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e-skills institute
newsletter

e-Skills Institute

e-skilling the nation for equitable prosperity
and global competitiveness

Edition 11, February 2013

GO DIGITAL

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.

NeSPA 2012-14
Aggregation for impact

Following on from the national e-Skills Summit held in October 2012, the National e-Skills Plan of Action (NeSPA 2012-14) is now ready for public comment. It advances the base laid by NeSPA 2010 and continues to be aligned to the National Development Plan of the country and to the Millennium Development Goals.

Recommended actions include: e-social astuteness; increased collaboration, integration and aggregation; a funding mechanism; a changing education environment and community learning centres, among other actions for impact.

Alignment to NDP
NeSPA 2012-14 recognises and valorises the premises of the 'National Development Plan – Vision 2030' (NDP). The focus is on building capabilities – particularly within ICT – as the core of developing increased equitable prosperity and global competitiveness.

e-Social astuteness is essential
NeSPA 2012-14 recognises that any sustainable approach to addressing poverty, and in building self-reliance, self-respect and a more cohesive society, cannot be achieved without the social appropriation of ICT for local benefit. It is essential to build an ICT-related astuteness (e-social astuteness) across the full spectrum of South African society: as consumers, clients, customers, entrepreneurs, businesses, workers, learners, communities and families. e-Social astuteness, an integral part of e-skills capacity development, moves beyond getting people to merely use ICT devices.

Greater coordinated national skills building
The Word Economic Forum Global e-Readiness 2012 rankings show that South Africa has dropped from 47th (2007) to 72nd place (2012). The report identifies a lack of appropriate skills as a major contributor. Although South Africa has applied genuine effort to dealing with the challenge, other nations have applied a greater coordinated national effort. They have also made e-skills a national priority in dealing with inequity.

Technology for equitable prosperity
ICT devices and technology offer much with ongoing innovation, including providing a vision base that overcomes impediments of language, literacy and creativity. This heralds much for developmental states; however, without national leadership and intervention the natural tendency of this new technology is to scale into elite areas of decision making that increase inequity and thus poverty.

Internationally-recognised model and planned approach
NeSPA 2012-14 provides the model, identifies a planned approach, and calls for the emergence of a national entity that commands the support, resources and respect of all government departments, state-owned enterprises, business, education, civil society and organised labour.

The approach has been informed by an in-depth investigation of approaches used in both developed and developing countries. The model has also been developed and tested across stakeholders since 2008 and was endorsed by the ITU Global ICT Forum on Human Capital Development (Cape Town, October 2012) and recommended for adoption by the 55 nations in attendance.

Integration, aggregation and collaboration
NeSPA 2012-14 provides the means for a single point of entry for national and international interactions. This allows for the building of e-social astuteness across the full spectrum of society. It calls for and provides the approach for integration, aggregation and collaboration "within and

> **Recommended actions include: e-social astuteness; increased collaboration, integration and aggregation; funding mechanisms; a changing education environment and community learning centres, among other actions for impact.**

across government, the private sector, education and civil society" in e-skilling South Africa.

Funding and resources
NeSPA 2012-14 recognises the need for a mechanism to ring fence and second resources into a new vehicle. This will provide the means for all agencies to better align their efforts in building a societal e-astuteness that is essential to achieving success in any developmental agenda in the 21st century.

Community-aligned education environment
NeSPA 2012-14 recognises that the environment surrounding education, particularly higher education and training, is irrevocably changing. Furthermore, the government must provide the mechanisms for education to be more directly aligned to and engaged with community in ways that can deliver on the goals of the NDP. This includes new vehicles at universities for embedding ICT into every facet of South African life.

Mandated integrated approach to community learning e-centres
A myriad of existing e-centres and community e-learning centres have been established by government, private enterprise and civil society. NeSPA 2012-14 recognises the need for these centres to be aggregated into a system that provides a collaborative focus and leadership support in ways that harness the best knowledge directly into local development.

NeSPA 2012-14 available for public comment
Access the document at www.doc.gov.za. Deadline for written comment is 26 March 2013.

Adequate skills base fundamental to economic growth

South Africa's skills shortage not only impacts on economic growth, unemployment and inhabitants' living conditions and opportunities but has been cited as a deterrent for foreign investment. An adequate skills base is fundamental to an enabling business environment.

