

The Imprint of Education

The Imprint of Education (TIE) is a project of the Human Sciences Research Council (HSRC), South Africa, in partnership with the Mastercard Foundation that is exploring the post-graduation trajectories of Mastercard Foundation Scholars Program alumni. TIE is investigating topics such as ethical and transformative leadership, give back, employment and entrepreneurship, student support and mentoring. It consists of five sub-projects or learning activities. The TIE project principal investigators are Prof. Sharlene Swartz, Dr Alude Mahali and Dr Andrea Juan.



Reimagining the African University – Conversation Series

Learning Activity Four consists of a series of conversations with experienced scholars and thought leaders on the future of higher education in Africa. In Reimagining the African University, they discuss challenges, best practices, and the potential for innovation to initiate further dialogue. This transcript is part of a series of interviews conducted in 2021 and may be used with appropriate attribution for scholarly purposes. The learning activity is coordinated by Prof. Thierry Luescher, under the intellectual leadership of Prof. Crain Soudien.

Interview with Prof Peter Materu

Interview conducted by Prof Sharlene Swartz on 16 November 2021

Sharlene Swartz: What in your opinion are the purposes and the roles of the university? And how relevant are the universities on the continent as they stand?

Peter Materu: The continent is in a state of social and economic transformation. The university has a key role to play in this because, in most countries, it is the place with the biggest concentration of people who have been trained to go beyond using knowledge to generating, critiquing and helping to make sense of knowledge. Unfortunately, the incentives inside universities for undertaking research and for being excellent are more related to the aspiration of the individual to get promoted in the system and less about the impact of their research in the community, which is the third mandate of a university. In this regard, there is a disconnect between the mandate to serve the community and the other two mandates which are to undertake teaching and learning and produce research.

So, there is work to be done on this. Nevertheless, universities are critically important to national development agendas in Africa at this moment. All the countries on the continent, whether they are defined as low- or middle-income, are in a state of transition, seeking to transform their economies in a quest for higher productivity and to create more jobs for young people. This process depends on the availability of talent for the production of ideas and powerful ways of doing business. For example, China, which is probably one of the latest countries to have transitioned from a low-performance to a high-performance economy, made a decision to start



investing heavily in a few higher education institutions, extending this circle gradually until now the country has a substantive number of high-quality institutions which are making a big difference to the national economy. This is the kind of approach that should be adopted in Africa. The continent has more than 3,000 universities – and growing. It is unrealistic to expect that all of them can be brought up to the same level at the same time. So, choices need to be made; and those choices must be linked to the priority drivers of economic transformation, such as, for example, in agriculture, , and then accompanied with adequate investment. Meanwhile, the incentive system inside higher education institutions needs to be transformed towards more focus on service to the community so that they can become more effective drivers of transformation in the economy.

Swartz: Have you seen any institutions which are addressing this issue of incentives effectively?

Materu: Implementing effective incentives does not mean asking universities to stop promoting people on the basis of their research outputs, but rather saying that this criterion for performance is insufficient on its own. So, promotion should not be based only on being a good teacher and undertaking research. The academic must also demonstrate the impact of their work in the community, the economy and on livelihoods; and universities should develop criteria for assessing performance accordingly.

In terms of which institutions are addressing the issue of incentives effectively, perhaps the best current measure is the rate of graduate absorption into the labour market. In other words, those universities which the labour market would describe as “doing things that we like”. And there are a number of these. One is Ashesi University in Ghana, which has a transition rate of 85% or so within six months of graduation. Another is the African Development University in Niger which caters to young people from the Sahel, and which also has a good transition rate. There are also several others with high transition rates, mostly small private institutions of higher learning.

In this regard, there should be more tracer studies on graduate outcomes in terms of employment and entrepreneurship (self-employment) so that comprehensive, comparative information on transition rates across the continent may be available. At present, such data is very patchy.

