e-skills institute
newsletter

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innovative

responsive

developmental

enabler

collaborative

e-Skilling South Africa 2013

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-Skilling South Africa: the preview

Building capabilities and uniting around a common pillar to fight poverty and inequality

The South African e-skills plan of action looks to increase the human capacity of the country to make use of new ICT. This increase must occur across government, business, education, civil society and organised labour. It must impact on inequity, participation, socio-economic independence and job creation, and increase efficacy in business and service delivery.

On the 20 May 2013, the Department of Communications shared its 'e-skilling South Africa' with key decision-makers in the country. The Minister of Communications, Honourable Dina Pule made a keynote address in emphasising the importance of preparing citizens of South Africa to actively participate in the Information Society and Knowledge Economy. Key to the preview was the unveiling of the virtual knowledge production and transfer network to build the necessary e-skills human capacity in deep rural, rural and peri-urban communities.

The members viewed the remarks made by Dr Brahima Sanou, Director - ITU Telecommunication Development Bureau (BDT) at the recent WSIS Forum 2013 held in Geneva. He noted that ICT is important for the development of a nation, that e-skilling is very important and that the focus is on people. "It is envisaged in the near future that 95% of jobs in the world will require e-skills," said Dr Sanou.

The new integrated entity

Prof Roy Marcus, a member of the board of the integrated Entity for e-Skills, spoke of the journey it took to get three disparate organisations (e-SI, NEMISA and ISSA) to come together in a collaborative platform while using limited financial resources. Prof Marcus is also Chairperson of the Council of the University of Johannesburg, Chairperson of the Da Vinci Institute for Technology Management and represents South Africa as a board member of the International Sustainable Trade and Innovation Centre

"In one day, representatives from as many of the disparate groups had to come out with a model and an elegant way forward. [The e-skills model and the virtual network for knowledge production] is the realisation of what South Africans can do with limited resources and incredibly high demands," said Prof Marcus.

He noted that the event showcased one of the most important initiatives in the country and is a blueprint for the future. Another point made was that academics don't usually collaborate and that the model of collaboration – the multi-stakeholder collaborative network – is a breakthrough.

Playing a key role in the multi-stakeholder collaborative network are the e-skills knowledge production and coordination CoLabs. The CoLabs aggregate and integrate efforts across government, business, education, civil society and labour. They also

Speakers at the e-skilling South Africa event

Defining e-astuteness and e-social astuteness

e-Astuteness: Developing e-competent individuals by giving them appropriate ICT-related knowledge and skills, and training them to develop a competent attitude and knowledge to use them and to adapt to the rapidly-changing new forms of ICT devices and associated software (individual focused).

e-Social astuteness: A smart way of applying acquired e-skills and e-astuteness for everyday socio-economic development and better life opportunities for local benefit in a socio-economic dynamic, increasingly impacted by new forms of ICT (societal focus). The notion of e-social astuteness helps in recognising opportunities in an ICT-enabled world for all people regardless of their formal education, employment status, location, age, gender or physical disablements.

From left: Ms Dina Pule, Minister of Communications arriving, escorted by Dr Harold Wesso; Guests at the Minister's table; Ms Dina Pule on a site tour of the virtual knowledge production and transfer network.

represent the socio-economic diversity of South Africa.

The CoLabs work across all levels but, in particular, provincial and local levels. Their various focus areas and functions work together to grow an active e-astuteness within South Africa.

e-Astuteness

Mobile devices are about capacity, availability, mobility, video capacity and affordability. These along with ICT in general are evolving at an unprecedented rate.

The Minister of Communications, Ms Dina Pule, in her keynote address noted that this creates opportunities to impact on South Africa's developmental agenda across the socio-economic spectrum. However, technology alone does not create opportunity – there needs to be effective appropriation.

The PriceWaterhouseCoopers report (April 2013) 'The Startup Economy: How to support tech startups and accelerate Australian innovation' found that culture is the key to accelerating a tech community. The report notes: "International comparisons show that entrepreneurship can thrive with the right culture and perceptions, regardless of basic regulatory conditions."

