

# **A REFLECTIVE JOURNEY INTO THE AFRICAN LEADERSHIP IN ICT PROGRAMME FROM A QUALITY ASSURANCE PERSPECTIVE**

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## **ABSTRACT**

The Global e-Schools and Communities Initiative (GESCI) was established in December 2003, borne out of the work of the United Nations ICT Task Force which identified education as an area in critical need of development, and one where information communication technology (ICT) has the potential to make positive and transformative impacts. In 2010 GESCI, working together with the African Union Commission (AUC) and other African partners, engaged in the development of an African Leaders in ICT (ALICT) programme designed to intensify activities to implement the African Regional Action Plan on the Knowledge Economy. While the ALICT model was initially conceived and developed in collaboration with the African Union Commission to target countries in Eastern and Southern Africa, it has now been extended to target countries in Northern and Western Africa in the form of the “Leadership Africain dans les TIC (LATIC)” programme, which is essentially the French equivalent of the ALICT course, which was delivered in English speaking African countries. The aim of this paper is to present a comprehensive review of the current ALICT-LATIC course delivery model, and to make an assessment of the e-learning maturity level of the initiative from a quality assurance perspective taking into account the delivery model, cultural context, and the distributed nature of the programme and its participants, from a geographical perspective. In this paper, we look at the key concepts governing the ALICT-LATIC course, such as the provision of transnational education and blended learning provisions. Quality standards have been developed and discussed over time with respect to the provision of online distance education, now commonly referred to as distributed learning, which characterizes quite closely the ALICT-LATIC programme. Through a series of steps including desk studies, expert observation and the application of the eLearning Maturity Model, we conduct an in-depth evaluation of the eLearning provision from a quality assurance perspective. We can reasonably argue at this stage that the current blended learning model is conducive for the development of skills and competencies as expected in terms of intended outcomes and learner experience. The quality of the course is comparable to what is offered in recognized and reputed institutions of higher education

## **INTRODUCTION**

The Global e-Schools and Communities Initiative (GESCI) was established in December 2003, borne out of the work of the United Nations ICT Task Force which

identified education as an area in critical need of development, and one where information communication technology (ICT) has the potential to make positive and transformative impacts. The Task Force approved the establishment of GESCI - a United Nations affiliated global partnership, which would provide demand-driven assistance to developing countries seeking to harness the potential of ICT to improve the quality, effectiveness, relevance and access levels of their education systems. In 2010 GESCI, working together with the African Union Commission (AUC) and other African partners, engaged in the development of an African Leaders in ICT (ALICT) programme designed to intensify activities to implement the African Regional Action Plan on the Knowledge Economy. The African Leadership in ICT is a flagship programme of the African Union Commission under the African Regional Action Plan on Knowledge Economy (ARAPKE). Its overarching goal is *“to develop a group of ICT, and Knowledge Society leaders that can become agents for change in their respective countries and be catalysts for regional cooperation in the domain of ICT, and Knowledge Societies both at the country and regional levels”*.<sup>1</sup>

The ALICT programme, in itself was presented as Research and Development activity, in the initial concept note, where GESCI presented it as *“feasibility action for modeling a methodology and multi-stakeholder approach for capacity building and awareness raising of African Leaders on the issues of the Knowledge Society, ICT, Education, Science & Technology and Innovations in support of the AUC Action Plan and the EU-AU P8”* (Hooker 2010). While the ALICT model was initially conceived and developed in collaboration with the African Union Commission to target countries in Eastern and Southern Africa, it has now been extended to target countries in Northern and Western Africa in the form of the “Leadership Africain dans les TIC (LATIC)” programme, which is essentially the French equivalent of the ALICT course, which was delivered in English speaking African countries.

The ALICT-LATIC programme has now been offered on a blended mode (with a major component in online modality) in 13 Anglophone African countries covering Southern, Eastern and West Africa regions as well as 3 Francophone countries (Senegal, Ivory Coast and Morocco). 3 cohorts of the ALICT course have been offered since 2012, and 1 cohort of the LATIC course in 2015, amounting to over 500 leaders who have successfully completed the course across 16 African Countries as well as officials from the African Union Commission. The course has since 2012, been accredited by the Dublin City University to a Graduate Diploma, and in October 2015 a Memorandum of Understanding was signed with the University of Mauritius, to offer the course as a Postgraduate Diploma in Leadership Development in ICT and the Knowledge Society under a joint partnership model between the two institutions.

The agreement with the Dublin City University was in operation since 2012. The first agreement was from initial period of July 2012-May 2014. The current Agreement is effective from 28<sup>th</sup> May 2014 until 27<sup>th</sup> July 2016. Since 2012, students of the ALICT programme could choose to take the Graduate Diploma at DCU, or exit the programme with a Professional Development Certificate co-signed by GESCI and the African Union Commission. However, not all ALICT participants registered for the Graduate Diploma.

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<sup>1</sup> African leadership in ICT Program (ALICT) - <http://pages.au.int/infosoc/pages/african-leadership-ict-program-alict>

The new partnership with the University of Mauritius, is in line with the agreement and funding arrangements with Finland, stipulating that 2016 is the year where GESCI must seek to develop a wider-access model” for ALICT/LATIC so that the programme is available in several countries from Leadership Institutes and Universities. The Graduate Diploma of the Dublin City University is an equivalent qualification to the Postgraduate Diploma Award by the University of Mauritius. The course will be offered under the new partnership with the University of Mauritius as from February 2016.

The aim of this paper is to present a comprehensive review of the current ALICT-LATIC course delivery model, and to make an assessment of the e-learning maturity level of the initiative from a quality assurance perspective taking into account the delivery model, cultural context, and the distributed nature of the programme and its participants, from a geographical perspective. For this research, we make an underlying assumption that the term eLearning encompasses the concept of blended learning in the context of the ALICT programme, given that the majority of the course is run online, with 3 face-to-face workshops held at the beginning, in the middle and then at the end of the course.