Swartz: In South Africa the big universities, such as the University of Cape Town, the University of Pretoria, the University of the Witwatersrand (Wits) and Stellenbosch University conduct tracer studies which have indicated that a significant number of graduates initially work in sectors for which they were not trained, although they may migrate back within ten years or so. This phenomenon seems particularly pronounced among graduates in the fields of science, technology, engineering and mathematics (STEM).

Materu: I am not sure that this should be regarded as a major matter of concern because one learns more than a discipline at university; one learns a way of thinking, of reasoning, of problem solving that can be applied in many situations. For example, there are principles in engineering – which is what I studied – that are relevant to my present work and which help me to solve problems. At the same time, it is a problem if students are being trained to Masters and PhD levels

in critical fields and then working completely outside their fields of study throughout their careers.

Swartz: I am interested in what you were saying about Ashesi University and the African Development University because I have heard from a number of people now that these small private universities are the institutions which are getting all the elements right: the community vision; the incentive to look beyond individual advancement only; and the balance between teaching critical thinking and exposing students to practical experience in the world. The problem, of course, with such private universities is their relatively small scale, although scalability may not be a crucial issue for the continent. There is also the tension between promoting universities and technical and vocational education and training (TVET) colleges. What are your thoughts on these matters?

Materu: In the past, many countries used to have a productive division of labour between universities, polytechnics and TVETs, along the lines of 12 artisans and five technicians for every engineer that was trained. However, skewed remuneration for civil servants, which offered higher salaries for university graduates over polytechnic graduates, led parents to stop sending their children to polytechnics. The political solution to this was to convert the polytechnics into universities. This was a huge mistake because particular institutions are created for particular purposes. Now, the common goal is to acquire a university degree and become a knowledge producer; but society and the economy also requires people who can go into the workplace and make things happen, who can deploy the knowledge that has been produced. In other words, expertise at different levels is required. But that group who were trained through the polytechnics to apply the knowledge has been depleted. Similarly, there is a need for the lower-level, hands-on type of training that produces artisans. So, I think the higher education system needs to be rebalanced. It is encouraging to note that some countries have already embarked on this journey.

Swartz: The big question then is how to balance the system particularly given the problem posed by aspirational parents who don't want their children to undertake artisanal training or attend a TVET. Is there a political solution to this or is it just an aspect of capitalism that is unlikely to be resolved as long as people continue to want a large salary and a prestigious job?

Materu: I believe the value of establishing a differentiated system becomes evident once the plethora of opportunities that arise from establishing different kinds of institution starts to be realised. In Senegal, for example, a new class of institutions was established during the country's most recent reform of the tertiary education system: Instituts Supérieurs d'Etudes Professionnelles (ISEPs) or Higher Institutes of Professional Studies. The idea was to create a network of higher education institutions but with the emphasis on professional rather than academic studies. The new ISEPs offer two-year courses in disciplines where there is an identified shortage of suitably qualified people nationwide. Half the faculty at these institutes are permanent teachers in the university and the other half are people actually working in the industry which is the subject of the qualification. The students spend three days a week in the classroom and two days at the workplace.

Interestingly, the model quickly became popular. For example, a number of high-performing pupils who had been admitted to the Université Cheikh Anta Diop (UCAD) decided to go to an ISEP instead, on the basis that this educational path would lead to certain employment. In other words, alternative forms of tertiary education which lead to work opportunities rather than just academic achievement in its own right can prove quite popular, with both the parents and the students themselves choosing such institutions and spreading the word about the opportunities they offer.

Swartz: It sounds like a clever marketing ploy to name these institutions “professional institutes” instead of “TVETs” or “polytechnics”. The notion seems to appeal to parents and young people. How is the new initiative funded?

Materu: It is primarily funded by the government, although the industry partners who are involved in the teaching have also subsidised the purchase of equipment, such as for the laboratories, because of their interest in ensuring that the institutions produce adequately trained graduates to meet their needs.