The report also notes that strong horizontal social networks between connected entrepreneurs create information spillover effects from one part of the community to the next such that one person's knowledge becomes the community's knowledge.

e-Readiness ranking

According to the World Economic Forum (WEF) report, South Africa's global e-readiness ranking dropped from 47 in 2007 to 70th in 2013. The Minister noted that while South Africa has been addressing the significant infrastructure issues, among other areas, countries with smaller populations and better infrastructure have been busier.

In the political and regulatory environment, as well as the business and innovation environment, South Africa is well ahead of its peers. (This is within BRICS – Brazil, Russia India China and South Africa.)

There is relative parity in terms of infrastructure and digital content readiness, business usage and economic impacts. However, the country lags behind in affordability, **e-skills**, individual usage and government usage.

All these elements are part of e-astuteness and vital to developing a future that unites South Africans around fighting poverty and inequity to develop a capable state with an inclusive economy. It also has an impact on investment in South Africa.

"The significance of the e-Skills Institute has been about reverting our e-readiness ranking," said Ms Pule. For this to happen, collaboration between government, business, education, civil society and organised labour is essential.

NeSPA constitutes the plan to address the issues raised by the WEF e-readiness ranking

Key messages

'Together we can do more' - collaboration was a consistent message throughout the event, as was the continuing development of NeSPA, sustainability and the importance of monitoring, evaluation and impact assessments.

Another message that came across clearly is the need to explore creative ways to use existing infrastructure and resources. From the outset, the focus was on key target areas – deep rural, rural and peri-urban areas. The NDP speaks about an e-literate society by 2030 and this must include every strata of the socio-economic landscape in South Africa.

South Africa needs to create an environment that is open, collaborative and integrated. It's about collectively developing a response to the e-skilling challenge.

Virtual network for knowledge creation

The site tour showed the four scenarios that make up the virtual network for knowledge creation, providing a learning environment and an architecture for connectivity and interaction:

- The smart community knowledge centre which can be located in deep rural, rural, peri-urban and urban areas.
- The e-skills knowledge production and coordination CoLabs which will ultimately be in each of the nine provinces with the focus on developing key socio-economic environments.
- The national Research Network for e-Skills which, through the online environment, allows for participation anywhere in the country.
- The data centre which manages the gateway portal, allowing stakeholders to connect with the various learning management systems from the participating universities.

From left to right: Minister Dina Pule interacts with users of the virtual network for knowledge production; guests at the e-skills event, Being shown around the virtual network for knowledge creation.

Developing national e-skills for a knowledge society

Uniting around a common pillar to fight poverty and inequality and leadership throughout society to work together to solve problems

ICT is crucial for the survival and sustainable development of any nation. It's impossible to survive in the information age without access to national and global information networks. The skills divide that exists leads to social exclusion.

Governments need to develop e-skills policies at national level to ensure that every citizen has the necessary skills and ability to use ICTs. However, e-skilling is an ecosystem which involves various stakeholders and their interests. Multi-stakeholder collaborative partnerships are the key to developing a national initiative.

This was the theme of the panel session 'Capacity Building – Developing National e-Skills for a Knowledge Society', part of the World Summit on the Information Society Forum 2013 (WSIS 2013) held from 13-17 April 2013. The intention of the session was to bring together case studies and best practices from all over the world.

A continuous priority

Ms Ana Cristina Amoroso das Neves from Portugal presented an overview on building an ICT National Capacity Building strategy.

e-Skilling has been a continuous priority for Portugal, starting from 1997, and is guided by a multi-level and multi-stakeholder approach. Different e-skilling programmes and projects have been started in all areas in order to reach different layers of society and meet their needs.