In this paper, we look at the key concepts governing the ALICT-LATIC course, such as the provision of transnational education and blended learning provisions. Quality standards have been developed and discussed over time with respect to the provision of online distance education, now commonly referred to as distributed learning, which characterizes quite closely the ALICT-LATIC programme. Through a series of steps including desk studies, expert observation and the application of the eLearning Maturity Model, we conduct an in-depth evaluation of the eLearning provision from a quality assurance perspective. The key strengths and the gaps and challenges are identified, and key recommendations are made for the overall improvement of the quality of the programme and the eLearning capability of GESCI.

### **QUALITY ASSURANCE, ACCREDITATION, AND CROSS-BORDER (TRANSNATIONAL) eLEARNING**

Vroeijenstijn (1995) postulates that

*“The concept of quality is not new: it has always been part of the academic tradition. It is the outside world that now emphasizes the need for attention to quality...It is the relationship between higher education and society which has changed”.*

Quality has always been a confusing concept, and when extended to higher education, authors highlighted that it is not possible to have an authoritative definition of quality assurance in higher education (Newton 2006; Scott 1994). Belawati and Zuhairi (2007), therefore claim that *“while the definition of quality assurance may differ, all quality assurance terminology shares a common purpose in ensuring that students receive a high quality and relevant education and awarded credentials that are widely recognized by governments and employers”.*

The world in the 21<sup>st</sup> Century is commonly referred to as a global village. Transnational communication through advanced digital and high-speed data networks has

transformed the way that citizens live, study, work and do business in the modern world. With the advances of the Internet and the globalization phenomenon, the concepts of internationalization of education and cross-border education have taken a different dimension. Instead of only attracting foreign students on local territories, or setting up physical branch campuses of Universities from the developed world in foreign lands (mainly developing countries), many higher education institutions (including those from the developing world) are now providing distance education courses through the open and online mode of delivery. This is characterized by two related phenomena in the higher education context, namely the concepts of cross-border and transnational education.

The World Bank and the Organization for Economic co-operation and Development (OECD) (2002) define cross-border education as “*movement of people, programmes, providers, curricula, projects, research and services in tertiary (or higher) education across national jurisdictional borders*”. The term cross-border higher education is often used interchangeably with the term transnational higher education, although some authors have stressed the *subtle but important* differences between the two terms (Knight 2005). The Council of Europe and the UNESCO define transnational higher education as

*“all types of higher education study programmes, or sets of courses of study, or educational services (including those of distance education) in which the learners are located in a country different from the one where the awarding institution is based. Such programmes may belong to the education system of a State different from the State in which it operates, or may operate independently of any national education system”.*

While cross-border and transnational higher education are often projected to be a means of opening access to higher education, private and for-profit organizations are often the first-hand promoters of such initiatives with the exception of a few such as the Virtual University for the Small States of the Commonwealth (VUSSC) project of the Commonwealth of Learning (COL) and its related Transnational Qualifications Framework (West et al. 2009). However, there is divergence on the practicality and extent of adoption of the framework of the COL within countries and institutions. The OER University (OERu) is another movement with a similar intention like the COL VUSSC project, but operating under a different educational model and philosophy.

According to its Wikieducator, OERu movement is described as

*“a virtual collaboration of like-minded institutions committed to creating flexible pathways for OER learners to gain formal academic credit. The OERu aims to provide free learning opportunities to all students worldwide using OER learning materials with pathways to gain credible qualifications from recognised education institutions”.*

The emerging concept of MOOCs (Massive Open Online Courses) as well as virtual movements like the University of the Indian Ocean (UOI) or the OERu still have to make a bold statement in terms of adoption of courses, completion of studies and finally accreditation and recognition of qualifications obtained through those educational models. Most reports on trans-border higher education are conducted mainly by

organizations with their roots in Europe such as OECD, and a significant emphasis is often laid against the provision of low quality education and this often creates the perception that trans-border education where the *originating* countries are developing ones, more caution should be exercised (Vincent-Lancrin & Pfotenhauer 2012). It is obvious that the new trends in higher education such as VUSSC, MOOCs, and the OERu movement are now presenting challenges to the concept of cross-border and transnational education. They promote of kind of ubiquitous, learn anytime, anywhere and just-in-time concept, under a model of *pay if you are satisfied concept*, to get an accredited and recognized qualification. Is it enough from a quality point of view to simply take and pass an exam or a one-off assessment to earn a qualification? While cross-border and transnational higher education posed a different type of challenge from the quality assurance perspective, models like VUSSC and OERu bring a further shift in the quality debate in terms of educational provision and the certification of learning achievements in the form of a recognized qualification.

Accreditation of courses and of institutions is another important and growing facet of cross-border educational provisions. Accreditation can have different meaning and interpretation in different educational jurisdictions and is an important key indicator of quality when it comes to cross-border educational provisions (UNESCO 2007). For example, accreditation in some context refers to the recognition of a particular course by professional bodies regulating a specific field. For example the Council of Registered Engineers can *accredit* an engineering course of a particular university for its graduates to be registered as engineers. In another context accreditation means national regulatory bodies of higher education invested with powers to provide operation permits to Higher Education Institutions and hence recognition of the qualifications conferred by such institutions. These institutions are offered referred to as accredited institutions in those national or regional contexts.

Last but not least, we look at the concept of affiliations in higher education. Affiliation of institutions is a practice that has gained momentum due to the advent of transnational education provisions. Many awarding bodies, i.e. recognized Higher Education Institutions, have also used the concept of affiliation to expand their reach to students within the home country and throughout the world. Often, institutions that are locally accredited in a particular State, and who do not hold awarding powers will seek affiliations with recognized Universities to offer courses of these Universities under different agreements, such as Memorandum of Understanding, and/or franchising agreements and models. In some countries of the developing world, institutions with awarding powers will sometimes acquire franchise from content providers who are not awarding bodies, to use their content to offer specific qualifications (Yorke 1993).