Globally, economic trends show a move from an agrarian economy (where unskilled labour is required) to a knowledge economy (where highly skilled workers are core). There are touch points along the way, such as the envisioned near-future demand for more semi-skilled labour within South Africa as South Africa moves to a knowledge economy. On a longer-term basis, it is imperative to prepare learners for jobs that may not even exist currently. (To be noted is that knowledge economy jobs cannot exist without multiple levels of e-skills.)

Across South Africa, provincial governments are preparing themselves to address the skills shortages. Recently the Premier's Council on Skills (PCS) held its provincial skills forum on 12 February 2013. This was chaired by Western Cape Premier, Helen Zille. The Western Cape e-Skills Knowledge Production and Coordination CoLab was invited to participate.

The PCS comprises representatives from government, higher education institutions and business, with the responsibility of providing leadership and direction. It works to identify skills gaps in high-growth potential economic sectors of the Western Cape economy, and to foster multi-stakeholder partnerships that drive demand-led skills development to meet the needed skills. The intention is to define an agenda for producing the needed skills.

The workshop is a follow up on the plans and commitments from the previous PCS meeting held in July 2012. The emphasis was on areas such as the green economy and the oil and gas sector.

At the Premier's Council on Skills - Western Cape

Developing the creative economy

With the recent announcement that there will be increased government funding to further education and training (FET) students – to the amount of R2bn – the focus is now on these institutions. As noted by President Zuma on a visit to Tshwane FET College, FET colleges play an important role in training essential skills demanded in the workplace.

One of the key areas that the e-Skills Institute focuses

Multimedia training for FET lecturers

on, in collaboration with Higher Education and Training, is that of multimedia training. Creative Industries and New Media have emerged as strategic areas with the potential to strengthen the economy and combat unemployment.

Enabling multimedia FET lecturers

Twenty-one FET lecturers underwent multimedia training from 14-18 January 2013. The goal was to enable lecturers to facilitate and assess multimedia subjects. Multimedia is a dynamic field where participants need to be trained annually as new software is generated.

Multimedia is offered as an optional subject to ICT students at the FET colleges. Focus areas range from the use of multimedia devices to developing multimedia content with training in Adobe Creative Suite, website design and development, art direction, editorial design, digital storytelling, 2D and 3D animation and sound and video production and editing. This is the first year that levels 2, 3 and 4 are offered in tandem.

Participating FET colleges
- College of Cape Town, Western Cape
- Capricorn FET College, Limpopo
- Coastal KZN College, KwaZulu-Natal
- Ekurhuleni East College, Gauteng
- Elangeni FET College, KwaZulu-Natal
- Flavius Mareka FET College, Free State
- Nkangala FET College, Gauteng
- Orbit College, North West Province
- South West Gauteng College, Gauteng
- Vuselela FET College, North West Province

Using the education value chain for greater entrepreneurial impact

The national target is to e-skill 10 million South Africans over the next three to five years. To achieve this, a collaborative framework needed to be developed, one that is geared for greater impact rather than 'single drop' interventions with limited impact. The e-Skills Institute, with its multi-stakeholder partnership model, is the result of national and international discussion to create this framework.

Collaboration for entrepreneurial growth at grassroots level

The recent course run by the Gauteng e-Skills Knowledge Production and Coordination CoLab, based at the University of Pretoria, is an example of the multiple levels within this model. The focus of the course is e-skills for entrepreneurs – targeting an important sector of the economy and one that has been highlighted by national government as having the potential to drive the South African economy

Organisers for the e-entrepreneurship training programme

forward. E-entrepreneurship is the CoLab's specific focus with further emphasis on creative industries and new media, including mobile application development.

The course is being run in partnership with the Council for Scientific and Industrial Research (CSIR), with the CSIR contributing the cyber security component. Collaboration on multiple levels – government, civil society, education,

business and global partners – is essential for the e-skills agenda to be aligned to national goals and to have greater significant impact.

From the bottom up

The course will be run at the Smart Community Knowledge Production and Coordination Centre, Siyabuswa, in partnership with Siyabuswa Education Improvement and Development Trust (SEIDET). Seventeen community entrepreneurs will be trained, up skilled and re-skilled. Working at a grassroots level, responding to the specific needs of those within the community, is another internationally-endorsed framework that has been shown to have increased impact.

