Report on the

1st African UNESCO-UNEVOC TVET Summit:
Access to and Inclusion in TVET in Africa Through New ICT-based Solutions

28 May 2007, Nairobi

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1. Introduction

- What are the benefits of e-learning for TVET?
- What is the current status of e-learning in African TVET? Who is active in the field? Who are the pioneers on the ground?
- What are the strengths, weaknesses, opportunities and threats of e-learning in TVET in Africa?
- How can a strategy for "TVET for all" and "TVET for communities" be elaborated and implemented?
- What are the lessons learnt so far and how can they be applied to Africa?

These are some of the themes that the over 150 participants examined at the *1st African TVET Summit "Access to and Inclusion in TVET in Africa through New ICT-based Solutions"*. This special event within the annual Pan-African eLearning Africa conference took place on 28 May 2007 in Nairobi, Kenya. It brought together TVET experts, policy makers, researchers and practitioners to share experiences and discuss strategies and mechanisms for the promotion and sustainability of ICTs in TVET.

2. Background: The Importance of TVET for Africa

"In the knowledge society of the 21st Century, dominated by information and communication technology and where labour market demands are constantly changing, providing relevant TVET programmes to both boys and girls is deemed central to the effort to foster sustainable development and attain MDG-1 – eradicating extreme poverty and hunger – in Africa." (African Union, Second Decade of Education for Africa, 2006 – 2015, Draft Plan of Action, June 2006)

TVET is a high priority area for investment during the African Union's Second Decade of Education for Africa. It is concerned with the acquisition of knowledge and skills for the world of work to increase opportunities for productive work, sustainable livelihoods, personal empowerment and socio-economic development, in both urban and rural communities. Conventional education is not able to address the scope and scale of the challenge of bringing TVET to the millions of people of Africa. ICT-supported open and distance learning has opened up new potential in education and training. ICT facilitates the administration of education and training and the provision of learning content. Computer-enhanced delivery of education and training (e-learning) is becoming increasingly widespread and can make education and training available to many more people around the world.

ICT is therefore a key tool in the provision of TVET. But it has even further implications. Around the world, gaining employment increasingly depends on a person's ability to effectively and efficiently use ICT. ICT also simplifies and accelerates information and knowledge sharing in TVET, so that best practices and lessons learned can easily be dispersed.

3. Programme

09:00-09:20 Session 1: Welcome and Overview

09:20-10:50 Session 2: Keynote addresses
This session covered a range of cutting-edge issues in the area of ICT in education for the world of work in Africa today. The aim of the keynote addresses was to highlight the role of ICT in TVET and present and stimulate thought and dialogue.

- *"Vision for TVET in Africa"*
  George Afeti, Secretary General of the Commonwealth Association of Polytechnics in Africa (CAPA)
- *"ICTs in TVET in Africa - the Potential of Distance and Open Learning"*
  Teeluck Bhuwanee, UNESCO/BREDA
- *"Return on investment (ROI): Implementation and management of IT-based learning environments – the significance of qualified training personnel"*
  Michael Härtel, Federal Institute for Vocational Education and Training (BIBB)

10:50-11:20 Coffee Break

11:20-12:50 Session 3: Case Studies
This session will showcase examples of good practice and initiate knowledge sharing on the use of ICT in TVET. Several African TVET institutions will present how they apply ICT in their work.

- " Introducing eLearning as an Innovative Strategy to Increase Enrolment in Technical and Vocational Education and Training Institutions "
  John W. Simiyu, Moi University, Kenya
- "Media-Education as TVET for Sub-Saharan Africa"
  Lyle Kane, University of Oxford, United Kingdom
- "Collaboration in e-learning in Zambia"
  Gabriel Konayuma, Ministry of Science, Technology and Vocational Training, Zambia
- "E-learning initiatives in Malawi"
  Grenad Mkwende, Technical, Vocational, Entrepreneurial Training Authority, Malawi
- "MOBILED – mobile learning in South Africa"
  Adele Botha, South Africa

12:50-14:15 Lunch Break

14:15-16:15 Session 4: Workshops
The workshops offer a forum for learning and discussion about two key issues:

- Online community building in TVET (led by Michael Härtel, German Federal Institute for Vocational Education and Training and Maja Zarini, UNESCO-UNEVOC)
- Effective use of elearning (led by Anouk Janssens-Bevernage, The Open Polytechnic of New Zealand)