Dr Brahima Sanou gives the opening remarks at the WSIS panel session 'Capacity Building – Developing National e-Skills for a Knowledge Society'

Smart Learning

Mr Hassan Fida Al-Lawati from Oman presented the pillars of the e-Oman strategy to direct Oman towards becoming a sustainable, knowledge-based economy. It included a wide range of initiatives and services that are designed to improve the efficiency of government services, enhance the work of the private sector and empower individuals' skills and knowledge. This strategy is created to maintain a balance between the development of new technology and human capital development.

The Sheikh Mohammed Bin Rashid Smart Learning

List of Panellists

- HE Mr Mohammed Gheyath, Director General, Mohammed Bin Rashid Smart Learning Program, UAE
- Dr Tayfun Acarer, President of the Information and Communication Technologies Authority and Chairman of the ICTA Board, Turkey.
- Mr Hassan Fida Al-Lawati, Projects - Team Leader, Information Technology Authority, Oman.
- Ms Florence Gaudry-Perkins, International Director, Global Government and Public Affairs, Alcatel-Lucent.
- Ms Ana Cristina Amoroso das Neves, Director, Department of Information Society, Fundação para a Ciência e a Tecnologia, Ministry of Education and Science, Portugal.
- Dr Harold Wesso, Acting Chief Executive Officer of the e-Skills Institute, Acting Chief Executive Officer of the National Electronic Media Institute of South Africa (NEMISA), Deputy Director General of the South African Department of Communications

Program shows how Smart Learning provides technological solutions for education, through a fully-fledged platform allowing more than 150,000 students and 14,000 teachers to interact and engage in a virtual learning environment.

Focusing on society's need

Representing South Africa, Dr Harold Wesso shared with participants the main aspects of the South African e-skills agenda, part of the South African National Development Plan-Vision 2030 (NDP). The NDP envisages a South Africa that is moving towards an inclusive knowledge society by ensuring that society at large becomes e-literate.

South Africa's most serious challenges are in the areas of affordability, skills and social impact of ICTs. Dr Wesso stressed the importance of focusing not only on the technology aspects but also the socio-economic impact.

Due to the fast changing environment, there is a need for people to be permanently skilled and reskilled. The South African e-skills agenda seeks to bridge the mismatch between higher education content and employment patterns. South African e-skilling focuses on the key areas of society's need. The aim is to impact 10 million South Africans over the next five years.

e-Skills in the learning-teaching processes

Dr Tayfun Acarer from Turkey presented the massive Turkish e-skilling programme, 'FATIH'. Its aim is to enable equal opportunities in education and improve technology in schools for the efficient usage of ICT tools in the learning-

teaching processes.

With this project, in four years' time, 40,000 schools and 60,000 classes in the schools will be equipped with tablets

"Governments need to develop e-skills policies at national level to ensure that every citizen has the necessary skills and ability to use ICTs. However, e-skilling is an ecosystem with various role "

and smart boards. He stressed the importance of broadband connections for the quality of e-skilling.

The private sector

Ms Florence Gaudry-Perkins from Alcatel-Lucent represented the private sector. She shared cases of public-private partnerships with examples of how private sector companies (like Telmex Mexico, Cisco, Microsoft and Alcatel-Lucent) have been involved in ICT capacity building activities over the years.

Key points included the important contribution of m-Learning towards

development of e-skilling and the greater impact that multi-stakeholder partnerships bring. The private sector also has global corporate representation, which may help to share best e-skilling practices in all over the world.

The WSIS Forum

There were over 1800 delegates representing more than 140 countries at the WSIS 2013. The Forum provides an opportunity to exhibit, as well as to learn, network and participate in multi-stakeholder discussions and open consultations with various stakeholders.

Among the Forum's 150 sessions, the 'Capacity Building Developing National e-Skills for a Knowledge Society' session was considered very successful, accommodating nearly 75 attendees from all over the world. There were on-site attendees, as well as remote participants.

The recommendations of the WSIS Forum 2013 will be presented to the UN General Assembly and ITU Council.

