded with activities after activities the whole day long. This divorces the activity from the theory and thus one aim of practical work, the understanding of a particular theory or concept is not achieved. The microscience system, developed at RADMASTE (Research and Development in Maths, Science and Technology Education) Centre, Wits University, may be an answer to the problem mentioned above.

This system uses small-scale equipment which is cost-effective, versatile, convenient and robust, and demands no special infrastructure. To see its effectiveness as a tool for providing practical work experience for students studying science through distance education, it is being used by teachers who have registered for the ACE (Advanced Certificate in Education) course at Wits University. The ACE program uses a mixed delivery approach. That is, 4 contact sessions (usually 5 days each, during the school holidays) are spaced throughout the year where teachers come to the workshop. The microchemistry kit (part of the microscience system) is being used by teachers at home for performing practical work activities for the science specialization course entitled, Chemical Reactions.

The current research aims to report findings on the use of the RADMASTE Advanced microchemistry kit by 37 secondary school teachers at home during their independent study. The results obtained for this study informs the future for providing practical work experience for students studying science through distance education.

Date: **24 August**
Time: **14:00**
Venue: **Onyx**

Integrating ICT in Schools: The Case of Uganda

Tito O Okumu
African Virtual University

Abstract

School is an inseparable part of the society and therefore any development that takes place at the macro level can be translate into the micro world of school environments. However, this supposition is not always in line with the prevailing reality. The outside world has dramatically undergone tremendous progress with the help of information and communication technologies (ICT); but, on the other hand, most schools are still relatively anchored in the past and sometimes even resistant to ICT[2].

Uganda has been able to benefit from some of these multilateral efforts, which has been able not only to increase the level of literacy in ICT but also to broaden its usage. On its own, the Uganda Government through its line Ministry of Education and Sports has been rather slow in the promotion of ICT in Uganda as most of the ingredients for it are coming late in the process of trying to Integrate ICT into the school curriculum

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[2] *Information And Communication Technologies In Schools. A Handbook For Teachers Or How ICT Can Create New, Open Learning Environments* (edited by Jonathan Anderson, published by UNESCO, Division of Higher Education, Paris, 2005, 240 pp.)

This has also not been systematic because of lack of infrastructural development to support this exercise as well as the absence of in-service training for teachers and school librarians to enable them use ICT effectively in their work.

In this paper we look at the way the Government is undertaking this challenge because a comprehensive ICT integration takes time and necessitates appropriate school planning in order for the process to take place in a truly co-ordinated and developmental way. Secondly the importance of such an exercise in the country has an effect on the general role it plays in the educational sector.

Thirdly we shall look at the way the various educational levels have been responsive to ICT integration at their levels and which have been best practices and loopholes at those levels.

Date: 24 August
Time: 14:30
Venue: Onyx