Altbach (2012) adopts a very critical stand of franchising using the term '*McDonalised higher education*' to characterize such agreements. He postulates that more than 20% of students studying for a UK undergraduate degree are not residing the United Kingdom and are most likely to be at a foreign institution that has franchised a British degree. Quality assurance is perceived as a key element in franchising higher education and Britain's (former) Higher Education Quality Council had raised a number of concerns as early as in 1997 following audits of education franchises that were offered by UK institutions (Girdwood 1998). The principle underlying these audits, according to Girdwood (1998), and rightly so, is that the awarding institution(s) must take full responsibility for the quality of the education which students receive, and for

the procedural arrangements which guarantee that quality. Concerns raised by Girdwood (1998) are still fully valid almost about two decades later during which we have witnessed exponential growth of transnational and cross-border higher education provisions through franchise agreements. However, one should acknowledge the key role that franchising has played in the Higher Education Sector, especially with respect to opening access to education and the contribution to the socio-economic sectors of the developing world. In the next section we discuss the important components that make up quality indicators in terms of transnational and cross-border accredited educational provisions.

## **DISTRIBUTED EDUCATION, LEARNER SUPPORT AND SATISFACTION**

The rapid expansion of the internet through digital technologies coupled with the constant gain in momentum of cross-border, transnational and franchising of higher education has led to the phenomenon called distributed education (or learning). The term “distributed learning” was already put forward more than a decade ago (Oblinger et al. 2001). However, it is now gaining increased focus and perceived to be more relevant in the 21<sup>st</sup> Century education context and in the developing world. As Information and Communication Technologies have reduced the physical distance through virtualization, the term *distance* in Distance Education has lost its original meaning where the key characteristic was the separation of the learner and teacher both in time and space (Santally et al. 2012). The integration of technology in learning, needs to address the very important issue of enhancing the teaching and learning process, rather than just being seen as a new flexible delivery medium (Nichols 2003). The web therefore can be seen as (1) a delivery medium for distance education materials; (2) a flexible and rich medium (in terms of multimedia) for students to access their learning materials and (3) a medium offering a new paradigm for the transformation of teaching and learning. Distributed Learning therefore encompasses a different philosophy from distance education models, irrespective of whether it is through traditional distance education methods or more contemporary approaches known as online distance education. Distributed learning, therefore takes the form of a blended mode of education and is much more than an online substitute of lectures (Oblinger et al. 2001). Blended learning can be reasonably defined as a combination of components from both traditional learning and e-learning environments merging aspects of e-learning such as web-based resources, streaming media and including synchronous and asynchronous communication with traditional face-to-face learning (Cisco 2001; Al-Hunaiyyan et al. 2008).

A pedagogically sound distributed and blended learning environment needs to facilitate students’ engagement and interaction, be user-friendly in terms of exploration and user interface, needs to empower learners and improve pedagogical communication through effective communication and collaboration tools. Distributed education, with particular reference to the knowledge society also includes the teaching component where the teaching personnel can be highly qualified academics and professionals located remotely to match the needs of a rapidly changing world (Berge 2007). The distributed nature of the teaching and learning process gives rise to important considerations such as cultural and language issues (Mason 2007; Nisbet 2003), time zones and connectivity elements such as broadband provisions and Internet accessibility. Boldley (1994) stated that culture involves what people think, what they do, and the material products they

produce. Culture touches members of a society in which it shapes their value, assumptions, perceptions, and behavior (Al-Hunaiyyan et al. 2008).

Researchers have highlighted the importance of the element of cultural sensitivity in the design of online learning environment, in the context of internationalization of education (McLoughlin 1999; Reeves & Reeves 1993; Collins & Rummert 1997). According to Visser (2007), there is an emerging need to design *culturally adaptive learning experiences* that caters for the full development of the individual especially in an era there is a democratization of access to higher education. This clearly has an implication over the instructional systems design approaches that are used in the conception of courses and training programmes that target learners and involves teachers from a multi-cultural background. As pointed out by Gunawardena & LaPointe, (2007), there is indeed a need for educational providers to develop and acquire skills to deliver culturally sensitive and culturally adaptive instruction to a diverse population in a distributed and blended learning environment.

As we mentioned earlier, language is a key cultural element impacting on e-learning design practices. One of the key challenges of for blended e-learning to address the language issue is how to turn English-language training materials into culturally sensitive, intellectually stimulating, knowledge- and skill-transferring materials in a different language (Al-Hunaiyyan et al. 2008). However, it is argued that blended e-learning can bring solutions with local instructors who can facilitate learning with proper translation of the learning materials. In the context of technology evolution, subtle progress has also been made to cater for the language barrier in distributed blended e-learning environments. For example, Microsoft recently released in beta-version *Skype Translator*, a tool which can translate in real-time a conversation between two remotely located persons speaking in two different languages. However, as rightly pointed out by Boriarsky (1995), communication and interaction styles are also essential elements to be catered for in the design of cross-cultural learning environments. Referring to a study by Dowling et al (2003) which found out that when compared with traditional courses, the hybrid delivery mode can result in higher grades and improved learning outcomes, Babb et al. (2010) make the case for blended learning. Reference is further made to perceptions of improved learning and higher motivation and the feeling of a stronger sense of community among students and their tutors as compared to both traditional face-to-face instruction and fully online learning. Wighting (2006) reported that students named connectedness with peers as the most important variable in developing a sense of community, and that was influenced by the attitude of the instructor and the environment created by classmate, as well as interactive online tools (Babb et al. 2010).

One of the key issues in distance education, including eLearning is student retention. There are a number of studies carried out to research into the reasons that students drop out and factors that have emerged are reasons related to personal resilience, personal identity factors, support networks, as well as finding the course badly presented, poorly supported or too difficult (Hughes 2007). It is further pointed out that different student retention issues occur at different stages in a course such as incomplete enrolment, leaving a course or institution or passively withdraw by not submitting assignments and failing modules. In his study, Hughes (2007) attempts through an action-research approach to evaluate the effectiveness of using blended learning to improve retention. The technique was to pro-actively identify at-risk students by maintaining a list

documenting the reasons such as absence from platform, repeated request for support, reporting of personal problems and repeating students. The result was that in the batch where learner support was actively provided to at-risk student resulted in improved coursework submission and pass rate and well as retention in the course.

