Tuning Africa

Design and Implementation of Degree Programmes in Teacher Education

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Phase II

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Content

Preface

The harmonisation of higher education in Africa is a multidimensional process that promotes the development of an integrated higher education space on the continent of Africa. The objective is to achieve collaboration across borders, sub-regionally and regionally, in curriculum development, educational standards and quality assurance, joint structural convergence, consistency of systems as well as compatibility, recognition and transferability of degrees to facilitate mobility. Harmonisation is necessary for achievement of the African Union vision of integration, peace and prosperity.

Tuning Africa was adopted as a possible instrument to advance the African Union's harmonisation agenda, in collaboration with the EU through the Joint Africa-EU Strategy. Implementing a second phase of Tuning was one of the commitments taken at the 2014 Africa-EU Summit in 2014 in Brussels, as a follow-up to the very successful pilot phase which took place between 2011 and 2013.

At the November 2017 Africa-EU Summit in Abidjan, Heads of State committed to deepening their collaboration and exchange in education, aiming at increasing the employability of young people bearing in mind that investing in youth and future generations in Africa is a prerequisite for building a sustainable future. In this context, further concrete initiatives in the field of higher education which aim to enhance relevance and the quality of education and training will be encouraged.

By contributing to the harmonisation of higher education in Africa, Tuning Africa is complementing Erasmus+, the Intra-Africa academic

mobility programme and the Nyerere scheme; thereby enhancing the mutual recognition of academic qualifications and facilitating exchanges and mobility of students and staff across the continent and with Europe. This is instrumental for acquiring key skills and competences that are important for employability, facilitating collaborative research addressing common challenges, and for ensuring relevant and quality education.. The dialogue on credits and a common credit system for Africa is another major deliverable for Africa. All these initiatives are in line with the Continental Education Strategy for Africa as well as Africa's Agenda 2063 which calls for an education and skills revolution.

Tuning Africa has provided a platform for dialogue on quality assurance and the improvement of teaching, learning and assessment in higher education. Bringing together academia and employers, and importantly in this second phase, the active involvement of students, has been crucial. The success of Tuning Africa has been the involvement of a critical mass of universities and stakeholders, the ownership and commitment of all involved, as well as a transparent and credible leadership.

The AUC and EC are grateful to all the African and European experts involved in the production of this book, which is an outcome of the Joint Africa-EU Partnership Harmonisation and Tuning Africa 2 initiative.

African Union Commission and European Commission

Chapter 1

Introduction

1.1. Background Information

The purpose of this publication is to report on developments and outputs of the Tuning Africa Teacher Education Subject Area Group (SAG) since the first phase of Tuning initiative in the African continent.

The Tuning transformational vision in Africa has been directed towards improving the higher education sector by enabling production of competent graduates through a review of current curricular with the intention of building relevant content, context and pedagogy which qualitatively and quantitatively fit into the continent's requirements for the 21st Century global knowledge economy. According to UNESCO (cited in Lawson and Askell-Williams, 2007) today's rapidly changing world demands that education systems be re-oriented so as to equip graduates with life skills packed with generic and specific competencies needed across multiple fields. Among the competences needed are skills to effectively use information communication technologies (ICT), capacity for independent learning, capacity to work in teams, ethical entrepreneurship, civility and coping with human diversities among various cultures.

The need to review, update and improve the African high education (HE) curricula follows a realisation that left to linger in the current system of education provision; the continent will continue to remain behind other continents in development. Attainment of development

and its sustainability highly depend on competent human resources. Yet, practice and available literature about the continent have consistently painted a grim picture of the African high education outputs and outcomes (Brock Utne, 2000; Mba, 2017; Feredua-Kwarteng and Ofosu, 2018). Left untransformed, chances are slim that the continent's HE outputs will significantly contribute to move the continent beyond the current strong dependence on people from other continents to feed and defend its own people, governance systems and economic structures. Much of the higher education systems in Africa encourage teaching for passing examinations instead of building individuals' production capacities; such an education is worthless within an environment where work opportunities are highly limited, competition for employment is extraordinarily stiff and the need for creative and innovative graduates is in high demand.

According to Elumelu (2017), if African governments are to successfully address the continent's problems, they need the support from the private sector and invest in building *expertise* among its peoples. Expertise in this context is directly linked to the type of graduates produced by and through the higher education system in the continent. Tuning Africa has come in at a time when such realisation and thinking are spreading through Africans, no matter how few advocates for the ideas might be at this time.

The Tuning Africa Project's interventions constitute attempts to capture available opportunities in the continent, specifically the youths who are increasingly making most of the continent's population due to high birth rates and reduced mortality rates (UN, 2017). The initiatives also include efforts to address the need for integrating the continent to form a harmonious operational African Region through staff and students mobility as part of exchanging and sharing expertise (human capital) to guarantee a balance of HEI services among countries. To meet these targets, the project has formulated research-oriented competence-based curricula in seven specialised areas constituting Agriculture, Economics, Applied Geology, Civil Engineering, Mechanical Engineering, Medicine, and Teacher Education. Members from these specialised groups were required to conduct in-depth research in their countries' higher education institutions to determine the current curricula situation and elicit competences currently being developed among learners and competences that were not being developed despite knowledge by research participants and educational stakeholders that they were necessary for learners to cope with

contemporary life experiences in the continent and across the globe. Research participants included students, employers, administrators and other HE stakeholders. The research was conducted, competences determined, presented and discussed among specialised groups and at plenary sessions where generic and subject-specific competences were drawn for each specialised group. Details of agreed competences are presented later in this book. Tuning Africa Project members unanimously opined that if the African higher education systems effectively educate African youths through the provision of competence-based and outcome-focused curricula the youths will proactively participate in contributing to the transformation of the continent's development.

The demographic value of the African youths who constitute the majority of HEIs students has been established by realising that they will be constituting one-quarter of the world's under-25 in just a few years to come (World Development Report, 2007). Youthfulness among humans signifies potentiality for high productivity. If higher education curricula are quantitatively and qualitatively revised to suit actual development needs as per Tuning Africa projections of ensuing benefits of outcome-focused teaching, learning and assessment, chances are high for the African higher education sector to transform resulting into increasing the likelihood of attaining the anticipated sustainable development goals (SDGs) for the African continent. Educated youths with competences required for development purposes will secure employment in public, private and self-employment sectors wherein they will engage their university gained experiences to improve services and maximise productivity towards serving individuals, communities and the general society.

According to the World Development Report (2007), there are three key features contributing towards a successful education policy responding to youth unemployment which is a typical result of failure of the current standard based curricula. The key features involve (1) expanding opportunities for the accrual and preservation of human capital - i.e., access to formal education and training; (2) enhancing the capacity of the youths to take advantage of job opportunities; and (3) creating programmes and mechanisms that equip youths with the tools and skills needed to take existing job spaces as well as developing own opportunities for self-employment (Elder *et al.,* 2010). Teacher education is central to policies that favour increasing employment opportunities for youths in Africa at the present time and in the future.

Thus the Tuning Africa initiatives constitute major contribution in attempting to meet these perceived prerequisites for the development of the African continent.

1.2. Tuning Africa Membership and Language of Instruction and Communication

The focus of the Tuning Africa Project is the entire higher education system of the African continent. Nevertheless, this focus is porous in the sense that the outcomes of the project are intended to reach and impact the entire education system in the continent. Graduates from 'Tuned' universities who have successfully qualified Tuning training programmes are educated and encouraged to spread the Tuning concepts and methodologies among those who have not yet received such training. They are expected to keep the Tuning dialogue alive among those who are aware of Tuning for advanced actions. Moreover, each Tuning participating university has been encouraged to invite other higher education institutions and solicit members from such universities. Training for Tuning Africa take various forms considered appropriate and effective for each particular institution or groups of universities.

From the Southern African Region, countries which are represented at the Teacher Education Subject Area Group Tuning project include Namibia, Mozambique, South Africa, Tanzania, and Zimbabwe. There is one country from Central Africa which is the Democratic Republic of Congo (DRC). West Africa is represented by Cameroon, Gabon and Nigeria; and Northern Africa is represented by Egypt and Ethiopia. The Eastern Africa region is represented by Kenya, Uganda, Somalia, Rwanda and Tanzania; the latter has a dual belongingness in the sense that her geopolitical and economic considerations operate for and from both the Eastern and Southern Africa locations. The representation clearly indicates that Tuning Africa country representation /membership covers areas characterised by three major colonial /foreign language historical backgrounds constituting of Anglophone, French, and Lusophone, as well as the Arabic-speaking countries of the north, specifically Egypt and Ethiopia. For effectiveness, translation facilitation is a core provision at Tuning meetings as well for documentation. This situation sets Tuning concerns for language as a key challenge in the African continent hence an aspect that the continent needs to address. As we brainstorm we ought to ask ourselves whether Africa needs

one common local language; and if so how can such a language get agreed upon by all African countries? If no, why should the continent continue using borrowed languages from former colonial masters while language constitute one of the tools employed to sustain dependence conditions in the continent?

1.3. Tuning Involves HEIs Using Diverse Modes of Delivery

Despite that most of the universities represented in the Tuning Africa Project are largely conventional; there are also those representing universities offering programmes through the distance education modes. The representative universities are specifically the Open University of Nigeria and the Open University of Tanzania. The sector of distance education is also represented through participation of the African Council for Distance Education (ACDE) which is a professional body for distance education in Africa and the African Virtual University (AVU). Currently, open, distance, and online learning are considered effective means of extending the reach of formal education and training through engagement of flexible strategies which attract learners from formal, informal and non-formal programmes. The flexible strategies allow integration of print-based materials, remote study access centres and face-to-face components (ILO, 2012).

Further, increased access to online education opportunities enabled through information communication technologies (ICTs), internet facilities and availability and access to free online programmes such as Open Education Resources (OERs) Mass Open Online Courses (MOOCs) which are free online courses are free for all, therefore they provide affordable and flexible opportunities for anyone to learn and acquire knowledge, skills and values needed for specific needs which could be for individuals or groups of people. OERS and MOOCs have added value to open and distance education and attracted most universities to offer open and blended online learning options. OERs and MOOCs have also attracted individuals and groups who study following their specialised needs of knowledge, skills or values for which they do not need certification but they only pursue such education for the sake of equipping themselves for effective engagement and productivity wherever they work or provide services. Some pursue such educational programmes just for leisure. On these grounds, one of the generic competences determined at Tuning is assuring that all HEI graduates should have sufficient skills in information communication (ICTs) so as

to enable them to assess the information they need both for education and for improving their general quality of lives. Generally, open, distance and online learning modes of education delivery have shown great potential for increasing the numbers of teachers across Africa. It has also opened more opportunities for the provision of other fields in education.

Engaging Technical and Vocational Education (TVE) in the Tuning Project

The focus on technical and vocational education (TVE) is likely to assume greater prominence in the future of the African continent UNESCO (2016). TVE has high potential to address the training needs of the youths and the economic needs of all countries in Africa. Teacher education for TVE is represented by specialised faculties at the Adama Science and Technology University, Ethiopia, and The University of Nigeria, Nsukka. Other universities are also beginning to recognise the need to offer specialised programmes for TVE teachers. This need is grounded on realising that TVE programmes in Africa have consistently focused on practical training; the positive outcomes of which have been evidenced in TVET graduates' capacity to enter successful self-employment ventures. The TVET achievement is unlike that for majority graduates from traditional universities whose theoretical based academic programmes have made their graduates to largely depend on formal employment in public and private sectors. Unfortunately, employment opportunities in these sectors are gradually dwindling in the continent. Failure to get employed, university graduates have gotten disillusioned and resorted to negative behaviours and waste of resources contrary to social expectations. Tuning Africa initiatives have opened up for joint education curricula advancing TVE-oriented programmes. The first of which is the Master of Technology Education originally adapted from The University of Nigeria, Nsukka (UNN) for offer at the Open University of Tanzania (OUT), University of Makerere and UNN. This initiative, we believe ushers a bright future for TVE in Africa's higher education.

1.4. The Essence of the Tuning Africa Project

The essence of the project is to ensure higher education institutions become aware of the project's concepts and methodologies

of designing curricula, teaching, and assessing university learners with a focus on meeting intended learning outcomes (ILOs) for the higher education system. This approach links education processes to learners' relevance for pursuing university studies. Competence-based curriculum, which is the grounding phenomenon for the Tuning Africa Project, advances a paradigm shift from rote memorisation or banking education (Freire, 1984, hooks, 2000) to developing learners' capacity for transcending mundane practices and moving beyond what the teacher and literature provide to engage in inquiry learning i.e., questioning and identifying actual /experiential problems encountered in society and seeking practical solutions to the problems they identify. This can be possible when curriculum is designed following a thorough engagement of multiple education stakeholders and conducting situational analysis to determine what learners need to know, do, and be during and after their study. This understanding from a Tuning Africa perspective is critical in tailoring relevant and effective curricula; curricula that guide teachers to involve students in collaboratively producing knowledge and developing skills and values that foster harmony in working together for the common good of all.

Membership to the project is based on floating invitations for interested universities to apply. The institutions then fill in applications to participate and those who qualify are requested to appoint a member or members to join others in specific specialised academic programme groups at Tuning. As alluded to earlier under this background part of the chapter, there are so far seven participating academic field groups, five of which started during the project's first phase (Tuning Africa I) and two who joined during the second phase (Tuning Africa II).

The Structure of Teacher Education

Teacher Education programmes in Africa are very diverse. Before the establishment of regulatory bodies in some countries, each teachers' college was highly autonomous, following only the goals of the school's proprietor. Even within countries, great diversity was noticeable as teacher education developed. For example, Nigeria had Grade III Teachers Colleges, Grade II Teachers Colleges, Advanced Teachers Colleges, Colleges of Education, Institutes of Education, a National Teachers Institute and Faculties of Education in universities. Today, Grade III, Grade II and Advanced Teachers Colleges have been

phased out in Nigeria. The lowest teaching qualification today is the Nigeria Certificate in Education (NCE) obtained from Colleges of Education. All teachers in the senior secondary schools are expected to be degree holders. Similar processes of reform can be seen across Africa, where the number of institutional levels has decreased as countries strive to create a teaching force in which all teachers hold degrees.

Context and Challenges in Teacher Education Programmes in Africa

There are many challenges facing teacher education in Africa and many of them derive from the context in which education has to be offered on the continent. Although colonialism began to unravel in the 1960s as country after country achieved independence, its legacy remained, supported in part by the desire of the former colonial administrations to help develop educational facilities that they had not themselves provided. During the colonial period, education supported minority populations, so that, at independence, all countries found themselves needing to increase educational opportunities for the majority of their citizens. Invariably, school enrolment increased. For example, in Zimbabwe, "the number of secondary schools increased by 245% while enrolments increased by 100% within one year after independence [in 1980]" (Government of Zimbabwe, 1987; Zengeya, 2011, p. 16). School candidates "increased from 5,400 in 1980 to peak at 185,730 in 2001" (Zengeya, 2011, p. 17; Government of Zimbabwe 1987, 1993, 2003, 2005). Zimbabwe is one example of what happened in many former colonies when they became responsible for providing education for all their citizens. However, the model of schooling adopted was normally that of the colonial heritage, which may or may not have been appropriate for the African context.

There had always been and still are traditional ways of learning entrenched in all African cultures. Historically, work learning has been the main strategy for developing life skills; even today, the advent of institutional learning has not displaced it. The learning content of work learning derives from the sociocultural and economic realities of the community. This system can nowadays be considered to share important traits with the student-centred learning that many countries have introduced under reforms of school curricula. It has also close links with TVE. A gap may occur at the level of teacher education,

where an emphasis on book learning and a focus on declaratory rather than functional knowledge have certainly taken precedence in some countries, forging very few links with work learning. Tuning Africa introduces and emphasises the competence-based and intended learning outcome based provision approach to teaching, learning and assessment which closely align with preparation for learners to transfer what they learn at HEIs to their lived environments which include the work, home and community environments.

High Demand for Education

The demand for education is not a simple matter. Contemporary experience shows that educated individuals have more opportunities for employment; both self-employment and employment in public and private sectors. Lack of or limited education is one major factor leading to unemployment and underemployment. In many African countries, many young people leave full-time schooling and go straight into unemployment. This is a complex problem, but part of the solution may lie with schools providing a more relevant work-oriented education, providing youngsters with skills in language, numeracy, teamwork and technical skills that will equip youths to access labour markets as they complete each cycle of the education systems. In Egypt, for example, roughly 600,000 young people leave school each year, while there are only 200,000 jobs available (Kendzia, 2012) this is a problem of existing economic infrastructure. The situation is made worse by skills mismatches which create an on-going barrier for the school-to-work transition, as it deters employers from hiring young people.

Similarly, lack of skills constitutes a major constraint in terms of business creation. Findings from a School Transition Survey in 2007 show that 60 to 70 per cent of all employers interviewed complained that first-time job seekers lacked appropriate skills for the work place (Angel-Urdinola *et al.,* 2010).

The country reports in the Teacher Education SAG show that two African countries have strong vocational teacher education strategies to enhance school achievement for employment. Nigeria is an example of a country that has made a major investment in TVE. Similarly, Ethiopia is investing in specialist institutions for the training of technical teachers.

In virtually every African country, investigative commissions have recommended the need and ways to review, modernise and broaden the scope of teacher education curricula in order to cope with the new challenges. Posner, Strike, Hewson and Gertzog postulate in their 1982 model for curriculum reform (quoted in Chiromo, 2011):

> Four conditions must be met for the successful implementation of a curriculum reform, namely, stakeholders (students, parents, employers and educators) must be dissatisfied with the existing curriculum . . . and start to agitate for an alternative curriculum; for the stakeholders to accept the alternative curriculum, it must be intelligible, i.e., it should make sense to the stakeholders; the alternative curriculum must be plausible and appear to have the capacity to solve the problems generated by its predecessors; and the alternative curriculum must be fruitful, opening up new areas of inquiry. (p. 43)

Posner, Strike, Hewson and Gertzog model's four prerequisite conditions for curriculum reform make sense with the Tuning Africa Project since the project was initiated as a response to concerns about the current curriculum in Africa and elsewhere not meeting demands of competencies required for the contemporary 21st global knowledge economy. The new economy operates under conditions demanding complex and multiple competences that adequately serve in interconnected operations within new information communication technologies (ICTs), internet connectivity, unprecedented mass availability of online information, multiculturalism, global demand for democracy and equality, stiff competition for employment, commercial competitions and other demands.

Language of Instruction

Africa is a continent in which there are sometimes literally dozens of mother tongues within the same country. For example, almost all Senegalese speak an indigenous language, of which Wolof is the most widely used. About 50,000 Europeans (mostly French) and Lebanese and Vietnamese reside in Senegal, mainly in the cities. However, schooling takes place in the official language of French, and current

plans call for introducing English as the language of instruction from the primary level. Cameroon (www.nationsencyclopedia.com/Africa/Cameroon.html, 2010) also reveals a varied population consisting of 24 major African language groups and over 279 ethnic groups with a distinct dialect, as well as four colonial languages–Arabic, English, French and German. Rarely are indigenous languages adopted as languages of instruction from the level of early childhood education through the university level as happens in some developed countries–although it is inaccurate to think that countries like the United Kingdom or France, for example, have only one language, indigenous or otherwise.

It was often the colonial language that was adopted as the language of instruction because none of the indigenous languages were sufficiently developed to serve as lingua franca. Swahili is a different case to be considered, developed from a creole that itself developed over time in pre-independence East Africa and which was later subject to considerable research and development to accommodate academic and economic discourses. Swahili is faring well, as Maya Kiesselbach (2012) reports:

> Based on her research into staff and students' participation in information and communication technology (ICT) at the University of Dar es Salaam . . . Torill Aagot Halvorsen reports a gradual increase in academic online use of Kiswahili even though English remains the dominant medium of instruction in Tanzanian higher education. She points out that one sizeable colonial legacy is its continuing influence on modern education and languages. . . . Halvorsen makes the case for establishing Kiswahili as a language of instruction in Tanzanian universities and introducing English as a foreign language subject. This would end discrimination against students who currently have to attend lectures and produce coursework in a language they are not proficient in.
>
> Language acts as a barrier for many African students in that they are unable to access the curriculum, and Halvorsen further argues for Kiswahili as she says, "without the language barrier . . . students would be enabled to engage much more with the content of their studies. (p. 309)

Zimbabwe is another country in which the language of instruction acts as a barrier against education. As Chisaka (2011) informs, among the social dynamics that work against children and that deny them access to education "has been the maintaining of the English Language as a medium of instruction in Zimbabwe's education system. With the language of transnational capital in command, the competence of which is used to measure knowledge and skills for one to engage in economic activities, the majority of the people are confined to poverty and deprivation" (p. 4). A teacher trainee in Uganda commented on this issue: "In the college we learn to teach reading in English, but I prefer to teach reading in Luganda because most children of lower primary age come to school when they are competent in it" (*Tuning, 2013* p. 180).

One limiting factor is the huge cost of language development, with the concomitant cost of producing materials. Students who progress to higher education must acquire the ability to access literature in some of the major languages of the world. Some parents and many students may wish to learn a world language. As noted above, Senegal is going to introduce English in schools, and it is also being considered in Gabon, both countries having many indigenous languages, and French as an external official language. The language issue is an important one, but it suffices to point out that it is a problem that needs to be addressed as one of the Tuning Africa initiative.

