NeMisa NPC

National Electronic Media Institute of South Africa

e-skilling the nation

02

Newsletter

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What is an e-skill, exactly?

We read about e-skills but what does it mean? Are they skills around jobs with technology and computers? Or does it just mean knowing how to use a computer? Read more on p1

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Understanding e-skills

What is an e-skill, exactly?

The importance of e-skills – why everyone has to be part of the world of technology

We read about needing skills training in South Africa. Skills empower people to be employment ready and to start their own businesses and this contributes to the economy. However, what are e-skills exactly? Are they skills for technology jobs around computers? Or does it just mean knowing how to use a computer?

Q What is an e-skill?

An e-skill is more than knowing the basics of how to use a computer (computer literacy). While it's essential to be computer literate, the important question is: what can you do with that? **An e-skill means being able to use technology to actually do something – to actively take part in the world and move ahead.**

Real-life example of how e-skills are about using technology to actively take part in the world and move ahead

Consider Lindiwe. She is 20 years old and lives in Msinga, a deep rural area. She matriculated at a school in Msinga. She doesn't have any further education at this point because she doesn't have the money for it. She's unemployed and desperately looking for a job to help her and her family.

She has no computer or access to the internet – but she does have a mobile phone. Even if she did have internet access, she doesn't have the know-how at this point to make use of the technology to move ahead in the world. She isn't connected to the rest of the world.

Imagine if she could learn how to use technology….
- So she could make herself more employable, such as searching for jobs?
- So she could access information and share it – maybe to start her own business? Perhaps with local craft?
- So she could learn skills through online courses? There is a lot of education that is free and available online.
- So she could access government services online? Perhaps her family has the right to a government grant and they don't know about it.
- So she could find new ways of doing things? There is a whole world out there and people are sharing information on the internet that can be used for upskilling.

What is ICT?

ICT stands for information and communication technology.

Q Are there specific jobs using e-skills?

Pretty much every job in the developed world needs e-skills. This is because ICT has become a part of everyday life. An accountant needs to know how to use technology (computers and various programmes) for her job. A policeman needs to be able to submit reports and search online, for example. These days e-skills and technology are like water. You just can't live without them.

Q What does it mean that ICT has become a part of everyday life?

A large proportion of work uses e-skills. In fact, there are very few jobs that don't need e-skills. Examples include:
- A hairdresser using emails and searching online. She may even use mobile apps to remind her customers.
- A secretary needs to know how to use a computer and needs e-skills.
- A driver needs to know how to use GPS to show him where to go.

Beyond that, ICT is part of running the world. Think of the technology behind banking, such as ATMs and salary internet transfers into your account. There is technology that helps manage our water supply, the traffic lights on the road, aeroplanes, and much more.

Q Who is the target audience for e-skills development?

In short – everyone. This means South Africans from deep rural areas to urban areas. The world of technology operates at every level and is integral to everyday life. There are very

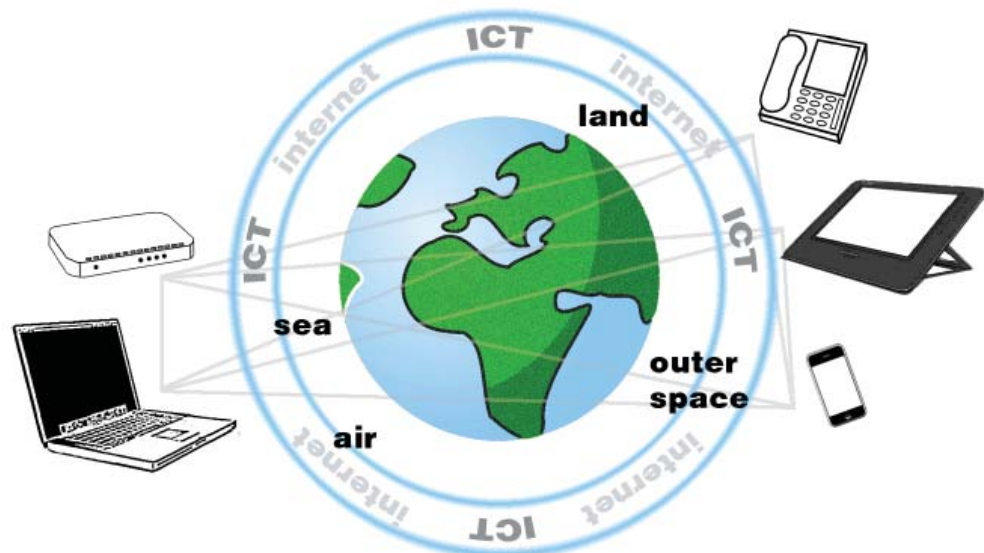### Article continued: What is an e-skill, exactly?

