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e-skills institute newsletter

e-Skills Institute
e-skilling the nation for equitable prosperity and global competitiveness

Edition 5, 2012

innovative
responsive
developmental
enabler
collaborative

The e-Skills Institute is a national catalyst, facilitator and responsive change agent in the development of SA, within the globally evolving information and knowledge-based environment, by leading the creation of key e-skills development strategy, solutions, practices and the implementation thereof, to benefit the total population. The e-Skills Institute focuses primarily on four components: research, teaching and learning, innovation and a monitoring and evaluation framework.

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e-skills institute
newsletter

e-Skills Institute
e-skilling the nation for equitable prosperity and global competitiveness

Towards the development of a national e-skills curriculum framework for teaching and learning

The e-Skills Institute (e-SI), through the Department of Communication, is set to harness the potential of ICT across the full spectrum of society to address the major socio-economic challenges that South Africa faces in order to achieve equitable prosperity and global competitiveness.

The objectives for e-SI are to explore the dimensions of ICT for employment readiness, effective e-governance and service delivery, business development, promote local innovation and socio-economic development. This is underpinned by a sound research evaluation and monitoring framework.

The workshop

The e-SI hosted a workshop on developing a national e-skills curriculum framework for teaching and learning. This was held from 7-8 June 2012. The intention was to develop a national master plan that covers targeted users and includes pilot processes, timelines and key milestones for short-, medium- and long-term planning.

Stakeholders at the workshop included the provincial e-skills knowledge production and coordination hubs (e-SKPCHs), representatives from Cisco and key government stakeholders such as representatives from the Department of Rural Development and Land Reform.

The workshop also looked at setting up a target number of smart community knowledge production centres.

Future plans

Currently 39 new courses have been developed or are in the process of being developed by the e-SI and its provincial knowledge production and coordination hubs. These courses are part of a framework aimed at impacting 10 million South Africans over the next five years.

The courses range from NQF levels 1-7 and post-graduate courses. While the majority of courses cannot be delivered 100% online, a proportion can be delivered over a mobile platform.

The plan is to establish nine e-SKPCHs with access to smart community knowledge production centres distributed across the provinces. The data centre and e-skills cloud will also be expanded to facilitate new knowledge creation and transfer for local innovation, building social cohesion etc.

The e-Skills Deployment Strategy entails:

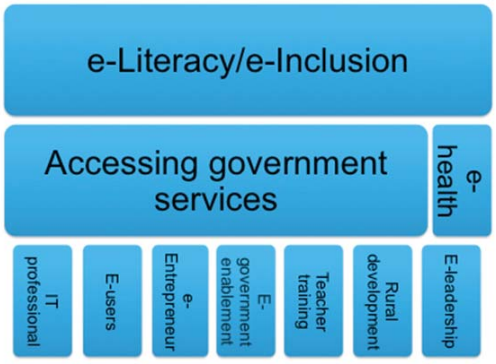
- Populating the national ‘e-skills cloud’ with content reflecting national priorities for enabling development, using national pedagogical and instructional design standards to enable rich media learning.
- Deploying smart (advanced and standard) community knowledge production centres by leveraging existing resources and providers. This will support knowledge production, innovation and employment generation.
- Ensuring content can be delivered on mobile platforms wherever possible.
- Facilitating (and monitoring) access to the e-skills cloud from other national/provincial providers of ‘basic’ access centres/platforms (such as FET colleges). This will provide the opportunity to deploy e-skills at scale.

Delegates at the workshop

Standardised curriculum guidelines

A national curriculum and competency framework (NCCF) for e-skills is critical in ensuring all areas of need are provided for, that there are clear structured pathways for progression, and that at each stage learners are provided with sufficient information to help make decisions about where to go next. The national curriculum is linked to current job need and new roles and opportunities.

The figure alongside provides an overview of the NCCF for e-skills for South Africa and maps directly to the e-SI service offering matrix. The framework places e-skills for inclusion and digital literacy as essential for access to any further e-skills development.