Resources and Infrastructure

Another challenge, not only for higher education, but for the entire education system in Africa has been limited resources and infrastructure. Most African countries bear a burden of economic hardships resulting from continued dependence on an unbalanced global economy. In that economy, Africa has been partly disadvantaged because of its colonial and neo-colonial background, leaving the education sector under on-going constraints in revenue and other resources. Omwami and Keller (2010) have discussed this issue of economic challenge eloquently. They argue convincingly that

> a prerequisite of providing access to public education is funding. African nations have signed up to the United Nations (UN) Millennium Development Goals (MDGs) declaration,

> which guarantees, among other things, universal access to education by the year 2015, yet today, as was the case in 1990, a significant number of children remain out of school.

This situation of lack of funding does not spare the higher education sector. This sector has also been affected negatively.

Omwami and Keller (2010) analyse data from the UNESCO Institute for Statistics (2007) for thirty-six countries to demonstrate the difference between Net Enrolment Rate and Gross Enrolment with the latter being less than the former. The UNESCO statistics show the economic growth of twenty-five countries (Benin, Burundi, Cameroon, Chad, Comoros, Congo, Eritrea, Gabon, Ghana, Guinea, Ivory Coast, Kenya, Lesotho, Madagascar, Malawi, Namibia, Niger, Nigeria, Sao Tomé and Principe, Sierra Leone, South Africa, Swaziland, Togo, Zambia and Zimbabwe) as being sluggish between 1999 and 2004. Seven of these countries recorded negative economic growth in 1999 and 2000. By 2004, there was an improvement with only two of the seven —Comoros and Zimbabwe— still posting negative growth of –0.24 and –3.80 respectively. With such struggling economies, it is not likely that education would be adequately funded. It is also not surprising to find that budget allocations in several African countries indicated encounter with major challenge (Omwami and Keller, op. cit.).

Adequate funding for education is very important. In order to engage in relevant programme design, development and implementation; each institution of higher education requires major investments in order to guarantee its ability to, for example, hire and retain competent staff; purchase or develop relevant high-quality books or other types of texts, appropriate and effective facilities including ICT hardware and software, scientific and laboratory equipment, furniture, reliable electronic libraries, laboratories, lecturer rooms, dining rooms and dormitories; as well as ensure reliable water and food supplies, etc. All these resources constitute prerequisites for the provision of relevant quality education and meaningful expansion of any country's education system.

Members of the Joint Africa - European Union Strategy Tuning Seminars have recommended enhancement of staff and student mobility so as to ensure a greater exchange and sharing of

ideas, expertise, talents, facilities and activities. Greater staff and student mobility would also encourage publication, research and consultancies that address or expose common challenges and open up opportunities to be harnessed. This improved activity is essential since Africa's contribution to research and publication as a share in the world currently remains the lowest at the rate of only 1 per cent. Collaboration in research and publication initiatives would trigger more contributions from the continent in this area. If members have greater facility in movement, conducting research or publishing and enjoying the availability of relevant resources, it would be more meaningful, relevant and beneficial to the continent. Many higher education institutions are recent foundations; the older and more experienced higher education institutions can mentor the newer institutions at the same time while simultaneously sharing innovations that the young institutions may have adopted and which older institutions could adapt to their own needs. Whichever way one looks at things, funding still remains crucial for any meaningful research, growth and development to take place for either old or new universities.

The Tuning Project provision of avenues for staff and student mobility through EU-AU education and training collaborations addresses this dire need. Until now several Tuning members have gained from the ERASMUS Mundus scholarships. It is anticipated that this form of collaboration will be furthered and more funding sources will be sought to better source transformations in the education of the continent.

Participants in the Tuning Teacher Education SAG acknowledged that knowledge of the shortfalls in the system as discussed above is wide spread but that most countries in Africa have competing priorities for the sustainability of socio-cultural operations, a fact also acknowledged by UNESCO (2010). Many higher education institutions in Africa have failed to reach expected standards. In many cases, teaching staff are inadequately trained – or not trained at all in pedagogical practices for their professional work. Some staff may have practised their profession for very long periods while receiving little or no in-service training. Many still need to acquire doctoral degrees in order to continue to teach at universities. As with educators in all countries, they face tight budget constraints on public funding for research, with the result that very few staff in HE have had sufficient financial support to conduct research able to

inform changes, innovations and improvements while meeting global, regional and local development requirements.

Information and Communication Technology (ICT) for Learning

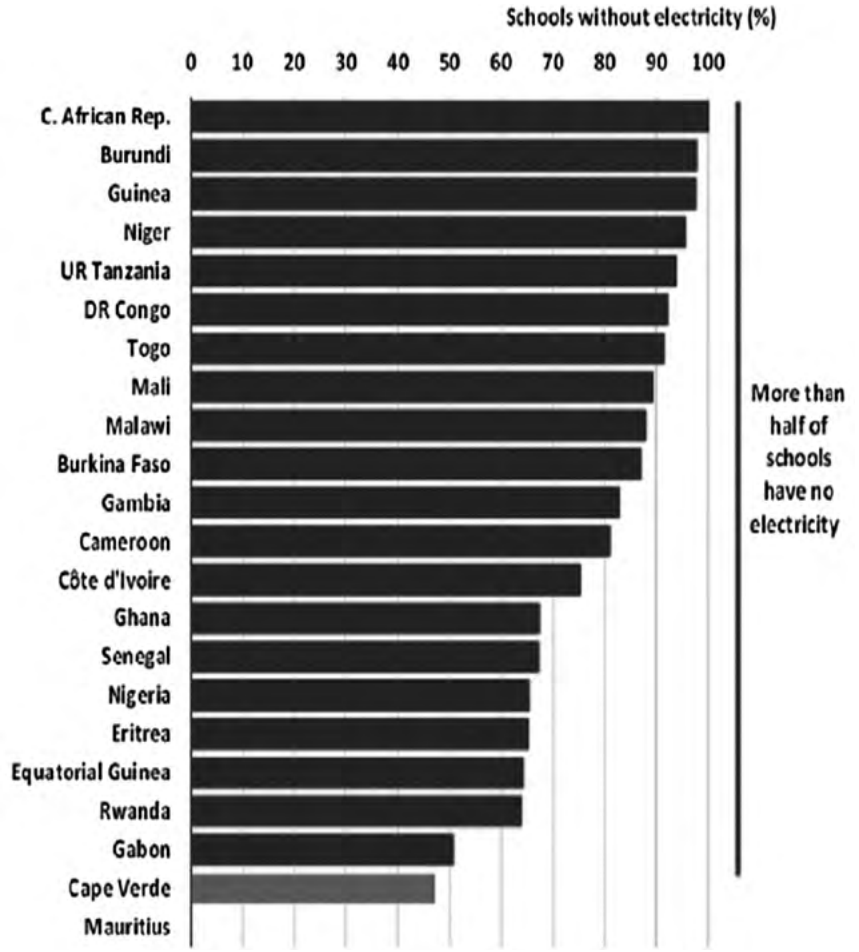
In spite of the limited access to connectivity or even electricity in many African countries, there are great demands for ICT to be a feature of learning. Indeed, in many cases, ICT may prove to be the most effective way to improve teacher numbers at the entry level and to foster continuing professional development for working teachers through in-service staff training programmes.

ICT will continue to shape and determine the direction and manner in which teacher education is carried out, even if today we do not know exactly how this will happen. The challenges in Africa are many. The broadband issue, the worsening digital divide, including intra-institutional divides and problems with adequate infrastructure for the operation of ICTs (such as poor and irregular electricity supply) all contribute to making access problematic. The high cost of computers and the Internet add to the causes of inaccessibility.

In many countries, there is no guarantee of access to a steady supply of electricity, particularly in rural areas. Distance learning thus still has to rely on paper-based materials and face-to-face sessions in many places.

However, mobile phones are fast becoming widespread; this technology is increasingly being used successfully in some countries for the training of professionals. An example is found in Sweden's success in training nurses in the use of new equipment. At present, mobile phones have greater capability than in the past and are not prohibitively expensive. They are therefore a promising technology for the future growth, expansion and extended reach of education provision.

As Figure 1 (below) suggests, in an era where the use of ICT in teaching and learning is widely recommended, there are many schools in Africa where basic electricity provision is highly limited. Even in universities, internet connectivity may be intermittent, yet most of the educational information resides online making internet connectivity an imperative of the teacher education sector in universities in particular.



Source: UNESCO (2011).

Figure 1
Electricity availability for schools in twenty-two African nations

As noted above, even universities often lack very basic facilities among which is electricity and internet connectivity. This is even more serious issue in the case with primary and secondary schools, many of which are stark and bare. There may be scant facilities, few textbooks and little developed infrastructure, let alone Internet connectivity and computers for the children to use in learning and exploring the world.

What constitutes the African context for education in many cases in rural areas is a gathering place under the shade of trees. If a school building exists, children often have to sit on bare floors since there is no modern furniture including desk or tables and chairs.

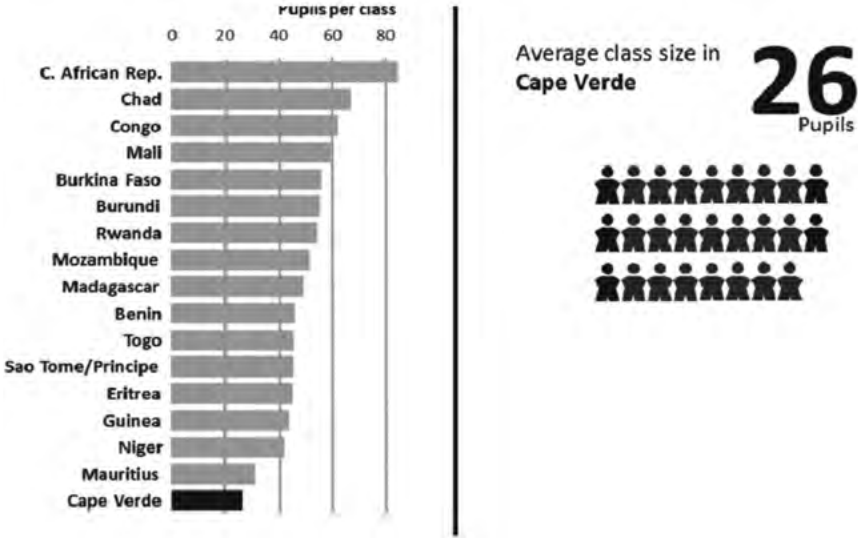
Nevertheless, matters are improving, and the education of teachers must look forward, not backwards. Teachers must be educated in such a way that they become Computer literate and versatile in order to lead and guide their own students into the use of technologies.

Teacher Availability

In the drive to achieve universal primary education as one of the Millennium Development Goals and Sustainable Development Goals, there is an increasing recognition that it is urgent to focus on teacher education to meet the demand for the more than one million qualified teachers required to achieve this goal within Sub-Saharan Africa, as well as to combat the sometimes poor quality of educational experience reported in schools. Currently, approximately only one third of teachers are qualified to teach. This dearth of qualified teachers also means that secondary and tertiary education must be improved to provide an educated cohort of graduates (Griffin, 2012). Figure 2 compares class sizes in African countries.

1.5. Class Size: How do African Countries Fare?

The issue of teacher unemployment in some African countries and teacher shortages in others is a real one. As Figure 2 illustrates, in some countries class sizes in schools are excessive. This does not depend simply on the level of employment of teachers, but is also connected, in many countries, with teachers' need to have several jobs, since the salary from a single job is too low for a family to survive on. This fact also affects students in many places where the demands of the local economy may require them to absent themselves from school in order to work. Girls may be particularly affected by sporadic schooling because of domestic responsibilities that they are traditionally obliged to undertake and other limits on families' willingness to permit them to go to school.



Source: UNESCO (2011).

Figure 2
Class sizes compared in seventeen African countries

Maintaining and Sharing Good Practices

One challenge for teacher education programmes in Africa is to identify and document "good practices" which could be adopted or adapted by others elsewhere without having to re-invent the wheel. Across the African continent, great efforts have been made not only to enhance the quality in teacher education programmes, but also to identify and develop good practices that could be of general use and adoption across the board. Still, the provision of teacher education is not in any way uniform. Within and across nations, it is marked by variations in structure and organisation as well as in the mode of curriculum implementation. In others, individual teacher education institutions try out what they feel are the best ways of producing teachers, thereby determining how they operate, and translating the broader curriculum layout the way they feel best suits their vision and mission. The totality of what makes sense, what works, what produces results, what is effective and what makes for efficiency is summed up in the term "good practices."

The harmonisation project of the African Union, supported by projects like Tuning, creates an opportunity to document good practices in teacher education systematically, and make them freely available to all.

General Remarks

While teacher education programmes in Africa face many challenges, it is gratifying to note that none of the challenges is insurmountable. The challenge of context and content, the issue of diversity, language of instruction, funding and even that of curriculum reform are gradually being addressed by each country.

In virtually every country in the continent, commissions and reports recommend the review and modernisation of the education curriculum, broadening the view of the teacher education curriculum. Many such reports emphasise the need for teachers to acquire skills in analysis and reflection and to achieve greater articulation between theory and practice. Some stress the need to give greater value and relevance to teaching practice while others, consonant with the Harmonisation and Tuning objectives, call for a more competence-based approach to teaching and learning and assessment of quality. Yet others call for experimentation with more diversified types of continuous professional development appropriate to a competence-based approach.

The African context is a communal context where things are done together, created together and shared together. This approach could be reflected in our teacher education programmes. The current ideal is that "the role of the teacher in the classroom has shifted from the primary role of information giver to that of facilitator, guide, and learner. As a facilitator, the teacher provides the rich environments and learning experiences needed for collaborative study. The teacher also is required to act as a guide—a role that incorporates mediation, modelling, and coaching. Often the teacher also is a co-learner and co-investigator with the students" according to "The Implementation Guide to Student Learning Support in the Classroom…" by Howard S. Adelman and Linda Taylor (2006, p. 65). In the context wherein the African communal values of collaborative work and Adelman and Taylor's guide to support students' learning by changing teacher's role to co-learning and co-investigating are considered and implemented by teachers in Africa, there will be high likelihood for dramatic changes in the school learning environment in the continent.

Generally, consideration of the African context led to the Ubuntu concept and practice being featured strongly in discussions throughout the Tuning pilot project, both in the Teacher Education Subject Area Group and in other project specialised groups. The concept of Ubuntu is found in diverse forms in many societies throughout Africa. Desmond Tutu, the chair of the Truth and Reconciliation Council (TRC) in South Africa, defined the Ubuntu philosophy as a methodology for reconciliation: according to Bishop Tutu –

> a person with Ubuntu is open and available to others, affirming of others, does not feel threatened that others are able and good, for he or she has a proper self-assurance that comes from knowing that he or she belongs in a greater whole and is diminished when others are humiliated or diminished, when others are tortured or oppressed.

Archbishop Desmond Tutu further explained Ubuntu in 2008:

> One of the sayings in our country is Ubuntu - the essence of being human. Ubuntu speaks particularly about the fact that you can't exist as a human being in isolation. It speaks about our interconnectedness. You can't be human all by yourself, and when you have this quality - Ubuntu - you are known for your generosity.
>
> We think of ourselves far too frequently as just individuals, separated from one another, whereas you are connected and what you do affects the whole world. When you do well, it spreads out; it is for the whole of humanity.

The philosophy stems from an African idiom that says "A person is a person because of others" or "I am because of others". The Ubuntu philosophy reinforces the notions of "community" or "communal learning" within which teacher education reforms can be effected. The level of consciousness about "others" or the "other" suggested in the concept of Ubuntu ties in closely with the recent concepts of peer education or learning communities, where learners do not recognise only the teacher as the source of knowledge, but also learn from

peer and community members. At schools where competence-based education is emphasized the learners are seen to survive successfully because of membership in communities of learners.

1.6. Conclusion

The chapter has provided grounding information about a variety of things that have been important to set the development of a narrative about the Tuning Africa Project and its operations. The essence and practices of the project have been highlighted. Its mission to support African governments and higher education institutions in particular to transform the operating landscapes as a means leading to curricula changes; thus transforming the curricula from teacher-centred to learner-centred enabling a leap from objective driven teaching and learning to competent-based provision. Effective execution of the project is expected to lead to meeting the mission of feeding African nations with competent human resources. The latter is a necessity in creating capable and confident higher education graduates who work with sufficient expert knowledge, skills and values for the maximisation of production in work places–private, public and self-employment. Among the challenges that Tuning is likely to continually encounter is the language of instruction barrier: However, there are also several positive existing elements that are expected to play well within Tuning; these include inclusion of higher education with diverse experience in their operating modes of education delivery (Open, distance and online as well as Technical and vocational Education). These provide added value in the Tuning Africa Project since while Open distance and online institutions open broader opportunities for flexible education systems with extensive outreach to mass provision, TVE opens up to absorb the youths whose opportunity to climb to higher education are limited in traditional liner systems. TVE also has high experiences in provision of practical field teaching pedagogy which prepares work / job- oriented graduates. The higher education systems will probably learn much from such experiences.

Chapter 2

Definition of Generic Competences: A Thematic Perspective

2.1. Introduction

With an understanding of competence-based education as an outcome-based approach to education that "incorporates modes of instructional delivery and assessment efforts designed to evaluate mastery of learning by students through their demonstration of the knowledge, attitudes, values, skills, and behaviours required for the degree sought" (Gervais, 2016, p. 99), competences within the Tuning Africa context have been organised into two categories. One of the categories pulls together all competences that students strive to develop regardless of the field of specialisation they pursue. In Tuning, this category has been labelled 'generic competences'. The second category of competences constitutes all competences that are inclined to specialised fields of study which require specialised attributes of an individual if such an individual is to perform appropriately and meet specific outcomes as per field specific requirements. The field-specific competences have been branded 'subject-specific competences'.

The categorisation and branding of the competences was derived from a Tuning guided research process engaging all members from all participating Tuning Africa institutions. The research included a cross section of institutional stakeholders as highlighted in chapter one. Results were analysed first individually at each institution for presentation to Tuning and later at Tuning Africa general meetings.

The categories derived from the research and ensuing discussions of the research findings are presented and briefly discussed in later sections of this chapter.

2.2. Competences in Tuning

Thinking on competences has evolved in conceptual terms in higher education in the last two decades, particularly with regard to generic competences, largely as a result of demands to make graduates better equipped for the rapidly changing world of work. The nomenclature to describe this constellation of desirable traits has evolved over time and include personal transferable skills (Drummond *et al.,* 1998), core and generic skills (Bennett *et al.,* 1999), generic capabilities (Bowden and Marton, 2000), graduate capability development, graduate attributes movement (Chanock, 2003), graduate skills and generic graduate attributes. Gairín Sallán and García San-Pedro (2010) understand competence as the ability to successfully address the demands of contexts of uncertainty, the product of an original and global act (learning) by persons that integrates their person and their knowledge. They agree that specific differences for their formulation in the context of higher education would assume the four traits proposed by Bowden and Marton (2000): They would (1) be agreed upon by a "university community"; (2) be developed during students' time spent at a university; (3) transcend disciplinary knowledge; and (4) prepare graduates as "agents for the social good in an uncertain future". They point out that competence is a construct that brings together knowledge, skills and public and private behaviour. In this way, the term "competence" is more encompassing than "skills." It is a construct that brings together the content of a subject and the outcomes into the world of real life.

Phase II of Tuning Africa focused on different sets of competences to be developed among individuals graduating from higher education institutions (HEIs) in Africa. Firstly, through research, groups identified competences which would be expected of any graduate from any subject area and which were also considered important and contextually relevant to academics, employers, students, the graduates and the society in general.

These were competences such as the capacity to learn or the capacity for analysis and synthesis—capacities, which were common for all

degrees. In a changing society, these generic competences were considered relevant and very important because they provide students greater flexibility when seeking employment in both public, private and self-employment sectors. Second, the Tuning Africa working groups examined those competences which were related to specific *subject-areas*. These were intimately related to specific knowledge in a field of study. The subject-specific competences give identity, consistency and brand to the particular degree programmes and link them to the world of broader professional practice.

Many programmes in teacher education have used—and indeed many still use—the term "learning objectives" in their course design, particularly since this term was frequently used in school-based learning. Objectives are sometimes confused with competences. Yet, these two differ in the sense that learning objectives focus on preparing students to be thinkers and not doers while competence-based learning is student-centred and focuses on learning outcomes that prepare students to successfully play their roles in society (Riesman,1979, cited in Gervais, 2016).

To remove this possible confusion, Tuning distinguishes between learning outcomes and competences which are squarely linked to competence-based education. Intended learning outcomes of a programme or unit of learning are formulated through considerations of multiple stakeholders constituting among others academic staff, students, graduates, administrators, employers, and policy makers; these considerations are made in conjunction with the social-economic and political needs for the general local and global society.

