

MODELLING TVET COLLEGE'S AS ALTERNATIVE CENTRE'S TO DELIVER ESKILL'S TRAINING IN RURAL COMMUNITIES OF EASTERN CAPE

Ndiyakholwa NGQULU· Sibukele GUMBO· Mnoneleli NOGWINA
e-Skills CoLab, Walter Sisulu University, 21 Manchester Road, East London, 5200, South Africa
Tel: +27 43 709 4708, Email: nngqulu, sgumbo, mnogwina, {@wsu.ac.za}

Abstract: The National Electronic Media Institute of South Africa (NEMISA) has adopted, among other objectives, a focus and dedication of time and resources in upskilling people to be digitally competent. This objective is delivered through provincial e-Skills CoLabs distributed around South Africa which have the mandate to roll out the necessary digital skills (e-skills) courses for various ICT user groups usually at ICT Centres with adequate infrastructure. This is necessary as it is public knowledge that while people may own ICT devices, they still face challenges utilising them to work, get further training and conduct business. However, many ICT Centres that are either donated or provided by various stakeholders have failed due to sustainability. This study interrogates the potential of Eastern Cape Technical and Vocational Education and Training colleges (TVETs) as ICT centres to deliver e-skills training. Most of these TVET college campuses are located in rural areas; therefore provide a means to bridge the digital gap between and develop the capacity of our rural communities and up skill people. Informed by the brief background above, the research question guiding this study is “What is the state of readiness of TVET colleges as ICT centres of choice to service communities”? To respond to this question, 6 Eastern Cape TVET colleges of Eastern Cape were sampled.

Keywords: ICT4D, TVET, Colleges, Centres, e-skills, CoLab

1 Introduction

National Electronic Media Institute of South Africa (NEMISA) is the State Owned Enterprise (SOE) under the Department of Telecommunications and Postal Services (DTPS). Its mandate is to ensure digitally skilled (e-skilled) South African society by 2030 by providing various ICT training programmes [1]. NEMISA has identified different thematic areas which each of its provincial e-Skills CoLabs should respond to. These thematic areas range from Connected Health, Creative New Media Industries, e-Enablement for Effective Service Delivery, e-Agro-Tourism, Knowledge-based Economy and e-Social Astuteness, e-Inclusion and Social Innovation and Information Communication Technologies for Rural Development (ICT4RD) [2]. The Eastern Cape e-Skills CoLab (EC e-Skills CoLab), where the authors are based focuses on ICT4RD [2]. Adomi, Kpangban, and Adomi Head defines Information Communication Technologies (ICT) as the process of using electronic technologies to store, retrieve and deliver data. They further argue that the transformation in the field of ICT in the current century has an impact in various areas of human activity [3]. According to Neetha Rejeev, development requires systematic interaction and relationship between technological innovations and human species [4].

The rural areas in South Africa remain the focus and priority of government according to the National Development Plan (NDP). This is part of the results published by Statistics South Africa [5] which also advises that since the levels of poverty and illiterate are growing rapidly in these communities, interventions must be provided. The use of ICT in

various aspect such as in education (ICT4E) and Development (ICT4D) has been mostly based on technological possibilities to provide solutions. In developing countries where service delivery, rural development are fraught with many challenges, there is an immense pressure to provide initiatives that will develop the people and the communities they come from. ICT has played a critical role in development and globalization [3] [9]. This paper will not dwell on the concept of ICT4D as we believe a lot of work has been done to address in this concept. This paper will also not focus on specific EC e-Skills CoLab training programmes; however it will discuss and deliberate on the model of using TVET colleges as ICT Centres to deliver e-skills training to rural areas.

2 Viable Computer Centres

The Eastern Cape e-Skills CoLab (EC e-Skills CoLab) at Walter Sisulu University is the provincial based presence of NEMISA. It has the mandate to roll out e-skills training programmes in the Eastern Cape Province, especially in rural communities. The central tool required to reach each provincial district and each community is access to ICT Centre with internet and full functioning devices. Eastern Cape is one of South Africa's rural provinces with 6 district municipalities and 2 metropolitan areas. It consists of more than 70 % rural communities with limited or no ICT Centres. More worrying is the limited access to internet as stated by Human Sciences Research Council (HSRC) which is less than 8% in OR Tambo district municipality with highest metropolitan area not more than 16 % [6]. Therefore most rural provinces are battling with the internet and access to ICT Centres. While the technological possibilities of ICT are not questionable to enhance development, more must be done to reach the poor of the poorest. According to HSRC, the cost attached to data is one reason specified by participants of a survey they conducted [6]. While this is true, also poor connection to deep rural areas contributes to people losing interest in using their devices to access internet. With all started above viable ICT Centres become the major step towards use of ICT4D as envisaged by EC e-Skills CoLab.