We find that technological advancements and new instructional tools have greatly aided in making learning ubiquitous and eliminated the notions of being separate in time and space when engaged in a remote learning experience. However there is a need for proper monitoring, evaluation and benchmarking tools to be adopted to ensure quality standards are met through a well defined quality assurance process or mechanism.

## **CONTEXTUALISING QUALITY ASSURANCE IN (blended) eLEARNING**

The Internet has witnessed an exponential growth in the last decade and the modernization of global ICT Infrastructures have led to an acceleration of the move towards the knowledge society especially for developing countries. Education and ICT are two key pillars of the knowledge society and ICTs have brought a transformation of the education landscape with the growing influence of online education and e-learning programmes (GESCI 2012). eLearning is a form of educational delivery that has become quite prominent in universities worldwide and an activity that, to all intents and purposes, can now be considered mainstream (Oliver 2005).

There has been a growing interest from stakeholders, ranging from researchers to education providers including governments and policy makers to the implications and concerns of e-learning and online education. Such concerns are mainly related to the perceived lack of quality standards for eLearning (Oliver 2005). The Commonwealth of Learning emphasizes that online and distance-learning (ODL) providers must pay close attention to quality in terms of products, processes, production, delivery systems, and philosophy (COL 1997). While this is a genuine concern to some extent, there are however, a number of quality assurance guidelines and models with respect to quality provisions of online education (QAA 1999; Barker 2002; JISC 2004:2009; Marshall 2006). Newton (2006) provides a good expose of the notions of quality and standards, arguing that quality relates to the process, while standards are linked to the intended outcomes and actual achievement. This leads to a generic definition of quality assurance in the context of higher education as being *to ensure the contribution of educational process (quality) to attainment of a defined standard*.

Grifoll et al. (2010) argue that “*quality assurance policies need to formulate questions on how far e-learning methods are included in all study programmes, and on the adequacy between new technologies and the emerging new educational approaches, taking into consideration concepts such as efficiency in teaching, effectiveness in learning or equity in education*”. Guidelines for quality e-learning provision existed quite some time ago. For example Barker (2002) published the Canadian Recommended e-Learning Guidelines (CanREGs), covering aspects such as quality outcomes, quality processes and practices, delivery and management of learning, quality inputs and resources for e-learning products and services. Oliver (2005) highlights that there have been attempts to develop quality frameworks or model for quality assurance in eLearning. The four key elements of such frameworks can be categorized as per Oliver (2005) in four broad elements namely the curriculum, the learning design, the learning resources, and the delivery processes.

Grifoll et al (2010) further discussed the assessment of e-learning institutions using a methodology developed by the Quality Assurance Agency of Catalunya and which was tested over a period of two years. Zhang and Cheng (2012) used the PDPP (planning evaluation, development evaluation, process evaluation, and product evaluation) evaluation model for e-learning courses and applied it to a course on research methods. They identified 26 evaluation items with respect to the PDPP model for online courses quality assurance. The Commonwealth of Learning has developed a Review and Improvement Model (COL RIM), which is essentially a guided, do-it-yourself approach to quality assurance that helps keep costs to a minimum (Clarke-Okah & Daniel 2012). Self-evaluation is therefore another interesting facet of quality assurance in higher education. The COL RIM model is based on 5 steps namely initiation, staff survey, self-review, verification and follow-up.

Newton (2006) further explores the concept of quality in Higher Education by postulating that there are three areas of standards to be looked into. These are academic standards, service standards and finally quality standards. Academic standards are defined as a measure of the ability to meet a required level of academic attainment for example, meeting the minimum requirements for the award of a Graduate Diploma. Service standards usually refer to the measures that are devised to assess the level of service provided, such as administrative and technical support, availability of tutors to answer queries, and uptime of e-learning platforms amongst others. Finally quality standards are norms expressed in formal statements about expected practice. For example, the institution should have a proper mechanism in place to provide students with timely feedback and to follow-up and monitor on actions taken. An effective quality assurance system should have clear definition of roles, responsibilities and procedures. It should be free from personal bias, and should be an inclusive process involving staff and main stakeholders, in a logic of bringing continuous improvement and to inform decision making so that institutional aims and objectives can be achieved (HEQC, 1994).

The eLearning Maturity Model (eMM) aligns with the concept of Newton (2006) with respect to the three areas of standards mentioned above. It is based on the concept of Software Capability Maturity Model (CMM) and SPICE (Software Process Improvement and Capability Determination). The model has been conceived by Stephen Marshall in 2003 and has undergone a number of improvements. The current version in use of the eMM is version 2.3. The eLearning Maturity Models assesses the institution's ability in five main 'process' areas: Learning, Development, Support, Evaluation and Organisation. It is referred to as "*a quality improvement framework designed to support educational institutions interested in improving their organizational capability to use technology in learning and teaching in a complex and changing environment*" (Marshall 2013). Marshall & Mitchell (2007) highlight in the context of the application of eMM to assess an organizational ability in e-learning as follows:

*"Capability, in the context of this model, refers to the ability of an institution to ensure that e-learning design, development and deployment is meeting the needs of the students, staff and institution. Capability includes the ability of an institution to sustain e-learning support of teaching as demand grows and staff change".*

With respect to the ALICT-LATIC programme, we find that the four process areas of the eLearning Maturity Model are compatible and applicable to assess the eLearning capability of GESCI within this context. We have focused the literature review and the evaluation methodology on concepts completely in-line with the philosophy of ALICT-LATIC, from two main perspectives, (1) from a systemic-holistic level namely transnational education provisions and accreditation of programmes, including the instructional systems design processes, and (2) at the operational level related mainly to the instructional design and delivery of blended learning initiatives and the eLearning environment. This will form the basis for the elaboration of the methodology for this research as described in the next section.