Outline of e-Skills National Curriculum and Competency Framework for South Africa

The middle layer focuses on access to government and health services, and the lower layer reflects the resource development focus areas of the provincial e-SKPCHs.

This high level framework will be fleshed out in order to create a complete map of the e-skill landscape over the next 10 to 15 years. Development of an extensive and comprehensive mapping of e-skills involves significant consultation with stakeholders.

The provincial e-skills knowledge production and and coordination hubs have prioritised thematic areas and mapping will include e-inclusion/e-literacy, knowledge workers, e-government officials, e-entrepreneurs, teachers, senior management and e-leaders, ICT professionals, among others. Pedagogical models, course content, navigation, multiplatform access and a blended learning strategy are currently also being considered.

Aggregation of e-skills effort across South Africa

The e-Skills Institute (e-SI) has identified the lack of coordination across the full spectrum of service delivery, business, education and policy frameworks (for creating an enabling environment) as being a significant impediment to addressing e-skilling. E-skilling has become crucial for creating socio-economic equity in South Africa.

The 2012 World Economic Forum (WEF) 'Networked Readiness' report of 142 countries notes that "…despite counting on one of the most solid political and regulatory environments (23rd) and better framework conditions for entrepreneurship and innovation (50th) in the (Sub-Saharan African) region, South Africa at 72nd place, is not yet leveraging the potential benefits associated with ICT".

It's essential to move from the way things were previously done to a new framework which incorporates a coordinated and aggregated approach to e-skilling South Africa for supply and demand in e-skills delivery, development, evaluation and innovation, as well as in the policy development space.

The national Research Network for e-Skills (ReSNES), part of the e-SI, has developed an approach that links curriculum development with research and innovation.

Curriculum development for new job priorities

The e-SI is establishing a base for a better coordinated response to new and modified e-skills courseware within a national e-skills curriculum framework. This directly supports the strategic needs of South Africa (such as the MTSF and NPC 2030 Vision) and points to the matters outlined in the 2012 WEF 'Networked Readiness' Report.

This has entailed applying and contextualising global best practices in countries with similar developmental agendas (such as Mexico). ReSNES is proposing developing taxonomy for e-skills teaching and learning and service offerings aligned to South Africa's strategic plans, and that this framework is populated by current offerings across business government, education and civil society.

The analysis of this data would provide a useful basis on which to examine gaps, responsiveness, quality assurance, alignment to current and projected future market needs.

Research and innovation

The e-SI has also found that there is currently no coordinated, integrated and cross-disciplinary approaches to evidenced-based research and evaluation for matters pertaining to e-skilling South Africa for equitable prosperity and global competitiveness in the emerging information society and knowledge-based economies.

This gap means that multi-disciplinary and multi-stakeholder research and evaluation efforts for assessing praxis, policy development and innovation are not encouraged, rewarded or funded.

In an age when mega data-based marketing is common place, when all serious efforts to address the mega issues facing societal equity and scientific growth are recognised as requiring large scale cross-discipline, cross-stakeholder (business, government, education and civil society) and long-term approaches, South Africa has no useful aggregated research framework to support innovation and to organise its knowledge for an emerging information society and knowledge-based economy.

Summary of proposals from ReSNES

- ReSNES is proposing developing taxonomy for e-skills teaching and learning curricula and service offerings aligned to South Africa's strategic plans. It is also proposing that this framework is populated by current offerings across business government, education and civil society.
- ReSNES is proposing a project-based approach to develop a national central aggregation framework to assess the impact of e-skills research. Defined as a societal impact assessment for e-skills in South Africa, the objectives are to aggregate and conduct a preliminary analysis on existing data on all e-skills efforts across all providers in South Africa and comparative international efforts. The intention is to develop a plan to coordinate future data collection across service providers.

ReSNES is proposing a project-based approach to develop a national central aggregation framework to assess the impact of e-skills research. Defined as a societal impact assessment for e-skills in South Africa, the objectives are to aggregate and conduct a preliminary analysis of existing data on all e-skills efforts across all providers in South Africa and comparative international efforts. The intention is to develop a plan to coordinate future data collection across service providers.