few places where we don't use technology. e-Skills (being able to use this technology effectively) are important on every level. Consider the following categories of users and their different levels:

Non e-literate communities (people who are not savvy with technology)	These people may know very little or nothing about technology. They need e-skills to help with employment and to improve their everyday life. This is particularly important for sections of the population that have been marginalised. This includes the elderly, the unemployed, unskilled youth, and women. They need to be included in the economy.
e-Users	These are people that need e-skills to do their jobs. (This doesn't mean people who are responsible for ICT, like the technicians who look after computers at the workplace.)
e-Practitioners	These are people whose job it is to work with ICT, such as developing solutions. There are hundreds of jobs that fall into this category. These include programmers, mobile app developers, website developers and database administrators.
e-Leaders	These are people who use technology to develop their organisations. They are using ICT as a tool and this group includes CEOs and CIOs. (The CIO, or Chief Information Officer, looks at the technology needs for the business.)

Entrepreneurs	Entrepreneurs are an important part of our economy and key to making it grow. It's essential they have the e-skills needed to run their businesses successfully, whether these are very small businesses or larger Entrepreneurs need to know how to use budgeting programmes, stock control programmes, how to market etc.
Government	The South African government is on a drive to have more efficient government services. This can be done using ICT. For example, a lot of government services can be provided through the internet. It's essential that people who work in government have the e-skills for effective service delivery.
The public	South Africans need to know more about what technology can do for them, even if they don't have e-skills or access to technology and the internet at the moment. This is in preparation for the broadband rollout. When the infrastructure is ready, people need e-skills to use broadband effectively. (Broadband means fast, always-on access to the internet.)

Q **What kind of person will be attracted to e-skills jobs?**
Anyone who wants to be part of the world and, most importantly, who wants to be employable or start their own business. ☺

The world of technology operates at every level and is integral to everyday life.

Training

Government training in public participation

Government delegates at the training for the Higher Certificate in Public Administration (Public Participation).

The KwaZulu-Natal e-Skills CoLab is running a Higher Certificate in Public Administration (Public Participation) qualification. It started on 11 August 2015.

The CoLab, based at Durban University of Technology (DUT), has partnered with the Ethekwini Municipality to deliver this particular qualification to various departments. The departments include Durban Solid Waste, Human Settlement, Community Participation, Expanded Public Works Programme, Water and Sanitation, Support Services, Disaster Management, Pools, Electricity, Safer Cities, Library and Development Planning.

"The programme is designed to create an understanding of the nature of community development and the critical

What is Public Participation?

Public participation is the process where an organisation consults with interested or affected individuals, organisations, and government entities before making a decision. (Public participation is sometimes called stakeholder engagement or popular participation.)

Some of the principles of public participation include:
- An open, accountable process where individuals and groups in chosen communities exchange views and influence decision-making
- Two-way communication and collaborative problem solving with the goal of achieving better and more acceptable decisions
- That those affected by a decision have a right to be involved in the decision-making process
- That the public's contribution will influence the decision
- A process that builds self-reliance and capacity through enabling individuals and communities to contribute to sustainable development

role of public participation in the process," explains Surendra Thakur, Director of the KZN e-Skills CoLab.

"The focus is on assisting individual employees to become more valuable resources for municipalities. This will serve all citizens, especially those who have been historically marginalised and socially excluded."

He notes that the general goal is the deepening and strengthening of our constitutional democracy through efficient and effective service delivery.

The KZN e-Skills CoLab mandate is the e-enablement of service delivery. This particular qualification aligns middle management e-skills with a greater understanding about public participation. It includes the necessary communication skills for the process.

Course length? It's a year-long course and there will be four groups with a total of 200 learners.

Type of qualification? This is a formal DUT qualification and is a higher certificate NQF level 5. It comprises both theory and practical skills.