16:15-16:30 Coffee Break

16:30-17:00 Session 5: Wrap up
Presentations of group work, conclusions and next steps, and closing remarks

4. Presentations

4.1. The Key Note Addresses

4.1.1 "A Vision for TVET in Africa"
George Afeti, Secretary General of the Commonwealth Association of Polytechnics in Africa (CAPA)

George Afeti (PhD), a Mechanical Engineer, is the Secretary General of the Commonwealth Association of Polytechnics in Africa (CAPA). He was the pioneer principal of Ho Polytechnic in Ghana, a position he held for 13 years. George Afeti oversaw the transformation of the institution into a degree-awarding polytechnic. He has taught at universities and polytechnics in Ghana, Nigeria and France, and has served on both the National Accreditation Board and the National Council for Tertiary Education in Ghana. He has contributed widely on non-university higher education, especially on change and innovation in polytechnics, and is a consultant to the African Union (AU) on TVET.

In his presentation and paper, George Afeti discusses some of the challenges and opportunities for TVET in Africa, including its poor public perception and the impact of globalisation, and recommends a TVET delivery system that is flexible and capable of effectively responding to the skills needs of the continent for infrastructure and economic development.

For … see:

4.1.2 "Open and Distance Learning : The potential of ICTs in TVET in Africa"
Teeluck Bhuwanee

Teeluck Bhuwanee was Programme Specialist at the UNESCO Regional Bureau for Education in Dakar. There, he was in charge of secondary, technical and vocational education as well as literacy, science and technology education. His work encompasses the implementation of the UNESCO programme in the region and in the Dakar cluster. Today he is the Head of the UNESCO National Office to Haiti in the Caribbean Cluster. Teeluck Bhuwanee works closely with other UNESCO entities and a range of development partners and stakeholders, including INGOs, NGOs, development banks and bilateral donor organisations towards the identification and implementation of activities planned and carried out together.

Teeluck Bhuwanee's presentation reflects on the present state and the challenges of TVET in Africa. It also addressed the potential of ICT in the development of TVET in Africa, the financial sustainability of ICT in TVET and UNESCO's actions in TVET in Africa.

For … see:

4.1.3 "Return on investment (ROI): Implementation and management of IT-based learning environments – the significance of qualified training personnel"
Michael Härtel, Senior Researcher and Project Manager, German Federal Institute for Vocational Education and Training (BIBB)

Michael Härtel is Senior Researcher and Project Manager in the Quality Assurance and Development – Distance Learning Section at the German Federal Institute for Vocational Education and Training (BIBB). As such, he is involved in and serves as an expert to a variety of national and international projects on ICTs in TVET. He is also the project manager of the web-based platform "www.foraus.de". Foraus.de is a forum for teachers and trainers that provides information and enables communication, learning and support for in-company training staff.

This presentation showcases international trends and approaches by the German Federal Institue for Vocational Education and Training (BIBB) to the implementation and management of IT-based learning environments at the company-level.

For… see:

4.2. Case Studies

4.2.1 Introducing eLearning as an Innovative Strategy to Increase Enrolment in Technical and Vocational Education and Training Institutions
John W. Simiyu, Moi University, Kenya

Dr John Simiyu is a Senior Lecturer and the Head of the Technology Education Department, Moi University (UNEVOC Centre) in Eldoret, Kenya.

Various modes of interactive technologies are providing new opportunities and strategies for enhancing teaching at a distance. Distance learning has the potential to increase access and accelerated learning opportunities. Technical and Vocational Education and Training (TVET) programmes experience dwindling enrolments whereby distance learning can be used to employ innovative methods and technologies to increase student enrolment. This paper examines how such modes are used giving a typical example and experience in TVET.

For the full presentation please refer to:

4.2.2 Media-Education as TVET for Sub-Saharan Africa:
Improving livelihoods & supporting an independent media sector for development
Lyle Kane, University of Oxford, United Kingdom

Lyle Kane is a doctoral student and project coordinator for the Conflict & Education Research Group at the University of Oxford. His research focuses on advising TVET policy and programming in post-conflict situations in Sub-Saharan Africa for UNESCO-UNEVOC. He has been working in education and with marginalized youth for over fifteen years.

