

# EVS30 Symposium

Stuttgart, Germany, October 9 - 11, 2017

## **Education and training - An African perspective**

Adriaan Kruger

209 Daffodil Street, Lynnwood Ridge, Pretoria, South Africa

adriaan@2life.co.za

---

### **Executive summary**

We train from an African perspective as we realised that being disadvantaged has more direct and crucial needs attached to it and therefore needs to be done in stages as ability, time, and finances allows. We decided to use the direction of Community College Initiative (CCI) which has been very successfully implemented in the USA.

The challenges that the launch of new technology in a 3<sup>rd</sup> world country raises are totally different as the informal sector plays a much bigger role than the formal sector. In the informal sector everybody believes they are entitled to a position and therefore we had to decide on the right people as well as the length of training. The depth of training has become crucial as we do not want to frustrate a person that can hone his skill quicker than capturing technical information.

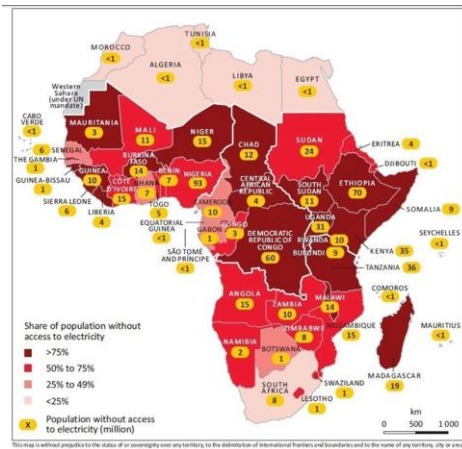
We realised growth had to be controlled so that skills transfer can keep up.

Education and training in Africa has a much wider scope than in the rest of the first world as it seeks not just to empower but also to encourage and to give wings to long lost dreams.

---

### **An African perspective:**

Ladies and gentlemen we all know that vast parts of Africa are still perceived to be 3<sup>rd</sup> world countries. We can demonstrate by the graph supplied by the World Economic Forum 2016 where it shows here below how many people in Africa are still without electricity.



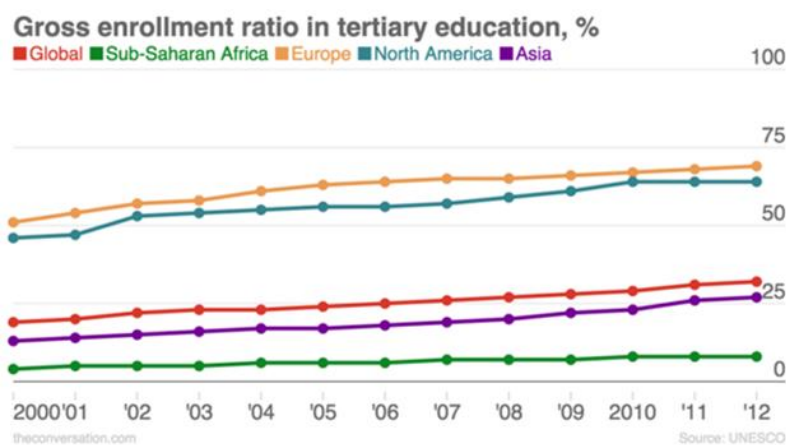
As many of you that have travelled to Africa may know, the informal sector far exceeds the formal sector. You may also know that education and training is one of the areas that has lagged behind in most countries and that as a result poverty has become rife due to the lack of job creation. I wish to share with you our experience in dealing with the launch of new technology into Africa. Africa has a large potential in terms of latent talent and only education can unlock that. Unfortunately not all people are able to afford formal education and education does not always have to be formal.

We have partnered with the Tshwane University of Technology. They are partakers of the CCI program (Community College Initiative) which include applied engineering, business management and administration, early childhood education, information technology and media. While this is a non-degree program, participants may earn an academic certificate in their field of study and gain first-hand practical experience through internships. After completing the program, participants return home with enhanced skills and expertise to help them contribute to the economic development of their countries.