To date one of the EC e-Skills CoLab partners to reach remote regions is the Eastern Cape Department of Education (EC DoE). It is in the knowledge of EC e-Skills CoLab that there are Vodacom centres that have been donated to EC DoE in the province. However some of them have not been well sustained and therefore the servers, network and computers currently require attention. The EC e-Skills CoLab opted to explore the option of public TVET Colleges as potential additional ICT centres. The TVET colleges are public entities established in terms of Further Education and Training act no 16 of 2006 [7]. While the Further Education and Training Act of 2006 refers to both private and public colleges, for the purpose of this study, the focus will mostly be on public colleges in the Eastern Cape Province. The Act also refers to community engagement that should be part of further education as a service to surrounding communities in order to harness people's participation and transforming society. Lastly the process of involving TVET colleges as centres of choice remains viable and beneficiary for both EC e-Skills CoLab and TVET colleges to meet their mandatory work on community engagement and training.

However, TVET colleges find it difficult to participate in community engagement mostly due to funding constraints. Most TVET colleges do not have a third stream income; they depend mostly on the Department of Higher Education and Training (DHET) and its other bodies which mainly fund formal academic programmes [8]. The EC e-Skills CoLab sees itself as a potential social partner that can work with TVET colleges, utilizing existing ICT infrastructure to fund the rollout of e-skills courses. The main objective of this partnership is to upskill communities located in rural and semi-rural communities. TVET colleges have

the potential to be ICT centres of choice at the same time fulfil their responsibility on community engagement.

3 Methodology

This study focuses on the Eastern Cape TVET College's response to the EC e-Skills CoLab request for partnership and participation in an ICT technical audit in 2018. The EC e-Skills CoLab distributed a general audit and technical questionnaire which all Eastern Cape TVET colleges that wanted to collaborate completed. The questionnaire covered aspects such as each TVET college's campus location, possible ICT Centres to use for the e-skills rollout and an evaluation of the state of the ICT Centres including the network setup and ICT programmes currently being offered. More over the questionnaire checked the TVET college involvement on community engagement. The EC e-Skills CoLab adopted an inclusive process where all TVET colleges were included in the process from the onset. The questionnaire was completed by TVET senior management, IT managers and senior technicians from 6 TVET Colleges. Once all questionnaire responses the data was analysed.

4 Results and Discussions

There are 8 public TVET colleges spread across the 6 district municipalities and 2 metropolitan areas of the Eastern Cape Province. Each of the TVET colleges consist of various delivery sites, mostly referred to as campuses. The campuses of a TVET college may be spread across different district municipalities or within one district municipality.

Table 1: Geographical distribution of participating TVET colleges in EC.

College Name	Campus/Site Name	Location Type	District Municipality (DM)
King Hintsa	Centane	Rural	Amathole DM
	Msobomvu	Peri-Urban	Amathole DM
	Teko	Rural	Amathole DM
	Willowvale	Rural	Amathole DM
	Idutywa	Peri-Urban	Amathole DM
Ingwe	Mount Frere	Rural	Alfred Nzo DM
	Mount Fletcher	Rural	Alfred Nzo DM
	Siteto	Rural	OR Tambo DM
	Maluti	Rural	Alfred Nzo DM
	Ngqunqushu	Rural	OR Tambo
Ikhala	Queenstown	Urban	Chris Hani
	Aliwal North	Peri-urban	Joe Gqabi
Lovedale	Zwelitsha	Peri-Urban	Buffalo City Metro
	King Williams town	Urban	Buffalo city Metro
	Alice	Rural	Amathole DM
King Sabata Dalidyebo (KSD)	Cicirha	Rural	OR Tambo DM
	Zimbane	Rural	OR Tambo DM
	Libode	Rural	OR Tambo DM
Buffalo City College (BCC)	East London	Urban	Buffalo City Metro

Table 1 shows the summary of the Eastern Cape TVET colleges campuses located in 6 or the 8 District municipalities. They are mostly located in the rural towns. The table also shows that some TVET colleges might exist in one District Municipality, they are located in separate towns which are mostly a great distance from each other. This is ideal as the EC

e-Skills CoLab would like to upskill people from various regions and towns. The adopted delivery method is decentralization of training to communities where people reside for easier access. These campuses are usually located very close to disadvantaged communities which provides a very good opportunity to interact and involve in community engagement.