As we continue with this narrative, it is important to note that competences are developed in a person; they are not naturally endowed in a person. Thus, such development can be assessed; individuals do not either possess or lack a competence in absolute terms, but they command it to a certain level which may be high or low. The level of competence achievement (or gaining of competences for an individual or groups of individuals) can be perceived as a sustained continuum of development through education and practices of a planned curriculum in which both attainment of competences and intended learning outcomes can be assessed and evaluated. The notion of competence is a useful grouping of capabilities or capacities that students acquire along a programme or set of programmes leading into gaining of a number of broad knowledge, skill and value sets.

2.2.1 *Generic Competences*

The process of defining the generic competences started with this question: "What are the generic competences graduates from African higher education need to acquire?" All five subject area groups (agricultural sciences, civil engineering, mechanical engineering, medicine and teacher education) worked separately to define what they saw as the expected profile of a typical graduate, then in a plenary session jointly reached consensus on a final list of eighteen competences as indicated below. Reaching consensus was not problematic since most, if not all participants, were aware of contemporary developments within the local and the global environments in relation to the mismatch between higher education institutions graduate skills and the actual demands of the global knowledge economy. After analysis of all competences emerging from the tuning members research, eighteen (18) were singled out to fit into the generic category of competences. These eighteen competences are presented below.

1. *Ability for conceptual thinking, analysis and synthesis*: The necessity for this crosscutting competence is best understood through consideration of what individuals need whenever they encounter a problematic or a complicated situation. All need to engage their intellectual faculties in order to conduct in-depth analysis and synthesis that stimulate proactive judgements leading to swift but most likely successful action.

2. *Professionalism, ethical values and commitment to Ubuntu (respect for the well-being and dignity of fellow human beings):* Under this competence, thoughts were guided by recognising that although there are diverse requirements for each profession, to a certain level practices in all professions ought to conform to agreed social values as reflected through policies, constitution, common customs, governing laws and regulations. Failure to adhere to such conformity possibilities for chaos get elevated instead of social harmony and stability which are necessary sources for peace, security, stability and development. Adherence to Ubuntu, which is the act of respect for the well-being and dignity of fellow human beings, constitutes a major principle as we tread through the contemporary world in which migration and multicultural practices are the order of the day. Wherever people have failed to respect Ubuntu we have witnessed chaos and wars

with negative impact on people irrespective of their professional affiliations.

3. *Capacity for critical evaluation and self-awareness:* This competence is important for all but specifically so for graduates from higher education institutions upon whom other social members depend for guidance and direction. A graduate who can conduct critical evaluation and is self-aware of her/his roles in the society is well equipped to assume responsibilities and avert social members from calamitous conditions.

4. *Ability to translate knowledge into practice*: The essence of this competence hinges on the fact that knowledge that cannot be translated into practice is worthless and it needs not be taught at all. All participants at the Tuning Africa Project realise this fact, hence they were all supportive of the idea that each field of study should adapt the competence-based curricula which ensure that teaching-learning and assessment are aligned in order to enable graduates to transfer learning to their employment and beyond work to lived environments.

5. *Objective decision-making and practical cost-effective problem solving:* Decision making is an attribute that each human being ought to posses but making good decisions is a quality that is nurtured along socialisation processes including education. Competence number five is therefore crucial for all graduates especially when considerations are made on the limited resources available and those which can be generated through human investments. A graduate from any field who cannot make relevant workable decisions is at high risk of wasting resources while attempting to address problems she/he encounters or those that are socially encountered and she/he is expected to guide solutions to the problems.

6. *Capacity to use innovative and appropriate technologies:* The 6th generic competence might not have been given much emphasis in past centuries when technology was still at low levels of development and usage. The situation has changed as we engage the 21st century. Technology developments abound and its usage is in every practice. There is no way that any academic field would deny the need to ensure that all graduates who fill each position in fields of practice is technologically savvy and capable

of engaging the technology innovatively and creatively to ensure maximum productivity, sustainability and transformations in their fields of practice.

7. *Ability to communicate effectively in both the official/national and the local languages*: As earlier alluded to in chapter one, language is a huge issue in Africa, especially in education. There are hundreds of local languages but there is no single local African language to be used in the education systems in all countries in the continent. As a consequence; languages of former colonial masters are the most widely used for both instruction, official and non-official purposes. At times when there are no language translation facilities, Africans from different countries cannot effectively communicate and work together. The lack of a unifying language has remained a major barrier for a united Africa, a prosperous African economy and political stability. Colonial languages, specifically English, French and Portuguese, remain major challenges to higher education in Africa since they constrain students' cognitive processes and employment opportunities among other things. Building competence in languages now being used and developing research capacity that may usher the continent's direction to adapting one of the African language such as Kiswahili which is being spoken across many African countries constitute an imperative of our time.

8. *Ability to learn how to learn and capacity for lifelong learning:* African higher education system has for a long time remained married to a banking education system wherein teachers were considered sole sources of knowledge. Developing learners' competences in 'learning to learn' even learning on their own or with minimum guidance from their teachers generates great possibilities for innovativeness, creativity and research inclination for graduates who engage in lifelong endeavours for purposes of sustaining engagements in development.

9. *Flexibility, adaptability and ability to anticipate and respond to new situations*: Challenges and opportunities brought with 21st century global knowledge economy prerequisites make flexibility a compulsory feature of the era. Unemployment and worker layoffs are rampant forcing a good chunk of the population to re-learn and re-skill so as to qualify as they seek alternative employments and others seek first entry job

opportunities. Individuals who cannot be flexible to the fast transforming economy may easily loose out when their jobs are taken over by robotic alternatives or company shutdowns due to stiff business competitions.

10. *Ability for creative and innovative thinking:* To a great length this competence can be understood against the brief information under competence 6 and 7 above. While the need for creativity and innovativeness is almost a fact for everyone, it may not occur naturally to everyone hence, the need to focus on it in all subject areas. This fact is reinforced by the advent of contemporary technologies which open up for individuals to search from online sources information and assistance from experts for idea and procedures from which they may create and innovate new 'things'.

11. *Leadership, management and teamwork skills*: Competences under this item are necessary to all not only at higher education level and at employment but even at pre-primary through secondary and intermediary colleges. Individuals who are well groomed with good leadership capacity, management skills and those who are capable to collaboratively work in teams always succeed in life. They are capable of negotiating for consensus and seeking alternative pathways to challenges encountered and/ or for determining best options given multiple opportunities.

12. *Communication and interpersonal skills*: Communication is one of the essential elements in a human society. The need to communicate is more apparent to-day than in preceding eras because today we encounter an integrated world in which human mobility and complex communication channels make people meet and create avenues for communication. Much of what humanity has achieved so far could not have been possible without communication and interpersonal skills. For each field of practice, effective communication and interpersonal skills are necessary. Graduates need these skills even before joining employment. They need to apply for jobs and to communicate with governance personnel as they track results for their job applications as well as for all other activities including those at their families and within the general society.

13. *Environmental and economic consciousness:* Environmental dilapidation is a concern for all humanity as we experience

deforestation, air pollution, drought and famine, unprecedented melting levels of the North Pole snow and the possibility of submerging sea shores. All these experiences and other environmentally related occurrences signal the need to develop competences in environmental and economic consciousness among our graduates so that they may be easily deployed to control or stop further damage to our environment.

14. *Ability to work in an intra- and intercultural and/or international context*: This competence is easily understood in line with an understanding of the globalising world, wherein people of all backgrounds and experiences are migrating and mingling with others. The economy, transportation systems, ICTs and the internet, wars and the refugee crisis all set the stage for the need to develop this type of competence among our higher education graduates.

15. *Ability to work independently***:** Working independently is a contradictory phenomenon since most human actions are tied to a certain degree to social attributes. However, there are instances where one can work independently such as when one is in danger and is alone. This also mostly happens when one works on abstract activities—planning and projecting for future before sharing —cognitive action.

16. *Ability to evaluate, review and enhance quality*: There is a saying that everything changes except change itself; quality which is a fit for purpose attribute is negated under considerations of this competence since even things considered of quality today may be outdated and obsolete sooner or later. Along this trend of thoughts, competences that enable an individual(s) to evaluate and review 'things' or 'events' using existing evidence and following up with action which ensures consistent upholding of quality are necessary. These assumptions make competence number sixteen compulsory for graduates from all fields of specialisation in higher education.

17. *Self-confidence, entrepreneurial spirit and skills*: Contemporary experiences show that employability in public and private enterprises is increasingly becoming a big concern since there are more higher education graduates than available employment opportunities. This situation calls for graduates who can create self-employment for themselves. Thus, self-confidence and

entrepreneurial spirit and skills are imperative for graduating higher education individuals.

18. *Commitment to preserve African identity and cultural heritage*: African identity and cultural heritage have been trampled down since long ago, but especially since slave trade and colonial eras. This trend continues even today as we witness persistent inequalities exacerbated through the contemporary world trade system which perpetuates imbalanced trade and uneven wealth distribution among the continents. Under the current world governance system, the Africa' continent remains the least developed while its wealth is duped and its population is caricatured through falsified literature and African cultural artefacts. Competences that enable awareness and preservation of African identity and cultural heritage will guide African graduates to reconstruct Africa.

2.2.2. *Competences in Teacher Education Programmes*

Typically in the past, the emphasis in designing teacher education programmes was on the subject content: knowledge of the subject(s) to be taught, and basic educational theories related to the psychology of education, methodology and so on. However, teacher education programmes have always had to have a practical element as well, since the outcomes of learning had to be a person who not only *knew*, but one who could also *do*. The notion of a competence-based approach to teacher education is not new and has been in use in teacher education in a number of countries for considerable time. It has, however, often led to exaggeratedly long lists of competences to be achieved by the trainees. Coolahan (2007) has argued in his review of EU and OECD policy on teacher education that, depending on the mode devised, the competence approach can be "professionally positive and benign" or it can be of a narrow, "check-list" type that can be "professionally malign".

In recent times, the process of defining competences within the context of teacher education in Africa was inspired by the words from Nelson Mandela: "Education is the most powerful weapon which you can use to change the world" (Tutu, 2008). These words suggest that teachers have a great responsibility: to serve as agents of change. In this regard, in the process of defining the subject-specific competences,

the teacher education working group kept the following questions in mind: (1) What change is needed in Africa? (2) What change do teachers need to mediate among their students?

There are at least two areas where change is greatly needed in the continent: (1) for socio-economic development and growth, with a precise focus on fighting poverty, and (2) for conflict resolution and reconciliation that will create sustainable and peaceful living environments across the continent.

The process of defining the subject-specific competences started through a process of mapping the contextual landscapes of the fourteen universities represented in the Teacher Education Subject Area Group (SAG). After the description of the contextual landscapes, the group conducted an exercise of defining components of the teacher education bachelor's degree. This exercise resulted in the adoption of eleven core components categorised as specific-competences for the teacher education specialised group (SAG). The agreed specific-competences are listed under table 2.1.

Table 2.1
Specific-competences for the teacher education subject area

1. Subject content	5. Assessment	9. Health and safety
2. Educational theory	6. Planning	10. Research
3. Methodology	7. Values and ethics	11. Quality assurance
4. Practice	8. Communication & ICT	

In addition to the specific-competences for the entire teacher education subject area a critical reflection of the eleven core components guided the working group in identifying seventeen key competences required by an effective teacher. The key competences identified are listed in table 2.2.

Table 2.2
The 17 key competences for an effective and efficient African teacher

1. Mastery of the subject knowledge/understanding the discipline; 2. Ability to apply ICT; 3. Ability to develop teaching resources and instructional materials; 4. Capacity for critical thinking, problem solving, creativity and reflection;
5. Ability to assess and evaluate, including assessing and evaluating self and others; 6. Ability to counsel, guide and resolve conflicts resolution (peace education) for complex situations; 7. Ability to interpret curriculum documents, information and sources, and seeing them as a roadmaps; 8. Capacity to manage projects;
9. Ability to choose, use and design innovative teaching and learning strategies; 10. Ability to conduct research (observe, describe, analyse, and report / disseminate); 11. Capacity to understand and apply policies, regulations and procedures; 12. Ability to identify and deal with students with special needs; the gifted and physically or emotionally impaired; 13. Ability to collaboratively work in a team;
14. Capacity to exercise professionalism, ethics and values; ability to understand and abide by the ethics and values of the teaching profession; 15. Ability to become a lifelong learner; 16. Ability to develop competences for employability among students (ability to enhance employability in one's own profession); and 17. Ability to inspire self-confidence and self-esteem in the learners.

2.3. Processes Followed in the Identification of the Subject-specific Competences

In developing the lists of the teacher education area competences there were procedures that were observed. First the competences from all higher education institutions which conducted research to determine initial competences were tabled for discussion. The discussions were guided by references to the existing competences in partner African Universities, regulations and teaching standards in the member countries, the national frameworks of those participating in the Tuning Africa Project, professional agencies, Tuning-compliant competences from other parts of the world and the Arusha Convention. After

considering these sources, it was decided to group the competences under four broad categories: (1) knowledge, (2) educational practice and skills, (3) values and ethics, and (4) interpersonal attributes. This arrangement was made on the basis of elements of teacher education considered potential to assist in making the descriptions made earlier better understood for mixed audiences. Therefore, the four brands of the broad competences (above) were refined from the original list developed through the institutional specific research findings as well as the ensuing competences grouped as generic and specific competences.

Following the preceding arguments; the original list constituting items #1 to # 31 below indicates branding of broad or cumulative teacher education area competences which were recognised by the teacher education subject area group. The sub-competences that fill into the broad categories were determined to be prerequisite attributes for all teaching practitioners. This implies that each teacher has to possess an understanding of the subject content, experiences in educational practices and skills, adhere to acceptable values and ethics, and possession of interpersonal competences.

The numbered specific competences deemed fitting to knowledge area constitute items listed under the sub-category recognised as "understanding": This way of listing as evidenced below is observed for all the four broad brands of competences.

Understanding

#1 The subject (s) to be taught

#2 The underlying principles of the foundations of education

#3 The pedagogical knowledge of specific subject areas

#4 The local and international social, political, economic, cultural and environmental contexts of education

#5 National and institutional policies relating to education

#6 The language(s) of instruction

Competences Related to Educational Practice and Skills

#7 Develop schemes of work and teaching plans

#8 Select, adapt and use appropriate teaching methods and learning activities

#9 Use a range of assessment skills to set, mark and grade learners' achievement

#10 Develop and use teaching, learning and assessment materials, including appropriate ICTs

#11 Identify and attend to learners' needs

#12 Manage learners both inside and outside formal classroom contexts

#13 Develop own and learners' entrepreneurial skills

#14 Create conducive learning environments that encourage learning

#15 Use language appropriately in the classroom and in the subject

#16 Conceptualise and analyse situations to solve problems

#17 Participate in basic educational research

#18 Manage time effectively

#19 Critically reflect on their work to improve practice

#20 Adapt to change

Competences Related to Values and Ethics

#21 Care for and support the well-being of all learners

#22 Respect socio-cultural diversities (religious, ethnic, linguistic, gender, economic, etc.)

#23 Adhere to the rules and regulations of the profession and institution

#24 Maintain equity and fairness among learners and promote inclusive education

#25 Continuously upgrade their own knowledge and skills

#26 Be a role model

#27 Inspire self-confidence and appreciation of cultural heritage in learners

Interpersonal Competences

#28 Is sensitive to the feelings of others

#29 Collaborate and network with others, including peers, head teachers, professional groups and parents

#30 Communicate effectively with different audiences and using appropriate tools, including ICTs and relevant forms of discourse

#31 Lead and manage groups

2.4. Conclusion

To conclude the chapter, we summarise that we have exposed the definition of competences as perceived under the teacher education area of specialisation. The first category of competences falls under general competences. We also considered competences from a general consideration or perspective since we worked under the Tuning Africa umbrella which brings together different fields of specialisations in higher education. The competences identified under this chapter were therefore further defined from a comprehensive reference to all higher education fields, particularly those working within the Tuning Africa Project. Following this inclination or approach competences have been categorised under two major branches of generic competences and specific competences.

Generic competences constituted those competences imbued in all higher education graduates regardless of their field of specialisation, all graduates need to have these competences if they are to function well

in life both during the time of their study and beyond graduation (i.e., in their lived environments). On the other hand, specific competences constituted those competences to be attained by all higher education students specifically graduating from the teacher education area. Four broad areas of competences were additionally considered following an in-depth analysis of all the competences tabled at the teacher education specialised area beginning with those initially presented from the research finding that was conducted at each Tuning member institution. The four broad-based competences were broadly branded as knowledge or understanding, educational practices and skills, values and ethics, and, lastly, interpersonal competences. The last four categories will further be explored under the chapter dealing with Teacher Education Meta-profiles.

Chapter 3

Consultation and Reflections

3.1. Introduction

In order to validate the lists of competences that had evolved from the work of the Tuning groups, it was necessary to consult with an appropriate sample of interested teacher education stakeholders. Consequently, we involved and consulted four categories of informants:

1. Graduates who had satisfactorily completed a full programme of studies/degree programme and had been taught in the field of education and received a corresponding qualification at the university.

2. Employers of university graduates and people and/or organisations which, although not currently employers of such graduates have the potential capacity to employ graduates with requisite skills for the jobs to be availed when ready to take off. Hence the graduates form a group of potential employees or candidates for their organisation.

3. Academics who teach the subject areas and therefore have specific and broad knowledge of the competences that their graduates are imbued with.

4. Lastly, students pursuing the last two years of a degree programme at university or who have finished their studies and are waiting to graduate at appropriate time.

3.2. Targeted Research Participants and Research Instrument

Each participant consulted at least 30 informants from each of the four categories for the subject area. The informants were asked to rate each competence, using a scale of 1 to 4, on (1) the importance of each competence and (2) the level at which it was achieved during the programme of study. The consultation was done through an on-line questionnaire. This format was very practical in those cases where project participants or assistants had e-mail addresses, an option more common for academics and students. Where email addresses were not available, members of the working group used an alternative approach—viz., a face-to-face meeting with groups representing the four groups of stakeholders (e.g., employers) in which the SAG participant/researcher gave an introductory orientation to or a lecture on the Tuning Africa Project, its aims and its importance for the education system.

Having set out the aims and characteristics of the survey, the Tuning representative handed out the questionnaire in print format, which the participants filled in before leaving the meeting venue. This procedure facilitated information gathering, given that both tasks (explanation and survey) could be completed in just a short time. The competences were categorised as important /unimportant and achieved /underachieved.

Table 3.1
Highest and Lowest Rated Subject-specific Competence

	Highest	Lowest
Academics	1	13
Employers	1	4
Students	6	4
Graduates	1	4

Table 3.2
Highest and Lowest Rated Subject-specific Competence in Terms of Achievement

	Highest	Lowest
Academics	1	13
Employers	1	13
Students	6	13
Graduates	1	13

Note that the numbered competences in table 1 and table 2 are specified in the list of the 31 broad teachers' subject-specific competences listed in chapter 2. The numbers (1, 4, 6 and 13) correspond to the teacher specific-competences indicated below:

#1 = Understanding of the subject(s) to be taught.

#4 = Understanding of the local and international social, political, economic, cultural and environmental contexts of education.

#6 = Understanding of the language(s) of instruction.

#13 = Ability to develop one´s own and learners´intreprenurial skills.

It is further important to note that the ranking between highest and lowest competences was determined by the extent to which each category of stakeholders perceived and positioned each competence *in terms of its perceived importance in contributing to education practices in society at the national level as well as at the African continent level and the general global level.*

The above results imply that the academics, employers and graduates who participated in the consultation on the required competences in HEIs recognised or identified some correspondences between competences which were considered the most important and how successfully such competences were achieved by graduates along their study continuum. However, the students' data showed discrepancy between what they considered important competences and how well such competences were achieved during their teacher education

programmes. The average ranking for all competences was 3.5 but for achievement it was 2.5. This finding implies that teacher education programmes have gaps in instructional service delivery.

The respondents singled out as poorly achieved competences (1) professionalism, (2) ethics and values, (3) ability to understand and abide by the ethics values of the teaching profession and (4) ability to develop one's own and the learners' entrepreneurial skills. Yet these are some of the most important competences a teacher should possess during the contemporary 21st century global knowledge economy as well as the acknowledgement of educational scholars who advance that professionals in the field of education ought to embrace current paradigm shifts in teaching and learning (Biggs and Tang, 2007; Gervais, 2016; Green and Gredler, 2002; Rogoff *et al.,* 2016; Siemens, 2006). This follows the current common realisation that old paradigms that emphasise the teaching of course content, learners' rote memorisation and teacher-centred teaching practices have long been outdated. They do not work well in preparing graduates with prerequisite competences relevant for the contemporary global knowledge economy within which learning and knowledge rest in a diversity of opinions sought from multiple sources and the ability to see connections between fields, ideas and concepts is considered a core skill (Gervais, 2016; Siemens, 2006) and not an optional, specifically in the field of teacher education.

The most striking and unfortunate revelation in the findings is that academics rate "develop one's own and learners' entrepreneurial skills" as both the least important and the least successfully achieved. During this era when unemployment is rampant and graduates are increasingly getting frustrated and disillusioned (Feredua-Kwarteng and Ofosu, 2018; UN, 2017) academics in higher education institutions ought to know better that their graduates need to be equipped with competences that usher them into engaging in self-employment. Of necessity, this need obliges or demands graduates from higher learning institutions to acquire entrepreneurial skills as a core competence. Thus when their teachers downplay a necessary skill such as the need to facilitate learners to gain entrepreneurial skills, it becomes worry some whether the academics will even make slight attempts to include content of that nature in their curricula. The concern is exacerbated by the reality that being semi-autonomous entities, university teachers have the liberty to include in their curricula the content they themselves consider appropriate.