We are the first full fledged OEM in Africa and also the first manufacturer of full electric vehicles. The challenge was to move the factory from China to Africa and simultaneously transfer the skills of this new technology. Although some of the universities in Southern Africa do have degree in Mechatronics it is still fairly a new field as is the concept of a full electric vehicle. We as manufacturer of neighbourhood electric vehicles not only had a challenge to manufacture but more so in distribution and after sales service and above all maintenance. There are challenges but the opportunities far exceed the challenges and although there are a number of stumbling blocks a concerted effort to train will alleviate not just the lack of knowledge but will also empower vast numbers of people to create a better life for themselves and their extended families.

The following graph (supplied by the World Economic Forum 2016) gives an indication how far Africa as a whole lag behind the world in terms of tertiary education and training. Although this figure is from 2012 the picture has not changed much due to the rapid growth of the population in Africa. We still have a long way to go and if the private sector does not participate more the backlog is getting bigger as governments are not

accomplishing what they promised in terms of free education, which in many instances are not viable with the limited resources due to lack of growth or corruption and maladministration of grant monies.



## 1. The challenge with the launch of new technology.

New technology is a challenge for Africa due to the lack of qualified people to make the growth of the product sustainable. If I have to qualify the term “qualified people” then it entails people that will not just adopt new technology but also adept to new technology as users.

Africa is quick to adopt new technology but slow to adapt due to the lack of training and economic growth.

As mentioned we do have a number of universities that produces “qualified” people but the experience in the market has been lacking due to the fact that the technology has not been available up to now or at least the utilization of the said technology has been lagging behind.

The challenge was also people that can sustain the growth of such a market by improving the product for local preference and utilization. We not only needed skills transfer but new inventors and entrepreneurs that can take it to a new level as the market and growth requires.

### A people’s revolution

While exponential technologies might be the driving force behind the digital revolution, it is Africa’s most important resource – its people – who can determine the direction it will take.

“With one of the fastest growing youth populations in the world, the next generation of Africans will lead the way, [says Mokena Makeka](#).

But first, they must be given the space and opportunities to do so: “Africa’s biggest challenge over the next five years will be how it reconciles the demands of its strident youth – and their take on how to shape the post-colonial continent – in the face of established and entrenched power structures,” he argues.

How, though, do we create these opportunities? Fred Swaniker, who founded the African Leadership Network, [has an idea](#): “Good leaders do not fall from the sky. The experience of successful nations points to the centrality of strong education institutions, and particularly robust higher education systems, in deliberately training the leaders who take societies to great heights.”

Which is why African policy-makers should be worried – the system is “at breaking point,” Swaniker writes. “The current state of higher education across the continent is a real threat to the dream of an African Century, with low enrollment rates and stretched teaching staff.”

One of the challenges was that we had to teach an array of people from the fire brigade to the tow-in (break down) companies regarding the fact that it is an AC system with 220V AC power and the danger of that to them if not handled correctly.

Fortunately we are part of EVIA (Electric Vehicle Industry Association) that also lodged a public awareness campaign regarding this.

## **1.1 The right people**

As we started our operations in 2 African countries simultaneously we had to adapt to varied circumstances. One country was in West Africa and one in Southern Africa. We reached out to the community leaders to assist us with the latent talent in their respective communities.

The first challenge was identifying the right people to train. When you have vast numbers of young people that are either educated but without a job and therefore lacking skills and experience or vast numbers of young people that are not educated to their full capacity due to lack of funds or lack of opportunity, you need discernment to choose the right candidates. Everyone see themselves as a candidate as they hunger for opportunities.

We therefore established our own training arm that ran parallel to our manufacturing processes to accommodate young potential and train them for uptake in our own future growth or to empower them to start a franchise (with the assistance of government) to be part of our distribution and maintenance arm. The training was initially on a volunteer basis to discern the wheat from the chaff so to speak. Once the initial process was done we enlisted the potential candidates as trainees on a government assisted scheme to enable them to have a formal and accepted qualification and reference at the end of the training.

## **1.2 The length and depth of training.**

The second challenge was to decide on the length and depth of the training needed.

Once your window of opportunity is there to launch new technology you cannot wait too long. You cannot afford to lag behind with after sales service and maintenance either.

We chose to introduce the distribution of our product in 3 phases nl,

1. Within reach of our mobile maintenance teams. Here we trained 2 technicians that are completely mobile with a vehicle completely refurbished as a mobile workshop. They will predominantly service our corporate clients on site or any client stranded due to vehicle breakdown, but not run down batteries.

