

# **eLearning in Africa: Challenges, priorities and future direction**

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**May 2009**

## **Abstract**

This paper reports on a survey of 147 eLearning practitioners from 34 countries in Africa. It considers practitioner perspective regarding current challenges, priorities for action and the role of donors within the eLearning arena. It then focuses on the vital place of monitoring, evaluation and impact assessment, giving recommendations for effective progress. The paper concludes by identifying sustained teacher training and infrastructural provision as significant recurring themes within development of eLearning in Africa and offers six themes for reflection and future research.

## **1. Context and Aims**

Recent years have witnessed considerable enthusiasm and contestation regarding the role of ICT in addressing educational challenges in Africa (Keats 2007, Pye & Stephenson 2003, Leach 2005). Much debate surrounds the question of whether introducing technology into education and promoting eLearning has instigated positive change across the continent. Whilst proponents assert that efforts of the last decade have resulted in a new educational landscape, critics suggest this change is unproven and that structural shift, especially within a formal educational context, remains a long term challenge (James and Miller 2005). Some evidence suggests that when initiatives are implemented with fidelity, potential exists for an increase in learning through ICT, linked to motivation, creativity and alternative pedagogical approaches (Trucano 2005). However, in conjunction with this exists significant potential for wasted resources due to inappropriate context, ineffective implementation and lack of sustained commitment (Wagner et al 2005).

Within this context, and despite a variety of ongoing research programmes, there has been limited opportunity to gather data from eLearning practitioners across Africa. The aim of

this paper is to address the lack of a pan-Africa overview on eLearning, from a practitioner perspective. The paper is written in recognition that many significant challenges are faced by those developing eLearning in Africa and that these are at risk of being overlooked due to individual enthusiasm for innovation combined with the expansionist agendas of ICT corporations. Indeed, within certain sectors there has been tendency to assume that technology in education constitutes an inherent good, despite the plethora of eLearning initiatives which have failed to deliver on their educational objectives (Unwin 2008). The intention here is to engage critically with practice and assess the reality of what is happening, rather than simply what is hoped or assumed. The analytical themes fulfil this objective through assessing challenges, priorities, role of donors and the importance of impact assessment.

## **2. Survey design and rationale**

The paper is based on 147 responses to the survey, received from 34 countries in Africa. The majority of responses come from four sectors: Universities (36%), NGO's (22%), Government (13%) and the private sector (12%). Of the 34 countries represented, responses were concentrated from Kenya (18%), South Africa (14%) and Nigeria (12%). Ethiopia (6%), Uganda (5%), Zambia, Senegal (4%), Ghana, DRC and Tanzania (3%) were also countries with high response rates. Slightly over half of respondents, 51%, reported that they utilised eLearning in both a rural and urban context. Some 35.5% expressed that they were using eLearning in only an urban context and 13.5% in only a rural context.

The survey was designed in order to collect data from current eLearning practitioners within Africa and is therefore not intended to be in any way representative of the wider education community in Africa. The opinions and concerns expressed are those of a minority but expanding group who are using eLearning within Africa. The survey was accessible on a variety of open online environments and was also distributed on a pan-Africa eLearning mailing list. The intention was to gain a broad array of perspectives rather than a sample representative to fit pre-existing criteria. The survey was available in English and French to ensure accessibility to both Anglophone and Francophone Africa. Of the responses received, 125 were given in English and 22 in French. Various eLearning practitioners contributed to the survey content, structure and design.

## **3. Terminology**

The term eLearning is used to refer to a wide variety of activities that incorporate ICT within education and when used in the subsequent analysis it reflects this diversity. Some 36% of respondents noted that Virtual Learning Environments/ Learning Management Systems were the main ways in which eLearning was being delivered within the programmes that

they were involved with. A further 33% reported that they were delivering eLearning in a variety of different ways. It was significant to note that, despite the considerable attention paid to the potential of mobile phones in education, only 1.5% responded that this was their main method of using eLearning. Likewise, only 1% focussed on game-based learning and 1.5% on chat rooms.

## **4. Analysis introduction**

The following analysis is split into four categories. The first centres on the importance of eLearning as defined by respondent priorities. The second builds on this, and focuses on what respondents consider to be resulting priorities for action within eLearning in Africa. The third considers the role of donors within the arena and the fourth emphasises the place of effective monitoring, evaluation and impact assessment.

### **4.1. The importance of eLearning**

Four dominant themes emerged when respondents were asked why they considered investing in eLearning to be important for the development of their country. The first of these related to a generic notion that eLearning is good for development, expressed with responses such as 'it provides avenues for human development', 'it bridges the digital divide', enabling participants 'to fit in the global economy' and 'to be up to date with the advanced countries'. The second theme related more specifically to the increased educational opportunities available from eLearning, with respondents noting 'access to quality open educational resources' and 'allowing equitable access to information', which helps to 'foster information exchange and sharing' and leads to the 'promotion of 21<sup>st</sup> century skills'. The third focused on changing approaches to teaching and learning that were facilitated through eLearning, with respondents commenting that 'professors are able to invest in more innovative teaching', 'students are active in their own learning' and that it 'bridges the gap between learner and facilitator', helping to 'improve the teaching methods' and 'reducing pressure on resources'. The fourth theme identified increased connections, access and flexibility and was demonstrated through responses highlighting the 'flexibility of hours', the opportunity to 'study whilst working' and the fact that 'learning can take place anywhere'. Alongside this was acknowledgement that eLearning serves to 'widen (the) reach of learning opportunities' and acts as a bridge for the educational 'gap between the rural and urban areas'. A significant point to note here is the intention to gauge the perceptions of respondents regarding the reasons for valuing eLearning, not to ascertain how these different observations or objectives might be accomplished.