## **METHODOLOGY**

The main object of this research is the African Leadership in ICT (Anglophone and Francophone versions) offered by the Global e-Schools and Communities Initiative, supported by the African Union Commission and accredited to a Graduate Diploma level by the Dublin City University. As from 2016, the University of Mauritius will also accredit the programme. This research tries to address the following research questions from a mostly qualitative perspective with the ALICT-LATIC course as the case study.

1. What is the overall effectiveness of the current blended e-learning model of the ALICT-LATIC programme?
2. What are the gaps and shortcomings if any, to be addressed to improve of the delivery model of the ALICT-LATIC programme in future cohorts?
3. What are the issues and challenges of quality assurance in a multi-country cross-sectoral blended learning course design?

For this work, we use some of the guiding principles behind the action research approach. It is important to note that this work is not action research *per se* but more of a reflective approach and critical review. The key principles borrowed from action research are as follows:

- **Critical Reflection** (referred to as reflexive critique): An account of a situation, such as notes, transcripts or official documents, will make implicit claims to be authoritative, i.e., it implies that it is factual and true. The principle of reflective critique ensures people reflect on issues and processes and make explicit the interpretations, biases, assumptions and concerns upon which judgments are made. In this way, practical accounts can give rise to theoretical considerations (O'Brien 1998).
- **Collaborative Resource**: The idea is that action research initiatives do not occur in isolation and that participants are key stakeholders and considered to some extent as co-researchers. This allows the federation of different viewpoints into a possibly a single coherent vision and allows also the confronting of contradicting viewpoints to analyse the differences and issue that can lead to remedial action.

- Theory, practice, and transformation: In the context of action research, theory guides practice, practice refines theory, in a continuous and iterative transformation.

The main methods for this research work are as follows:

- *Desk Studies*

Over the past three years, GESCI has accumulated a number of key documentation, from initial concept note of the African Leadership in ICT programme, country KS development needs analysis, course content documents, course delivery reports and notes, participants' feedback, DCU external moderation and a number of research reports related to the Project. The eLearning platform is furthermore a very rich source of information and presents a global and precise reflection of the course. The desk study will be the primary source of data gathering and will form the core foundation of this report.

- *Qualitative Analysis*

For the purpose of the current work, the eLearning Maturity Model has been chosen in the light of the literature review and the terms of reference of this work. The eLearning Maturity Model has been applied to a number of Australian institutions since its conception and is continually being evaluated and improved. The framework proposed by the eLearning Maturity Model is appropriate for the benchmarking of the eLearning initiative of the ALICT-LATIC programme as it covers the key areas that this report is based upon. For each of the process areas as defined above, there are five process dimensions for which the specific process statements (within process areas) will be assessed. The five process dimensions are: delivery, planning, definition, management, and optimisation.

- *Expert Observation and Critical Reflection*

Expert observation and practitioner's experience provide important information on the initiative. It also provides consistency both in the process and in constructive criticism given that the practitioner has witnessed the evolution of the course since its inception. The researcher has participated in the action through the elaboration of country analysis reports, as a participant in the first cohort of the programme, then as tutor and tutor coordinator respectively. He has also actively participated in the instructional design and setup of the francophone version (LATIC) programme.

The main constraint of this research work is limited time and therefore a mixed approach which would have involved a comprehensive collection, retrieval and analysis of data (analytics) to identify patterns of participant activity and to consolidate the qualitative arguments put forward by the researcher, could not be adopted. However, this research sets the base for further activities to be carried out incrementally to add to the current body of knowledge.

## THE AFRICAN LEADERSHIP IN ICT MODEL – A DESK REVIEW

### *Background of the ALICT Project*

The African Leadership in ICT (ALICT) Program is a three-year partnership between the Global E-Schools and Communities Initiative (GESCI), the African Union Commission (AUC) and the Ministry for Foreign Affairs of Finland. The ALICT Programme is conceptualized to model a methodology and multi-stakeholder approach for capacity building and awareness raising of African leaders on the issues of the Knowledge Society, ICT, Education, Science & Technology and Innovation (Hooker 2011). The aim is to adopt an innovative approach to train the future leaders in knowledge society building. The target was essentially middle level managers in the public sectors in African countries.

The concept of knowledge society in the ALICT course is based on three critical pillars and key elements for development towards a Knowledge-based future (Hooker 2010; Tapper 2010). These are Information and Communication Technologies, Education and Training, and Innovation (incorporates Science, Engineering and Technology). Butcher (2010) establishes the *ICT* pillar as the enabler for Education and Innovation dynamics that will drive Development towards the *Knowledge Society*. The course is therefore built around the model proposed by Butcher in figure 1 below. It is further focused on two key competencies, namely leadership in ICT in the context of the Knowledge Society development in the African region and the fostering of new leadership approaches and theories to build a new mindset compatible with the knowledge age.

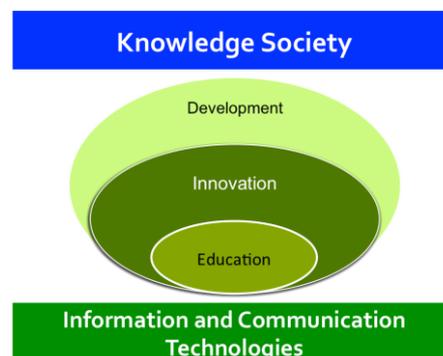


Figure 1: *ICT as an enabler of Education, Innovation and Development towards the Knowledge Society (Butcher 2010)*

The model as described above forms the theoretical core based on which the ALICT programme was going to be conceived. This model has emerged after the initial concept note (Hooker 2010) on the ALICT project. Prior to mounting any programme of studies or curriculum, it is important to conduct a needs' analysis and to understand the target audience to better design appropriate and fit-for-purpose instruction. One of the first elements that emerge from the ALICT model is that it clearly followed an Instructional Systems Design framework, namely ADDIE (Analysis, Design, Development, Implement and Evaluate) during the three years since the first cohort was launched. After the initial concept note, in March 2011 GESCI conducted a four country needs assessment for the African Leadership in ICT (ALICT) pilot programme in selected

countries in the Southern and East African regions. The needs assessment resulted in country reports from South Africa (Akpor *et al.* 2011), Zambia (Chilala & Kumar 2011), Mauritius (Santally *et al.* 2011), Tanzania (Senkondo & Twinomugisha 2011) and a summary report (Hooker & Bassi 2011). These studies revealed important information on the (perceived) status of the knowledge society development within these countries from the major stakeholders.