Swartz: And I assume they provide the opportunities for the practical experience as well.

Materu: Yes. The students work with them every week. So, by the time the student graduates, he or she already has a lot of knowledge about the workplace, even if they go on to be employed elsewhere.

Swartz: Do the students pay fees or are these institutions completely subsidised?

Materu: My understanding is that the Senegalese government offers subsidised loans to students from poor families and loans at normal rates to students from richer families. More information on this can be obtained from the ministry

Swartz: The other main debates on higher education in Africa at present relate to the role of indigenous knowledges; the drive to decolonise the curriculum; and the place that digital technologies and the fourth industrial revolution (4IR) should occupy. What are your thoughts on these issues?

Materu: Decolonising is absolutely necessary. There is a lot of work to be done in that space, although more so in some disciplines than others. For instance, if you are teaching mathematics, you can implement a few changes, such as making the examples more local and so on.

Meanwhile, the conversation about transforming the curriculum must move beyond decolonisation to address the issue of relevance, which means producing fields of study that are fit for purpose not only today but into the future. In this regard, the present higher education institutions, particularly the larger, more established ones, lack the agility to adapt to the

changing knowledge and skills needs of a rapidly shifting global economy. This is where the smaller universities have an advantage; they can be much more agile.

The development of the new technologies has effectively positioned digital as a fourth dimension of basic literacy. In this context, digital needs to be completely integrated into the curricula and modes of teaching and learning at all levels, including in higher education. Every young person graduating from college must be comfortable working in the digital space. This is not to say that everyone should be designing software or robots, but rather that they should be at ease working in a digital environment and using the tools produced by the new technologies in the workplace - beyond merely being familiar with how to connect via social media on a cell phone.

Swartz: Incumbency is a problem. In relation to decolonisation, one of the big debates over the past few decades has concerned the language of instruction. Should we be trying to develop African languages to this end or is a lingua franca preferable? And again, parents become involved, wanting their children to learn in English. Then there is also the issue of what should be studied, what should comprise the core curriculum and how greater reference may be made to the history of the continent and African cultural practices.

Materu: The issues of the curriculum and language should be addressed from a pupil's early schooldays. The language of instruction, whether it be English, French, Zulu or Swahili, and the content of curriculum must be directed at helping the child to understand and make them feel comfortable in their educational and larger social environment.

In this respect, the issue is not so much one of language but rather of the orientation of the education system. For example, you can teach in a local language but still be teaching Shakespeare. It is the content and the examples that the teacher gives when they are standing in front of the child that matter; and the way in which the place is organised, its culture. At present many schools can be quite alien spaces compared with the hearth at home. The goal should be to connect what is happening in the school more intimately with what is happening in the family environment.

Swartz: That is an interesting point. In this regard, many of the first-generation university students in the Mastercard Foundation Scholars Programme have described a disconnect between what they have learnt and what they have become, and their experience of home. What has been your experience of this phenomenon as Chief Programme Officer at the Mastercard Foundation.

Materu: Many of the African students who have been granted Mastercard Foundation scholarships hail from poor backgrounds. In this regard, one of the scheme's objectives has been to break the cycle of poverty and produce individuals who can forge a different path for themselves. In this respect, the programme was deliberately meant to be disruptive. So, the fact that the scholars feel that there has been a major change in their lives is not a problem. Rather the hope is that they will leverage this to transform the lives of their brothers and sisters, their

families and their communities in some positive way. Indeed, many of the scholars to whom I have talked have told me how they have contributed to paying fees for their sisters and brothers and even to improving their family homes. In addition, some have connected relatives to other scholarship systems – all of which indicates to me that the scholarship programme is achieving some measure of success. And some are beginning to demonstrate impact at higher levels. One of the alumni of the Scholars Programme is now a government minister in Rwanda.

Swartz: Many of the foundation scholars are spending some of their stipends on helping their families, indicating how committed they are to supporting their communities.