Generally all the competences that were relatively relegated to low level of consideration for their necessity for graduates from higher education in Africa require high level considerations. They are the foundation of many of the other competences. Their necessity is highlighted in almost all the literature reviews we have conducted in relation to the imperatives of facilitating generic and specific competences among teachers. For example, underrating the need to develop HEI graduate competences in professionalism, understanding of the subjects to be taught, understanding of the local and international social, political, economic, cultural and environmental contexts of education and understanding of the languages of instruction surely represent a depressing view of the type of HE education stakeholders we have and their perception of current and future vision of local and global events and issues.

3.3. Conclusion

All the listed competences developed under this chapter are imperatives for HEIs' graduates given global conditions on issues such as unequal distribution of wealth and intensifying inequalities despite our world's contemporary abounding wealth accumulated by minority of the human race, worsening environmental conditions and the threatening possibilities of distraction of life on earth, continued developments of nuclear and biological weapons among wealthy nations, escalating wars and elevated possibility of the annihilation of the human race, etc. Like we expressed earlier our worry on limited consideration on the competence of developing learners' entrepreneurial skills; as members of the teacher education SAG, we are further concerned about other competences that have not been singled out as necessary by some of the major higher education stakeholders as indicated in the preceding narrative. More research need to be conducted to either confirm or reject competences and the justification for the same. Findings from such research should be followed up with appropriate action, which should include re-training of the stakeholders about prerequisite competences against existing developments and human experiences. The research results ought to be disseminated through a variety of fora for public use and promotion of Tuning concepts and methodology.

What is implied here is that the findings from the consultative surveys presented under this chapter call for a replication of studies to confirm

the results by broadening the same research to cover more institutions and stakeholders. The competences identified and compared as narrated in the preceding chapter were compared and categorised to determine what was considered the African teacher education meta-profile that guide teaching profession practices. The meta-profiles were developed and are demonstrated in the next chapter.

Chapter 4

The African Teacher Education Meta-profiles

4.1. Introduction

This chapter examines teacher education meta-profiles as determined by the teacher education subject area members. To constitute the profiles the group discussed the interrelationships between the general competences and the specific competences and determined what each of the competences assisted graduates to achieve in their lives, but particularly in their field of practice which is teacher education. Each meta-profile that was derived was formed or constituted by association of its function in teacher educators. For example, competences that assisted a graduate teacher to perform tasks requiring 'knowledge or understanding' were put together and those which assisted graduates' performance in the areas of ethics were grouped together. This analysis guided the development of four mata-profiles one of which was central to all as clearly depicted in the vain diagram in figure 3.

4.2. Methodology of the Teacher Education SAG to Define the Meta-profile

To recapitulate the Teacher Education SAG's working method, the process began during the first Tuning seminar in January 2012 when academics representing sixty tertiary education institutions across

Africa identified 18 generic competences of the ideal teacher education graduate from an African institution of higher education. These generic competences, as well as those identified by similar Tuning processes in other regions were used by the Teacher Education SAG to describe four categories of teacher education competences: (1) knowledge and understanding, (2) practice and skills, (3) values and ethics and (4) interpersonal skills. The group took care to ensure that the four categories encapsulated the eighteen generic competences.

To validate the competences, as described in the preceding chapters the Teacher Education SAG next conducted a consultation or survey to ascertain perceptions of the importance and levels of achievement of the generic and subject-specific competences from four stakeholder groups in education. Analysis of the survey results showed that the knowledge and understanding category and the practice category were seen as the essence of the teacher education task. The SAG working group consolidated them into one category. Also highlighted by the survey data was that context was an important element of the meta-profile, so it was added as an additional category. See Figure 3 for a Venn diagram representing the elements of the teacher education meta-profile to validate these arguments.

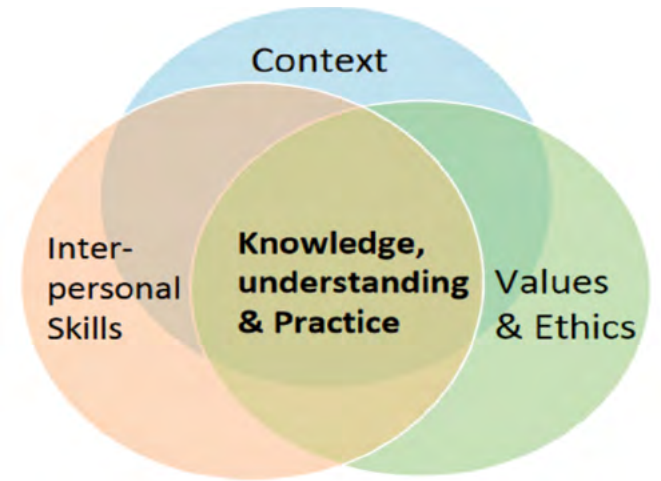


Figure 3
Venn diagram representing the four categories comprising the Teacher Education Meta-profile

4.2.1. *Main Elements of the Meta-profile*

The advantage of representing the meta-profile with a Venn diagram is that it highlights the interconnectedness of the four areas or reference points: (1) context; (2) knowledge/understanding and practice; (3) interpersonal skills; and (4) values and ethics. The overlaps in the Venn diagram stress that these areas should not be treated in isolation and should not be taught in a fragmented manner. Rather, the specific pedagogies used in teacher education should be informed by an integrated approach.

Figure 4 expands the Venn diagram to show how both the specific and generic competences are spread across the integrated reference points: G = the generic competences developed by the whole Tuning Africa group and enumerated in Section 2.2. S = the subject-specific (teacher education) competences.

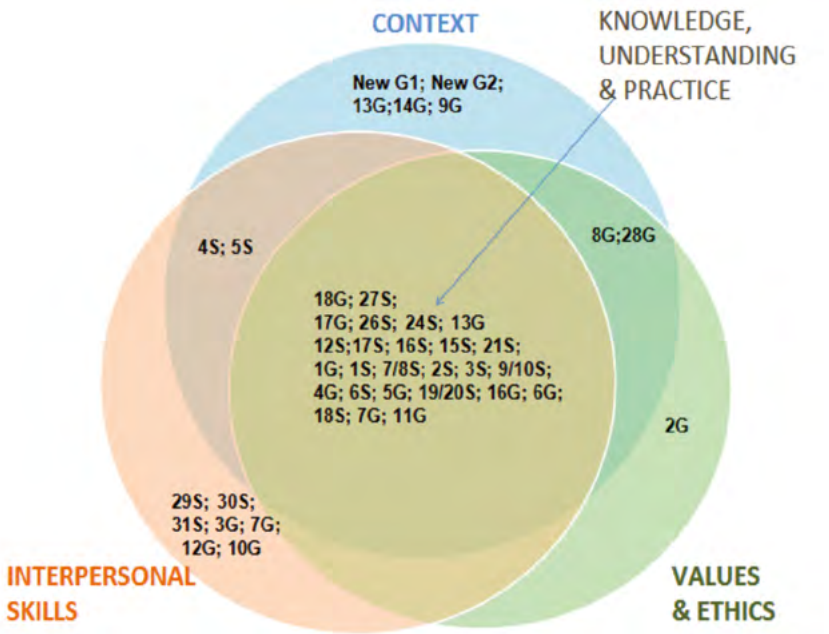


Figure 4
An expanded Venn diagram of the Meta-profile of Teacher Education

Competence 18G is an example of how a generic competence intersects all four categories in the meta-profile. 18G is "the commitment to preserve African identity and cultural heritage". 27S reads "Inspire self-confidence and appreciation of cultural heritage in learners," and is related to 17G, "Participate in basic educational research." Similarly, competences 4S and 5S indicate the interrelatedness between interpersonal skills and context. (For the list of generic competences, see 3; for the subject-specific competences see 4).

4.2.2. *Comparison of the Meta-profile within the Africa Regional Level*

Members of the Teacher Education SAG conducted practical investigations in their own institutions and countries as a second-level consultation following the Cape Town meeting in May 2012. It was agreed to consult only institutional-level participants, but a number of members consulted more widely at the country level, thus enabling the dissemination of the Tuning Harmonisation work as well as collecting valuable data for analysing the meta-profile.

The Following Different Processes were Used to Consult with Individuals or Groups

The following different processes were used to consult with individuals/groups selected to participate in developing the Africa regional-level meta-profile for the Teacher Education specialisation. In many cases, these methods were used in combination. The methods used are listed and described as follows:

- *Face-to-face sessions*: Tuning members met with selected individuals to discuss the identification and development of the Teacher Education meta-profile. At the university level, consultations involved diverse categories of actors: administrators, departmental board members representing various degree programmes at faculties, academic staff, and students at four levels: undergraduates, master's degree candidates, PhD candidates and candidates for a diploma of education. At the ministerial level, SAG working group members consulted ministers, permanent secretaries and teacher education directorate staff. One SAG member took special leave and relocated

to another institution (Cape Town) to obtain reflective moments for developing the ensuing consultation documents.

The face-to-face sessions took place in a variety of settings such as meetings with individual peoples, group interviews, conducting seminars, holding conferences and hosting workshops. In each setting, SAG working group members first introduced participants to the Tuning Africa concept and summarised the meta-profile process conducted at Cape Town. After the introduction, groups conducted interactive discussions that included questions and answer sessions about their institutional and/or programme profile.

- *Documentary reviews or paper-based analysis*: Members identified and reviewed relevant documents as one of the methods for collecting data/information. Some of the major documents that were reviewed included frameworks for curriculum design, institutional and programme profiles for degrees, strategic plans and institutional regulations. The information from the documents was compared with the profile for Teacher Education specialisations.

- *Checklists*: Some members developed checklists from the documents and compared emerging meta-profile items with the profile identified at the Cape Town meeting to determine differences and similarities.

- *Validation teams:* After developing institutional or programme meta-profiles, validation teams were constituted in order to validate the institutional/programme meta-profile that emerged.

- *Discussion Papers:* Members who engaged ministerial-level participants developed discussion papers to enhance the interchange with ministerial-level staff. The papers also served as part of the dissemination process.

Except for a few competences that were slightly extended, modified or considered to be non-existent in some of the Teacher Education programmes in African universities, most of the competences identified at the Cape Town meeting coincided with those being taught or developed. The analysis revealed further coincidences between Tuning competences and those established by some of the regulatory boards such as the Namibian Teachers Standards (NTS) and the Tanzanian Commission for Universities (TCU). The Zimbabwe University Tuning

participant observed, "When this degree (i.e., the Teacher Education programme in Zimbabwe) is analysed in comparison with the meta-profile done in Cape Town, there were more coincidences than differences". The Open University of Tanzania (OUT) representative indicated, "There are only slight differences between the Tuning Africa meta-profile and that of the Teacher Education programme at the Faculty of Education at OUT" (verbal communication).

Despite this general agreement between the competences lists developed by the SAG, most universities identified a few competences that were either not considered or not given adequate emphasis at their institutions. The most common items where differences were registered were (1) the ability to mediate conflict resolution and reconciliation for sustainable and peaceful living environment; (2) the ability to learn to learn and capacity for lifelong learning; (3) commitment to Ubuntu (respect for the well-being and dignity of fellow human beings); (4) environmental and economic consciousness; (5) respect for social-cultural identities and (6) the ability to develop one's own and learners' entrepreneurial skills. It is not surprising that all consultants agreed that the fifth quality was the competence perceived as being least well achieved by all informants and that, what is more, academics rated it as the least important.

The consultation at the University of Western Cape in South Africa made specific analysis of the forty-six combined generic and specific competences and established that thirty-one fit well under the general category of knowledge, understanding and practice. Nine fit under the category of interpersonal skills. Five were seen as subsets of the context category, while only one fits under the category of values and ethics.

The most obvious implication is that teacher training in Africa gives the strongest emphasis to knowledge, understanding and practice. The low emphasis accorded to values and ethics could fittingly be interpreted as accurately representing Africa's widespread conflicts due to limited or lack of education and training in valuing and respecting others; self-respect and overriding the ego.

Members noted that identification of the competences constituting the meta-profile at universities was arrived at through in-depth analysis of the degree programmes on offer at the different universities providing teacher education. Prior to the Tuning project, there has been no

forum by African higher education institutions specifically organised to develop competences and meta-profiles to guide the adaptation of such important competences and ensure their quality. Hence, the Tuning Africa Project has provided a model for institutions to emulate.

Analysis of Additional Observations

Analysis and comparison of the consultation reports revealed some important issues that could not be directly captured through a mere comparison report. Members decided to report such observations in the interests of enhancing the outcomes of the Tuning consultation exercise. These added observations include:

4.2.3. *Building Capacities for Existing Course Structures to Incorporate New Competences*

It was learned that some existing course structures in teacher education programmes can incorporate the identified competences, but some lack that ability given their current structures and staff perspectives. For example, at the University of Zimbabwe, members of the Department of Educational Administration indicated that they did not see the need for incorporating the competence of "pedagogical knowledge of specific subject areas" as one of the competences for their programme. However, a critical analysis of courses generally offered in its education administration stream shows that courses relating to planning are taught alongside courses in policy and administration.

It would be advisable to adopt specific pedagogical approaches for the different strands of the programme where such a combination exists. It is suggested that, for those programmes which currently have no inbuilt structures to form or enhance important competences, the Tuning project initiative can encourage staff members to incorporate the competences in order to realise the harmonisation target. New courses with structures that incorporate the necessary competences should be initiated, and existing courses can be restructured to provide space for including the competences.

The Need to Provide Adequate Emphasis for Identified Competences in Existing Courses

Through the consultations, members found out that although some subject-specific competences were incorporated in existing courses, they were not accorded adequate emphasis. There was a need to encourage teaching staff to give each competence adequate emphasis. One example of under-emphasised competences that appear to need more prominence comes from the University of Zimbabwe:

1. Develop and use teaching, learning and assessment materials, including engagement of appropriate ICTs` infrastructure, facilities and tools.

2. Develop own and learners' entrepreneurial skills.

3. Care for and support of the well-being of all learners.

4. Respect of social-cultural diversities.

5. Adherence to rules and regulations of the profession and institution.

6. Maintain equity and fairness among learners and promote inclusive education.

7. Continually upgrade learners' own knowledge and skills.

8. Become role models.

9. Inspire self-confidence.

Special Varieties of Teacher Education Programmes

The Tuning consultation exercise explored the competences in special varieties of Teacher Education programmes and related profiles. This was specifically the case with the University of Nigeria, Nsukka; Adama Science and Technology University, Ethiopia; Makerere University, Uganda; and University of Zimbabwe where Technical Teacher Education programmes were offered. It was suggested that Teacher Education programmes for TVE do not follow the pattern of

traditional subject- or discipline-based teacher education because the development of vocational skills differs very significantly. This variety of Teacher Education should be given special attention if we are to address the issue of youth unemployment which exists across all African countries.

Many of the competences that were considered appropriate for the Technical Teacher Education programmes were adopted from the University of Nigeria, Nsukka. Among such competences were: ability to adapt and transfer technology, ability to create new technologies; ability to improve quality and safety along the agricultural value chains; skills in developing new construction technologies and material; ability to operate, maintain and rehabilitate mechanical engineering systems; capacity to supervise, inspect and monitor mechanical engineering systems; and capacity to integrate legal, economic and financial aspects in decision-making in mechanical engineering projects.

This finding reinforces the need for collaboration among institutions as well as among programmes and courses in Africa Higher Education and for further research into the curricula for Teacher Education for TVE.

Competences not Featured in the Tuning Meta-profile Identified at the Cape Town meeting

Another finding resulting from the consultation activity was that some competences deemed essential did not feature in the Tuning meta-profile. Some such competences were:

- the ability to continuously enhance quality in the field of practice
- sensitisation, lobbying and mobilisation skills
- ability to effectively use assistive devices and technologies for people with disabilities in inclusive settings
- ability to effectively use research and evaluation skills in education settings
- capacity for visionary thinking and foresightedness.

4.3. Conclusion

To conclude this chapter, it is important to note that the meta-profile developed for the field of teacher education in Africa was a long consultation process beginning with Tuning members discussions at general meetings and culminating into surveys conducted at Tuning collaborating institutions. Using a variety of research instruments including face-to-face meetings/ interviews, online communications, documentary reviews, checklists, validation teams and discussion papers the information we wanted was solicited and the analysis of the information generated the lists of competences which were further analysed to form the meta-profile presented under this chapter. An obserbation is made that the consultation process was backed by considerations of meta-profiles developed in teacher education at other regions, specifically Latin America and Russia.

The analysis guided the teacher education group to determine the final meta-profile for the Africa Teacher Education branded under the areas of knowledge and understanding, practice and skills, values and ethics; and interpersonal skills. The organisation of the meta-profile under a venn-diagram format show that the competences are interrelated and operate in conjunction at practice level, i.e., they operate in unison when a teacher performs her/his job. Another observation was also made of those competences that were given less importance at universities. Tuning members observed that such competences could have broad repercussions in the continent. For example, the competence of values and ethics was given less preference at universities that were consulted. Tuning members associated that kind of sidelining instilling important competences to level of insecurity in the continent as witnessed through violence and wars that abound across many African countries. This research revelation translates into the need to ensure that neglecting instilling the competences that have been identified might have huge negative impact not only in the life of individuals, but also in our communities, countries and even at the level of our continent. On the contrary, if all of the proposed competences are instilled among our graduates we have better chances of positively transforming our socio-political and economic systems and attaining the sustainable development goals (SDGs) through quality competence-based education systems.

Chapter 5

Comparison of Meta-profiles: Russia, Latin America and Africa

5.1. Introduction

Chapter five presents discussions regarding comparisons and contrasts made among meta-profiles developed by tuning members from three regions of the world: Africa, Latin America and Russia. The comparisons and contrasts were made as a way of learning from each other and informing each other so as to improve practices by sharing experiences. The comparisons revealed that the graduate competences in the field of teacher education have more similarities than differences as shall be explored in the discussions depicted in the next sections of this chapter.

5.2. Comparison of Meta-profiles: Findings from Russia, Latin America and Africa

At the Tuning meeting held in Brussels in November 2012, the African Teacher Education SAG had the opportunity to interact with its counterparts from Latin America and Russia. The meeting focused on comparing and contrasting meta-profiles of the groups from the three different continents.

With regard to the three regions' different categories of subject-specific competences, comparison shows both similarities and

differences. The differences mainly derive from the contexts within each country with respect to socio-cultural, socio-historical, socio-political, socio-economic and climatic conditions. These differences give rise to different emphases in the subject area competences of the three regions.

Similarities between the three regions can be seen in their emphasis on knowledge and practice. Another similarity is the focus on the ability of a teacher to interact with others. Both Africa and Russia emphasise the interrelatedness of the competences. There were some differences in the grouping of the competences in the three meta-profiles. For example, the Russian phrase of the meta-profile, "ability to work," features in the Africa context as a competence under "practice and skills" falling under the category of meta-profile referred to as "knowledge, understanding and practice". The emphasis on the social context in teaching in Africa and Latin America features explicitly but in Russia, it is implicit under the meta-profile "ability to interact with others."

Tuning in the world: Comparisons among teacher education (SAG) meta-profile		
Africa	**Latin America**	**Russia**
• Context	• Professional	• Ability to learn
• Knowledge / understanding	• Academic	• Ability to work
• Interpersonal skills	• Social	• Ability to interact with others
• Value & Ethics		• Ability to live in harmony with oneself

Latin America and Russia focus on the professionalisation of teacher education, whereas this is not conspicuously emphasised in Africa. Africa, on contrast, emphasises moral and ethical issues in teaching, whereas such issues appear less salient in the other two regions.

Collapsing the three meta-profiles results in this 5 combination of competences:

- (Cognitive) Knowledge: subject + pedagogical knowledge.
- Interpersonal skills.

- Ability to learn.
- Life-long learning.
- Role of the teacher in society as a teacher and as an agent of change (captured in the emphasis on values and ethics).

The comparisons explored in the preceding presentation leave us with questions that need to be critically addressed and followed up for implementation. The two questions are: (1) How to effectively teach and assess values and ethics in our programmes? (2) What good practices could be used as models in these areas of teacher education?

The two questions above or any other question that might arise are critical, however we have consolation from developments in the area of education, we may get guidance by learning from existing scholarly assessment principles as laid down by scholars such as Sally (2004), Biggs and Tang (2007), and Rogoff *et al.* (2016). World organisations which are interested in educational matters have also strived to guide us to conduct qualitative and quantitative assessment for effective learning and maintaining education standards, for example, UNESCO has published Muskin's article featuring assessment issues including the essence of assessment and the need for continuous assessment and how to best implement such assessment—designing, assessing and evaluating (Muskin, 2017). Further, Bigg's SOLO taxonomy and Blooms´ advanced taxonomy have contributed into enlightening teachers and institutions at each level of education to set assessment tasks and activities in ways that assist learning to take place at the same time standard for competence-based learning being met; that is, what Biggs refers to as maintaining a constructive alignment in a curriculum to ensure that students build up the competences they need for satisfying life experiences while at education institution and after graduation.