The course is being administered such that there is transfer of skills to SEIDET. This falls into the train-the-trainer model, where impacting significant people within the community leads to a ripple effect as they then train others.

The e-entrepreneurship training programme intends to create an enabling learning digital environment for entrepreneurs and trainers to thrive in the knowledge age. It runs from 16 February 2013 to 25 May 2013 in weekly four-hour training periods and covers areas such as basic computing concepts, email, Web 2.0 (social media, smart phones, online shopping etc), mobile apps, MS Excel, MS Word, MS PowerPoint and MS Project.

e-Skills for participation and advancement

The course topics highlight the nature of e-skills. It is not enough to have access to the surrounding technology but empowered individuals need to be able to use and develop ICTs to actively participate and advance within business and society.

Trans-disciplinary learning at innovation application factories

There has been a key shift in learning with the advent of trans-disciplinary studies. Rather than focusing on traditional paths that lead to specialised disciplines, the movement is now towards using a wide range of specialisations to tackle challenges. The iOS boot camp held at the Western Cape e-Skills Knowledge and Production CoLab is a case in point.

Pilot iOS boot camp

The Western Cape e-Skills CoLab, through its innovation application factory and in collaboration with the University of the Western Cape (UWC) and industry stakeholders, has embarked on the process of further nurturing ICT talent and increasing the e-skills pool.

Eight UWC lecturers and senior students participated in a three-day train-the-trainer course in iOS development, sponsored by the Core Group. This has now led to the first cohort of UWC students participating in a home-grown iOS-

development boot camp during the last week of November 2012. Twelve students from various disciplines (Computer Science, IS, Law, Biotechnology and Geography) were selected from almost 130 applications for the first pilot, with seven students completing the program. The training was facilitated by Dr James Njenga, Mr Grant Hearn and Mr Johan Breytenbach.

The boot camp covered key aspects of iOS with the view to creating applications for Apple's iPod touch, iPhone and iPads. Going forward, capacity-building initiatives will include the development of skills in innovation, entrepreneurship and understanding competitiveness within business.

Train-the-trainer course in iOS development

Debating issues around e-skills

One of the primary functions of the provincial e-skills CoLabs is to engage thought leaders within business, government, academia and civil society with respect to promoting the e-skills agenda of social appropriation of ICT for local benefit. In light of this, the Western Cape e-Skills CoLab, based at the University of the Western Cape, held a 'Demystifying e-Skills' public colloquium on 23 November 2012. The theme was 'Why should business, government, academia and civil society take e-skills seriously?'.

The colloquium was co-sponsored by the University of the Western Cape and 78 people attended, representing business, academia, government (provincial and local) and civil society.

'Demystifying e-skills' presentations

The half-day colloquium included presentations on:
- 'e-Skills: more than technical skills. A key 21st century competency?' by Luci Abrahams, Director: LINK (Wits)
- 'e-Skills for successful roll-out and uptake of e-government services' by Hilton Arendse, Chief-Director: Strategic ICT Services in the Department of the Premier: Western Cape
- 'E-solutions – overcoming barriers to reading and learning' by Mignon Hardie from The FunDza Literacy Trust

Unpacking the core concepts

There were a number of core concepts that came out of the presentations.

Currently South Africa's e-skill gaps are large, and innovative ways must be found to redress matters. The relevance and appropriateness of e-skills need to be understood within a South African context, which includes recognising the country's transition from a services-based economy to a knowledge-based services economy.

It was recognised that ICT is perceived as a luxury commodity on the African continent as opposed to essential services. There is also disproportionate investment in skills development versus infrastructural development.

There is a lot of potential that can be exploited within the e-skills arena. Examples included new economic sectors through digital transmission media.

Policy regulation is critical with regards to influence and reach in creating a new ecosystem. This includes establishing affordable and equitable access across South Africa and the continent. Applicable legislation will also need continuous review and adaptation. Planning, information security and bureaucratic structures need to be reviewed in line with the changing environment.

Within the context of an e-government strategy, citizens need to be appropriately informed and empowered to use e-services to their best advantage. Strategies should include investigating ways to best serve citizens.

Taking into account that 64% of South Africans are not able to use the internet currently, it raises questions about where the responsibility lies in redressing this dire situation. Positioning South Africa as a digital economy or information society requires investigating – and an understanding of – what it will take as a nation to get there.