4.1 Partnering colleges and their demarcation

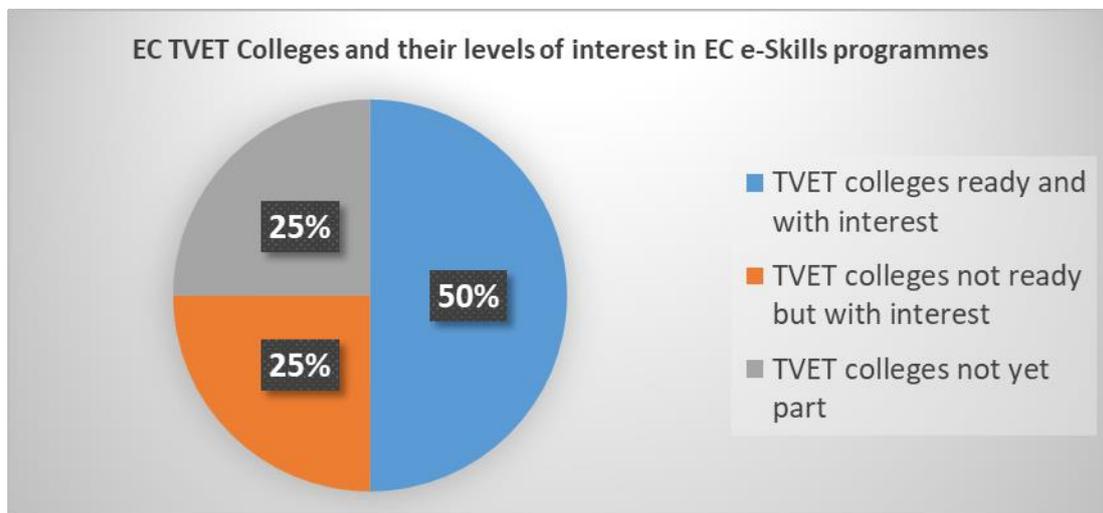


Figure 1: EC TVET's interest and readiness

Figure 1 is the representation of the 8 EC TVET colleges interest in participating and readiness to roll out the EC e-Skills CoLab programmes at their institutions. 75% of the EC TVET colleges were interested in the programmes. The TVET colleges that did not show interest or take part of the initiative have not out rightly rejected to be part of it. Figure 1 also shows that 4 TVET colleges are interested and ready to be part of the initiative. At this point, negotiations to sign Memorandum of Agreement (MOA) with them are in progress. In the meantime, visits have been made to their campuses and pilot programmes are poised to be run. An advantage is that these 4 TVET colleges are located in OR Tambo, Alfred Nzo, Joe Gqabi, Chris Hani and Amathole District Municipalities which increases the provincial presence of EC e-Skills CoLab drastically. 25% of the TVET colleges that have shown interest in the EC e-Skills CoLab programmes but their ICT Centres are not ready. This does not mean they will be excluded from the processes. However they need to fix their infrastructure before any programmes are rolled out at their facilities. The EC e-Skills CoLab process does not fund any infrastructural upgrade; it relies on existing infrastructure to deliver the content and provide colleges with admin fees to monitor and support their ICT Centres. More details on the technical testing are given in the next section.

4.2 College ICT technical testing and community engagement

As previously mentioned, a technical audit was conducted in interested TVET colleges to a In the process of establishing TVET colleges as centres for e-Skills development, a technical testing had to be done to get the state of college computer labs. Technical testing is the process whereby we audit the available computer labs in the college against the specifications that we have for our various training. The process is administered through a designed form with fixed questions that the IT manager must fill and submit to the EC e-

Skills CoLab, upon it meeting all minimum requirements both virtual and physical testing follows. What informs both process is how the system works. For all our training the activities happen online system which is remotely controlled by the support technician on the side of the EC e-Skills CoLab however physical is still required assess the conditions of the computer labs.

The process to test suitability is opened to all public TVET colleges in Eastern Cape (EC). However the next phase which is virtual and physical testing requires that a TVET college must have meet the minimum requires such as dedicated hardware server with 2 GHZ process, functioning computers with minimum 4GB RAM, Microsoft server 2008 r2 or latest and computers functioning with windows 10 or 10 pro [10]. It is against these detailed requirements on specs document that a questionnaire form was derived for all centres to fill.

Table 2: TVET colleges ICT engagement.