This will be a multi-stakeholder collaborative effort with the outcomes ranging from an integrated framework for data to assess the impact of e-skills efforts against existing policy parameters (thus providing the basis for future policy development) to enhance curriculum development, increased coordination and collaboration across service providers, and increased opportunity for targeted post-graduate research.

E-skilling has become crucial for creating socio-economic equity in South Africa

About ReSNES

The National Research Networks for e-Skills (ReSNES) is a platform for multi-stakeholder partner collaborations on research to support the national e-skills drive.

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Positioning South Africa on the e-skills global map

A fundamental objective of the e-Skills Institute (e-SI) is that of multi-stakeholder collaboration and the sharing of information to strengthen the e-skills base in South Africa. In light of this, a paper titled 'Systemic approach to e-skilling in South Africa' was presented at the Informing Science Institute (ISI) Conference in Montreal, Canada. The conference was held from the 22-23 June 2012 and hosted more than 90 international delegates.

Written by Zoran Mitrovic, Mymoena Sharif, Wallace Taylor and Harold Wesso, the paper outlined the foundational approaches for establishing the e-SI and the processes followed to conduct South Africa's first e-Skills Summit and the development of the National e-Skills Plan of Action (NeSPA).

In the absence of a solid e-skills research base in the country, the e-SI (as part of its mandate to build the e-skills research capacity) is in the process of exploring research platforms required to position South Africa globally in the areas of innovation and e-skills development required for a knowledge economy.

About the ISI
The Informing Science Institute (ISI) conducts conferences, publishes open source journals and books and provides a formal mentoring programme for emerging authors. ISI has more than 770 financial members and a total of 4 316 academics engaged in its activities from more than 50 countries worldwide.

Gaining an understanding of mobile applications development in South Africa

The e-Skills Institute (e-SI) is working to gain a better understanding of the current mobile applications development landscape in South Africa. This is being done through its Gauteng Knowledge Production and Coordination Hub which focuses on the national thematic area of creative industries. Partnerships include Cisco, RIM, Apple, UNDP/UNCTAD, Kenya, Rwanda and the Queensland University of Technology (Australia).

The e-SI is calling for organisations and individuals to participate in an online survey to assist with the research:

1. If you are **developing mobile applications** for any platform, please complete this survey: http://freeonlinesurveys.com/rendersurvey.asp?sid=ncgifxalpnovnu91041206
2. If you are a **user of mobile applications** on your mobile phone or tablet, please complete the following survey: http://freeonlinesurveys.com/rendersurvey.asp?sid=3sxo2g75z2px4en1041276
3. If you are working at a training institutions and are **teaching mobile applications development** in any of your courses, please complete this survey: http://freeonlinesurveys.com/rendersurvey.asp?sid=orsw5zdeyu4eh3a1041277

All completed surveys received before 20 July 2012 will be entered into a draw and participants could win a Blackberry Playbook or a new iPad or a training course facilitated at the Gauteng Provincial e-Skills Knowledge Production and Coordination Hub.

Just one of the prizes you can win when filling in the survey.

Collaboration leading to building emerging talent

CISCO Senior Vice President, Duncan Mitchell, visited South Africa and further committed to the work of the e-Skills Institute in building emerging talent and ICT in the country.

Innovation for an information and knowledge-based economy

Two years ago, a Ministerial Committee was commissioned to provide the nation with an understanding of what has been achieved by the national system of innovation as the key driver of knowledge-based economic growth and associated inclusive national development.

The e-Skills Institute (e-SI), as part of its intention to engage in dialogue around e-skills and to promote the necessary discourse, provided comments on the report, 'The Department of Science and Technology Ministerial Review Committee on the Science, Technology and Innovation Landscape in South Africa – March 2012'.

Civil society as actors in innovation

The report defines innovation as "the capacity to generate, acquire and apply knowledge to advance economic and social purposes", implying that innovation is core in South Africa's transformation. There is also discussion around social innovation – innovation for development using "any appropriate technologies or interventions that can address the challenges of poor communities".