Panel discussion

The panel discussion focused on the colloquium theme. Ultimately more questions were raised with the recognition that there is a need for ongoing debate and consideration regarding e-skills.

Thought leaders need to operate strategically and find effective ways of driving the e-skills agenda to develop a new culture and ecosystem. Universities have a critical role to play and need to investigate their position in terms of moving the e-skills agenda forward, and this includes considering e-skills provision within an effective research, teaching and learning framework. The notion of 'e-readiness' also needs to be investigated further as it has implications across all stakeholder groups.

The issues around e-skills and understanding the notion of e-skills need to be taken into broader society and to other stakeholder groups – advocacy is becoming more and more important. A consolidated colloquium report with recommendations to move forward is being finalised.

The e-skills knowledge production and coordination CoLabs – core focus areas

The scope for delivering on the e-skills agenda is large. To ensure development is aligned with national goals, the five provincial e-skills knowledge production and coordination CoLabs each have a core focus area:
- The Western Cape e-Skills CoLab targets e-inclusion and social innovation.
- The Gauteng e-Skills CoLab focuses on e-entrepreneurship, creative industries and new media including mobile application development.
- The Southern Gauteng/Northern Cape e-Skills CoLab looks at knowledge-based economies and e-astuteness.
- The KwaZulu-Natal e-Skills CoLab focuses on e-enablement of government services.
- The Eastern Cape e-Skills CoLab concentrates on ICT for rural development.
- The Limpopo e-Skills CoLab focuses on connected health.

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South Africa to Africa
The e-enablement of government services

The aim of the e-Skills Institute (e-SI) is to increase the capacity of e-skills in the country, and this includes the e-enablement of government services. A targeted intervention, the e-enablement of government services looks at increasing the capacity of all three tiers of government with the effective use of ICT for service delivery that is developmental, agile, competent and citizen-centric.

The task is to train, upskill and re-skill government employees at national, provincial and local level. This will allow for, among other outcomes, a comprehensive perspective towards e-enablement, a strengthening of processes through technology, and an arena to reflect on the role of government structures within a knowledge society.

For national and continental impact
In October 2012, the KwaZulu-Natal (KZN) e-Skills CoLab launched its online certificate course in e-enablement for government service delivery. The course – aimed at middle and junior management level – was piloted to BTECH Public Management students at the Durban University of Technology (DUT) where the CoLab is based.

The course is now being implemented as part of the Public Management syllabus with 66 new BTECH Public Management students. Future developments will see it certified as a stand-alone course.

A separate certificate will allow for national rollout and thus for national impact. However, the course is being fast-tracked for delivery across the African continent. The e-SI is currently in discussions with the World Bank regarding this matter.

With mobile access growing at a rapid rate across Africa, the mobile learning environment has become a critical route to providing access to learning content. Innovation around the 'e-enablement for government service delivery' course includes its mobile nature as learners can access content through any device with internet access and the ability to

> **Some outcomes of the 'e-enablement for government service delivery' online course – module 1**
> - Explore the advantages and risks of electronic communication
> - Understand the benefits and risks of cloud collaboration and functionality
> - Evaluate the relevant costs and savings of online collaboration and meetings
> - Examine and assess the technological implications of moving to an e-service environment
> - Identify challenges to using e-services
> - Interpret the implications and complexities of locally relevant e-services
> - Examine the key components of Gov 2.0

upload content – it does not have to be a smart phone. The learning management system (LMS) is also interoperable with other LMSes such as Moodle.

Focus on Public Management students
BTECH Public Management students follow a career path into government and are consequently one of the core target groups. The full course consists of two modules and is 60 hours long. It uses a blended learning approach but it is predominantly conducted online with the only the first session face to face.

Equipping public service with e-skills
The 'e-enablement for government service delivery' course focuses on equipping public service managers with the relevant knowledge, skills and tools to deliver effective e-service in government. Learners are also exposed to policies for e-governance, cyber laws and good practice approaches, as well as tools and techniques widely used for managing e-government. The role of ICT as an enabler for structural and process changes in government and public services organisations is emphasised.

Multi-stakeholder collaboration
Various stakeholders were instrumental in developing course content. These include about 80 municipalities, as well as academia such as the University of KwaZulu-Natal (UKZN), DUT and UNISA. Learners' needs were identified through a range of activities including stakeholder consultation. The draft syllabus has been benchmarked against examples from the UNDP and India.