5.3. Overall Remarks

A necessary change, according to the view of the Teacher Education SAG, is to adopt a view of learning that includes the acquisition of competences, of functional as well as declarative knowledge and most of the constructive criticism of and evidence-based research into competence models. Such a change must derive from research largely

based in education. For too long, education has been somewhat apologetic because of its necessary focus on competences and the importance of practical aspects of the profession. It has perhaps overemphasised its strong theoretical background. Other disciplines also value the practical aspects in their programmes, no wonder then that in the Tuning project, all five subject areas have been linked to their practical vocational imperatives. Nevertheless, Teacher Education can offer a great deal in terms of practical experiences in the ways through which theory and practice can be constructively aligned in developing competences among graduates.

The reports that colleagues have made on their validation processes suggest that Teacher Education is already competence-focussed in some member countries in Africa.

However, what exactly happens in the African classrooms has not been exactly captured at this stage in the development of Tuning Africa. The literature we have consulted paints a cognitive picture showing that the majority of classes that are termed competence-based in the continent (Mba, 2017), are very thinly aligned to a comprehensively set competence-based classes as advanced by renowned advocates of the competence-based classes such as Gervais (2016), Lawson and Askell-Williams (2007) and Mba (2017).

In Africa, the majority of what has been developed to date in line with competence-based educational delivery is a broad competence framework largely advancing engagement of students in form of participatory learning and formation of communities of learning (Mba, 2017). The framework assists programme design but does not really influence programmes' implementation in developing requisite competences. It is relatively easy to develop programmes using the broad competence categories represented in the profile or to characterise content-based programmes as being competence-focussed as well. However, the reality lies in the implementation due to, among other things, under-trained staff and limited resources. If competences are not then broken down into learning outcomes that are thoughtfully distributed across the units of the programme, and if the teaching and acquisition of these competences are not accurately assessed, then it seems unlikely that teaching will magically become student-centred, that learning activities will develop functional knowledge as opposed to learned declarative knowledge which is not accessible to practise.

The results of the consultation survey in which achievement was invariably ranked lower than its importance is suggestive in this connection. Tuning II will help participants in the Teacher Education SAG collaborate with others in demonstrating how this gap can be closed in Teacher Education and facilitate the collation of a database of excellent practices in teaching, learning and assessment. This collation will tell us much about how far competences are actually embedded in Teacher Education programmes in the continent.

Substantial similarity at the level of competences was evident in the country reports. All things being equal, and taking into account other aspects of programme structure, as well as other factors, makes the possibility of cross-African curricula feasible. This trend is beginning to be seen in other subjects through programmes such as Erasmus Mundus and those of the Mwalimun Julius Kambarage Nyerere African Union Scholarship Scheme launched in 2007 to contribute in the production and retention of higher calibre African human capital for sustainable development of the continent in critical development areas. Scholars who obtain these scholarship awards are obliged to sign contracts that ensure their service in the continent after graduation for a specific period of time before they migrate to other regions of the world. The scheme provides special preference to the youths and female members of the continent. Achieving such an outcome may seem more difficult in the regulated subject areas, but the limited amount of validation that members of the Teacher Education SAG have undertaken with official bodies suggests that it is not impossible to set up joint programmes in Teacher Education. Certainly there should be no impediment at the master's degree level.

One very interesting issue that emerged is the finding on competences from colleagues working in technical and vocational teacher education who observed that substantial differences existed between the general Teacher Education subject-specific competences and their own competences. They found that the subject-specific competences from both Civil and Mechanical Engineering SAGs and the Agricultural Sciences SAG made a better match with their TVE programmes. This is clearly an important area where further research and discussion are needed. The need for research is heightened by the fact that practice and literature indicate that most African governments have not placed adequate emphasis in TVT despite the fact that the sector would serve to rescue the situation where the formal education systems have failed to enrol all eligible qualifying students; additionally formal schooling

curricula has proved to be more theoretical and graduates from the system fail to obtain employment due to their limited employable skills as well as due to limited employment opportunities created by a poor economic system that depends on petty farming and business lacking mechanisation, hence, with constrained opportunities for growth and sustainability. According to a UNESCO 2016 report;

> Technical and vocational education and training (TVET) is a challenge in all African countries. In most countries the enrolment rate in formal TVET at secondary level is 5 percent or less. Non-formal TVET is predominant and often highly fragmented. Learning opportunities at the workplace, non-formal learning, private provision, and initiatives under various non-education sector ministries all tend to operate in a non-coherent way. Governments and international institutions are paying increasing attention to TVET (it is one of eight priority areas in the African Union's Second Decade of Education 2006-2015). But despite an increase in the number of African students in TVET, only a few governments in Africa are able to finance TVET at a level that can support quality training. The demand is enormous. Three out of five unemployed in Sub-Saharan Africa are young people, mostly surviving in the informal economy (UNESCO, 2016).

Given the potential for TVET to serve the unemployed and the under-educated individual, Africa's higher education systems need to respond proactively and advance the TVT wing of its education and training system. Tuning Africa should also consider a more expanded attention to this sector to boost the sectors´ opportunity to serve an otherwise uncertain future for the continent.

Another issue emerging from this pilot project are the differences between the structures and focus of programmes in higher education between countries. These differences must be considered during the later discussions about the viability of a credit system for Africa. A system of interchangeable credits works logically only if the key criteria of learning are shared across countries and universities. A number of practical differences and similarities have already emerged from the study. Entry points, length of programmes, credit systems and types of programmes all vary within the continent. For example,

while many bachelor degrees are of three years duration, the country of Mozambique made a policy decision to have its bachelor's degree require four years of work. Zimbabwe has a two-tiered system, in which initial teacher education (non-degree) takes place in teacher education colleges and then is completed in the university where the degree is awarded.

Not all countries have national standards for teachers. Even where an evaluative or standards body exists, there may be no enforcement mechanism. It appears to be the case that there are frequently different regulatory bodies for primary and secondary teacher education. In some cases, universities, as autonomous bodies, exercise a great deal of independence in the design of programmes. Again, these are areas where more detailed research will be useful in the future, and such research may well arise as a result of the validation processes about to be undertaken.

The Teacher Education SAG has noted other areas where further research is necessary. The consultation undertaken by members in their departments and countries suggests that, although there is significant agreement about the competences, there are also some differences. This is an area where further research into why some competences (e.g., conflict resolution, ethics and values, environment and economic consciousness) may be more important than others in certain contexts.

In all subject areas, no group rated the achievement of any competence as high as it rated the importance of that competence. However, in teacher education the gap between importance and achievement was smaller than that evidenced in the overall results from all five of the SAGs collectively. There is clearly a need for some research into the relative importance and perceived achievement of competence development in teacher education. We felt that mere speculation into this difference would not be helpful, but it is an area that should be explored in the future There was also a concern that too little "unconscious competence" (Burch, 1970) or "reflective competence" (Baume, 2004) exists among teacher educators about the assessment of competences within the sphere of values and ethics.

Reflecting on our own procedures at the meeting held in January 2013 in Nairobi allowed the Teacher Education SAG to reach an important conclusion. Our discussions revealed that the collective memory preserved of the processes we had undertaken together

were not altogether clear. A communications protocol should have been developed and agreed upon at the outset to include agreements about keeping minutes of the meetings, answering emails, adhering to deadlines and acknowledging receipt of documents. It is worth mentioning this fact since such a procedure would have been very effective in saving time during our deliberations.

5.4. Recommendations for Validation

As noted above, colleagues in the SAG undertook validation exercises within their own institutions and also within relevant institutions in their countries. The consideration of further validation in the consolidation period between the pilot project (Turning Africa) and the second step (Tuning II) highlighted different levels of conducting such validation: on an individual level, on the level of a group within the same country, on a regional level involving a group of countries, and on the continental level.

At whatever level validation and dissemination occur in the future, the Teacher Education SAG is unanimous in firmly recommending the absolute necessity of documenting the process: keeping notes of meetings, keeping records of people and organisations, archiving correspondence and emails, keeping copies of presentations at public events, recording feedback and share this documentation with the rest of the SAG.

5.5. Conclusion

To conclude this chapter, it is appropriate to acknowledge the importance of comparisons between and among diverse teacher education practices. The first and foremost importance is to develop a sense of appreciation of what others perform. It is also imperative, and important to appreciate what others do with the resources either availability; despite significant variations between the meta-profiles.

Chapter 6

New and Revised Programmes in the Teacher Education (SAG)

6.1. Introduction

Chapter six deals with teacher education programmes developed under the Tuning Africa initiatives. Discussions at Tuning meetings as well as the general experiences within practices in the field of teacher education have for some time shown signs that there is need to review, updated teacher education programmes. There have also been signs that new teacher education programmes need to be developed due to a variety of reasons but especially because of the day-to-day changes that take place both locally and at the international and global levels. The changes result from many experiences including new innovations in science and technology, new approaches to teaching, learning, assessment and the management of teacher education entities or constituents. There are also changes in the political terrain of our countries and local communities. The environment and human relations, as well as communication are all undergoing changes. Health and nutrition are facing changes especially with environmental changes due to pollution from all types of socio-scientific activities. Since the field of teacher education is established to serve people and their environment, its programmes are never static; innovations, challenges and emerging opportunities all have direct as well as indirect impact on the field. Therefore, the curricula and accompanying programmes generally change and new ones are re-designed on the basis of such changes. It is on this foundation that Tuning Africa has triggered ideas

that the teacher education subject area considers development of programmes, both new and revised.

The considerations to develop new and revised existing academic programmes in the teacher education area was also triggered by the common need for Africa to ensure a harmonised system of its education systems as to assist in extending chances of collaborations through staff and student mobility in high education institutions and exchange experiences endowed in the diverse human resources across the different countries in the continent. Harmonisation of the African Education system is also one of the Tuning Africa targets as it works to support the continent to meet the SDGs in a timely manner for the continent.

6.2. Development of Revised and New Programmes

The Teacher Education Subject Area Group (SAG) has made progress in the inception and implementation of the Tuning project which has its major target, the harmonisation of higher education through academic programmes in all fields of specialisation. To reach that target it has been necessary to review the nature and types of competences developed among students through the programmes offered. Research conducted at the beginning of the Tuning Africa Project revealed that some necessary competences have not been developed or have not been comprehensively considered. On the basis of the current situation, Tuning Africa deemed it necessary to review existing programmes and initiate new programmes so as to ensure graduates from higher education institutions gain the necessary competences needed to live harmoniously, successfully and competitively within the 21st century global knowledge economy. This chapter reflects the work done in Maputo on 3 October 2013 where it was concluded that all new and revised programmes should follow an Ecosystem Approach to Quality in Higher Education (Quality Ecologists, defined by the network of interactions and political relations). To meet such quality objectives, various practitioners ought to be engaged; academics, politicians and quality practitioners should work seamlessly with high level of academic rigour and scholarship within the context and for the purpose of harmonisation taking cognisance of innovative forms of collaboration and ensuring quality higher education which can be systematically improved by working towards common, agreed benchmarks of excellence. The programmes were further improved and refined at the Tuning Africa General Meeting held in Cairo, Egypt from 10-14

October, 2015. The programmes were developed and reviewed in the interests of Tuning member universities in the Teacher Education Subject Area Group (SAG). Table 6.1 shows the Master academic programmes developed and planned for implementation at different universities.

6.3. The Peer Review Process for the Teacher Education SAG Programme Development

From its initial stages, Tuning Africa Project aimed at initiating changes in the HEIs curricula, this interest could not have had any impact if traditional old programmes were to remain un-reviewed or unchanged for those considered obsolete. Decisions were therefore made to review a selected sample of programmes so as to determine their contemporary validity. Focus was to see to it that the reviews would enhance the speed of the anticipated changes into the curricula. Linearly, new and revised programmes were a result of a peer process incepted at the Cairo Tuning Africa General Meeting.

For the success of the process, three groups were constituted on the basis of institutional interests and demands on specific academic areas as perceived by the participating Teacher Education (SAG) members attending the Cairo meeting. The groups were requested to discuss and decide on a programme that they will implement as part of the Tuning outcomes. Initially, members of the three groups made in-depth reviews of available programmes at their respective home institutions to aid their decisions on the programme to undertake as part of Tuning project initiative. Originally, all three groups decided to initiate Master programmes at the Tuning Africa Meeting. Two of the groups decided to develop new programmes while one of the groups adapted a technical vocational programme from the University of Nigeria, Nsukka.

The following were the specific programmes developed and implemented either jointly or individually by the different members representing their home universities.

1. Master in Special Needs Education (M. SNE-NEW).

2. Master in Early Childhood Education (M. ECE-NEW). This programme was for some universities renamed as "Master of Education Early Childhood Development and Education (M.Ed. ECDE)".

3. Master in Technology Education (M. Tech Ed.-REVISED). This programme was originally offered at the University of Nigeria, Nsukka. Some universities renamed it "Master of Education Vocational and Technical Education".

In order to enhance the quality of the review processes, some guiding questions were developed and each group used the questions to guide them as they reviewed and improved their programme content, context and pedagogy. The guiding questions are presented in the following section and are also embedded in the tables outlining the content of the programmes in terms of the courses included in each programme and the credits for each course, duration of the programmes, progression possibilities and expected employment opportunities for graduates from the programmes. The guiding questions that were designed provided an opportunity for the teacher education (SAG) members to exercise in-depth analysis of each step taken in executing the programme development task. They also provided a kind of a quality assurance measure to ensure quality production of a viable programme.

6.3.1. *Guiding Questions for the Peer Review Process of Programmes*

1. What is the name of the new (or revised) programme? (Please mention if it is a New/Revised and/or a Joint Programme).

2. Explain the social need for the new or revised programme (in case of Joint Programmes, please describe the other university(ies) involved and its/their role in the programme).

3. Describe the profile of the new (or revised) programme in terms of generic and/or subject-specific competences.

4. Definition of the length and level of the programme?

5. What are the future fields, sectors of employment/occupation of graduates?

6. Indicate the link of the competences with the agreed meta-profile.

7. Define the competences and their levels.

8. Describe the expected learning outcomes related to the competences to be developed through the programme.

9. Provide a short description of the methodology of learning strategies for achieving the target competences.

10. What is the structure of the programme? List units/courses/modules in the programme.

11. Provide a short explanation of the consistency of the programme with the competences, the expected learning outcomes and activities that will lead you to the learning outcomes (i.e., show the overall consistency of the programme).

12. What are the Internal Quality Control/Enhancement mechanisms?

13. List other relevant aspects.

6.3.2. *Illustrations of the Peer Review Processes*

Illustrations of two of the peer review processes are provided hereunder; they reflect the review processes carried out by the groups which (i) reviewed the already existing "Master of Technology Education, (M.Tech. Ed) programme" and (ii) developed the new "Master in Early Childhood Education (ECE)" also referred to as "Master of Education Early Childhood Development and Education (M.Ed. ECDE)" in other universities.

a) Master of Technology Education (M.Tech.Ed) / Master of Education Vocational and Technical Education.

b) Table 6.1 provides a comprehensive review and evaluation of the Master of Technology Education (M. Tech. Ed). This programme was originally developed and was implemented at the University of Nigeria, Nsukka. The table indicates the guiding review questions and the responses provided by the review teams/groups.

Table 6.1
Review and evaluation of the Master of Technology Education (M.Tech. Ed)

Key aspects	Guidelines
a) Name of the revised programme	***Guiding question: What is the name of the programme?*** Master of Technology Education (M.Tech. Ed) With specialisation in • Agricultural Education; • Business Education; • Information Technology Education; • Home Economics Education; and • Industrial Technical Education.
b) Description of the degree profile of the new programme programme in terms of generic and/or subject-specific competences	***Guiding Question: What will the graduate be able to know, do, and be after the successful completion of the programme? (The holder of the degree…will be able to…)*** The Master of Technology in the Teacher Education Programme is developed to prepare professionally qualified individuals who can assume leadership positions in government and private sectors. Graduates from these programmes will also be able to facilitate academic programmes in colleges of education, polytechnics, universities, industry and commerce. The programme is also intended to produce skilled researchers who can apply research to understand and address problems in teaching, learning and improve community services. The programme will build in graduates a trans-disciplinary and systems thinking capacity to: 1. Conduct skills gap analysis / skills needs assessments in relevant occupations in innovative ways. 2. Forecast emerging skills due to changing and emerging occupations. 3. Apply trans-disciplinary approaches in the design and evaluation of skills development programmes for formal and informal TVET sectors. 4. Create new models for linking TVET programmes with industry and on-the-job related experiences. 5. Conduct meta-analyses of skills development policies for TVET effective governance and involvement of social partners for gender equity. 6. Integrate successful Teaching and Learning approaches in TVET contexts. 7. Adhere to professional ethics in conducting skills training.

Key aspects	Guidelines
c) Definition of the length and level of the programme	***Guiding Questions: How long is the programme? At which level is the programme? What degree does the programme lead to?*** The duration of the Postgraduate Programme lasts 18 Months: **Full-time:** • The minimum duration = Three Semesters • The maximum duration = Five Semesters Successful completion of the M.Tech Ed allows pursuance of a PhD programme
d) Identification of the future fields, sectors of employment/ occupation of graduates	***Guiding Question: Where will the graduates work in the future?*** Students who successfully complete this postgraduate programme may be employed in the following positions: a) Comprehensive Secondary and technical school principals, vice-principals and teachers of technical and vocational subjects. b) Administrators and managers of training programmes in industries. c) Lecturers/trainers in Vocational and Technical Colleges, Colleges of Education and Polytechnics. d) Lecturers in degree programmes in Vocational and Technical Education Programmes in Universities. e) Self-employed in their occupational areas. f) Researchers and consultants in community-based organisations.
e) Check-up of the link of the competences with the agreed meta-profile	***Guiding Question: Are all components of the meta-profile or only the core of the meta-profile included in the description of the profile?*** • Knowledge, understanding and Practice (1,3) to these were added 4, 5, 6, 7, 8, 10 from the SAG key competences. • Inter-personal skills (5) 14 SAG key competence was added. • Context (2, 4, 6) 9 SAG key competence was added) • Values and Ethics (7) *(Note specific meta-profile composition under Chapter 2).*

Key aspects	Guidelines
f) Definition of the competences (Specify regarding the new or revised programme)	***Guiding questions: What do you mean when you speak about competence a, b, c…? How does my university describe competences?*** Competences constitute the attributes an individual needs to exhibit, interpret or act upon in a given situation /context to produce the expected programme outcomes. In this context it refers the abilities to be developed in different programme areas of TVET teacher preparation (pedagogically and technically) that will enable students to design and implement skills development initiatives. Competences are capacities that graduating students from the programme exhibit upon completion of the programme to show that they have successfully and meaningfully learned and are able to not only meet the programme's requirements over a determined period of study but also to transfer their learning to actual life situations.
g) List of the different aspects	***Guiding question: What are the competences for this particular programme?*** Development of students' abilities in designing pedagogical models for skills development in the following aspects of TVET depending on their areas of specialisation which include: • Agricultural Education. • Business Education. • Information Technology Education. • Home Economics Education. • Industrial Technical Education.

Key aspects	Guidelines
h) Specification of the level of the competences described in the new or revised degree profile in each component of the programme (it may vary between the competences)	***Guiding question: Which is the expected level of achievement of the competences?*** The students should exhibit high level of knowledge and understanding skills in the various areas of specialisation. In addition they should display very high level of research skills, and be able to apply research findings to solve problems within a teaching and learning setting and within communities. a) Knowledge of the different programme courses (cognitive: to remember, reproduce, describe, distinguish, indicate, analise, synthesise, give examples, categorise, listen to and comprehend, contrast, match, locate information, retrieve, review, select, demonstrate, etc.). b) Understanding of programme of study (account for, annotate, associate, classify, compare, define, describe, discuss, estimate, exemplify, explain, project, infer, outline, paraphrase, reorganise, recognise, report, retell, restate, research, review, summarise, translate, etc.). c) Practice within the different programme courses (apply, integrate, adapt, adopt, analise, argue, carry out, conclude, construct, demonstrate, dramatise, draw, exhibit, conduct, extract, illustrate, implement, instruct, include, interpret, interview, manipulate, appreciate economic values, physical, cultural and social environments, etc.). d) Interpersonal competences (collaborate, communicate, lead, manage, etc.). e) Values and ethics (support, respect, adhere to rules and regulations of the profession, upgrade knowledge and skills, inspire self-confidence and appreciation of cultural in-heritage, etc.).