While the e-SI embraces the broader notion of innovation defined in the report and the inclusion of social innovation, there should be stronger emphasis on the role of civil society as actor rather than only as recipient.

There are ample international experiences and success stories – also relating to marginalised and disadvantaged communities located in rural and peri-urban areas – that 'ICT as an enabler' can empower communities to be actors in innovation regarding their own local needs and envisaged futures.

In many of these cases relating to ICT, the communities are not the recipients of services, but are co-creators. This can be seen in the numerous 'living lab' projects and programmes across the world. These 'living labs' are environments for user- and community-driven innovation and development, exposing users and communities to ICT solutions and allowing for evidence-based action research.

The role of ICT and innovation

More emphasis needs to be placed on the role of ICT. ICT has become embedded in all aspects of modern life. A younger generation use ICT as a creativity tool and a way to interact with nearly all aspects of their lives. This is not only done by using software developed by others, but also by developing and adapting it themselves particularly with reference to smartphones and tablet devices.

The role of ICT is considered as part of the broader notion of innovation in the most recent Networked Readiness Index of the World Economic Forum and the measurement of this annual index now includes aspects such as impact.

The importance of mobile devices

Mobile devices (smartphones and tablets) play an increasingly important, if not dominant, role across the African continent. In South Africa, mobile devices can enhance digital inclusion and contribute to social innovation. This shift from stationary to mobile devices has been taken into account by the e-SI in its programmes towards e-skilling the community and achieving social innovation.

e-Skills as a fundamental skill

Reference is made to the establishment of "… the necessary skills base, needed to foster the field of social innovation". The concept of 'skills' is very wide and not all types of skills are appropriate to all users and communities. However, the e-SI believes that e-skills should be regarded as one of the fundamental skills sets to be developed. e-Skills will be required by an increasing portion of the population to access information and services in almost every aspect of everyday life.

Placing e-skilling in context

e-Skills in and for communities need to take into account the dynamics of the ICT sector, the needs of a developmental state, and the importance of interventions that are socially, culturally and economically embedded in South Africa's reality, identity and needs within a mix mode economy.

There is the real danger – as seen in many countries and contexts – that ICT simply aggregates supply and demand into lumps that are beyond national control or interest and to the very direct disadvantage to underserved communities and small groups.

There needs to be well-coordinated national interventions that align people in various locally-owned ways. A key driver is creating e-skilling approaches that highlight innovative social appropriation within a locally-understood context. Interventions should also be aligned to the needs of a developmental agenda.

There are numerous cases – both on the African continent and elsewhere – of interventions regarding the use of ICT and the development of e-skills (and related skills) that are well-intentioned and well-funded, but that have not been able to be sustained past the external input funding. Sustainable approaches are almost totally dependent upon local community innovation being facilitated with local people and institutions.

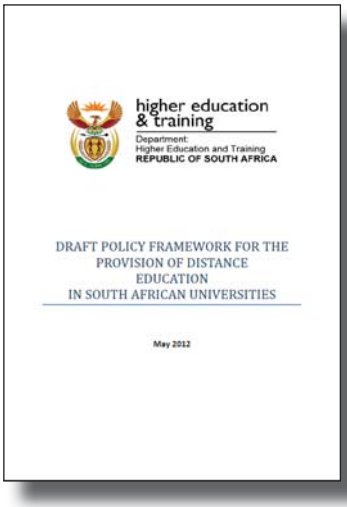
Monitoring and evaluation should take into account these key considerations.

Enhancing distance education through collaboration

As part of the discourse around e-skills, the e-Skills Institute (e-SI) made recommendations on the 'Draft Policy Framework for the Provision of Distance Education in South African Universities'. The following looks at the predominant thematic areas.

The policy notes that "ICT has become central to knowledge production, dissemination, sharing, and application in ways that make it inconceivable to imagine planned future developments in higher education without identifying a central role for ICT". This highlights the need for e-skills on every level.