Key issues in appropriating ICT for local benefit
- Government must lead
- Industry is key for innovation but requires clear goals from government
- Corporate Social Investment (CSI) is a thing of the past in socially appropriating ICT for local benefit
- No need for more isolated projects focusing on penetration only
- Impact assessments are needed, not measuring inputs and outputs
- Appropriate budget and collaborative investment for scalability and sustainability at the outset are vital

NDP Priority Areas supported by NeSPA 2013

Pillar 1: Unite around a common pillar to fight poverty and inequality

Pillar 2: Active citizenry

Pillar 3: Inclusive economy

Pillar 4: Build capabilities

Pillar 5: A capable developmental state

Pillar 6: Leadership throughout society to work together to solve problems

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- Follow us on Twitter: #eskillsSA2013

Building capabilities within the South African context
Building capabilities and uniting around a common pillar to fight poverty and inequality

The National Development Plan-Vision 2030 (NDP) considers building capabilities a strategic element of developing South Africa. Part of this is building e-skills.

While global examples of national e-skilling programmes present various solutions, South Africa has learnt that culture and environment are instrumental to success and that global solutions need to be tailored to the South African context.

When working in rural environments, unique challenges are presented. That e-skilling moves beyond technology focusing on the transfer of skills and knowledge allows for innovative solutions to training e-skills in South Africa.

The e-skills programmes also must address South Africa's needs. A particular focus is that of e-entrepreneurship (or cyberpreneurship) and proof of concept courses are already in phase two. Entrepreneurship is seen as an integral part of building SA's economy.

Developing e-entrepreneurship in rural communities
On 23 April 2103, the Creative New Media Industries CoLab, Gauteng, held a multi-stakeholder workshop and e-entrepreneurship graduation ceremony.

Fourteen students graduated from the second proof of concept e-entrepreneurship course conducted at the Siyabuswa community centre. The group included eight women and seven men, all from rural Siyabuswa in Mpumalanga.

There have been valuable lessons learnt regarding conducting proof of concept at rural centres:
- The technology is not reliable and keeps failing so trainers cannot rely on technology. For example, the internet – which is critical for participating in the information society – rarely worked and if working was slow. This is despite the existence of good infrastructure. Internet access in rural communities is a challenge.
- Quality control is more difficult. It is possible to transfer training skills to facilitators in the rural areas and there is a language advantage and new job opportunities. Nonetheless, there is an added necessity to operationally manage the skills transfer (quality control). This shows the importance of the e-centre manager course and the key role that smart community centre managers will play as a local promoter of e-skills in his or her geographic area.
- It is better to spread the training over a number of weeks but not more than five weeks. If rushed within a short space of time, the skills are not learned. If spread over too many weeks, the delegates lose interest.
- Fast internet access is possible using cellular providers. This is, however, expensive.
- The delegates are keen to acquire their own mobile devices, particularly laptops.
- Many of the delegates own smartphones but are not aware of the phones capabilities.

Promoting SA new media skills
To promote new entrants in Creative New Media Industries, Simphiwe Phakula, top of his class and a 2012 graduate in the Animation, TV Production, Radio Production and Design Foundation, will be attending the Annecy Animation International Festival with the South African delegation and its 'Focus on South Africa' event and stand. (The 2012 graduation was held on 18 May 2013.)

The South African delegation will be focusing on:
- Legitimising the South African animation industry on the world stage.
- Giving South African film, TV and new media animated producers exposure to progress their productions.
- Educating South African and foreign production companies on the co-production opportunities that South Africa offers.
- Continuing to build bridges and exchanges with France.

Collaboration
The e-skills model of multi-stakeholder partnerships and collaboration can be seen in numerous ways. Collaboration between universities has not been the norm until recently and the e-skills multi-stakeholder network provides the opportunity and guidelines to promote this essential process. A recent example was the ramping up of the e-literacy course to run in two provinces.

e-Literacy massification
The Knowledge-based Economies and e-Social Astuteness (e-Literacy) CoLab, Southern Gauteng/Northern Cape, has been running proof of concept e-literacy courses. The success of these courses has meant that the CoLab can now massify e-literacy across the country.