	King Hintsa	Ingwe	Ikhala	Lovedale
Engagement with community	Well established	Developing	Well established	Developing
Capabilities at the college	1.ICT training Coordinator available 2.Technical lead available	1.ICT training Coordinator available 2.Technical lead available	1.ICT training Coordinator required 2.Technical lead required	1.ICT training Coordinator available 2.Technical lead available
Business Model	Mixed	Mixed	Mixed	Government
Available times for labs	15:00-18:00 weekdays All day weekend.	13:00-16:00 weekdays 09:00-12:00 Saturday	15:00-18:00 weekdays All weekends and holidays	14:00-18:00 weekdays Weekends all day
Offered Computer related program	ICDL, SMME's digital installation and Business Management	ICDL and End-User computing		Basic business skills, ICDL and End-User computing

In the above table, there are various factors emanating from the colleges responses on the ICT community engagement programs. This process helped to profile colleges and give indication of which to focus on first and which ones should form part of second rollout. Upon receiving of these questionnaires, there is a compare and contrast process on the minimum requirements, the outcome documented above is for those that had positive responses and will be on phase 1 TVET college training rollout. It is argued that the use of ICT facilities in higher education institutions for development is less, the statistics are much less TVET colleges to be specific [11]. There TVET colleges are close related with the communities around them due to number of reasons such learner ships, community work required by other external funders and open access of college centres to be used by grade 12 learners who would want to apply for university or bursaries. The TVET are responsible for recruiting people to attend and also responsible to make sure participants finish the course and write exams this community engagement is a contributing factor on effectiveness of TVET to deliver to the task.

The data shows that most TVET provide the prescribed computer education which forms part of formal schooling, this does not cater external people who never had chance to learn to use devices of today either for personal use, work or business which is what EC e-Skills CoLab is bringing to colleges.

Lastly the available times are important, these initiative's should not go simultaneous with the day schooling, also the participant targeted are of various backgrounds which requires the facilitator to find common grounds, the training are not meant for college students or employees.

4.3 Rolling out the training phase

Adding to the above explained process, the next stage requires both the EC e-Skills CoLab and the TVET College (training centre) to rollout a pilot phase. In brief the pilot phase entail the actual training of community members however it is called pilot due to the nature of collaboration between the two delivering stakeholders. The pilot phase is to test fragility of the system, capacity to hold the designated numbers and the turnaround time of the training in that college. Turnaround is a major factor, it determines if we can rely on the college to train number of people in a certain time. The e-skills remain a soft skill that people acquire for various reason as result it is not designed to last for a very long process. The 80 hours are deliverable in four-eight weeks.

Each college rolls out its process independent of the other. This is very important to the project so to continue training while those not ready yet go through few steps to put their labs in good shape. As explained above on the minimum requirements access to network also forms part of non-negotiable factors that lab must have due to the remote access and control of the training.

The college also goes through the training of their facilitators who also write facilitator exams under EC e-Skills CoLab and anyone with ICT background can take the training to be facilitator and later write the exams. The college is responsible for choosing the facilitators, all the EC e-Skills CoLab does is to train the provided names by the college.

5 Conclusions

In a nutshell, there is a great chance that the model of using TVET as centres of choice to deliver community e-skills training can work based on the attributes that the sector comes with. The major point is that of centrality to areas people can access and that rural communities benefiting without having to migrate to various affluent cities.

The TVET colleges offer a self-sustainable, affordable and reliable model to deliver e-skills training. Whereas it has been argued by many writers who wrote on sustainability of community centres, living labs and ICT for rural development that there huge financial implications in these models and further the infrastructure need to be improved now and again. The infrastructure in TVET colleges is sustained already for teaching and learning, this collaboration add more to their purse to sustain these labs which they then benefit students and communities simultaneously.

Lesson learnt, the communities start to own the colleges that offer training for them at no price, the ownership means people protect what they view as theirs. This present a great

massive e-skills training across the province without spending extra on facilities, devices, rental spaces etc.

The downfall of this model are unforeseen situations like change management which can slower the processes or even worse delay them if not cancel them at all. Also the TVET colleges in South Africa are mostly affected by strikes from both workers and students which present a challenge for the training to go smoothly. There is however a great chance to improve this engagement to broaden understanding to the TVET community at large that these initiatives are not internal college processes as such they are meant to benefit their families and must be allowed to continue on their schedule even during disagreements between college stakeholders.

The price of e-literacy is really high with most average homes not affording to take their kids or themselves to, EC e-Skills CoLab does not only aim at bringing this opportunity for free however also closer to communities. In the State of National Address (SONA) 2018 President stated that wherever there are people send me and with this partnership we will be there for the poor in the deep rural areas where even some educated people do not have access to computers if they are not in college or university.

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