Towards a more inclusive and equitable society: e-social astuteness

Types of literacy
- Computer literacy can be broadly defined as the knowledge and ability to use computers and related technologies competently, and ranges from elementary to high level.
- Information and media literacy can be defined as the ability to know when there is a need for information and to be able to identify, locate, evaluate, and effectively use that information.
- Digital literacy refers to the ability to identify, locate, organise, understand, evaluate, analyse, re-interpret and apply information using digital technology. It involves a working knowledge of current technology and an appreciation for how it can be used within various contexts.
- Broad-based literacy includes not only the decoding and comprehension of text, but the ability to access, analyse, evaluate, communicate, and use information to solve problems and create new knowledge.

The concept of e-literacy is a fairly new one. It is a development from the understanding around other types of technological and functional broad-based literacy. (See box.) This broader vision better addresses the needs and realities of youth and adult literacy learners, and users within communities that can generate, share, and use knowledge for the benefit of all. The broadest vision of e-literacy involves empowering every individual to become an active member of the emerging information society.

The notion of e-literacy is inextricably tied with that of e-social astuteness. In part, it refers to citizens having knowledge about location and consumption of information as well as about the production of information.

Defining e-literacy
e-Literacy can be defined as a vertical and horizontal progression process where the vertical level of skills/ competence include:

- Identifying and obtaining the basic skills
- Acquiring the necessary information
- Processing skills (extracting information)
- Analysing/interpreting the information
- Application of the information and skills

Pilot e-literacy courses
The Southern Gauteng/Northern Cape (SG/NC) e-Skills CoLab has run four pilot projects on e-literacy. All started in early November 2012 and ran for about five weeks. Two were conducted at the SG/NC e-Skills CoLab and one at Groenpunt Correctional Services. Another course was run in Upington.

The pilot course is around 40 hours and contains face-to-face learning. It currently caters to 63 learners and predominantly covers module one of the total course. The focus is on basic e-literacy but later modules cover e-entrepreneurship and mobile technology.

The overall focus areas include strengthening community structures, entrepreneurship, pathways to opportunities and increasing employability. Soft skills, such as problem identification and developing group work, are also an important element.

The learners were sourced from communities in the surrounding areas, as well as staff at Groenpunt Correctional Services. The course has been created with multi-stakeholder input including the relevant municipalities, teacher councils, the Northern Cape Provincial Government and UNISA.

Initial feedback is that the content could be too theoretical for some of the learners due to their broad-based literacy levels. Written take-home materials appear to consolidate learners understanding. Future developments being considered include an online version that will allow for a more practical national rollout, as well as the use of lecturers from community structures. The model will also use train-the-trainer methodologies to ensure a more rapid scaling for national impact. Once the course is complete, a proper analysis will be conducted.

e-Literacy course at Groenpunt Correctional Services

e-Literacy course at Upington

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e-Innovation for local benefit

The hackathon is becoming more popular and is seen as a relatively quick way to transfer e-skills while at the same time working towards solving key challenges within society. It also allows for stakeholder engagement with mobile companies and other organisations, and a method of creating employment within the ICT sector.

In her speech at the Innovation Africa Summit, Ms Dina Pule, the Minister of Communications, noted that "innovation is at the centre of engendering successful change in addressing major issues, whether they are societal, technical, scientific or commercial". She also said that it is important to create structures that support innovation. The hackathon fits within this paradigm.

Key to mobile apps development is the focus on development for local benefit. Currently the majority of app development occurs outside the country and does not necessarily relate to the country's needs nor fit appropriately within the social context.

Mobile devices are becoming increasingly important across the African continent and 'The Department of Science and Technology Ministerial Review Committee on the Science, Technology and Innovation Landscape in South Africa – March 2012' points to the role they play in

mobile apps being developed.

Gauteng e-Skills CoLab Mobile Technology Hackathon

On 20 November 2012, the International Conference on Appropriate Technology (ICAT) hosted a workshop on uses of mobile computing and telephony devices in appropriate technology work. Multiple examples were given of how this technology is being used to empower people in areas such as community planning, agricultural economics, public transportation and natural disaster response.