Key aspects	Guidelines
i) Description of the expected learning outcomes related to the competences	***Guiding question: Which learning outcomes do you want to achieve?*** 1. Identify skills gap through analysis and needs assessments process in relevant occupations in innovative ways. 2. Forecast emerging skills due to changing and emerging occupations in Vocational Education, Agriculture, Business and Commerce, Information Technology, Home Economics and Textiles, Industrial Technical sectors. 3. Apply trans-disciplinary approaches in the design and evaluation of skills development programmes for formal and informal TVET sectors. 4. Create new models of linking TVET programmes with industry and on-the-job related experiences. 5. Conduct meta-analyses of skills development policies for TVET effective governance through involvement of social partners for gender equity. 6. Interrogate teaching and learning approaches in various TVET contexts. 7. Adhere to professional ethics in conducting skills training.
j) Description of the methodology of the learning strategy for achieving the competences	***Guiding question: How do you manage to make sure that the students reach/attain the competences?*** The Master of Technology Education degree will be executed through course work (lectures, seminars, case studies, modelling, projects etc.), dissertation; and work experiences with industry and commerce will be compulsory. Hence the following strategies will be applied: • Extensive use of learner-centred participatory teaching methods will be applied to include among other techniques: — Brainstorming sessions. — Discussions over existing/emerging/future issues or ideas. — Interrogations/questioning of arising matters/issues. — Exploration/research in considerations of contextual issues relating to learning content (theories, philosophies, ideologies and experiences reflected in literature) and learners' contexts. — Practicing what is learnt through course assignments/tasks, tests, examinations, practical -based projects and research.

Key aspects	Guidelines
k) Specification of the units of the programme (courses, and modules)	***Guiding question: How is the programme composed and sequenced?*** **First Semester** **CORE COURSES (Common to the Five programme Areas)** **Course Titles** *— How is the programme composed and sequenced?* **1st Semester** **CORE COURSES (Common to the Five programme Areas)** **Course Titles** — **Units** • Theories and Administration of Technology Education — 4 • Research Methods in Technology Education — 3 • Curriculum Development in Technology Education — 3 • ICT in Technology Education — 3 **13** **Courses from specialisation areas** — **14** **Dissertation** — **6** **Total** — **33** **1. AGRICULTURAL EDUCATION** **2nd Semester** Agricultural Resources Management Education — 2 Work Experience Designs in Agriculture — 2 Agricultural Training Facilities/Resources Management — 2 **Options: (See below)** Four units of courses must be chosen from options A, B or C according to the following areas of specialisation: **A.** ***Technology Education In Production Agriculture*** Voc Agric Programmes in Crops and Livestock Production — 3 Diffusion of Innovations — 3 **B.** ***Agro-Business Education*** Business Development plans for Agricuture ventures in Schools — 3 Marketing Management for Agribusiness Firms — 3

Key aspects	Guidelines	
	C. *Soil Education*	
	Training in Tropical Soils, Utilisation and Improvement	3
	Advanced Soil Fertility	3
	3rd Semester	
	Seminars in Agricultural Education	3
	Dissertation	6
	2. BUSINESS EDUCATION	
	2nd Semester	
	Foundations of Business Technology Education	3
	OPTIONS (See Below)	
	Nine Units of courses must be chosen from options A, B, or C according to areas of specialisation.	
	A. *Accounting Technology Education*	
	Cost Accounting in Business	3
	Financial Accounting in Business	3
	Government Accounting and Policies	3
		9
	B. *Marketing Technology Education*	
	Marketing Research and Information Management	3
	Advanced Marketing Management	3
	Marketing and Consumer Behaviour	3
		9
	C. *Office Technology and Management Education*	
	Human Relations in Office Organisations	3
	Advanced Business Communication	3
	Advanced Office Technologies	3
		9
	3rd Semester	
	Seminar in Business Education	3
	Dissertation	**6**
		33

Key aspects	Guidelines
	3. INFORMATION TECHNOLOGY EDUCATION **2nd Semester** A 3-units course must be chosen from any of the Options A, B or C **Options** A. Presentation Graphics Applications 3 B. Advanced Computer Architecture/Assembling for Technology Edu. 3 C. Data Communication Architecture and Protocols in Tech. Education 3 Six units of courses must be chosen from any of the Options A, B or C **OPTIONS:** **A. *Software Applications for Technology Education*** Advanced Topics in Database Design & Implementation in Tech. Ed 3 Instructional Software Development in Vocational Education 3 **6** **B. *Hardware Maintenance Management Education*** Computer Maintenance Management for Vocational Education 3 Hardware security and Digital Forensics 3 **6** **C. *Networking and Communication Technology*** Data Communication and internet Security in vocational education 3 Wireless communication and Mobile computing Technologies 3 **6** **3rd Semester** Seminar in Computer/IT Education 3 Dissertation 6 **9** **Grand Total 31**

Key aspects	Guidelines
	4. HOME ECONOMICS EDUCATION
	2nd Semester
	Problems, Issues and Innovations in Home Economics Ed. 3
	Options
	Three units of a course must be chosen from the following 4 options:
	Family Resources Management Education 3 Nutrition Management Education 3 Child Rights and Development Needs Education 3 Psycho-Social Foundations of Clothing Education 3
	Options:
	Six units of courses must be taken from any of the options A, B, C or D
	A. *Home Management Education* Creativity and Entrepreneurship in Family Living Education 3 Human Resources and Social Skills Dev. Education 3 **6**
	B. *Food and Nutrition Education* Food Science Education 3 Nutrition and Disease Education 3 **6**
	C. *Clothing and Textiles Education* Advanced Textile Studies Education 3 Advanced Pattern Drafting and Clothing Production Techniques 3 **6**
	D. *Child Care Education* Early Childhood Care for Development Education 3 Perspectives in Parenting Education 3 **6**
	3rd Semester
	Seminar in Home Economics Education 3 Project/Dissertation 6 **9**
	Grand Total of Course Units 33

Key aspects	Guidelines
	5. INDUSTRIAL TECHNICAL EDUCATION **2nd Semester** Facilities Planning in Industrial Education 3 **OPTIONS** Six units of courses must be chosen from options A, B and C. **A. *Building Construction Technology*** Construction Management 3 Building Materials Science 3 **6** **B. *Electricity/Electronics Technology*** Workshop in Electronics Technology 3 Electrical Electronics Instruments and Measurements 3 **6** **C. *Mechanical Technology*** Industrial Design Technology in Metal/Automobile 3 Automobile Mechatronics 3 **6** **3rd Semester** Seminars in Industrial Technical Education 3 Thesis /Dissertation 6 **9** **Grand Total 30**
l) Check-on the consistency of the programme with the competences, the expected learning outcomes and activities that will lead you to the learning outcomes (overall consistency of the programme)	***Guiding questions: Are all the learning outcomes included in the programme? Are all the units related to one or more learning outcomes?*** Yes: there is consistency between the programme and the competences planned to be developed. • All the learning outcomes are included in the programme. • All the units are related to more than one learning outcome.

MASTER IN EARLY CHILDHOOD EDUCATION (ECE)/ MASTER OF EDUCATION EARLY CHILDHOOD DEVELOPMENT AND EDUCATION (M.ED. ECDE)

For the Master in Early Childhood Education (ECE), the following were the comments, remarks and suggestions made at the peer review sessions on the check list/ guiding questions provided.

Table 6.2
Peer Review Illustration 2: Master in Early Childhood Education (ECE) / Master of Education Early Childhood Development and Education (M.Ed. ECDE)

Key aspects	Some questions	Comments
1. Identify the future fields, or sectors of employment of graduates	***Guiding questions:*** 1. Does the description help students to have a clear idea of future sectors of employment or further study possibilities? 2. Is the language comprehensible to prospective students? 3. Is the list of potential occupations sufficiently detailed?	1. **Yes** but more elaboration is needed on possible future sectors to be identified; also no mention is made of further study possibilities for specialists in this field. 2. **Yes** to a large extent. 3. It is detailed in one proposal (UEM) but needs further elaboration in the others.
2. Check the link of the competences with the agreed meta-profile	***Guiding questions:*** 1. Is it clear which elements of the meta-profile are included in the degree profile and which are not? 2. Are the reasons for including the elements justified in the description?	1. It is clear in some but yet to be developed in the others. Needs to be further reviewed. 2. to some extent but there is need to thoroughly go through the proposals and complete them.
3. Define length and level of the programme	***Guiding questions:*** 1. Is it clear what the length of the programme is? 2. Is the programme at bachelor or master level? 3. Is the possible progression from this degree to further study made clear?	1. The length of the programmes has been given but they are still subject to further discussion and approval. 2. It is at Masters level for all the programmes in this area. 3. No, possible progression to further study is not mentioned at all.

Key aspects	Some questions	Comments
4. Description of the degree profile of the new programme or a revised programme in terms of generic and/ or subject-specific competences	***Guiding questions:*** 1. Does the description include both generic and subject-specific competences? 2. Does the description of the degree profile include all the necessary elements of competences in terms of knowledge, skills, attitudes, values, etc.?	1. **Yes** attempts have been made to this effect. 2. **Yes** but there is still room for improvement.
5. Definition of the competences (Specify regarding the new or revised programme)	***Guiding questions:*** 1. Are the competences defined in a user friendly way so that they are comprehensible to both students and other staff?	1. Yes they are understandable for a professional but needs to be further clarified for students.
6. Specify the level of the competences described in the new or revised degree profile in each component of the programme (the answer may vary between the competences)	***Guiding questions:*** 1. Does the document make clear the importance of the development of competences to different expected levels? 2. Are the levels well explained?	1. No they are just briefly mentioned but not justified. 2. No they are just described but not explained in detail.
7. Describe the expected learning outcomes related to the competences	***Guiding questions:*** 1. Have learning outcomes been formulated? 2. Are they clear and well formulated with an action verb, content and context? 3. If so, are these measurable? Can each learning outcome be related to at least one of the competences? 4. Has each competence been expressed in at least one learning outcome? 5. If a student achieves all of the intended learning outcomes will they have developed all of the competences in the programme to an appropriate level?	1. Yes but they are just a summary captured in a table. 2. Yes partly for one programme but not for the others. 3. Partly measurable ; yes each LO is related at least to one competence in one of the programmes. 4. Yes, but this aspect can be improved. 5. Yes to a large extent.

Key aspects	Some questions	Comments
8. Describe the methodology of the learning strategy for achieving the competences	***Guiding questions:*** 1. Are common learning and teaching activities described? 2. Are examples given? 3. Is assessment addressed?	1. **Yes** it is detailed in the proposal. 2. Yes, examples are given in the proposals. 3. No, it is not yet addressed.
9. Specify the units/ courses/modules of the programme	***Guiding question:*** Is there a list of courses/ modules/ units that make up the programme?	Yes, a tentative list has been provided but can be harmonised by the various proposals submitted to each institution for adoption or adaption.
10. Check the consistency of the programme with the competences, the expected learning outcomes and activities that will lead you to the learning outcomes (overall consistency of the programme)	***Guiding questions:*** 1. Does each unit/module/course contribute to the achievement of at least one learning outcome? 2. Are all of the learning outcomes covered in the units/ modules/courses of the programme? 3. Is there a progression of the learning outcomes towards the development of each competence? 4. Are complex competences addressed in sufficient length and depth in the programme? 5. Are teaching and learning activities appropriate for the learning outcomes of each unit/ course/module? 6. Do the assessment methods for each unit/module/course measure the achievement of all the unit learning outcomes? 7. Are the learning outcomes, teaching and learning activities and assessment tasks aligned logically?	1. Yes but some like ICT are only implied. Need to be detailed in the activities to properly cover all the learning outcomes. 2. Yes but can be improved. 3. Yes but can still be improved. 4 Yes they are addressed but can still be made more detailed. 5. They are more implied than described in detail in some cases but not mentioned in the others. 6. One programme mentioned assessment but the rest have yet to mention assessment strategies in their proposal. 7. Not yet.
11. Name of the new or revised programme	***Guiding question:*** Does the name reflect the aims and purpose of the programme?	Yes but these can be better reflected and harmonised with other similar programmes.

After the review process and consultations made by each Tuning member at her/his home institution, the final names of the adapted/ adopted programmes according to the interests of the Teacher Education SAG read as indicated in table 6.3.

Table 6.3
Name of participating Institution and the final Programmes

S/N	Names of Institutions	Name of Programme
1	Gambia University	Master of Special Education and Inclusive Education
2	1. Botho University 2. Makerere University Uganda 3. University of Namibia 4. University of the Western Cape 5. Eduardo Mondlane	Master of Education Early Childhood Development and Education (M.Ed. ECDE)
3	1. University of Nigeria, Nsukka 2. Makerere University, Uganda 3. Open University of Tanzania 4. National Open University of Nigeria	Master of Technology Education (M. Tech. Ed)

6.4. Strategies for Implementing the New and/ or Revised Programmes in the Different Teacher Education SAG Institutions

The Teacher Education SAG developed several implementation strategies for the proposed Teacher Education programmes at the different universities. Among other strategies, are the following nine strategies.

The first strategy was to review the proposed programmes or introduce new programmes at home institutions. However, if an institution decided to introduce a new and different programme such a programme ought to include the Tuning concepts, competences, and methodology. Adopting the Tuning elements of programme development and implementation is expected to ensure attainment of the mission and vision of Tuning. These have elements of transforming higher education in order to produce competent, reliable, ethical

and committed human resources for the continent. As noted earlier, practices in most African higher education institutions are wanting and need changes and tuning constitutes one of the initiatives with high likelihood to assist along the changing continuum. The anticipated changes are also well grounded in the principles underling the Sustainable Development Strategies (SDGs).

The second strategy is developing and implementing advocacy awareness programmes which could take the form of tasks or activities including among others, conferences, workshops, community rallies, community works, and consultations. These would be designed to raise awareness of the Tuning Africa Project and its efficacy potentials for positive transformations in Africa's HE. Advocacy programmes are necessary since in most cases, institutions /or organisations including governments sometimes get greatly tied to traditional practices to the extent that they become comfortable and consider changes as stumbling blocks instead of viewing changes as necessary since innovations and creativity always bring in new ways of life for which we adopt or adapt, otherwise we get left behind and finally get extinct.

The third strategy that was proposed was the initiation of champions at institutional, ministerial, and quality assurance levels. Members suggested that initially, the initiation should keep a focus on management teams and later spread the Tuning concept and methodology among general institutional members and the public at home and outside.

The fourth strategy was to strive to influence policy and procedures at national and institutional levels. In some institutions curricula matters are not priority! Yet, without robust curricula, chances are high that lead to underdevelopment since education provides the backbone to all matters pertaining to development. It is through education that the human resources needed to influence and catalise production are gotten. Yet, governments and institutions are always faced with many alternative priorities that keep on postponement of curricula reforms. It is thus upon Tuning Africa members to ensure that they influence their governments and organisations and the public to ensure that Tuning plans are implemented through a collaboration with existing institutional and government structures and resources.

The fifth strategy considered that developing appropriately transforming curricular for high education is not enough if education

facilitators are not trained. Hence, academics, management personnel, QA leaders and other HE staff ought to be trained trained as well, following the Tuning principles. Failure to train will eventually lead to failure of the project, actually it might not even start. Hence, Tuning members realised the need for in-service as well as pre-service training for higher education staff and those who ware potential to join universities in Africa. Such training should aim at changing or transforming mindsets as well as spreading information about the target competences to be developed and how to implement the changes.

The sixth strategy that was considered as important was to engage learners and raise their awareness to changes in the way they study and the way they are taught; moving from rote memorisation and depending on teachers' transmission of information to depending on your own initiatives in collaboration with peers and the facilitator to generate knowledge and the skills needed to survive and progress. This strategy is necessary given that students constitute major potential clients for the Tuning designed programmes.

The seventh strategy was to strive to collaborate and partner with others to ensure harmonisation and quality of the programmes at each Tuning partner higher education institution.

The eighth strategy: it was also considered appropriate to provide opening for collaborating universities to define specific issues related to entry requirements, programme duration, credit system, assessment modalities, award/certification system, etc.

The ninth and last strategy was set for institutions of higher education in Africa to process the programmes through quality assurance organisations/units so as to seek approval at institutional and national levels.

The following chapters report on the work that was accomplished in phase 2 of the project; this succeeded phase which was a pilot. The subsections include professional development initiatives and reflections on student workload.

The chapter has considered major issues relating to procedures followed to revise the Tuning Africa academic programmes developed for delivery at African higher education institutions that offer Teacher

Education programmes. As was the case with determination of the Teacher Education graduate competences and ensuing meta-profile for the field, the development of the academic programmes was also a process conducted along a continuum of consultative processes.

Chapter six presents the processes followed and the programmes developed on the basis of negotiations and dialogue that led the Tuning Teacher Education SAG to single out programmes that were considered very important because they were either lacking in current programmes on offer or because they were an imperative of contemporary developments following global engagements in a knowledge economy and ensuing prerequisite knowledge, skills and values needed to be developed among HEIs' graduates.

The programmes were therefore developed with the aim of ensuring that Tuning Africa supports African HEIs to meet student and socially determined needs against the current sustainable development goals (SDGs) as translated to educational provision. They were as well developed to ensure harmonisation of HEIs through staff and student mobility and transfer of credits. The collaborative consultations were employed as a measure to meet these targets as well as a measure of the quality of the programmes. Through the consultations, three master level programmes were produced and two of them have been presented in tabulated format under this chapter to serve as models that can be emulated when developing a Tuning-focused education programme. The guiding review questions ensure that programme developers are focused on responding to major issues that have impact on the quality of a programme.

Chapter 7

Continuing Professional Development in Teacher Education

Contemporary higher education is undergoing a paradigm shift which is reflected in the expanding and transforming teaching, learning and assessment strategies currently being implemented in almost all education contexts (UNESCO, 2017). The era of teacher-centred teaching and learning is gradually becoming a thing of the past. Kincheloe (2006), correctly, argues that "top-down technical standards for students and the form of testing for retention of bits of data... undermine the struggle for a rigorous, high quality, equitable... education" (p. 161). Institutional education systems today are therefore, tasked with the important responsibility of addressing ever-increasing demands in the areas of reducing the learner achievement gap, adopting evidence-based practices, meeting adequate yearly progression goals, managing the requirements of second or third language instruction and inclusion with respect to socio-cultural, socio-linguistic and socio-economic diversities of students, and students' special needs, increasing use of interconnecting technologies for education delivery and the necessity to remain up-to-date with respect to the increasing amount of pedagogical, content, context and value-based research. These new dimensions demand that educators keep abreast of the contemporary and pertinent advances that are taking place in the education arena. Under these circumstances, the issue of continuing professional development for staff cannot be overlooked, especially in higher education which has the noble duty to correctly inform lower levels of the education systems on scientifically researched and tested matters.

7.1. Conceptualising Continuing Professional Development in Higher Education Institutions (HEIs)

Continuing professional development is conceptualised as a process of continually improving staff knowledge, skills and values, i.e., enhancing staff competences needed to produce outstanding educational results that serve students in their context of practice. Continuing professional development in Teacher Education involves all activities that can enhance individuals' skills, knowledge, expertise and other characteristics needed for a teacher. Notable improvements in education cannot take place without continuing professional development (Macquarie University, 2017). Continuing professional development is therefore key to meeting current educational demands in learning institutions, especially at higher learning institutions which feed lower levels through their expertise services. Effective continuing professional development programmes are imperative to quality facilitation in teaching, learning and assessment while aligning these processes to intended learning outcomes in higher education (Sally, 2004). Quality professional staff development programmes need to be informed by relevant theoretical and practical principles if they are to deepen teachers' knowledge of course content, pedagogical skills, opportunities for professional practice, research capacity and critical reflections (Avalos, 2010).

7.2. Continuing Professional Development within the Tuning Africa Programme

The Tuning Africa programme has effectively captured and implemented strategies for teachers' continuing professional development intention, as demonstrated in this section. Generally, continuing professional development assists teachers to update their knowledge of the courses they teach in the light of the modern advances in their areas of specialisation as well as in other areas which relate, in one way or another, to their fields of specialisation. Tuning Methodology lays emphasis on the implementation of outcomes-based education in higher education as a way of ensuring that the quality of education is based on serving learners' interests instead of serving institutional and teacher's interests. Scoring high marks in written examinations for placement or promotion is of value only as long as it aligns with students' capacity to transfer and successfully apply what they learn in practical lived contexts.

Within the context of the Tuning Africa initiative, it has become apparent that professional development is utterly important. On the one hand, Tuning acknowledges the chain of global transformations occurring within Higher Education, while on the other, university institutions and most academics which Tuning serves have yet to transform. The transformations needed call for consideration of the reality on the ground of education systems in Africa, including such factors as the expansion of institutions, diversity of courses offered, admission of huge numbers of students resulting in more diverse student populations, multiculturalism and the need to introduce new methods of facilitating learning, research and consultancy in responding to the ever changing situations. These changes, along with the rapid increase of the body of knowledge, challenge academics in higher education to advance in their profession. Furthermore, the higher education systems are diverse, based on various historical legacies. So, in the pursuit of African academic integration, there is a need for mutual recognition of academic qualifications among universities. This project provides an opportunity for peer-learning among the participating university institutions as they develop programme curricula in response to expected outcomes and competences for the selected subject areas. It also helps to share experiences in the determination of credit workloads, contextualised learning outcomes and quality procedures for higher education. Hence, given the dynamic changes that the academic landscape is undergoing globally, the need for continuing professional development becomes even more pressing. This encourages the quest for facilitating academics' familiarisation with the Tuning concepts and approach/ methodology, as it is designed to address local and global needs collaboratively and harmoniously, fostering the attainment of sustainable development at all levels and in all contexts as per the guiding Global Sustainable Development Goals (GSDGs).