Target audience? The target audience is municipal employees, ward committee members and councillors. "It's estimated that at least 600 municipal employees, ranging from Grades 7 to 11, will benefit," says Thakur. ☺

The provincial e-skills CoLabs

The provincial e-skills CoLabs are based at universities. Each has a focus on a specific area in e-skills:
- Western Cape e-Skills CoLab: e-Inclusion and Social Innovation, based at the University of the Western Cape
- KwaZulu-Natal e-Skills CoLab: e-Enablement for Effective Service Delivery, based at Durban University of Technology
- Eastern Cape e-Skills CoLab: ICT for Rural Development, based at Walter Sisulu University
- Gauteng e-Skills CoLab: Creative New Media Industries, based at the National Electronic Media Institute of South Africa (NEMISA)
- Limpopo CoLab: Connected Health, based at the University of Limpopo
- Southern Gauteng/Northern Cape CoLab: e-Literacy and e-Business (knowledge economy and e-social astuteness), based at the Vaal University of Technology

Training

e-Literacy training for VUT service workers

The Northern Cape/Southern Gauteng e-Skills CoLab is conducting e-literacy training for 50 service workers, including cleaning, maintenance and gardening workers at Vaal University of Technology. (VUT is partnering in the project.) This is part of the e-skills training of 10 million citizens as noted in South Africa's National Development Plan.

There was an information session for the delegates on 11 August 2015, where the Prof I Moutlana, VUT Vice-Chancellor, opened the session and made the announcement. The first group of 50 workers started on 24 August 2015 with orientation, where an e-skills, technology access and education assessment questionnaire was handed out and completed. The course will run to the end of November 2015.

Information session for the e-literacy training delegates.

First group of workers learning at the e-literacy course, Vaal University of Technology.

The delegates are divided into two groups, based on their previous computer skills, knowledge and their various departments. The programme runs for four hours per week. The next group should start in February 2016 and the third group in July 2016.

"There is a cross-section of ages and more than 50% of the participants have never used a computer," says Antoinette Lombaard, Acting Director of the NC/SG e-Skills CoLab. "The e-literacy course starts with teaching the basics – with the keyboard and mouse."

Beyond the standard e-literacy programme, there will also be a formal assessment. Learners who pass all the modules will receive a VUT Short Learning Programme certificate.

About the e-literacy programme: It is a 75-hour interactive training programme with five modules. It covers topics like operating a PC, Windows, file and folder management, Word, Excel, PowerPoint, internet and email.

Catering to the visually impaired and to learning disabilities: There are four different visual themes. These allow people who are colour blind, dyslexic and visually impaired to engage more easily.

South African context: The programme relates specifically to the South African market. South African examples, scenarios and characters are used. It also uses South African English and South African voice-overs.

Type of learning: Learners can work on their own or with a facilitator to guide them. There are interactive activities to promote self-paced learning. After every section, there is an interactive quiz which flags sections for review if necessary.

Standards: The training programme has been aligned to the SAQA NQF. It relates specifically to the 'End User Computing' qualification under the MICT SETA. In total 17 SAQA Unit Standards totalling 64 credits have been mapped, working from an NQF level 1 up to level 4. The assessment has also been accredited by the MICT SETA.☺

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Training

Promoting careers in ICT to high school pupils

From 13 to 17 July 2015, the Eastern Cape e-Skills CoLab participated in a pilot workshop to introduce programming to school pupils. This was in partnership with the Nelson Mandela Metropolitan University (NMMU) Department of Computing Sciences, the NMMU Education Faculty and the Young Engineers and Scientists of Africa (YESA).

The 16 pupils came from six high schools in the Port Elizabeth area. They attended the five-day workshop held at the NMMU South Campus in Port Elizabeth.

About the workshop
At the hands-on pilot workshop, students worked alone and in groups to create increasingly complex Scratch applications, to programme LEGO Mindstorms robots to follow specific routes, and to write simple C# programmes. The ability to perform such tasks meant the students had to use a number of crucial soft skills, like communication, collaboration, comprehension and problem solving.

What is Scratch programming?
Scratch is a programming language and an online community where children can programme and share interactive media (such as stories, games, and animation). As children create with Scratch, they learn to think creatively, work collaboratively, and reason systematically.

What is a TVET college?
TVET is an abbreviation for Technical Vocational Education and Training.

In addition to attending a demonstration of software projects created by university students, the pupils interacted with university students and were given a presentation on ICT-related careers.

The abilities and attitude of the students completely exceeded all expectations. In a post-workshop evaluation, the pupils expressed great enthusiasm and many indicated that they had changed their thinking that programming was only for certain people and that they were now considering IT as a career. There was also strong feedback that programming should be taught at primary and high school.