The Gauteng e-Skills CoLab participated in the workshop which included a brainstorming session around new projects and applications. Examples of proposals include:

- A security alerts service, updated in real-time, where people can subscribe to find out which areas to avoid
- A pest infestation service created as a rapid warning system to farmers
- A 'Know Your Rights' application that provides mobile access to laws and people's rights
- A context-appropriate architecture guide that serves as a knowledge base/portal for those who are

Left: Hackathon at the Gauteng e-Skills CoLab Blackberry Innovation Lab
Right: Winners of the KwaZulu-Natal (KZN) e-Skills CoLab Microsoft Hackathon
Below: Vodacom apps training at the KZN e-Skills CoLab

digital inclusion and social innovation. Consequently the trend for hackathons creates an ever-increasing movement towards e-innovation for local benefit.

The KZN e-Skills CoLab hackathons

The KwaZulu-Natal e-Skills CoLab hosted one app development workshop (Vodacom) and one hackathon with the intention of developing e-skills further within the country. In both cases, students and staff at the Durban University of Technology were involved.

The Microsoft Hackathon took place from 3-5 August 2012. Microsoft trainers conducted app development training and then participants developed Windows mobile apps. Twenty-two apps were developed in total. These were then judged and Nokia cellphone prizes given.

The winners were:
- 'Jetfighter' mobile app game by Mzolo Nkosi
- 'Time Table' by Siyanda Zulu which manages student timetables
- 'Sky Connect' by Luxolo Tombela which allows users to save phone contacts in the cloud

The Vodacom apps training workshop was held in April 2012. This two-day workshop resulted in a number of

not native to the area in which they are building. It would provide a catalogue of building materials and best methods in a particular area, as well as applicable regulations.

The follow up to the workshop was a hackathon that took place from 23-24 November 2012 at the Gauteng e-Skills CoLab Blackberry Innovation Application Lab, based at the University of Pretoria. It was co-organised by UNISA. Attended by developers and technologists from different countries, such as South Africa, Kenya, and the United States, apps brainstormed at the workshop were then developed collaboratively.

Innovation within collaboration

Students from the postgraduate course in Information Technology Infrastructure and Application Management

One of the recommendations from the e-Skills Summit 2012 was to 'think outside the box' as a response to the e-skills challenges that face South Africa. This has been an ongoing thread in the e-Skills Institute collaborative initiatives.

The postgraduate course in Information Technology Infrastructure and Application Management is developed and presented by the Department of Information Systems at the University of the Western Cape (UWC) and the Western Cape e-Skills CoLab. The post-graduate diploma is coordinated and managed by CapaCITi1000.

The course is part of a unique industry demand-driven multi-stakeholder programme that fast-tracks and up-skills unemployed graduates with a focus on previously disadvantaged candidates. One of the aims is to increase employment within ICT-related areas thus adding to the e-skills pool. The idea is to develop and place entry-level ICT talent, unemployed people with IT experience or training, and graduate-level individuals who would like to work in the ICT industry.

Not only does the programme align with industry need but companies are integrally involved in course development as well as finding solutions to requirements.

An example, in this case, is that Shoprite supplied the students with 25 laptops.

Industry-focused learning

Modules cover business-related topics, such as principles of ICT in business and ICT innovation. There is also practical workplace experience and a mini-research project/final thesis. Instruction takes place within authentic contexts and collaborative methodologies, such as team learning, are used.

Another component of the course is the value of green information systems. This involved attending a two-week practical session at JustPC (e-waste company) where students learnt practical knowledge about asset recovery, eco-friendly e-waste disposal, data sanitation, imaging and low cost computer sales. Further involvement by JustPC included employment of some of the learners and establishing a business community centre.

From mentoring to employment

There were video conferences and mentoring sessions with international industry professionals, such as specialists from Ericsson in the USA. Learners also attended a pitching event to prospective employers as part of finding ways to increase employment among the student pool.

Feedback from the industry partners is very positive and it is clear that the students were, from the onset, able to make concrete contributions to their hosting companies. Seventeen students participated in the course and most of them have already found employment.

This group was guided by Prof Louis Fourie (Head of Department), Mr Walter Uys (convenor and educational design) and Mr Felix Olu Bankole (facilitator). It has been a successful initiative as CITi1000 and industry are preparing for the second intake.