7.3. Tuning Commitment as a Staff Development Opportunity

The Tuning commitment to promote continuing professional development for HEIs' staff and students' learning is apparent in the Tuning project's approach and intention to harmonise the African education system. These are thought to be ways that encourage staff and students' collaboration, partnerships, education, training, mobility and harmony. The programme general meetings (5) for which members commit have been organised in ways that ensure

participants' attainment and generation of knowledge, skills and values for the improvement of the continent's higher education (HE) systems. The Tuning Africa general meetings constitute major learning spaces and fora for staff development. This characteristic derives from the fact the Tuning meetings with their embedded presentations, shared activities and experiences from across diverse fields continuously generate learning spaces for continuing professional development.

The position expressed above was clearly articulated during the 4th General Meeting held in Johannesburg, April 2017, where one of the aims of the project was stated as being to strength higher education "institutional capacity in the area of curriculum reform in terms of design, teaching, learning" (Tuning Africa Phase II, 4th Meeting, p. 37). Continuing professional development connected to the general Tuning learning fora has covered theoretical, research and practical aspects of in-service training for higher education academics. Participants in the meetings have been guided to conduct research collaboratively and share their findings at their home institutions; such findings have contributed to dialogue and to the recognition of contemporary HE students' needs for competence-based learning, according to higher education stakeholders who participated in the research as both respondents and researchers. Such stakeholders included students, graduates, employers, academics and HEI leaders. Findings from the research informed the compilation of the lists of the generic and subject-specific competences required by graduates as they proceed from universities to employment.

On the basis of the preceding narrative, it can be briefly stated that continuing professional development pre-supposes the non-static nature of contemporary society and the necessity of continuously preparing academics in higher education to remain on the cutting edge of development through a lifelong learning scheme designed to comprise emerging and evolving technologies, and transformations in human activity and development needs.

7.4. Online Courses for Tuning Africa Participants

In addition to the learning spaces provided by the Tuning Africa general meetings, the programme has offered two online courses for its participants. The first of these was delivered between February and September 2016, and focused on "*Designing courses for outcomes-*

based learning in higher education". The second was offered between February and September 2017, and dealt with "*Practical assessment for learning"*.

The two courses updated academics in different HE fields on appropriate contemporary approaches to teaching and assessment. Both centred on learners and their actual needs within actual lived environments. The courses gave impetus to the shift from the teacher-centred teaching approaches of the past, which mostly focused on the teacher and the curriculum instead of focusing on learners' actual needs. They have made it clear that an effective education system must be oriented towards fulfilling the needs of the learners and their communities. Through these online courses, participants (and those who will access them in the future) have been (or will) be exposed to critical approaches showing that teaching and assessment should be designed and delivered/conducted in such a way as to address actual learners' practical needs especially after graduation, i.e., education should focus on what the learners ought to 'be' and 'do' at and after graduation. It is a merit of the Tuning courses that learners have been rightly recognised as 'the' first priority of the education sector and as central to teaching, learning and assessment. As far as assessment is concerned, the Tuning Africa online continuing professional development courses stress the need to make assessments both judgment tools for decision making about the extent to which learning has taken place (assessment of learning or summative assessment), as well as tools for facilitating and enhancing students' learning (assessment for learning or formative assessment).

Through the online staff development courses discussed above, the Tuning initiative has enabled HEIs participants to reconsider their past practices and improve how they teach and assess their learners. The online courses have developed champions for a contemporarily relevant pedagogy, a pedagogy that propagates the need for competences development among learners and not only enables the learners to pass examinations but also allows ascertaining whether the competences gained can be transferred to actual life practices after graduation. This was accomplished by exposing the participants to a variety of teaching, earning and assessment methods and techniques.

Additionally, since Tuning participants have been exposed extensively to comprehensive collaborative and partnership techniques during the staff development training processes as they worked together in

developing joint courses, responding to joint course tasks, reviewing each other's ideas as posed through discussions and exchanges of texts they have been made able to apply the same or improved techniques at their home institutions. Thus, they are now better placed to competently align intended course outcomes with the programmes' emphasis on intra- and extra-institutional, national and global collaborations and partnerships. Such collaborations are should enrich staff and student mobility and act as a way of promoting harmonisation across HEIs in Africa, as mobility opens up opportunities to share all resources, including human capital, infrastructure, facilities and equipment. This will be an advantage if Africa is to leapfrog the boundaries that dislocated and disabled the continent's participation in development projects in the past; this is so since a meaningful and relevant education is essential for actual development.

7.5. Tuning Workshops at Home HEIs

It is worth noting that Tuning continuing professional development programmes have not been meant only for HEIs academics who constitute the core Tuning Africa General Meeting Subject Area Group members. The programme is also intended for all academics in HEIs. This follows a general understanding that formal professional development structures such as workshops serve important purposes for teachers 'learning to learn' and transforming their knowledge into practices as well as enhancing their learners' growth (Avalos, 2010). For purposes of continuing professional development in Teacher Education, members of the core Tuning groups have been oriented to take responsibility for cascading what they learn from the Tuning General Meetings and the online courses they have taken during the process. The Tuning members have been guided on how to successfully conduct workshops of their own preference in line with the academic niche areas they selected at the April 2017 4th General Meeting at Johannesburg, South Africa.

To identify the niche areas for professional development workshops for which each HEI represented in Tuning Africa was to conduct, each academic member at the general meeting was requested to report on the continuing professional development needs at his or her home institution in areas of: curriculum development, teaching, learning and assessment. The identified needs were listed and discussed in groups composed of academics from different institutions and fields

of specialisation. The multi-disciplinary composition of the groups was deemed important to cross-fertilise ideas and experiences to refine the training themes from broad perspectives. This exercise assisted in narrowing the list for actual training implementation. Topics suggested for the Teacher Education SAG workshops fell under four major themes: (i) curriculum design, (ii) student workload and credits, (iii) assessment, and (iv) intended learning outcomes (ILOs) and alignment. Of the four themes, the majority (54.5%) of the academics representing different institutions opted to conducting workshops on assessment, followed by preferences for student workload (27.5%), curriculum, and intended learning outcomes and alignment. The last two themes were selected by 9.1% of the institutions represented in the Teacher Education Group (SAG) at the 4th Tuning Meeting. These topics were further refined at institutional levels to fit the diverse contexts of implementation.

The practice described above confirms that the Tuning initiative is strongly built on active contributions of each member during the general meeting fora. Members fall into various specialised Subject Area Groups: Agricultural Science, Economic, Teacher Education, Medicine, Mechanical Engineering, Applied Geology, Civil Engineering, Higher Education Management, and there are also students' representatives from various HEIs in Africa. It was in the spirit of collaborative decision-making that it was considered necessary to solicit general meeting members' contributions in developing common thematic areas for workshop planning and implementation at each HEI after the 4th General meeting. The collaborative multidisciplinary spirit was evident in that each Tuning academic representative of an institution invited his or her home HEI's academics to join in the Tuning project activities. Some members reported having incorporated sister universities (e.g., University of Zimbabwe) so as to plan and present the workshops while others invited colleagues from other HEIs in their countries to participate in the Tuning workshops.

It is important to note that sharing and refining the workshop topics and proposals between and among general meeting members, academic colleagues as well as qualifying and endorsing the workshop proposal through the Tuning Africa management team served as part of the quality assurance process for each of the topics that were ultimately approved and implemented.

7.6. Reflections from some Workshop Participants

The following verbatim responses reflect some of the workshop participants' comments and opinions from the Open University of Tanzania (OUT).

Asked to express their general comments about the workshop, participants informed that the workshop was good since the facilitators clearly explained the concepts related to intended learning outcomes and were focused on the assessment with elaborate details. The facilitators were also commended for providing participants with opportunity to contribute their ideas and suggestions to enable future workshops to be more productive. It was of interest to learn from the participants that the workshop was well organised and that, due to the positive contribution that the participants realised would come out of the workshop, in terms of transforming the way they develop, assess, mark and grade assessments, more time should be dedicated to such workshops. Extended time would enable participants to get more information and conduct more practices to reinforce what they have learnt through discussions, questions and responses between and among teachers and peers. They recommended that the workshop should take three days; two days were not enough, they observe.

Another question that the participants were asked to respond to was to consider the relevance of the workshop theme or topic to their teaching profession at a higher learning institution. They responded with insights showing that the workshop was timely because they feel that they need to change from doing things traditionally. I believe that by using the "traditional" concept of doing things they implied using the teacher-centred approach to teaching and assessing students. The workshop became an eye opener, showing them that they could change or transform to using the competence-based; intended learning approach so as to match with the market requirements of the contemporary world.

Consideration of their open, distance and online teaching modes workshop participants appreciated the extent to which the competence-based, intended learning outcome approach to teaching and assessing was relevant to their context. It was easy to provide assessment tasks on line and encourages learners to make reference to the multiple sources of data relevant to their fields of specialisation. During the workshop, the participants used a significant

portion of their time to explore available data that were relevant to assessment in open, distance and online learning. On this ground, they recommended similar workshops for all other members at the institution.

The participants considered the workshop as part of the means to address many of the challenges they encounter as they teach and assess their courses. They were exposed to both Bigg's SOLO taxonomy and Blooms taxonomy as currently advanced and extended. Hence some of the challenges they thought they could, from now, easily address were accessed on websites with suggestions for assessment techniques that are effective to the open distance and online modes of assessment, ways of forming intended learning outcomes, and the appropriate verbs for use in the various levels of developing questions for their students. Use of the portfolio and course journal, feed-forward and feedback process were of particular interest to them.

One of the participants pointed out that the workshop was relevant to her since she was originally adamant to shift per teaching that was mostly transmitting knowledge to the learners. From hence forth, she promised to start engaging the new assessment techniques and disseminate the news to her friends. She informed that "the workshop is to assist me shift from the traditional way of teaching towards the learning outcome direction and learner-centred teaching". She also suggested that "the workshop ... should be provided to all academic staff at the institution".

Asked what things they had learnt during the workshop and which they considered or planned to use when teaching their courses after the workshop; they responded that they were going to apply the SOLO taxonomy framework and Bloom's revised taxonomy for teaching and developing clear intended learning objectives for their courses. They also promised to develop authentic assessments grounded on intended learning outcomes. Since they had learnt the importance of conducting a needs assessment they pointed out that they will always conduct broad-based needs assessment before developing their curricula. Further, they promised to prepar assessment tools based on ILO and involving our students in preparing assessment tools. Engaging students to develop assessment tools in collaboration with peers and the facilitator, they said was not something they ever thought could work, but they were convinced it was a wise and possible thing to do. They observed that the process might assist in attracting learners to

'love' their courses. Since developing questions, they thought was a cumbersome process but motivating in the sense that the students will believe they will easily study along the questions they developed and will benefit in reading through the texts to search for the areas from which to develop questions. They will therefore be studying at the time of developing questions.

In responding to the questions of stating what they liked most about the workshop; participants mentioned: the training materials (note: three articles about authentic assessment were sent to the workshop invitees through e-mail communication before the workshop to allow them prepare for effective participation); the mode of collaborative teaching and learning; how to prepare effective assessment tools and one of them said that she "liked everything that was done and presented".

To a question inquiring what participants did like least about the workshop, they responded that the time for the workshop did not consider that they were also having examinations going on at the university and therefore their minds were not settled at times. They also said that the time for the workshop was too short and therefore they wanted more days for the activity. They suggested that all future training should be given ample time to enable more discussion of the texts and their experiences concerning the information and suggested approaches, methods and techniques. They also expressed their disappointment because the management staff and policy makers were not present; "they need to be informed of these necessary changes that we have to make for changing our way of teaching," one of them lamented.

7.6.1. *University of Western Cape Workshop Participants' Responses to Assessing the Workshop*

The following four questions were posed to guide participants after the Tuning continuing professional workshop conducted at the University of Western Cape in South Africa:

1. What is the main thing you learnt from the workshop?

2. What can be implemented immediately?

3. How do we mainstream these innovative practices?

4. How can the workshop be improved?

Below are some of the responses to the four questions posed above (according to the facilitator these responses have not been arranged in any specific order):

- I learnt that assessment is a process… It has a lot to contribute to teaching and learning and research.
- Readings were very useful.
- Technology-mediated assessment can be learner-centred.
- Working collaboratively makes teaching much easier.
- Don't always focus on grading. Feedback is important.
- Peer assessment and self-assessment can be done immediately.
- The use of e-portfolios and blogs for reflection enhances learning.
- Collaborative work at departmental level assists in mainstreaming practices.
- It is important to work as programme teams.

As it is the case with the Open University in Tanzania, the workshop facilitator informed that, generally, the workshop was well received. Except that participants wished that more senior academics and administrators should have participated in the workshop.

7.6.2. *Further Reflections on the Tuning Africa Continuing Professional Development Initiatives*

Further reflection on the Tuning Africa continuing professional development initiatives shows several strengths which encourage continuation of professional development programmes or projects in HEIs. Among such strengths, four are listed below:

1. The project has encouraged in-house institutional training which does not oblige many staff members to travel outside their institutions for continuing professional development purposes while leaving their teaching responsibilities behind, a situation most likely to have negative implications for the learners and the institutions. As noted earlier, Tuning academics have been trained through online courses while still attending to their day-to-day tasks at work, home and at their local communities. Further, while only a few academics travelled to learn from the core Tuning Africa General Meetings, they received guidance to select other members at their own institutions to pursue the online courses together. Hence, while preparing and implementing the in-house workshops, the academics who did not participate at the Tuning Africa General Meetings formed part of the teams that facilitated the workshops. The act of embedding professional development within workplaces is advanced and informed by situated cognition, constructivism as well as contemporary connectivist theorists in education.

2. Another strength that emerged through the implementation of these courses was the promotion of collaborative and collegial approaches, which are valuable because they open up room for provision of assistance, guidance, sharing and support between and among colleagues who usually have key influence on teaching practices. Such collaboration represents opportunities for participants to engage with socially interactive methods requiring them to actively search for and analyse information, to explain, elaborate and defend their positions through collegial discussions. It is one way of promoting peer mentoring. These initiatives align with the belief that effective professional development events give participants opportunities to discuss, think about, try out new practices as well as ideas and develop new directions that capture contemporary contexts and strides in development.

3. The Tuning approach constitutes an asset since it is closely associated with the sustainability of development initiatives in HEIs in Africa. Organising professional development in the way Tuning is doing has a potential to positively contribute to staff members who have been engaged in the initiative. Such academics are most likely to, thereafter, remain empowered as they support and assist each other, instead of remaining dependent on other professional members whose contribution could only feature in designing professional development opportunities and engaging others who

never learn to develop their own initiatives. This idea supports a contemporary position on staff development as key to the global knowledge economy since staff development keeps academics updated in respect of innovations in the field of education: these could be innovations in educationally relevant technologies, new knowledge in specific fields of study and practice, curriculum innovations, and pedagogical resources.

4. The Tuning Africa approach has contributed in generating a sense of ownership and increased commitment towards professional development initiatives since membership in the programme is voluntary and both institutional management and academic staff have been voluntarily involved in one way or another. This idea of ownership is grounded in the fact that participants at the initial Tuning General Meetings conducted a very broad research study about what learners, staff, employers and other HEIs stakeholders thought needed to be addressed. Further, for each of the programmes that have emerged from the Tuning initiative, participants have been involved in proposing the programmes either partially or totally. This approach makes Tuning decisions and activities part and parcel of members' contributions and therefore their own initiatives.

7.7. Prospects and Growth of the Tuning Professional Development Initiatives

The workshops presented at different Teacher Education institutions have revealed a thirst of academics to learn current approaches to teaching, learning, and assessment in alignment with intended learning outcomes (ILOs) as proposed through the Tuning Africa programme workshops. Participants realised that Tuning principles counteract methods of teaching that discourage learners' comprehensive engagement in learning as a process through which learners contribute to generation of knowledge. The participants commended the high level of workshop participants' involvement in workshop proceedings. They acknowledged having been given ample opportunities to intervene and discuss emerging ideas and suggest alternative techniques to fit to their own work environments.

They reported having been made aware of the difference between curricula guided by teacher directed 'objectives' and those guided by

'intended learning outcomes'. They agreed to follow intended learning outcomes (ILOs) which realistically address targeted needs of their learners and the learners' development targets. ILOs-guided curricula were considered appropriate for responding to learners' future dreams whether for self-employment or for employment in public and private firms. On this basis, there was a general outcry at the conclusion of the workshops that the time for the workshops should extended to allow more coverage and more time for discussions about the Tuning approach: in terms of its appropriate techniques, its relevance within diverse working contexts and how best to deal with opposing conservative mindsets.

On the basis of the experiences and observations made by participants at the Tuning Africa workshops, there is need to encourage continuation of the workshops at all Teacher Education universities. Experiences show that these workshops should not be limited to individual HE institutions but all HEIs in Africa should be encouraged to collaborate and facilitated in organising Tuning staff development programmes which include workshops, conferences, meetings or other types of professional development fora. This consideration implies that there should be openings to invite institutions that have not so far participated in the Tuning Africa Project. Such initiatives will ensure that the Tuning Africa concepts and methodology spread fast and more graduating teachers will be influenced by its positive impact. In this light, professional development for academics should be prioritised in each HEI; collaborative initiatives and partnerships ought to be encouraged and developed as well.

Chapter 8

Reflections on Student Workload

Tuning Methodology is mainly concerned with four lines of work: identifying relevant generic and subject-specific competences that current and future graduates should achieve; exploring how a mutually agreed cumulative credit system can facilitate degree comparability, graduate mobility and employability; exchanging good practices in approaches and techniques in teaching, learning and assessment; and exploring how quality assurance frameworks can be used at programme levels to enhance student learning (Tuning Academy, 2015).

A credit constitutes the measure of workload required for a learner to achieve the objectives of a programme, specified in terms of expected learning outcomes and competences to be gained. As far as identifying "a credit system" for Africa is concerned, the Tuning Project considered both staff and students' experiences. However, more attention was accorded to "Students' Voices" in discussing the credit system so that the estimation of student workload is student-oriented rather than staff-centred.

The recognition that higher education is a major driver of economic competitiveness in the global knowledge economy has made its quality ever more important, and hence one of the most crucial challenges facing countries has been how to manage a rapidly growing higher education sector while maintaining its quality and relevance. In that respect, several countries all over the world have been trying to set up credit systems and qualification frameworks which demonstrate

students' academic progress or the completion of their courses and degree programmes, facilitate student and staff mobility; improve transparency and mutual recognition between and among higher education institutions nationally and internationally.

The Course-Credit System or Credit Hour System, for instance, has provided an effective means of measuring academic work for more than a century in the United States of America and has been successful in providing accountability, mobility, and regulation for a mass academic system (Altabach, 2001; Noda, 2016). On the other hand, the European Credit Transfer System (ECTS) has been introduced starting in 1989 to promote comparability and compatibility, student and staff mobility, transparency and fairness to students and to integrate European Higher Education Area (EHEA). It represents an approach to European learning and teaching which places the student at the centre of the educational process (ECTS User's Guide, 2016). However, at present this is not the case for African higher education as there is no unified academic credit system shared by all African countries.

During the second general meeting of Tuning Africa Project - II, a method was defined for estimating student workload using a questionnaire-based survey. There has been a call to develop a country report on the Credit System in each of the African countries (Tuning Africa II Second General Meeting, 2016).

In response to this call, Alexandria University (Egypt) —as a Tuning member— has started surveying both academics and students on student workload in one of its programmes, which is being revised to be compatible with Tuning Methodology and competence-based learning. A study was conducted by Alshamy (Alshamy, 2017) at Alexandria University in which a survey was conducted of both academics and students in the chosen programme. The main findings show significant differences between the perceptions of academics and students on student workload almost across all courses, where students' estimation of the number of hours needed to complete the independent work during the semester were much higher than that of academics. The independent workload as estimated by academics is 62% of what students estimate. Only 36.4% of academics have taken students' feedback on workload into consideration when planning the workload for their courses. It was also found that 92% of students were not informed about the number of hours planned for independent

work at the beginning of the course. In addition, 88% of the students were not asked to express their feedback about workload. These findings indicate that there are no unified regulations among academics as to the estimation of student workload. It also became clear that the process of estimating student workload in Credit Hour System at Alexandria University is staff-centred rather than student-oriented as the majority of academics follow traditional methodologies in the estimation of student workload. It also emerged clearly that there is only marginal coordination between academics teaching in the same programme. It can be concluded that the "student voice" about their workload is not adequately considered as their feedback is not taken into consideration, which can be interpreted as marking the absence so far of a "paradigm shift" from staff-centred to student-oriented approaches to the estimation of student workload (Alshamy, 2017).

Thus, there is an indication that effort and intentional strategies should be put in place to minimise the gaps between the perceptions of academics and students about student workload. This calls for the adoption of a "paradigm shift" from input and staff-centred programmes to output and student-oriented ones. In order to achieve such a "paradigm shift", several actions concerning policy and practice should be promoted. Among them, the study proposed:

- Moving from Credit (teaching) Hour System to a Credit System similar to ECTS where the focus is on the student workload required to achieve the objectives of a programme, objectives specified in terms of the learning outcomes and the required competences.