### ***Design and Development of the ALICT Programme***

One of the key elements or steps in the design phase of the ADDIE model is the document of the project's instructional, visual and technical design strategy<sup>2</sup>. The pedagogical model or philosophy of the project has to be clearly spelt out in the design phase. One of the key deliverables of this phase is a kind of roadmap for the project. In March 2012, GESCI requested feedback from DCU on the contents of each module of the ALICT course prior to the programme being put forward for accreditation as Graduate Diploma. Some of the key recommendations were as follows:

1. Focus on learning outcomes rather than learning objectives.
2. Use of video and workbook to help explain some elements of the modules e.g. Telecommunications module.
3. Include up-to-date reference and literature on management and leadership content for module.
4. Elaborate on unit summaries and develop the reading list for each module.
5. Include interim submission of initial assignments to make sure students/teams are on track.

There is also evidence of support from DCU to GESCI in sharing of the assessment criteria and use of journaling that was taken on board when designing the assessment for the Graduate Diploma programme. GeSCI staff also visited DCU and met personnel in the Student Services who supplied key support documents to students with links to online student resources and guidelines for assignments writing etc. With respect to the ALICT programme, the design and development phases of the project are well documented in the document titled '*African Leadership in ICT – Model Document 2013*' (GESCI 2013).

### ***Delivery Model of the ALICT Programme***

The ALICT course is essentially an online programme using a blended delivery model. The key delivery methods are explicitly written down in terms of online and offline activities, and 3 face-to-face country meetings/workshop including a final regional workshop. The final regional workshop has been carried out in the first cohort and then subsequently it has been replaced by a final (closing) workshop at country level. The orientation workshop has proved to be very important as the kick-start session for each cohort as it helps to orient participants to the key concepts and working methods and requirements of the course and the use of the e-learning platform. The mid-term workshop is important in terms of feedback and helping the participants on the

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<sup>2</sup> The ADDIE Model - <http://www.instructionaldesign.org/models/addie.html>

challenges and problems they encountered and to orient them to the rest of the course. It covers mainly module 2 & 3 and sets the pace for the rest of the course. This mid-term workshop is a key instrument in the blended model to maintain the momentum of the participants and is helpful in minimizing dropouts from the course. In terms of quality assurance, important feedback is obtained from participants that allow the tutoring team to take remedial actions in a prompt manner. The tutoring process for each module is done by a pool of online tutors who are responsible on average for a group of 30 participants, and the tutor team is supported by the tutor coordinator, e-learning coordinator, a blended learning specialist and a technical helpdesk. For each module there is a lead tutor. There is active tracking of student participation in the online learning environment using a variety of methods to ensure maximum retention of participants. Student assessment is done using continuous (formative) assessment utilizing a variety of techniques, such as self-assessment activities, participation in discussion forums and online chats, and formal assignments (individual and group).

### ***Evaluation and improvement***

GESCI has developed the ALICT Monitoring & Evaluation (M&E) framework, which adopts a series of approaches and tools to promote quality learning and adjustment throughout the programme lifecycle. GESCI personnel also visited DCU mid-way for each cohort and received feedback on the course, assessment and the assignments and advice on areas for development. There is a governance structure in place that consists of three entities namely the Technical Quality Assurance Committee, the Steering Committee and the Secretariat, which consists mainly of GESCI personnel. Furthermore, the course accreditation process at Level 9 of the European Qualifications Framework through a partnership with the Dublin City University strengthens the evaluation and improvement mechanism as it adds an additional layer of QA processes.

## **TUTORING PROCESS & STUDENT SUPPORT**

### ***The tutor team and the Lead Tutor***

The overall global success of the ALICT-LATIC course is founded on a robust tutoring and student support model supporting the blended eLearning approach. The policy of GESCI to use existing alumni (from different countries) as tutors is a commendable approach. With respect to the observation that the core content of the course lacked the cultural element, the diverse group of highly qualified tutors brought that element into the course as they are in regular contact with the groups of participants assigned to them. The tutoring process was a highly structured one, with clear expectations and instructions for tutors. For each module of ALICT and LATIC there was a lead tutor and three to five tutors depending on the cohort size. On average a tutor cohort contained about 30 participants. For each ALICT cohort there is also a tutor coordinator for the overall duration of the course. Prior to the start of each module, the lead tutor would send the tutoring plan to all the selected tutors for the module. A tutor initiation meeting would be held one week before the start of the module, where the lead tutor will lead them through the tutoring document. The walkthrough is an important element as it ensures tutors have gone through the document prior to the start of the module, and that they understand their roles and responsibilities throughout the module. Tutor induction is perceived to improve their effectiveness in the teaching and learner support process, and to help in student success as well as promote tutor leadership through the

establishment of a collaborative culture (NTC 2014). The key constraint in the tutor orientation is that it is a virtual meeting and is subject from time to time to connectivity issues. One of the areas that was not stressed enough in the tutor orientation and subsequent weekly tutor meetings is the subject content knowledge. It is assumed that tutors will go through the content in detail again to ensure that they refresh themselves and master any concept that they might feel uneasy with. In some cases, this might create situations where the tutor does not give the right support to the participant, and this was an issue reported in some of the participants' feedback. There seems to be a consensus from different stakeholders (GESCI, Tutor Coordinator and Tutors) that the tutor initiation especially for new tutors is inadequate.

The key roles of the tutors were to send welcome emails at the start of each module, send the weekly email, animate weekly chat and lead discussion forums, attend to participants' queries related to the subject matter, and mark assignments (including providing feedback). The templates and the guidance of the lead tutor facilitated the tasks of tutors and ensured consistency in their actions. Tutors would mark assignments in Turnitin using the DCU assignment-marking rubric.