Technology to lower costs

The KwaZulu-Natal (KZN) e-Skills Knowledge Production and Coordination CoLab was invited to participate in a project coordinated by the UNDP to develop e-democracy. In November 2012, the coordinator, Colin Thakur, was commissioned to undertake an international study of voter registration systems, evaluating the use of technology in lowering costs.

The UNDP spent USD 1.2 billion in support of democracy in 63 countries since 1999. The use of technology in voter registration presents a way of eliminating ballot stuffing, and impersonation. An important contribution of this process is a direct input into national populations registers, helping countries to get a better knowledge of their population and its demographics. This underscores the progress of e-government and the march towards e-democracy. The experiences gained through this participation are of great value to not only the KZN e-Skills CoLab, but also to the e-Skills Institute and to South Africa.

> **Using technology with voter registration systems has the potential to lower costs.**

e-Skills CoLab to present at Independent Electoral Commission seminar on e-voting
To be held from 11-12 March 2013, the Independent Electoral Commission seminar's theme is `e-Voting: an enabler or disabler to strengthening electoral democracy?'.

Colin Thakur of the KwaZulu-Natal e-Skills Knowledge Production and Coordination CoLab will be presenting on an `Overview of e-voting – the cross-national experience'. This will entail a global description and analysis of electronic voting.

Deepening the multi-stakeholder network

Multi-stakeholder aggregation and collaboration provides a framework to coordinate effort and deepen knowledge, aptitude and astuteness at the local level. Part of the e-Skills Institute (e-SI) value proposition is increasing the stakeholder network within its collaborative model. This includes introductions to new networks and access to innovation and applications across the stakeholder base. It also means linking into university networks, both locally and internationally, which allows for assistance around developing approaches and research, among other advantages.

The provincial e-Skills Knowledge Production and Coordination CoLabs hold regular stakeholder meetings to ensure ongoing communication and to deepen integration with stakeholders. It is becoming more and more critical for stakeholders to engage regularly with the e-SI to develop aligned agendas and to move the country and continent forward in terms of equitable prosperity and global competitiveness.

Fourth stakeholder meeting
On 22 November 2012, the Gauteng e-Skills CoLab, based at the University of Pretoria, held its fourth stakeholder meeting with delegates ranging from industry to NGOs. The programme included a progress report from the CoLab and a presentation on the use of interactive e-books in schools.

The following stakeholder success stories were shared:
- Ahmed Ismael from Siyafunda CTC
- Dr Jackie Phahlamohlaka from SEIDET/Siyabuswa
- Chrisna Groenewald from Lesedi la Batho
- Blessing Mahlalela, a student from the University of

Pretoria, shared his involvement with the Gauteng e-Skills CoLab

The space initiated a number of discussions around working collaboratively between the various disciplines. The Gauteng e-Skills CoLab is looking at including this type of session as a regular feature in future stakeholder meetings.

MAD Challenge winners
Part of the programme included a prize-giving ceremony for the Mobile Application Development (MAD) Challenge 2012, an initiative designed to introduce grade 10 and 11 secondary school learners to mobile technology as a stimulator of entrepreneurial potential and interest in ICT as a career and study choice.

The following learners received prizes for best apps:
- First place: Brennan Buitendag (Hoërskool Gerrit Maritz) with 'Learners Test (2)'
- Second place: Tyler Hoffman and Unathi Chonco (Pretoria Boys High) with 'Live Music Guide'
- Third place: Kuda Maneta and Robert Focke (Pretoria Boys High) with BackUP. They tied with Llewellyn Strydom and Walter Smuts (Pretoria Boys High) with 'ToDoList'.
- Fourth place: Brendon van der Meijden (The Glen High School) with 'Learners Test (1)'. He tied with Nicola Wolfaardt and Annerie van Jaarsveld (Hoerskool Die Wilgers) with 'First Aid Quiz' (FAQ)
- Fifth place: Abel Sathekge and Banza Ilunga (Pretoria Secondary) with 'Brain Freezer'. They tied with Sameya Kabeya and Charity Maropola (The Glen) with 'How do you look?'