Currently, the other CoLabs have identified areas of opportunity, facilitators and target audiences in terms of going forward.

CoLab thematic areas
Western Cape CoLab: e-Inclusion and social innovation
KZN CoLab: e-Enablement of Effective Service Delivery
Eastern Cape CoLab: ICT for rural development
Gauteng CoLab: Creative New Media Industries
Limpopo CoLab: Connected Health
Southern Gauteng/Northern Cape: Knowledge-based Economies and e-Social Astuteness (e-Literacy)

Developing awareness around e-skills
Creating an active citizenry

One of the functions of the provincial CoLabs, as well as an action point in the National e-Skills Plan of Action 2013, is the building of awareness around e-skills and the aligned national and provincial activities.

Awareness is critical but first the groundwork must be laid for the aligned activities and organisations involved. In other words, an integrated and clear 'product and service' needs to exist. This is an interesting position for a multi-stakeholder engagement model such as that of the new entity (comprising the e-Skills Institute, NEMISA and ISSA).

While integration of the new entity is a process, each component carries its own history of activities. So how does one create awareness around an e-skills agenda and a new entity which is currently in process? The solution is to do it incrementally so that awareness grows along with the new entity. An example of this is the work done by the provincial CoLabs. Within their provincial areas, consistent work has been done to engage stakeholders and create awareness around e-skills activities and the benefits thereof.

The e-Enablement of Effective Service Delivery CoLab,

"The solution [when a new entity is in process] is to [create awareness]... incrementally so that [it] grows along with the new entity."

KwaZulu-Natal, as a case in point, has consistently appeared in media regarding its e-skills initiatives. This has ranged from articles on the Durban University of Technology website to provincial and local newspapers.

Another strategy has been to take workshops into the public arena, such as the 'Safe Internet for Parents' presentation that assists parents with creating awareness in their children around internet security threats. A recent presentation was held on the 6 May 2013 with an additional presentation to be held on 8 June 2013.

Standardisation for massification
Building capabilities

Given the challenges that emerged out of the proof of concepts across all five thematic areas, a workshop on instructional design was hosted from 27-29 May 2013. It is important to create a single standard for instructional design to be able to deliver e-skills capacity specifically targeting deep rural and rural communities.

The course was facilitated by Dr Carlos Villanueva, Director of the Virtual University at Tec de Monterrey in Mexico. Tec de Monterrey is a privately-funded nonprofit university that reaches over 100 000 students. It comprises of a bricks-and-mortar university with 31 campuses and a virtual University that spans 23 countries. The objective of the virtual university is extending education without geographic limitations.

Participants at the instructional design workshop facilitated by Dr Carlos Villanueva, Director of the Virtual University at Tec de Monterrey

Technology trends

Following are the technology trends for the next three years, as defined by Gartner:
- Increased use of mobile devices in everyday life and greater use of tablet devices for work and business
- Mobile-centric applications and interfaces are considered as one of the top strategic technology trends
- Context-aware computing and social media are increasingly transforming the user experience
- The Internet of Things – a 'network of networks' (eg networks across commerce, business, transport, education etc connected to each other and networks of people using social media)
- The use of Application (App) Stores in business and in the marketplace (eg supporting the notion of Bring your Own Device – BYOD)
- The next generation of Advanced Analytics: predictive, collaborative and pervasive
- Big Data, including Open Government Data
- In-memory computing, which emerges from the converging evolution of memory technology, system architectures and enabling infrastructure software
- Extreme low-energy servers that are greener than traditional servers
- Cloud Computing as the main enabler of corporate and public organisations

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

education
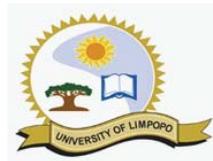
government/South Africa

civil society

business

global developmental partners

Kenya

Rwanda

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

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