Overall, no major issues, which could jeopardize quality, were experienced in the tutoring process across cohorts. It has been observed though that different tutors had different approaches to lead chat sessions and some tutors were not active enough in the discussion forums. In this respect the tutor guides are silent in terms of level of service expected by the tutor and this has to be more explicit in the future. It would be advisable that an e-tutoring training programme be developed to train tutors before they are enrolled in the team. It is also advised that a pool of regular tutors be established. Denis (2003) proposed an online tutor training model based on 6 key elements namely experience of a online learning system, sharing representations of the tutors' roles, definition of a tutor's target profile, consensus on tutor's roles and editing of a charter, practical preparation, animation and feedbacks loops. The issue of tutor training could be addressed under the new academic partnerships that GESCI is forging for the project.

Tutor feedback has been a valued resource for GESCI in improving subsequent delivery of the course to new cohorts, and tutors have been particularly active in contributing to the module tutor report in the LATIC contrary to the ALICT cohorts where they were most passive recipients of the report. The authoring of the report was the responsibility of the lead tutor. The main issues raised were the need for in-depth tutor induction, the need for more structured and shorter tutor meetings and for improved bandwidth, and the need to simplify assignment sheets and minimize redundant information on the e-learning platform.

### ***Student Support (Technical and Administrative)***

The lack of student support is a well-documented feature in terms of high dropout cases in distance education and online courses. However, the student support model (tutoring – technical – administrative) in ALICT-LATIC as setup by GESCI is one of the strongest elements of the course. This element was commended by the external moderator highlighting that “this is a well-considered dimension of the programme, which anticipates and addresses student support needs in a variety of ways”.

As in all e-learning or technology-enabled learning environments, technical support is an essential element to maintain a satisfactory service level to the participants. Email is the key communication method by the participants to the helpdesk, and the highest percentage of those emails concern forgotten passwords, downloading of assignment templates and submission of assignments. In the first cohort, participants also had problems to locate chat and discussion forums. This issue has however been taken care of in subsequent cohorts.

### ***Student Feedback***

According to Seldin (1997), student feedback has become the most widely used, and in many cases the only source of information to evaluate and improve the effectiveness of teaching. However, it is further highlighted that it is not recommended to limit the appraisal of teaching effectiveness and classroom performance to students only. Therefore there is a need to add more sources of information, for example classroom observation, self-appraisals, peer-review of instructional materials and of the teaching process (Seldin 1997). Participant feedback is a key instrument in the ALICT-LATIC quality assurance model, and as mentioned throughout this report, this is not the only method for the assessment of the quality of the course, tutor intervention and student support.

Participant feedback has been systematic throughout the ALICT – LATIC programme and there is evidence through course reviews that GESCI team has been continuously addressing issues raised in the feedback thereby providing a mechanism to close the feedback loop. There is also evidence through a number of email correspondences from the QA Lead in terms of remedial actions to be taken from module to module based on both tutor reports and participant feedbacks. There is however, a need to review the feedback model and some statements, as well as their articulation. For example for one particular statement a rating of 1 would be positive and for another statement a rating of 1 might denote the poorest score. There is also a need to keep a record on issues that were addressed and the actions taken, as well as issues that could not be attended to and their rationale and reasons. This will improve on the quality reporting process of the course.

Overall participant feedback throughout cohorts has been very positive and this definitely strengthens the ALICT-LATIC course from a quality perspective, especially in the context of accreditation and award of a postgraduate qualification by a recognized institution. Major strong points from participant feedback related to the richness of the course and quality of learning materials, as well as the tutor team and student support available.

*“I enjoyed the chat sessions because I was able to discover the visions of other people horizons . learning by e-learning platform is a real pedagogical and didactic revolution” – Unnamed participant (LATIC Module 1)*

*“The chats and especially the forum were very helpful to me. The tutors have always been reactive . During the chat last week our questions overwhelmed the tutor and yet , he would calmly answer us.” – Unnamed participant (ALICT Module 2)*

*“The Module content was good and insightful, as well as very relevant to my work and future projects. The module is very engaging and the assignment insightful in the kind of responses it sought” – Unnamed participant (ALICT Module 3)*

## **ASSESSMENT & EVALUATION**

The robustness of an e-learning programme resides on student assessment and evaluation. The ALICT-LATIC course do not contain supervised written examinations and is mainly centered on formative model of assessment using a variety of techniques such as individual reflective journal, forum and chat participation, and group reports. The strong point on the assessment model in force is multifold:

- Integration of Turnitin for assignments promote originality in the work submitted by participants and a culture of academic integrity and honesty.
- Well-defined assessment criteria and rubrics as per the exigencies of the accrediting institution, the Dublin City University.
- A well-established process of moderation by the tutor coordinator, and also by the external moderator from DCU.
- Possibility of participants’ group to request for a review of the marks allocated to their work.
- Well-defined mechanism to provide tutor feedback to participants on marked assignments.
- Application of penalties for late submission.

The model used by GESCI in terms of the participant assessment and evaluation mechanism is in line with quality assurance processes at Universities. In the external moderation process, the issue was raised around the adequacy of pedagogical support with respect to the group work component of the ALICT-LATIC programme from the tutor support perspective especially when participants are working on group assignments. Are students getting enough support in terms of their assignment? However, we also find there is a constant need to remain in contact with participants and to *chase* them regularly to ensure work is submitted on time and to deter dropouts. There is no clear indication if tutor commitment is the fault here or rather participants’ other professional and social commitment should be further probed into. Groups are also quite big and there are situations where we can get participants not meeting the minimum standard to successfully complete the course, yet they will end up with a postgraduate qualification. Some participants in their feedback have also highlighted the issue of passive participants with respect to group work.

*“Content and tools are of very great value but not to control resources and the participation of all group members.” – Unnamed Participant (Module 5, LATIC)*

*“...when the work is based on a person or two, the result can only be to the expectations. There are too many people who swell the numbers and we must find a solution for Futures groups.” – Unnamed Participant (Module 6, LATIC)*

## **CAPABILITY ASSESSMENT**

Using the first level of the eLearning Maturity Model, a high level overview of GESCI's eLearning capability is presented. The analysis presented here is dependent on the desk studies and materials accessible, and the mean ratings provided by each participant in the first level rating. The table below provides a high level overview of the averages ratings per process area for the multi-rater survey that was conducted.