SA needs skilled software developers
Nationally and globally there is a desperate shortage of skilled software developers. At the same time, there is an exponential increase in the number of software applications being developed and needing development.

School pupils at the workshop to promote careers in ICT

In South Africa, software development or computer programming is offered as the national senior certificate subject called Information Technology in Grades 10, 11 and 12. (It was previously known at some schools as Computer Studies.) This should not be confused with the subject Computer Applications Technology (or CAT) which focuses on advanced computer literacy.

Statistics from the Department of Basic Education show that in 2014 only 4 820 students (out of a total of approximately 532 000), did Information Technology in Grade 12.

"While there are many reasons for this, the fact that 40 000 students did CAT in Grade 12 is an indication that a lack of access to computers cannot be the only reason students are not choosing to study IT at schools," says Lorna van der Merwe, Acting Coordinator at the e-skills CoLab. She says that one of the outcomes is that TVET colleges and universities assume students have no previous experience in programming when they enrol in first-year programming courses.

The EC e-Skills CoLab has a mandate to assist social and economic development in a predominantly rural province. Among other interventions, this is done by training youth in e-skills so they can use and harness technology (like software application development).

"By introducing programming to school pupils, we hope to stimulate interest and increase the pipeline of students who will study Computer Science (or equivalent) at TVETs and universities," says van der Merwe. "Our goal is also to work with the Department of Basic Education and others to enable primary and high schools and teachers to offer programming courses and ICT as subjects to pupils." ☺

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Training

South African delegation sent for creative new media skills training in China

Robert Bocking, a lecturer in Film and TV Production at NEMISA, went with seven other South Africans as part of 'The Year of South Africa in China 2015'. This is part of a programme for developing partnerships between China and South Africa. The group included people from academia and business, with a focus on film makers and graphic designers.

The course was sponsored by the Ministry of Culture of the People's Republic of China and the Tianjin National Animation Industry Park (China). It was a two-month course starting 1 August 2015 until 27 September 2015.

The time there was well spent with delegates participating in a game making and post production training course. "It was a good opportunity and we learnt a lot. We also saw amazing sites like the Great Wall of China," says Bocking.

? What is creative new media?
The creative industries include everything from craft, art and design to architecture, film and music. Creative new media means the new creative fields that have come about from technology.

Bocking said that the animation park has amazing facilities, like motion capture studios and green screen. They also run excellent programmes for Chinese locals and international people. The incubator hub offers free office space and training from professionals. He says that South Africa has the potential to have a greater impact in local mobile and TV content creation industries but that we need to look at how to use the model in a South African context. ☺

Robert Bocking, a lecturer in Film and TV Production at NEMISA, was part of a delegation that attended a game making and post production training course.

Some thoughts on visiting China
Robert Bocking, lecturer in Film and TV Production at NEMISA, trained in China on digital media. Here are some of his thoughts on visiting the country:
- "We ate interesting food, like donkey dumpling, and I'm now a chopstick pro."
- "It's vital in China to learn the art of negotiation – everything is about bartering and negotiation, even buying water."

Alumni profile

Meet Unathi Vilakazi, Broadcast Tutor and Assessor in NEMISA's Broadcast Department

Q Who are you and what do you do at NEMISA?
My name is Unathi Vilakazi. I'm married and have a five-year-old little girl. I work at NEMISA as a Broadcast Tutor and Assessor in the TV Production and Filmmaking and Radio departments. These are South African Qualifications Authority (SAQA) aligned skills programmes. I make sure that I use a variety of training methods to accommodate learners with specific needs and learning styles. At times, I do training outside of Gauteng as well as deliver presentations at various workshops for NEMISA. I'm also involved with preparing for NEMISA learnerships.

Q What other work do you do?
I do research for the University of Pretoria, University of Cape Town and Unilever Institute. I'm currently researching Izikhothane Lifestyle in South Africa, a project with the

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Article continued: Meet Unathi Vilakazi, Broadcast Tutor and Assessor in NEMISA's Broadcast Department

University of Pretoria in partnership with the Colorado State University.

I believe that with my age (36) experience and passion I have all the reasons to give back to the community. That is why I'm proud of working for Alex FM. I'm a news compiler and news presenter on 'Morning Glory Saturday Breakfast' from 6-9am. My father used to make me read news when I was seven – just like a newsreader and that made me fall in love with the news.