Materu: This is correct. In this regard, it would be interesting to track what happens in their families and communities over time.

Swartz: Another finding that has emerged from the research into the experience of Mastercard scholarship students who have studied on the continent, but not elsewhere, has been their widespread criticism of the kind of knowledge that they are being taught. They complain that their lecturers just show up and read from a textbook or some PowerPoint slides; but that there is no application of the knowledge being disseminated, although this is not the case at every institution.

Materu: I do not know enough to comment on this complaint. It is worth digging deeper into. It would also be interesting to assess the labour market outcomes of graduates who study on the continent versus those who study elsewhere. So, are they complaining because they are not able to find jobs quickly after graduation as a result of this?

Swartz: Well, the perennial complaint is that employers are looking for experience, which these graduates lack. So, there is a gap between graduation and finding a job which needs to be bridged in one way or another in order to help these young people make the transition.

Another finding that has emerged from the interviews that have been conducted relates to the difficulties that many scholars experienced when they were forced to work online from home under the lockdowns that were imposed in response to the Covid-19 pandemic from March 2020. With many institutions stepping into the breach, the main concerns were not a lack of access to a laptop or data; rather the key issue was the lack of a reliable supply of electricity. In the context of such infrastructure challenges, what are the actual prospects for digitisation across the continent?

Materu: An eLearning initiative undertaken by the Mastercard Foundation identified electricity as the primary constraint, followed by access to portable devices and appropriate connectivity/bandwidth. Production of the content and the design of the instructional model were not viewed as posing a significant problem. In response to the infrastructural challenge, the foundation intends to partner with other organisations like the World Bank and telecommunications and financial institutions, since it is not an area in which the foundation is

equipped to adopt a leadership role. There may also be an opportunity to deploy solar-power technology in support of learning in new, creative ways.

Swartz: Satellite technologies also may be deployed to bring connectivity to deep rural areas, even though the initial costs are high.

Materu: Satellite-based bandwidth was promoted as a solution by the World Bank during the late 1990s/early 2000s in support of a partnership that it established called the Global Development Learning Network (GDLM). However, after an initial four-year block of funding provided by the bank, the institutions were unable to find the funds to cover the bandwidth costs fully and the initiative subsequently fell into abeyance. The unit costs would have to come down for this to be a viable alternative.

Swartz: At present, there is a tension between making a profit from the new satellite technology or deploying it as a public good for the future, enhancing the communications infrastructure so that more people can have access.

Materu: It can certainly be done. A few years ago, the idea of Africa putting up its own satellite to facilitate learning was floated and costed but never realised. However, the estimated price, which was a few hundred million dollars, was not that great and could be raised if the continent were to have the political will to do this.

Swartz: It would be interesting to see what plans the world's technology leaders could produce if they focussed on the provision of connectivity via satellite as a public good. For example, Elon Musk has already proposed using the technology to connect the northern hemisphere and South Africa for about \$65 a month per subscription, indicating that there is potential for a much lower price.

Materu: If connectivity via satellite could be made available at an affordable cost, it would really be competitive because everybody – irrespective of where they are – could be connected.

Swartz: What is your vision for the future of the African university? Is there one model that you want to champion or do you believe that there should be different kinds of institutions?

Materu: I think there should be more diversification in African higher education. The purpose of the institutions in the sector cannot be merely to absorb students coming from high school. The purpose has to be connected to the demand side: to the socio-economic development of communities, countries and the continent. In this context, diversification is crucial to meet the need for knowledge production that can create solutions, as well as the need to produce competent people who can deploy that knowledge to create products and services that make a difference to people's lives.

There is also a need to build resilient institutions which are agile enough to meet the needs of the present dynamic environment. This entails establishing learning systems which can withstand shock by, for example, integrating eLearning with face-to-face learning in a blended model.