Process Areas	Average Rating (1-5)
Learning: processes that directly impact on pedagogical aspects of e-Learning	3.47
Development: Processes surrounding the creation and maintenance of e-learning resources	2.95
Support: Processes surrounding the support and operational management of e-learning	3.14
Evaluation: Processes surrounding the evaluation and quality control of e-learning through its entire lifecycle	3.33
Organization: Processes associated with institutional planning and management	3.13

*Table 1 : Average Ratings per process areas of the LATIC-ALICT programme*

For the purpose of this assessment a multi-rater approach was adopted, namely with tutors, QA Lead, the Lead Tutor and technical staff involved in the ALICT-LATIC programme. This is a kind of self-evaluation by those who are part of the ALICT ecosystem. It is important here to quote Marshall and Mitchell (2007) here that

*“while the eMM is based on widely accepted indicators of e-learning capability, in many cases there is a lack of empirical evidence supporting their use. Assessments of individual institutional capability in particular areas should thus be used as a guide to further investigation and planning rather than absolute measures of performance”*

It is along the above quoted paragraph that the assessment has been carried out within the context of ALICT-LATIC. The Learning dimension is one of the main strong points as revealed by the assessment of the programmes. Most of the statements were rated to be between largely adequate and fully adequate indicators, as illustrated by Table 1 above. For the Development dimension, the statements received mixed responses making this dimension to be rated mainly as largely adequate. While the ALICT course is not specifically designed to cater for disabled students, which is clearly reflected in the ratings, on the other hand, the perceived reliability and robustness of the e-learning infrastructure is rated to be between partially and largely adequate. This can be attributed to issues of connectivity and bandwidth as experienced during tutor meetings and webinars.

In terms of support and evaluation processes, the raters showed a general consensus of the services being largely adequate with the only weak point being the absence of online library services to promote quality research and referencing materials for the participants. It is clear that GESCI has achieved a higher than average rating on the eMM maturity scale, with the ALICT-LATIC programmes as case-studies, achieving an overall average of 3.2 (largely adequate) in all the process areas. This is more or less

the norm for institutions with experience in quality eLearning provisions. It is however important to note that only the first level of the eMM was applied in this evaluation. The details of the eMM assessment are cross-examined with elements emanating from the desk-studies and the expert observation to reflect the key observations, the gaps and challenges, and finally the recommendations with respect to improvement of the ALICT-LATIC programme, and the overall eLearning capabilities of GESCI.

## **DISCUSSION AND RECOMMENDATIONS**

The ALICT-LATIC course reflects a high quality trans-national and cross-border accredited higher education provision of the 21<sup>st</sup> Century. The course meets the key quality standards for eLearning as per well-defined benchmarks and indicators. There is clear evidence of a robust instructional design framework and methodology guiding the design and delivery of the programme and continuous improvement is achieved through cycles of course reviews.

On the other hand, there are challenges and issues that are inevitable and which are most of the time, detected at *run-time*. These issues are highlighted through participant feedback, tutor reports, QA Lead observations and internal/external moderation. An improved tracking and reporting method on these issues would help improve the QA processes and improve the overall learning experiences of the participants.

Quality Assurance is a constantly evolving area especially in a dynamic context of technology-enabled instruction. Therefore going through each cycle of course delivery and evaluation, improvements have to be identified and incorporated on an incremental basis.

Based on the above, the key recommendations are as follows:

- Conduct a full usability evaluation of the eLearning platform including the way Mahara is integrated with the learning environment, and redesign the user interface, and course structural layout. In other words, revise the instructional and visual arrangement of the programme online.
- Devise a set of instructional videos, interactive tutorials to support a comprehensive induction to the eLearning platform and other environments like Mahara, Delphi tool and 360 Feedback. This should not be integrated with the current Orientation Module, which is an introductory module on Knowledge Society concepts.
- Review the course content in the following ways:
  - Proofreading of the LATIC content to improve on the overall meaning of the translated content.
  - Review the assignment sheets and instructions for both ALICT and LATIC to simplify the work and facilitate understanding.

- Crosscheck the status of all external readings and links on a regular basis.
- Review the course structure and delivery model, to allow more time for participants, to assimilate, apply and achieve desired learning outcomes in an optimal setting.
- Propose a mechanism for better monitoring and assessment of individual's contributions in group work, and integrate a research seminar workshop (as a webinar or face-to-face workshop) to introduce participants to basic research methods.
- Conceive and develop an e-tutoring course dedicated to tutor induction to online course delivery and tutoring to improve tutor competencies and effectiveness.
- Investigate into the possibility to introduce open-book online assessment based on scenarios and knowledge application questions that count towards the final assessment of a module.
- Devise a mechanism to document issues highlighted and encountered and to keep track of actions taken and constraints if any that hinder the issues to be solved.

## CONCLUSION

This study has been to probe into the ALICT journey from its conception to delivery of three cohorts, including its adaptation in the Francophone version referred to as LATIC. We can reasonably argue at this stage that the current blended learning model is conducive for the development of skills and competencies as expected in terms of intended outcomes and learner experience. The quality of the course is comparable to what is offered in recognized and reputed institutions of higher education, and this is clearly evidenced by the DCU accreditation and the views of external moderators, and further strengthened by the new partnership with the University of Mauritius. The recommendations as put forward in this paper will hopefully help to address the gaps and challenges that were identified. This paper also sets the context for further research that would contribute to the knowledge base of such innovative projects as the ALICT-LATIC course. There are avenues for further investigation into the cultural context and influence with respect to participant performances and commitment to the course, including an understanding of reasons for dropouts. It further provides a good platform for further research into 21<sup>st</sup> Century Educational models that is based on a multiple partnership model, to redefine the Universities of the future.

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