I joined the station as a programme manager in 2013. I saw a gap to cater to the future generation, also part of the requirements for a broadcasting license. I then initiated, produced and mentored an informative children's programme, 'Brave Minds', for the 10-16 age group. It won the Best Children's Programme in South Africa at the MDDA-Sanlam Local Media Awards in 2014.

Q How did you get to where you are now?
I started as an investigative journalist at Ikwezi newspaper in Kokstad in 2000. I then joined the local radio station UCRFM as the producer until 2003. This was in the Eastern Cape where I was born.

I came to Joburg and studied at NEMISA in 2004 in radio production (NQF 4). As the course was ending, the National Film and Video Foundation took me on as a researcher. I then worked for the Applied Broadcasting Centre (Ulwazi) as an educational radio producer dealing with HIV/Aids issues and conducting trainings in the community radio sector. Then it was onto working for Media Monitoring Africa where I travelled to Brazil to represent South Africa. We taught journalists how to focus on children's issues.

In 2011, I studied filmmaking at Big Fish School (NQF 5 – Documentary Filmmaking). It was a 10-month course and my final project was making a documentary on fatherhood. It was nominated and screened at the Silicon Valley African Film Festival in California in 2012.

I'm also a qualified facilitator, assessor and moderator (NQF 5 and 6). I have a certificate in computers from Walter Sisulu University and am currently doing a communications science degree through UNISA.

Q Some of your achievements?
Besides the documentary nomination, I was part of the team that won the Best Full-length TV Documentary Award, 2015 International Environmental Film Festival in Paris. I worked as the transcriber and translator for 'The Shore Break'.

Under my leadership, Alex FM won the Best Educational Talk Show, the Best Indigenous Talk Show, the Best Children's Programme and the Best Online Youth Programme 'Bigger Than Life' at the 2013/2014 MDDA-Sanlam Local Media Awards. The community station won the Best Hip-hop Weekend Show at the MTN Awards.

Q What are your plans for the future?
My plan is to study, equip myself with the latest technologies and new media. I also want to travel the world with my family.

Q What advice would you give to anyone going into your field?
Work very hard to achieve your dreams and goals. Plan, study, focus and never give up! I also want to talk about professionalism. We don't need this idea of African time – what we do need is to be professional. This means prior planning to ensure punctuality and good performance.☺

Unathi is up for the Best Community Radio News Reader
You can vote for Unathi Vilakazi from Alex FM for SA's Best Community Radio News Reader of the Year. SMS SA UNATHI VILAKAZI to 34050. (Note that it's R2 per SMS.) Competition ends 20 November 2015.

Certificates for e-literacy facilitators

There were 17 e-literacy facilitators who completed training. On 24 July 2015, they were handed certificates by Ms Siphokazi Mgudlwa, Programme Manager, ECDC, at an event in East London. (ECDC means Eastern Cape Development Corporation.)

Moving towards iNeSI

Promoting e-skills

South Africans need to be made aware of digital opportunities

'Women in ICT' workshop for Women's Month

As part of the events of Women's Month, a 'Women in ICT' workshop was held in the Vhembe District, Limpopo Province. The theme was 'Uniting Women to Move South Africa into a Digital Economy'. The Deputy Minister of the Department of Telecommunications and Postal Services, Prof Hlengiwe Mkhize, gave the keynote address.

In South Africa, August is used to commemorate the contribution of women to the country's struggle towards a free and democratic state. A highlighted symbolic event was the peaceful march on the 9 August 1956 where about 20 000 women from all over the country walked to the Union Buildings in Pretoria to protest the pass law. (This legislation meant black South Africans had to carry a 'pass'.)

Vhembe and digital opportunity (SA Connect)

Vhembe is one of the priority districts for the first phase of the national broadband rollout. As part of South Africa's broadband policy, communities need to be made aware of the digital opportunities around broadband. The event also focused on encouraging the use of ICT and e-skills in business and promoting the participation of women in the ICT sector. There was an exhibition where NEMISA had a stand.

The audience included women and young women, employed and unemployed, as well as those still in school. The aim was to highlight the advantages of making use of ICTs in their daily lives.

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Deputy Minister of the Department of Telecommunications and Postal Services, Prof Hlengiwe Mkhize with Executive Mayor Hlongwane for Emfuleni Local Municipality and other participants and guests at the 'Women in ICT' workshop.