Resilience also entails establishing professional, apolitical governance capable of leading change and which understands both the local and global environments. In this regard, a key issue is to ensure that progressive pilot schemes are properly domesticated; and that the regulatory regimes which are established can accommodate positive competition.

Resilience further entails establishing a predictable financing regime. Many governments are seeking to fund education properly, in many cases spending more on this than on health or agriculture, but the sum remains insufficient due to the relatively small size of their economies. So, there has been some creativity in finding alternative sources of funding, such as, for example, through providing students with loans to be paid back when they enter the workplace after graduation. Of course, such a programme requires tracking graduate outcomes quite carefully, indicating how effective solutions to the issue can entail significant systemic change. Which is not to say that it cannot be done. For example, Rwanda has undertaken effective financial reform of the national higher education sector in this way. Another approach, which has been widely adopted in the West, is to source financial support from the alumni community. In this regard, the African Development Bank has proposed establishing endowment funds which would over time generate the resources that higher education institutions require to sustain their core functions. Such funds could derive part of their capital from alumni donations.

Swartz: Is the size of the particular higher education institution a significant factor in implementing some of these proposed changes that you have articulated?

Materu: I think there is a tension between size and agility. But resilience is an achievable goal for every institution whether large or small, although the amount of resources and time required to achieve the goal may differ. And some institutions are already on this road, but few public institutions have addressed the issues of effective governance and predictable finances in depth.

It should also be noted that some of the small institutions can have a broader impact. For example, Ashesi is leading a collaboration among universities that is focussing on governance. The institutions are learning from each other about how to govern so that they can improve their performance and achieve relevance. The Mastercard Foundation is now supporting a second collaboration among universities to promote and contribute to a new public health order in Africa. There are a number of other existing networks across the continent which advance systematic learning among institutions.

Swartz: The foundation is also developing new ideas around internship, which are interesting from a bridge-building point of view.

Materu: There are two main impediments to the delivery of well-prepared young people who have studied relevant disciplines into jobs and livelihoods. One is a lack of appropriate linkages.



Many young people may not have a comprehensive understanding of where the opportunities are; while those on the demand side may not know what kind of graduates are available. So, the foundation is working towards supporting an internship programme, as well as a volunteers' programme in order to provide young people with opportunities to learn how to operate in the workplace and to show what they can do – in other words, to elevate their employability. In this regard, career counselling which can be quite theoretical is being supplemented by a more practical approach.

The second main impediment is the lack of jobs and employment opportunities in Africa. A World Bank survey found that African countries employed at most 21% of the labour force in the formal sector, meaning that the vast majority work in the informal sector. So, there is a need to empower graduates to create their own jobs, their own companies, and so on. This entails not only equipping them with the appropriate knowledge but also providing seed funding.

To this end, the foundation launched a Young Africa Works Strategy which aims to enable 30 million young people, especially women, access to dignified work by 2030. Young Africa Works, which aims to accompany the young person through their education and into the post-graduation transition space, offers support on the demand-side whenever the young person creates work, including by helping him or her to expand their enterprise so that more people can be hired. A number of programmes have been or are being launched by the foundation under this strategy. One is what may be described as a “fund of funds” (the Africa Growth Fund) which will finance entrepreneurs during the early stages of growing their enterprises. Another, pan-African programme supports women, recognising that in most cases, women are less forthright than men in grasping entrepreneurial opportunities. There are also a number of similar initiatives supporting entrepreneurship across the foundation's country programmes.

Swartz: Entrepreneurship should be promoted in a way that widens young people's imagination of what may be possible. A graduate can be an entrepreneur in almost any sector, not just in technology or agriculture, but also in the creative and caring industries. Unless this is understood, the tendency can be to produce entrepreneurs within a narrow band of sectors.

Materu: Absolutely. It should also be noted that university education is primarily about learning how to learn. So, when they graduate, they are not obliged to engage only in the discipline in which they were trained. They can learn a lot of other things and move into other areas.