Towards ICT impact assessments

The e-SI's National Research Network for e-Skills (ResNeS) is a platform for multi-stakeholder collaborations on research that support the national e-skills agenda. Following are some of the proposed post-graduate research topics at the Gauteng and KwaZulu-Natal CoLabs:
- A process framework for transparent electronic voting
- An e-government framework for seamless information sharing
- An e-government service satisfaction evaluation
- The development of readiness measures of e-government
- How can mobile technology assist crafters in rural areas?
- Which ICT skills do we need to become internationally competitive in the film and animation industry?
- To what extent can mobile apps be used as a tool for service delivery (and/or socio-economic development) in South Africa?
- What is the impact of app stores on the economy in South Africa?

- How can the processes of innovation (creativity) from the creative industries and new media be introduced into entrepreneurship in South Africa?

Innovation application factories
The model of the e-Skills Institute involves the creation of innovation application factories that support local application development and innovation for learning, effective service delivery and new opportunities, with the focus on mobile and smart devices.

These app factories are aligned to a number of provincial e-skills CoLabs and bring together partners in education, business, civil society and government to share resources and address the real problems facing South Africa. The app factories operate as a space for e-entrepreneurial activity and the development of innovative applications for local impact to increase social appropriation of ICT and embed ICTs for the growth of South Africa.

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e-skilling the nation for equitable prosperity
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Creating community awareness
Towards e-social astuteness

The organisational model of the e-Skills Institute (e-SI) provides a provincial presence in the form of an e-skills knowledge production and coordination CoLab. These CoLabs (of which there are five so far and one in the process of being established) engage with stakeholders on a provincial and local level. Part of their mandate is to use methodologies that allow for grassroots interaction so that the key messages of the South African e-skills agenda are spread, engaged with and rolled out.

Community and stakeholder collaboration is essential in the multi-stakeholder model. This is not only for the development of the e-skills agenda but to create an awareness within communities about the possibilities that e-skills can bring. This is of particular importance in rural and peri-urban areas.

For there to be e-social astuteness, people need to have a motivator and some concept of what is possible. Consequently community outreach programmes have become increasingly significant within the e-SI agenda, promoting awareness and developing relationships.

SALGA EXCO meeting
The KwaZulu-Natal (KZN) e-Skills CoLab hosted SALGA's provincial EXCO meeting in November 2012. This operated as an important platform to market the e-Skills Institute activities with a particular focus on e-enablement for government services. Previous presentations have resulted in training. Liaison with the KZN Economic Development and Planning was established and a number of projects are planned for 2013 including further training around the online course.

Sebenza portal – increasing employment
The Sebenza portal (http://sebenza.org) was developed as an employment tool by the KZN e-Skills CoLab. It's a portal through which community members can offer their skills as services to potential employers, providing contact details and references. The portal also allows employers to rate the quality of work of the community member.

This innovative initiative talks directly to assisting with unemployment within South Africa but its influence extends far wider than that. It operates as a motivator to engagement with e-skills, providing a showcase for how e-social astuteness can assist individuals in solving problems and creating opportunities in their daily lives.

Its development arose from community need and direct consultation with grassroots organisations, as well as the Ugu Municipality. Currently the Ugu Municipality is populating the portal by assisting people who don't have the e-skills to engage effectively with the site.

The drive towards the upskilling of technicians for the installation of set-top boxes (with the anticipated conversion to digital TV), will be supported by the Sebenza DTT portal. People who receive the training will be able to register on the Sebenza DTT portal and the community can then source locally qualified technicians. This saves the technicians money and evens the playing field with the larger competitors who typically install DSTV and Top TV.

The portal is currently in beta version, however, stakeholders are encouraged to come on board.

Safe Internet for Parents
'Safe Internet for Parents' is a presentation that assists parents with creating awareness in their children around internet security threats. Topics include general security issues and ways of addressing these.

The intention of the initiative is to use municipal resources to provide civic education as happens with other social challenges such as nutrition, HIV-AIDs and drug addiction. It is an extension of adding value to municipalities so that they are perceived as information and knowledge providers, as well as providing a social layer to technology skills. It is also a method of promoting e-skills in rural and peri-urban areas.

The presentation is offered with the cooperation of local municipalities, who assist with venues and advertising, and there has been positive feedback including media coverage and interviews. Starting in September 2012, three presentations have been given so far. This is an ongoing initiative.

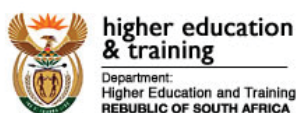*The KZN e-Skills CoLab hosted SALGA's provincial EXCO meeting in November 2012.*

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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.

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.