Given the work of the e-SI, it is becoming increasingly obvious that addressing issues of inequity, in particular with regard to the deployment of ICT, that a full appreciation of South Africa's mixed mode economies needs to be carefully considered. Hence a national approach to equipping all South African citizens with the capacity to innovatively apply these technologies to improve their life chances in business, access to government services, education, social cohesion etc needs to be taken.



Factors that support distance education

With distance education, the needs of learners encompass defining a pedagogical model, the use of ICTs and the type of individual support among other things. This poses a challenge when considering that the courses cater for 25 000 plus delegates.

Teaching online or at a distance is very different from teaching face-to-face. Academics and trainers will need training on this, particularly as new ICTs evolve that need to be incorporated into the environment.

The role of informal learning, particularly peer group support, needs further investigation. International case studies have shown that good practice can reduce the costs of support and dropout rates.

It is important that a number of areas are researched further to inform decision making. This includes understanding drop-out rates, gathering benchmark studies and the use of Open Educational Resources (OER).

Collaboration

The existing and future work of the e-SI contains numerous areas that could serve as input into the national distance learning process. For example, the e-SI is developing a national approach to curriculum design for e-skills. This will enable courses that comply with its instructional design requirements to go to scale via accessing the e-skills cloud.

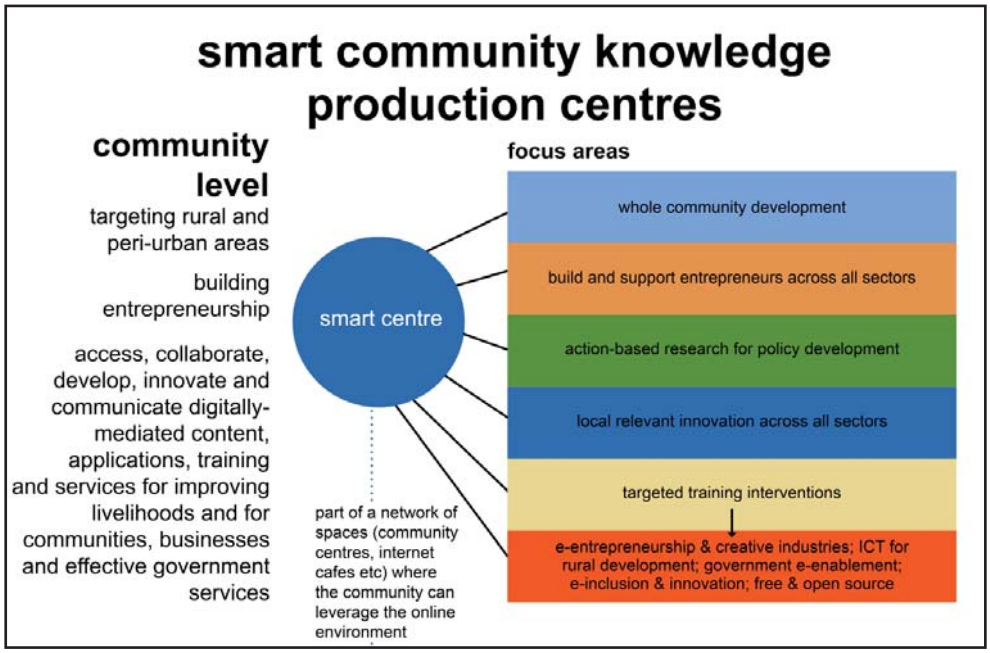
Leveraging smart centres

The e-SI through the Department of Communications is currently working on the establishment and management of ICT-enabled networked-shared learning centres in areas where home-based provision is likely to be difficult in the short to medium term. Infrastructure that is designed to support peer-collaboration, such as these smart centres, can assist with reducing the low levels of retention.

Collaborative use of these smart community knowledge production centres is more cost effective. The centres can offer distance learning, as well as vocational and entrepreneurship skills development programmes, and a one stop shop for e-government services. Multi-purpose use of these centres acts both as an incentive to students and generates revenue.