- Students, alongside academics, should have a crucial role in the monitoring process to determine whether the estimated student workload is realistic (Alshamy, 2017).

To enable students and academics to achieve that task properly, there is a need for some sort of orientation and training about the process of determining and calculating student workload. Thus, Alexandria University's Tuning team has developed a workshop on "Student workload in higher education institutions".

In that workshop, participants were first oriented about Tuning Methodology, the Tuning Africa Project I and Project II, student workload, the relation between credits and student workload and the Tuning Approach for determining and calculating student workload.

The workshop at Alexandria University was a way to become familiar with the methodology to calculate student workload and to gain actual experience in implementing the methodology as proposed within the Tuning Project. The workshop results were captured in a report that articulates the successes and challenges involved in calculating student workload.

There were similar concerns about the lack of harmonised credit and workload systems across African universities. Such concerns were explicitly reported from the University of Namibia (UNAM) and University of Western Cape. At UNAM it was reported that for every credit hour, students were awarded ten (10) notional hours. This implied that students studying a level 7 diploma at UNAM spend 3600 *study* hours to obtain the qualification compared to students studying toward level 8 B.Ed degree who spend 5200 *study* hours. Despite the general guidelines to "ensure" HE qualification equivalence, inconsistencies in the credit system block academic programme developers from exceeding agreed-upon maximum credits for programmes. The existing system protects students from being overloaded with course content. However, what it has failed to do is to bring the principle of notional hours to the level of module development. Individual academics are responsible for developing the content of their modules and will mostly use the number of hours they contact their students in classes to determine the number of credits (and thereby the notional hours) the module will carry. Academics seldom take into account other issues implied by notional hours to determine the student workload of their modules.

Information from the University of the Western Cape shows that one credit equals 10 notional learning hours wherein learning activities are considered to include:

- Attending lectures.
- Attending tutorials.
- Group work activities.
- Assessment activities.
- Library work.
- Independent learning.

One credit is determined at 10 notional learning hours. Hence, each learning module gets broken into student workload on the basis of the number of credits. Many modules, however, have been shown to have a large number of hours allocated to independent learning, with no indication of how this is to be measured or what it would lead to in the learning outcomes. Lecturers tend to arbitrarily allocate hours per activity, apart from lecture and tutorial times, which are generally fixed.

Considerations were made of the concerns highlighted above along with the urgent need to harmonise HE in Africa. Harmonising HE in the continent would create opportunities to build an integrated continent that opens for staff and student mobility, skills portability that meet the continent's education strategy and the need to meet the continent's Agenda 2063 (Tuning Africa Phase II: 5th General Meeting, Brussels, 13-15 November 2017). These targets constitute imperative development factors for the continent. After Tuning members studied credit and student workload systems in Africa and other continents, they deliberated on the need to address the existing inconsistencies in credit and student workload systems in African HE. Following members' critical discussions and analysis of international and local credit and workload trends, a 60 credit system equivalent to between 1,350 and 1,800 workload hours was agreed to be appropriate for Africa universities at the 5th Tuning General Meeting held in Brussels, on 13-16 November 2017.

Continuation of work on calculating student workload should be encouraged across different institutions and regions, and the results should be used as useful data to feed into the project on determining the credit system for the continent. The team working on developing the credit system should further encourage more institutions to participate in the calculation of student workload so that there is enough representative data across regions and subject areas to work with in supporting progress in developing the credit system, and in ensuring inclusion of the student voice in the development of the credit and workload measurement systems.

Chapter 9

Conclusions and Recommendations

In concluding the second phase of Tuning Africa the Teacher Education SAG members at the 5th General Meeting in Brussels, 13-16 November 2017 summarised their conclusions and recommendations under the following points.

8.1. Conclusions

1. The Tuning Africa Teacher Education (SAG) and the other SAGs successfully conducted research which: (i) determined generic competences necessary for all HE students in Africa regardless of the fields of specialisation; (ii) determined competences necessary for each of the specific fields of specialisation; (iii) proposed and developed learning programmes suitable for selected academic levels; (iv) determined some HE academics' professional development needs. Across each field on the basis of the professional needs identified, each institution selected a topic around which an institutional professional development workshop was decided upon, developed and implemented as a pilot for future workshops for the institutions and cross-institution workshops (*detailed in the Tuning Africa Phase II 1st to 5th General Meetings documents achieved at www.tuningafrica.org*).

2. Continuing professional development was considered necessary during the Tuning Africa processes and was achieved through Tuning Africa members' participation at three levels. Level 1 was

identified as the knowledge, skills and values gained during or along the implementation of the 5 General Meetings that were held. Level 2 was considered to be the knowledge, skills and values gained through the two online courses, one of which took place between February and September 2016 and the other between February 2017 and November 2017. Level 3 was described as the lessons gained during preparations leading up to and the implementation of each 'home' university Tuning workshop. In the latter, Tuning Africa institutional Team members assisted in preparing the workshop programmes which were presented to other members at the institutions. In some universities, academics and administrators from sister institutions were invited to participate in the workshops.

3. At the conclusion of Phase II of the Tuning Africa programme, several publications had already been developed and were in circulation (including the Tuning Africa II Newsletter); more publications are planned for future productions.

4. Some universities have managed to harmonise the Tuning Methodology through their HE Quality Assurance bodies and their Ministries of Education or branches of the ministries responsible for Higher Education.

5. In a number of universities, new programmes that follow the Tuning Africa principles/methodology have been developed and are in operation (e.g., at Makerere University, University of Namibia, and University of the Western Cape).

6. Joint workshops have been implemented for staff development (University of Zimbabwe and Bindura University of Science Education).

7. Members were informed that the planned Teacher Education Deans' Meeting to take place in South Africa March 2018 will be informed about the Tuning Africa movement and advised to apply Tuning principles/methodologies as they consider development of Africa-wide PhD and MA programmes.

8. All Teacher Education SAG members applauded the involvement of students in the Tuning General Meetings, in research, publications and study programmes available through organisations (e.g., ERASMUS) working with Tuning.

9. Tuning members who have participated in the Tuning symposium presentations have commended the symposia and they recommended that members who have not been part of the symposia should participate in them since the fora are of great benefit.

8.2. Recommendations

On the basis of a thorough analysis of experiences gained along the implementation of Tuning Africa I and Tuning Africa II, the following eight recommendations were made by members of the Teacher Education SAG.

1. Institutionalise Tuning in all universities in Africa.

2. Engage and continue lobbying for Tuning implementation at Ministerial and national levels.

3. Strengthen joint Tuning activities such as workshops, conferences, publications and research (within single universities, among universities of a country, at continental level).

4. Members should develop a social media group to ease communication between and among members any time when there is need for communication.

5. Each university should have a Tuning repository to ensure memory of the Tuning Project plans and activities are safely stored for retrieval when needed.

6. It was considered necessary to conduct research to determine the causes of the dropout of some institutional Tuning teams, especially the teams that registered for the Tuning online courses.

7. Members recommended that more online courses be offered.

8. Engage more students in Tuning research since they are part of the implementation plan now and in the future.

References

1. Alshamy, A. (2017). "Credit Hour system and Student Workload at Alexandria University: A Paradigm Shift". *Tuning Journal for Higher Education,* 4 (2): 277-309.

2. Altbach, P. (2001). "Measuring Academic Progress: the course-credit system in American higher education," *Higher Education Policy* 14: 37-44.

3. Angel-Urdinola, D.F., Semlami, A. and Brodman, S. (2010). *Non-Public Provision of Active Labor Market Programs in Arab-Mediterranean Countries: An Inventory of Youth Programs,* The World Bank, Social Protection Discussion Paper No. 1005, July 2010.*

4. Avalos, B. (2010). Teacher professional development. In Teaching and Teacher Education. Volume 27, Issue 1, January 2011, Pages 10-20. Retrieved from https://ac.els-cdn.com/S0742051X10001435/1-s2.0-S0742051X10001435-main.pdf?_tid=ca8f717e-c318-11e7-bdc7-0000aacb361&acdnat=1509989870_493d5210e96b2ee56f4c63d3bfb828d3

5. Baume, D. (2004). *Portfolio for Learning and Assessment.* United Kingdom: Higher Education Academy.*

6. Bennet, N., Dunne, E. and Carré, C. (1999). «Patterns of Core And Generic Skill Provision in Higher Education». *Higher Education, 37:*71-93.

7. Biggs, J. and Tang, C. (2007). Teaching for quality learning at university. What the student does (3rd Ed.). Berkshire: Society for Research into Higher Education & Open University Press.

8. Bowden, J. and Marton, F. (2000). *The University of Learning: Beyond Quality and Competence*. London: Kogan Page.

9. Brown, S. (2004). Assessment for learning. Learning and Teaching in Higher Education, Issue 1, 2004-05.

10. Brock-Utne, B. (2000). The Recolonization of the African Mind. New York. Falmer Press.

11. Burch, Noel (1970) Conscious Competence Learning Model: Four stages of learning theory - unconscious incompetence to unconscious competence matrix - and other theories and models for learning and change. Retrieved http://www.citehr.com/23983-conscious-competence-learning-model.html, 8th December 2017.

12. Camerron (2010). *Encyclopedia of the world.* Retrieved from http://www.nationsencyclopedia.com/Africa/Cameroon.html

13. Chanock, K. (2003). «Challenges of the Graduate Attributes Movement». In Deller-Evans, K. and Zeegers, P. (Eds.). P*roceedings of Fifth National Language and Academic Skills Conference.* Adelaide, Australia: Flinders University.*

14. Chiromo, A.S. (2011). «Opportunities for Curriculum Reform in Zimbabwe». In B.C. Chisaka (Ed.), *State of the Zimbabwean Education Sector in the 21st Century* (pp. 41-48). Harare: Human Resources Research Centre (HRRC), University of Zimbabwe.*

15. Chisaka, B.C. (2011). «Perspectives on the State of the Education Sector in the 21st Century». In B.C. Chisaka (Ed.). *State of the Zimbabwean Education Sector in the 21st Century* (pp. 1-8). Harare: Human Resources Research Centre (HRRC), University of Zimbabwe.*

16. Coolahan, J. (2007). «The Operational Environment for Future Planning in Teacher Education, OECD and EU initiatives». In R. Dolan & J. Gleeson (Eds.), *The Competences Approach to Teacher Professional Development: Current Practice and Future Prospects.* Armargh, [what country?]: SCoTENS.*

17. Drummond, I., Nixon, I., and Wiltshire, J. (1998). «Personal Transferable Skills in Higher Education: The Problems of Implementing Good Practice». In *Quality Assurance in Education 6,* no.1, 19-27.*

18. ECTS User's Guide. [Online] https://ec.europa.eu/education/ sites/ education/files/ects-users-guide_en.pdf. [Accessed September 10, 2016].

19. Elder, S., Schmidt, D. and Sparreboom, T. (2010). *Global Employment Trends for Youth.* Geneva: International Labour Organisation.

20. Feredua-Kwarteng, E. & Ofosu, S.K. (2018). Improving the Quality of University Education in Africa. University World News. The Global Window on Higher Education. Retrieved from www.universityworldnews.com/article.php?story=20180306124842675

21. Freire, P. (1972). *Pedagogy of the Oppressed.* Trans. by Myra Bergman Ramos. Middlesex, UK: Penguin Books.

22. Freire, P.(1984). *Sobre Educaçáo (Diálogos), Vol. 2.* Rio de Janeiro: Paz eTerra.*

23. Gairín Sallán, J. and García San-Pedro, M.J. (2010). *Training by Competences Models at University: Past and Future Lessons.*

24. Gervas, J. (2016). The Operational Definition of Competence-based Education.Journal of Competence-based Education. Retrieved at file:///E:/Gervais-2016-The_Journal_of_Competency-Based_Education.pdf on 3rth March 2018.

25. Government of Zimbabwe (1987). *Statistical Yearbook, 1987*. Harare: Central Statistical Office.*

26. Government of Zimbabwe (1993, November). *Education Report*. Harare: Central Statistical Office.*

27. Government of Zimbabwe (2003, November). *Education Report*. Harare: Central Statistical Office.*

28. Government of Zimbabwe (2005). *Education Report*. Harare: Central Statistical Office.

29. Green, S.K. and Gredler, M.E. (2002). A review and analysis of constructivism for school-based practice. In *School Psychology Review*. Vol. 31, No. 1 (pp. 53-70).

30. Griffin, R. (2012). *Teacher Education in Sub-Saharan Africa: Closer Perspectives.* Oxford, UK: Symposium Books.*

31. International Labour Organization-ILO (2012). *Global Employment Trends 2012.* Geneva: International Labour Office. Retrieved from

http://www.ilo.org/global/about-the-ilo/newsroom/news/WCMS_171700/lang--en/index.htm 13th September, 2017.

32. Kendzia, M.J. (2012). Combating Youth Unemployment in the Middle and North Africa (MENA). Retrieved from http://conference.iza.org/conference_files/worldb2012/kendzia_m4595.pdf

33. Kiesselbach, M. (2012, June). «Language of Instruction, Literacy, Teacher Qualification and Supplementary Tutoring». *International Review of Education, 58*, No. 3, 309-311. Publication of UNESCO Institute for Lifelong Learning, in Hamburg.

34. Kincheloe, J.L. (2008). Critical Pedagogy. Peter Lang. Oxford.

35. Macquarie University (2017). Designing assessment for learning: an overview. Progress Reflection No. 13 on Current and Critical Issues in Curriculum, Learning and Assessment. Retrieved from http://blogstage.westminster.ac.uk/cti/wp-content/uploads/sites/67/2017/02/ltc_assessment_toolkit_designing_assessment.pdf on 29/May 2017).

36. Mandela, N. (2008). https://www.shmoop.com/quotes/education-most-powerful-weapon/html

37. Mba, J.C. (2017). Challenges and prospects of Africa's higher education. Global Partnership for education. Retrieved from https//www.globalpartnership.org/blog/challenges-and-prospects-africas-higher-education.

38. Lawson, M.J. and Askell-Williams, H. (2007). Outcomes–Based Education Centre for the Analysis of Educational Futures Flinders University. Discussion Paper Prepared for the Association of Independent Schools of SA, April 2007.

39. Mokwena, L. (2015). Making a Case for Technical and Vocational Education and Training in Africa's Education Debate (http://www.aaionline.org/making-a-case-for-technical-and-vocational-education-and-training-in-africas-education-debate/

40. Moyana, R. (2011). «The Place of Zimbabwe's Education System: A Regional and International Comparative Analysis». In B.C. Chisaka (Ed.). *State of the Zimbabwean Education Sector in the 21st Century*. Harare: Human Resources Research Centre (HRRC), University of Zimbabwe (pp. 26-40). Book funded by the Zimbabwe Human Rights Association).

41. Muskin, J. (2017). Continuous Assessment for Improved Teaching and Learning: A Critical Review to Inform Policy and Practice. In Current and Critical Issues in Curriculum, Learning and Assessment Retrieved from http://unesdoc.unesco.org/images/0025/002555/255511e.pdf on 13th March 2018.

42. Mwiti, L. (2015). 17 shocking facts about state of science and research in Africa: For one it's only 1% of world's output. Retrieved from http://mgafrica.com/article/2015-01-14-17-startling-facts-about-the-state-of-science-and-research-in-africa

43. Noda, A. (2016). "How Do Credit Hours Assure the Quality of Higher Education? Time-Based vs. Competency-Based Debate". CEAFJP Discussion Paper Series 16-05, Centre d'Etudes Avancées Franco-Japonais de Paris.

44. Omwami, E.M. and Keller, E.J. (2010). «Public Funding and Budgetary Challenges to Providing Universal Access to Primary Education in Sub-Saharan Africa». *International Review of Education*. 56, no. 1, 5-31. Hamburg: UNESCO Institute for Lifelong Learning.*

45. Posner, G.J., Strike, K.A., Hewson, P.W. and Gertzog, W.A. (1982). «Accommodation of a Scientific. Conception: Towards a Theory of Conceptual Change». *Science Education 66*(2), 21-227.

46. Rogoff, B., Matusove, M. and White, C. (2016). Models of Teaching and Learning: Participation in a Community of Learners. Retrieved from Retrieved from file:///E:/Models%20of%20teaching%20-%20Rogoff.pdf on 3rd March 2018.

47. SADC (2007). *Review of the Status and Capacities for the Implementation of the Protocol on Education and Training*. SADC. ILO published in 2012.* Retrieved from https://www.google.com/search?client=firefox-b&ei=mK4qWub0NIPcwALSqpiQDg&q=SADC+%282007%29.+Review+of+the+Status+and+Capacities+for+the+Implementation+of+the+Protocol+on+Education+and+Training.&oq=SADC+%282007%29.+Review+of+the+Status+and+Capacities+for+the+Implementation+of+the+Protocol+on+Education+ and+Training.&gs_l= psy-ab.12...263194.273201.0.275162.2.2.0.0.0.0.622.622.5-1.1.0....0...1c.1j2.64.psy-ab..1.0.0....0.3kEQQ7wKMYw 8th December 2017.

48. Sally, B. (2004). Assessment for Learning. In Learning and Teaching in Higher Education, Issue 1, 2004-05. Retrieved from https://www.qub.ac.uk/directorates/AcademicStudentAffairs/CentreforEducational

Development/FilestoreDONOTDELETE/Filetoupload,120807,en.pdf 13th September 2017.

49. SARUA (2012). *Higher Education Data: A Profile of Higher Education in Southern Africa* Edited by Piyushi Kotecha. Wits -South Africa: SARUA. Retrieved https://www.google.com/search?client=firefox-b&ei=K7QqWrf_DcXHwAK-koCIBQ&q=SARUA+%282012%29.+Higher+Education+Data%3A+A+Profile+of+Higher+Education+in+Southern+Africa+Edited+by+Piyushi+Kotecha&oq=SARUA+%282012%29.+Higher+Education+Data%3A+A+Profile+of+Higher+Education+in+Southern+Africa+Edited+by+Piyushi+Kotecha&gs_l=psy-ab.12...0.0.0.5883. 0.0.0.0.0.0.0.0.. 0.0....0...1c..64.psy-ab..0.0.0....0.MDSq2HIGlKA 8th December 2017.

50. Tchombe, T.M. (2010). *Progressive Transformative Teacher Education in Cameroon.* Retrieved in September 2013 from http://www.aiaer.net/ejournal/vol22210/5.T.M.%20Tchombe.pdf.*

51. Tessema, K.A. (2006). "Contradictions, Challenges, and Chaos in Ethiopian Teacher Education." *Journal for Critical Education Policy Studies, 4,* no. 1 pp. 195-224

52. Tuning Academy. [Online] http://tuningacademy.org/tuning-projects; "Tuning Academy Brochure". http://tuningacademy.org/wp-content/uploads/2015/01/Tuning_Academy_ brochure.pdf [Accessed November 10, 2016].

53. Tuning Africa II. Second general meeting. Addis Ababa, 29 February - 2 March," [Online] http://tuningafrica.org/upload/evento/editor/doc/2/booklet_teacher-education_english.pdf. Accessed March 20, 2016.

54. *Tuning: Joint Africa-EU Strategy Tuning Seminars, Fourth General Meeting, Nairobi, 23-25 January 2013. Deusto. Tuning Academy. Retrieved www.tuningafrica.com.*

55. UNESCO (2011). Agricultural Sciences Tuning an Harmonisation of Higher Education: the Africa Experience – Scientific. Figure on Research Gate. Available from: https://www.researchgate.net/313845337_fig18_Figure-82-Class-sizes-compared-in-seventeen-African-countries [accessed 11 Dec, 2017]

56. UNESCO (2016). Strategy for Technical and Vocational Education and Training (TVET) (2016-2021). Paris.

57. UNESCO (2017). Continuous Assessment for Improved Teaching and Learning: A Critical Review to Inform Policy and Practice. Progress Reflection No. Retrieved from http://unesdoc.unesco.org/images/0025/002555/255511e.pdf 29th May 2017.

58. UNESCO (2010). *Assessing Education Data Quality in Southern African Development Community (SADC): A Synthesis of Seven Country Assessments*. Paris: United Nations Educational, Scientific and Cultural Organisation (UNESCO).

59. UNESCO (2011). *Sub-Saharan Africa: Measuring the Quality of School Conditions and Teaching Resources.*

60. United Nations-UN (2017). World Population Prospects The 2017 Revision. Key Findings and Advance Tables. Department of Economic and Social Affairs Population Division. Retrieved from file:///E:/world%20population%20WPP2017_KeyFindings.pdf on 9th March 2018.

61. World Economic Forum Annual Meeting (2013). *Resilient Dynamism.* Davos-Klosters, Switzerland: Author.

62. Zengeya, M.A. (2011). *The Trajectory of Zimbabwe's Education System: A Historical Perspective.* In B.C. Chisaka (Ed.) (2011). *State of the Zimbabwean Education: Sector in the 21st Century* (pp. 9-25). Harare: Human Resources Research Centre (HRRC), University of Zimbabwe. Book funded by the Zimbabwe Human Rights Association).

63. www.nationsencyclopedia.com/Africa/Cameroon.html (2010).

64. http://www.ubuntu.thiyagaraaj.com/Home/about-ubuntu/ubuntu-philosophy-meaning (Tutu, 2008).

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