2. Then further afield we have established a formal relationship with a company that already has a footprint in the market as far as sales offices and maintenance/workshops are concerned.

3. Then into Africa as a whole. Here we settled for the Franchise model and the training to empower them. This is facilitated by our own training facility at the factory.

We also partnered with private training facilities to train potential candidates in the basics of welding. It is a 2 week course at a time and there are 3 levels in training to bring them up to international standards. These courses are very practical and very cost effective.

## **1.3 Controlled growth**

We decided that we will not be enticed by growth if we cannot back it up with properly qualified maintenance staff.

Our initial projections were based on a very conservative model of only 600 units per year. This is a very viable trajectory and it allows us enough financial space to continue with Research and Development so that we can be in “feel” with the demand of a strong and resilient middle class consumer.

Africa has its own unique challenges in consumer behaviour, topography and utilization. We have a strong move towards an own identity and brand awareness. It is therefore of paramount importance to have our ear on the ground, so to speak, to know what our clients’ preferences are as to style and design.

We started with the design we inherited when we took the factory and brand over but soon realized that we need to rethink and redesign the exterior and interior of the vehicles.

This we found was only possible because we did not allow ourselves to be sucked in by uncontrolled manufacturing.

## **2. The formal versus the informal sector**

As previously said, anyone that has visited an African country would have noticed that there is an economy within an economy. Africa's main growth sector, for many years, has been the informal sector apart from certain countries where the balance tips more to the formal sector. Training thus needed to be adjusted accordingly.

We realized that once the product has reached the formal market it will soon siphon through to the informal sector. Especially a product as our own that is a strong motivator for the informal sector to become more viable and competitive.

We had to adapt our concept of “formal” training to a concept of “informal” training where we had to focus more on developing skills rather than pure technical knowledge transfer. Through constant monitoring we could distinguish the diamonds amongst the jewels and put them through advanced training and more formal education.

To educate within the African context is wider than what we perceive as the norm in 1<sup>st</sup> world countries. To educate we found was to open the shutters of people’s perceptions of possibilities and opportunities. Once you start educating on possibilities and opportunities training is much easier as the light has come on and dreams are being realized.

We soon realised that our product will open more doors for the less privileged in the informal sector than increasing the bottom line in the formal sector, even though the latter sector is using the product substantially.

“The only way we’ll create hundreds of thousands of jobs is by placing big bets on small businesses. SMEs represent 78% of jobs in low-income countries and more than 90% of all new jobs created each year. These businesses are the true global engines of employment. Increasing rates of entrepreneurship and accelerating the rate at which ventures grow is the only realistic path to creating enough jobs for the next generation.” (World Economic Forum 2016.)

## **3. Distribution and application**

When we had to decide on the model of distribution and application we realised as already mentioned that training is of utmost importance and have therefore established a training centre from the inception of the factory. The two are inseparable as far as we are concerned.

Education and training therefore was not just to enable people to maintain the product but also we needed to train them to run a business, sell effectively, educate others in the communities they serve as a ongoing legacy.

Although the main emphasis of distribution will be the formal sector the second generation channel (informal sector) for application will in the end far exceed the formal sector.

#### **4. Training for the formal and informal sector**

Once we realised the importance of skills transfer to enable disadvantaged communities to empower themselves it was self evident that we had a much bigger role to play and responsibility to empower them not just to manufacture our product but to become self sufficient in running a business of their own. It is of course much easier just to penetrate the formal sector as there are many role players that already have the skill sets to enable themselves.

We wanted to increase our local content to as high a figure as 85%. This constituted a huge challenge for us in establishing small coops to enable them to manufacture the components for us. We also looked for already established incubator initiatives within the informal sector as not to unnecessarily duplicate and waste available funds.

Our courses for the formal sector is more of a refresher and refocus course with the skill transfer included as with the informal sector it is more focused on skills transfer with a later build up to the technical knowledge transfer.

The courses differ in length between 1 month and 3 months and accreditation will be given for every course that can eventually lead up to a diploma or degree depending on the initiative of the student and his/her abilities.

#### **Author**



Adriaan Kruger has studied law at the University of Pretoria, South Arica and is the owner of 2Life Neighbourhood Electric Vehicle Manufacturers as well as 2Life Travel and 2 other companies in the 2Life group. He has been in manufacturing and marketing for many years after his first initial short career as a public prosecutor.