The recent African Media Development Initiative (AMDI), a comprehensive survey of the state of media on the continent, called the media sector a "blind spot" in terms of international development initiatives. Undervalued in terms of its potential to initiate change, and contentious in terms of government concerns over calls for transparency, the media sector has been largely ignored by the major development agencies. Yet, with the potential of stimulating consumer markets, supporting genuine democratization, and serving as a general agent of development, a strong independent media is a crucial asset to developing communities.

This section opens up a number of informed questions. What is the current state of the media in Sub-Saharan Africa? How can ICT and media training support the development of an independent media sector in Africa? How can a variety of actors help to bridge the gap between the *need* for a skilled media workforce, and the *demand* for labor in the media sector in terms of economic opportunities to improve livelihoods? This paper explores these questions and proposes a framework for future research and initiatives in the field.

For the full presentation please refer to:

4.2.3 "Collaboration in e-learning in Zambia"
Gabriel Konayuma, Ministry of Science, Technology and Vocational Training, Zambia

Gabriel S. Konayuma is Senior Vocational Education and Training Officer in the Department of Vocational Education and Training in the Ministry of Science, Technology and Vocational Training of Zambia. He is involved in Entrepreneurship Development promotion in the Technical Education, Vocational and Entrepreneurship (TEVET) sector. He was previously Curriculum Development Specialist at the Technical Education, Vocational and Entrepreneurship Training Authority.

Distance and e-learning in the TEVET sector in Zambia is a recent development offered by a handful of institutions. On the other hand the University of Zambia has been offering a variety of degree, diploma and certificate courses by distance learning since its inception in 1966 and a good number of people have successfully graduated in these programmes. The paper looks at the TEVET policy framework for distance and vocational training in Zambia. The objectives of distance vocational training include providing access to Technical Education, Vocational and Entrepreneurship Training (TEVET) to a wider category of students and developing an affordable type of education and training to citizens in the country. The paper highlights TVET institutions offering distance and vocational training and e-learning in Zambia and some of the methodologies being used. The paper examines the challenges that the institutions are facing. The benefits of distance and vocational training and e-learning for TVET are also discussed. Promising practices in e-learning from a TEVET college are also considered. The paper seeks to address the lessons learnt and encourage the sustainability promising practices. Aspects of e-learning employed in distance learning provision are also explored.

For the full presentation please refer to:

4.2.4 "E-learning initiatives in Malawi"
Grenad Mkwende, Technical, Vocational, Entrepreneurial Training Authority, Malawi

Grenad Mkwende works for the Technical, Entrepreneurial, Vocational Education and Training Authority (TEVETA) in Malawi as the Head of Planning and Monitoring. TEVETA is charged with *the responsibility of directing technical and vocational training in Malawi. Among other things it is responsible for modernising TVET through curriculum development.*

Due to the use of computers in Malawi`s industrial sector the demand for targetetd training in ICTs is increasing dramatically for years. Even though the use of ICTs in the TVET sector is cumulative, too, this need is far from being fulfilled adequately. This presentation explores the situation of ICT in Malawi`s TVET system and the challenges Malawi TVET institutions face in order to use ICTs in the class room and to provide their students with a basic training in computing skills.

For the full presentation please refer to:

4.2.5 "MOBILED – mobile learning in South Africa"
Adele Botha, Meraka Institute, South Africa

Adele Botha is an Educational Researcher at the Meraka Institute of the CSIR and a PhD candidate at the University of Pretoria. She has worked extensively in secondary education and with in-service training of educators in integrating technology into education.

MobilED is an international collaborative project aimed at designing learning environments that are meaningfully enhanced with the mobile phone and other mobile technologies and services. The approach to MobilED has been to integrate research-based ideas with active scenarios of real learning programs. The project includes the design, development and piloting of prototype applications utilizing multimedia and language technologies (voice, text, images) as tools in mobile technology enriched environments to support the learning process.

The MobilED project has 4 key scientific, technical and developmental objectives:
1.   Explore and comprehend the cultural, social and organizational context of young people in and out of school in developing countries (South Africa, Brazil) and in a developed country (Finland) in their utilisation of mobile phones.
2.   Develop research-based models and scenarios of how mobile technologies could be used for teaching, learning and the empowerment of learners.
3.   Develop concepts, prototypes and platforms that will facilitate and support the developed models and scenarios.
4.   Test, evaluate and disseminate the scenarios, models, concepts, prototypes and platforms.