Keynote address from 'Women in ICT' event

On Sunday 30 August 2015, the Deputy Minister of the Department of Telecommunications and Postal Services, Prof Hlengiwe Mkhize, gave a keynote address at the 'Women in ICT' workshop in the Vhembe District, Limpopo Province.

She noted that ICT plays a key role in women's economic empowerment and poverty reduction. "Empirical evidence confirms that when women entrepreneurs receive funding, the opportunities and wealth which they create with the funding is likely to be spread further than when a male is funded," said Prof Mkhize. She said that women are more likely to share wealth and resources with family, employees and shareholders.

South Africa is making progress in the adoption and use of ICTs to improve the quality of life of our people. Prof Mkhize said this includes improving the quality of education and the automation of online government services. This is in line with the National Development Plan which notes that ICT is central to the delivery of lower cost, high quality public services.

She noted that along with deploying broadband,

government would be working in smart partnerships with social partners and the private sector. This is to "enhance our connectivity efforts, skill our citizens and consolidate on e-government and the related e-strategies".

South Africa Connect, the broadband policy, was referred to, with its four strategic pillars: Digital Readiness, Digital Development, Digital Future and Digital Opportunity. Within this some of the objectives are:

- Developing a comprehensive Digital Entrepreneurship programme aimed at supporting businesses to embrace digital technologies and exploiting social media.
- Opportunities will be created for young people to innovate. This will ensure uptake and use of the ICT services.

The importance of SMMEs was also noted. The International Telecommunications Union (ITU) has said that this critical sector can sustain economic growth both in developed and emerging economies. In some nations they represent up to 60% of the GDP.

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Dorcus Makgahlela from the Department of Telecommunications and Postal Services at the NEMISA stand, Women's Day in Sasolburg.

The NEMISA stand showcasing the e-literacy programme, among other things, at the Skills Development Summit.

Women's Day event in Sasolburg

National Women's Day 2015 was celebrated in Sasolburg, Free State, on 9 August 2015. The theme was 'Women united in moving South Africa forward'. President Jacob Zuma released the first Status of Women Report at the event. NEMISA had a stand showcasing the e-skills interventions in the accompanying exhibition.

Skills Development Summit

The 8th annual Skills Development Summit ran from 4-5 August 2015 in Gauteng. NEMISA and some of its CoLabs took part in the expo. The e-skills CoLabs included the KZN CoLab, the Western Cape CoLab, the Eastern Cape CoLab and the Northern Cape/Southern Gauteng CoLab. Dr Surendra Thakur, from the KZN CoLab, gave a presentation at one of the breakaway sessions.

At the stand, NEMISA showcased some of the e-skills interventions. These included the e-literacy programme and research done on 'Strategies, practices and skills for competitiveness in the digital economy'. There was also a mobile app for e-literacy and a digital social innovation platform developed for community participation.

The summit is a two-day programme with speakers and panels, as well as breakaway sessions and a skills exhibition.

NEMISA updates

The NEMISA AGM was held on 21 August 2015. Prof Hlengiwe Mkhize, Deputy Minister of the Department of Telecommunications and Postal Services attended.

It's focused on developing skills in South Africa and providing a space where public and private organisations can collaborate. The summit is run in partnership with FP&M SETA (Fibre Processing And Manufacture Sector Education and Training Authority). ☺

e-Skills and the digital era

At the Skills Development Summit, the KZN e-Skills CoLab presented on 'e-Skills and the digital era'. It looked at what it meant to live in the digital era. This included understanding Generation AO (Always On) born from 2011 until the present. These digital natives are always connected to devices and send and receive information all the time.

Some of the trends mentioned:
- Web 2.0 which includes Gov 2.0 (such as online government services), Internet of Things (where everyday objects are connected to the internet, allowing them to send and receive data) and interactive systems (e-learning)
- Smart phones and their pervasive impact
- Augmented reality (like a surgeon performing operation) and virtual reality (for example, where a surgeon learns to operate)

Some of the principles driving the future of technology include:
- Location aware systems (such as notices of specials at a shop near you and receiving appropriate health warnings)
- Context aware systems (activates where you are in the correct mode, like flight mode)
- Time based systems
- Gamification (video games turn educational where you teach and learn by playing)
- Mobile app development

Dr Thakur looked at where the skills are needed, considering the developments in technology. These included:
- Hardware (technical – networking, repairs etc)
- Software (creation and development, support)
- Graphics (animation and design)

Moving towards iNeSI