The centres will also provide 2Mb+ bandwidth and video services for improved opportunities in collaboration and learning. Furthermore, the capabilities offered by the centres can assist with the recruitment, management and support of appropriate tutors.

There needs to be sharing of experiences on maintaining an appropriate, but dynamic, balance between investments in centres and supporting the use of mobile and technology at home and work. The population this policy is aimed towards needs more support if the drop-out rate is to be reduced.



Minister of Communications calls for stronger collaboration to develop e-skills in the country

On 3 July 2012, Ms Dina Pule, Minister of Communications, gave a speech at the African Cisco Networking Academy Safari hosted at the Cape Peninsula University of Technology.

The overriding message by the Minister was the need for greater collaboration and progressive partnerships. "The South African Government acknowledges that it is only through meaningful collaboration between the State, private sector, academia, civil society and the youth that we can demolish the frontiers of poverty, unemployment, underdevelopment and the social exclusion of our communities, especially the people who live in rural areas and those who are entrepreneurs or run SMMEs," said Minister Pule.

Commitment to infrastructure development

Within the challenge of underdevelopment, the Minister said that ICT infrastructure development is the most high profile programme for her Department. She referenced the inaugural ICT Indaba that was hosted by South Africa in April 2012 where many of the Ministers, including those from the African continent, declared a commitment to rolling out broadband infrastructure to 80% of the people by 2020.

"In South Africa, the target is to rollout broadband infrastructure 100% by 2020. No state can afford the financial commitments required to deliver on these targets working on their own. We can meet these challenges through progressive partnerships," said Minister Pule.

Developing e-skills

The Minister also focused on investment in the development of scarce e-skills. This included the partnership with the Department of Higher Education and Training and various service providers which has a special focus on people in rural areas; the accredited multimedia training course now offered by Further Education and Training (FET) colleges, and the ICT Lecturer Development Programme where IT teachers are adequately capacitated to teach ICT and ICT skills.

"We are doing this because we believe that embedding ICT [e-skills] within different qualifications will help improve the ability of graduates to find work or start their own businesses," said Minister Pule.

The Department of Communications has also started discussions with the SA Graduate Development Agency to partner with other service providers to train graduates on their database in ICT skills. The partnership with Cisco has resulted in the training of 1 300 students in networking courses, part of a set of highly-sought after skills.

Official South African definition of e-skills

The ability to use and develop ICTs within the context of an emerging South African information society and global knowledge economy, and associated competencies that enable individuals to actively participate in the world in which ICT is a requirement for advancement in government, business, education and society in general. (The definition comes from the National e-Skills Plan of Action 2010.)

Focusing on the youth

The Minister emphasised the need to consistently upskill and reskill the youth. One of the areas that cater to this is connecting as many schools and tertiary institutions as possible to the internet.

Minister of Communications, Ms Dina Pule

This is supported by an International Telecommunication Union study that showed that 46% of the population in developing countries is below the age of 25. Further to this, the 'Measuring the Information Society 2011' report suggests that one of the most effective ways to increase internet use is to target the youth by connecting educational institutions and improving enrolment rates.

Outcome of progressive collaboration

Minister Pule noted that the partnership with Cisco is helping South Africa to create and transfer skills to citizens and develop an e-skills curriculum for the country. "Through our interventions, we expect to significantly build human capital and nurture innovation for the information and knowledge-based economy in South Africa and the rest of the continent," she said.

Ultimately the key outcome of such partnerships is the ability of people within Africa to convert knowledge into value that will uplift communities. "Africans have to be at the forefront of finding our own answers to the challenges the continent faces. ICT provides us with an opportunity to bridge the digital and development gap much faster than would ordinarily be possible," said Minister Pule.

Minister Pule was clear in positioning the partnerships and expressing their value, however, she noted that these partnerships did not mean that the government abdicated responsibility to lead and regulate the sector.

Policies for inclusion

With regards to regulation, the Minister spoke of the Integrated ICT Policy Colloquium hosted in April 2012 which looked at developing policies to accelerate inclusive economic growth.