The partnership consists of a collaboration between the Meraka Institute of the CSIR, Tshwane University of Technology, University of Pretoria (all South Africa), the Media Lab of the University of Art and Design Helsinki (Finland), Escola do Futuro Universidade de São Paulo (Brazil) and the WikiMedia Foundation (United States). For the pilots in 2006, handsets were donated by Nokia.

For the full presentation please refer to:

5. The Workshops

5.1 Online Community Building in TVET

Michael Härtel, Senior Researcher and Project Manager in the Quality Assurance and Development – Distance Learning Section at the German Federal Institute for Vocational Education and Training (BIBB) and Maja Zarini, Head of Communications of the International UNESCO-UNEVOC Centre led this Workshop about the exchange of information and knowledge via online communities.

They presented different online communities such as www.foraus.de, BIBB`s internet-portal for training personnel, and UNESCO-UNEVOC`s own website (www.unevoc.unesco.org) which use several online tools for collaboration and knowledge sharing in TVET. One of which is the pin board of foraus.de, a forum to discuss current personal questions and challenges in training. Other presented internet based knowledge sharing tools are 'The *e*-forum' and 'TVETipedia', two offers from UNESCO-UNEVOC. The *e*-Forum is a moderated E-mail list with online interface open to everyone who is interested in TVET, whereas TVETipedia is a portal in Wiki format for and by TVET experts.

The participants discussed the practice of online communities and how the content is provided and by whom it is used.

For more information please refer to:

5.2. Effective Use of e-Learning

Anouk Janssens-Bevernage is E-learning Advisor at the Open Polytechnic of New Zealand. She plays a key role in a number of New Zealand Government funded projects for the national educational sector, including the Open Educational Resources project. She led a Workshop about the effective use of e-Learning. It was built on 3 themes:

1. Open Source Software in eLearning: more than increased cost-effectiveness
2. How do we design better eLearning?
3. Producing and using Open Educational Resources

Every theme was examined by looking at
- what it means, in general and in the vocational education sector in particular
- what it means in New Zealand and in The Open Polytechnic of NZ in particular
- what it means or could mean in a development context

The objectives of the workshop were as follows:

- Participants gain knowledge about the work of The Open Polytechnic of New Zealand in the area of eLearning and the importance of the role of e-learning in a distance vocational education context.
- Participants are given an insight in the use of Open Source LMS Software at institutional level and within a network of institutions.
- Participants understand the rationale for developing Open Educational Resources (OERs) for the TVET sector and reflect on what that entails in terms of collaboration frameworks and practical implementation.
- Participants are given an insight in some of the main principles of designing good eLearning
- Participants reflect on how some of the lessons learned can inform their own practices and identify opportunities for enhanced global collaboration aimed at more and better e-learning in the TVET sector.

For more information please refer to:

5 Participants

This year, 158 participants from 37 countries took part in the Summit at eLearning Africa 2007. Most participants were from Africa, with many coming from Nigeria, but all regions were represented (Table 1).

Africa (26)	Europe (8)	North America (2)	Asia (6)	Pacific (1)
• Angola • Botswana • Cameroon • Congo • Eritrea • Ethiopia • Gambia • Ghana • Guinea • Kenya • Malawi • Mali • Mauritius • Namibia • Niger • Nigeria • Rwanda • Senegal • Sierra Leone • South Africa • Sudan • Tanzania • Togo • Uganda • Zambia • Zimbabwe	• France • Germany • Greece • Italy • Portugal • Sweden • Switzerland • UK	• Canada • USA	• China • India • Pakistan • South Korea • Sri Lanka	• New Zealand

Table 1

6. Evaluation

Number of participants (feedback forms): 45

By regions:

		By Country:	
East Africa:	22	Kenya	10
West Africa:	8	Ethiopia	4
Southern Africa:	5	Nigeria	4
Central Africa:	2	Uganda	4
Asia:	2	Ghana	3
Europe:	1	Botswana	2
New Zealand:	1	Angola	1
		Cameroon	1
		China	1
		Congo	1
		Eritrea/Sweden	1
		Mauritius	1
		New Zealand	1
		Niger	1
		Sri Lanka	1
		Sudan	1
		Sweden	1
		Tanzania	1
		Zambia	1
		Zimbabwe	1
		No Answer	4

1. **What are the main reasons for you to attend the UNESCO-UNEVOC Summit?**
   With regard to the first question, 22 people stated that they attended the UNESCO-UNEVOC Summit since they work in TVET – seven of them as policy makers, whereas the others work as practitioners or researchers, or both. Many of them also wrote that they attended the summit since they are interested in TVET or ICTs in education, or both. Most of the rest of the participants stated that they attended the Summit because they are interested either in TVET or in ICTs in education, or sometimes again both reasons were marked. Six participants also added another reason for their attendance at the Summit. Some of the motives written include: use of ICT in distance education, participation in a non-governmental organization, mainly dealing with knowledge sharing, doing consulting, etc.

2. **Was the participation in the Summit useful for you?** (1=not at all, 5=very much)
   25 participant answered by marking the field number 5 (they found the participation in the Summit very much useful). 14 participants chose the field number 4. Three people chose number 3 and two persons did not answer.
   Some of **the most useful aspect or themes** mentioned by the participants include: the effective eLearning, the integrated approach to TVET, answering the questions from the audience, the presentations and the discussions, the case studies, the open educational system, the Open Source Software, sharing experience and best practices, the vision for

TVET in Africa, the workshops, the promotion of a Community of Practice in TVET, the networking, the opening speeches, the experience of Kenya.

3. **To what extent is the content of the Summit applicable to your work?**
(1=not at all, 5=very much)
22 people said they found the content of the Summit very much applicable to their work. Eleven participants chose number 4. Seven participants chose number 3. One person chose number 2 and three persons did not choose any of the numbers.
Where asked to specify how the content is applicable to their work, some of the participants wrote that they are to develop and implement distance learning through an effective eLearning. Learning new methods of designing eLearning courses is important. The online community enhancement in TVET in the African UNESCO member states is very important as well. One participant stated that he works for organization promoting the use of ICT in science education. Another wrote that the Summit is very much applicable to his work since he is introducing Moodle/FLOSS/OER in TVET in Botswana.
A participant from Ghana, interested in ICTs in education wrote that he found the Summit applicable since they offer undergraduate as well as graduate programmes via distance education and they need a learning management system in order to offer courses online.

4. **Which topics do you think were missing that you would like to see covered at next year's Summit?**
The following are the answers written by the participants in general:
   o development of eLearning platforms;
   o planning on how to integrate eLearning into an ongoing training programs;
   o monitoring and evaluation;
   o student management within the eLearning systems – use of resources and how to keep track;
   o managing the eLearning implementation process;
   o e-content development – tools and processes;
   o brief presentation of previous experience;
   o using TVET to promote entrepreneurship in developing countries;
   o adult learning in the rural areas of the African countries;
   o more about the Open Course Software;
   o online progress on literacy, ICT – literacy; online programs for students with disabilities;
   o even more time should be dedicated to eLearning, so that many of the misconceptions will be put aside;
   o commercially sustainable eLearning business; how to build up infrastructures fast?

5. In the field for **any other comments**, some of the participants suggested establishment of a discussion group, within which they can have continuous discussions even when the workshops are finished. There was also a proposal for making TVET more industry specific, (one participant also stressed that there is no definition of vocational jobs in Africa), as well as a recommendation for making e-learning realistically affordable to the people in Africa. Although all the sessions of the summit were evaluated as good, perhaps even more time can be given to each one of them. Finally, many people wrote that the presentations were excellent. However, one person recommends that there should also be presenters that have already worked in a developing country and can thus relate things more to development issues.

The African TVET Summit is supported by
- the Kenyan Ministry of Education
- the UNESCO International Centre for Technical and Vocational Education and Training (UNESCO-UNEVOC)
- the UNESCO Regional Office for Education in Africa (UNESCO/BREDA)
- the Commonwealth of Learning (COL)
- the German Federal Institute for Vocational Education and Training (BIBB)
- the Open Polytechnic of New Zealand

The eLearning Africa conference is organized by
Internationale Weiterbildung und Entwicklung gGmbH