"As the government, we shall continue to improve policy coherence and regulate, mainly for the benefit of the poor and the marginalised. Business has to assist us improve skills capacity in our economy. Importantly, the aggressive implementation of our policies and programmes is at the heart of making society work," said Minister Pule.

Looking at high cost to communicate and cybersecurity

Within the context of collaboration, the Minister said that it

(continued)

[story continued] Minister of Communications calls for stronger collaboration to develop e-skills in the country

was essential to tackle the twin challenges of the high cost to communicate and cybersecurity.

"Price or the affordability of communication services is deepening and entrenching the digital divide. But this has to change and the good news is that we all have a significant role to play," said Minister Pule.

She also noted that with an increasing portion of people's lives being lived online, secure networks are crucial to protect the online data. "The faster development and economic growth in our continent depends on this," said Minister Pule. "Governments and businesses can increase the complexity of services they can deliver to citizens only through ultra secure networks."

She also said that secure and accessible networks that have sufficient capacity can bring down the cost to communicate and the cost of delivering services. "Indeed, such networks can help to make applications such as Mxit, Facebook, Twitter more accessible to many more people, including those who are at the margins of society."

Youth, women and people living with disabilities

Minister Pule spoke about how the youth play an essential role in innovation. At the same time, governments and businesses need to see that young women are encouraged to be developers of networks, applications and other developmental technologies and that the benefits of technological development need to reach people living with disabilities.

ICT trend words – open educational resources and open data

As e-skilling becomes more and more entrenched in the mindsets of all South Africans, it's essential that new developments and trends are understood and become part of the discourse. In this edition, we look at the difference between open educational resources and open data.

Open educational resources

While there is no single standard definition of 'open educational resources' (OER), the widely-accepted broad definition is that of teaching and learning materials that are freely available online for everyone to use (without paying royalties or licence fees). These materials include everything from full courses and lectures to pedagogical materials and simulations.

Open educational materials are part of the Open Movement. This movement comprises a range of philosophies and models that are grounded in free sharing, improving access and avoiding restrictions such as copyright, among other practices.

Initiatives around OER look to provide open access to high-quality education resources on a global scale. Two examples include MIT Open Courseware (http://ocw.mit.edu) and Repositories Support Ireland (www.irel-open.ie) where Irish universities receive government funding to build open access repositories.

OER is not synonymous for online learning or e-learning.

Open data

The Open Movement also includes open data. This refers to the notion that certain data should be freely available to everyone, not only to use but to republish. It should not include copyright or other control mechanisms.

(Information on OER referenced from the Open Education Resources Info Kit - https://openeducationalresources.pbworks.com/w/page/24836480/Home)

e-SKPCH events

KZN e-SKPCH events

August 2012
- Monthly Stakeholders Forum on the fourth Wednesday

September 2012
- Monthly Stakeholders Forum on the fourth Wednesday

October 2012
- Monthly Stakeholders Forum on the fourth Wednesday

November 2012
- Monthly Stakeholders Forum on the fourth Wednesday

Gauteng e-SKPCH events

July and October 2012
- Gauteng e-SKPCH stakeholder meetings

April - December 2012
- Regular presentation of e-skills courses for entrepreneurs and in the creative industries

July – December 2012
- Incorporate Blackberry mobile apps development as part of a BCom (Honours) Informatics course and in Usability Testing

July – August 2012
- Host a distinguished international academic as a visiting professor

Western Cape e-SKPCH events

August - September 2012
- 13-17 Aug: e-Skills workshop – cohort 2 – face-to-face
- 20 Aug-14 Sep: cohort 2 – online phase

October - November 2012
- 8-12 Oct: e-Skills workshop – cohort 3 – face-to-face
- 15 Oct-9 November: cohort 3 – online phase

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partners in the Department of Communication's e-Skills Institute multi-stakeholder collaboration

education

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Telkom

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Neotel

global developmental partners

UNDP

Kenya

Rwanda

Please note that this list will be extended as there are Memorandums of Understanding in progress across all sectors.