Regarding the most significant positive change occurring since the introduction of eLearning, 24% of respondents identified improved student motivation. The second most

popular answer was the improvement in student attainment with 15% of responses. Third, with 11%, was that the local community had increased the value it placed on education as a result of introducing eLearning.

Unsurprisingly, in answering the converse question, 37% stated that most significant negative change as a result of introducing eLearning was the higher costs. Significantly, 37% also chose an unlisted category as the most significant negative change, cited a range of issues that indicates the plurality of challenges associated with introducing eLearning in different contexts. The third dominant complaint regarding eLearning was the fact that equipment got stolen more since the learning resources were introduced.

The survey attempted to provide context for these answers regarding importance by establishing the main subject or area of work within which eLearning is being used. The dominant category, with 43% of responses, was that of people using eLearning within ICT teaching or training or a subject such as computer science. However, it was encouraging to note that 32% of respondents reported that the main context in which they used eLearning was as a non-ICT based curriculum subject or in relation to life-skills. This gives tentative indication that an increasing number of practitioners are exploring the potential of eLearning beyond the confines of ICT training subjects, promoting ICT for wider education in addition to education for ICT skills.

## **4.2. Priorities for action**

Having covered the use and motivation for eLearning, the survey then considered current priorities for action within the field. The intention is that this information can provide generic overview for decision makers regarding current practitioner needs. Respondents were given a choice of eight categories within which to identify their priority for action on eLearning. The categories were hardware, software, training, management, bandwidth, electricity supply, donor funding and 'other'. Firstly, they were asked to answer in regard to the programmes they are personally involved with, and three clear priority areas emerged.

The first priority area, highlighted as most significant by 35% of respondents, was the issue of training. An additional 42% considered this to be either the second or third most significant priority area. Respondents gave a variety of reasons why they had selected training, reflecting the diversity of activity encompassed within the term. Many pointed to the simple fact that very few teachers and lecturers are currently able to use eLearning because of the limited opportunities available for learning how to do so. This was linked to a reported lack of understanding and appreciation of the potential of eLearning to shift approaches to teaching and learning. It was suggested that knowledge regarding eLearning leads to an increase in motivation, an appreciation of issues surrounding integration, and subsequent increase in appropriate and innovative usage. This in turn was believed to lead

to capacity building for people to begin developing their own content for effective teaching and learning.

Following this, identified as the top priority by 20% of respondents was the issue of donor funding. An additional 25% of respondents identified this as the second or third most significant priority area. The reasons for this as a priority were focused around the widespread lack of funds available for people to implement the eLearning programmes which they had planned, particularly in relation to prohibitively high start-up costs. In addition, a recurring theme focussed on the lack of budget allocation for staff development and training, and subsequent lack of human resources for effective eLearning in the form of trainers. There was strong linkage between training and limited funding, that due to lack of money the initiatives both planned and already operational were unable to function at their most effective. The necessity for donor funding was also based on the location of some eLearning programmes in poor, rural areas where local communities had limited resources. It was also noted that through donor funding, the poorest of the poor would have increased access to training programmes for eLearning.

The third most common response, from 18% of respondents, was that of bandwidth as the top priority for improving eLearning. Again, another 40% considered this to be either the second or third most significant priority area. Responses focussed around the prohibitive cost of bandwidth and identified as the primary barrier for using eLearning with one respondent stating that 'the high cost of bandwidth in Africa just defeats the whole purpose of eLearning'. The recurring monthly expense meant that people are careful in their usage and are forced to limit the amount of content that is downloaded. Associated with the cost of bandwidth is the difficulty of accessing required content due to the slow connection speed. These factors hinder the progress of eLearning activities for both students and teachers and mean that certain tools are not accessible. As communicated by one respondent, 'the limited connection prevents us from using Moodle and getting OERs from the web'. It was also noted that, even when there are good eLearning resources available, many people, especially in remote rural areas, are unable to make use of them due to lack of bandwidth.

When respondents were questioned regarding the highest priority for Africa as a whole, rather than for their programme specifically, the answers given again prioritised training with 24%, bandwidth with 23%, and donor funding with 15% of responses. In addition to these, 12% considered the lack of electricity supply to be the most significant priority.

It is important to remember that this is not an indication of priority issues from amongst those involved in education in Africa as a whole, but from those already engaged in eLearning. Had the sample included those not currently using eLearning then it is likely that the category of 'electricity supply' would have been given as a widespread fundamental factor preventing the uptake of eLearning.

### **4.3. The role of donors**

Respondents were clear concerning the areas in which donor support was most critical in ensuring the progression of eLearning. The analysis regarding donors is taken firstly from the 20% of respondents who identified 'donor funding' as highest priority for the programmes they are personally involved with and secondly from the 15% of respondents who answered the same regarding eLearning across Africa as a whole. The term 'donor' was understood to incorporate bilateral, multilateral, private sector and civil society contributions.

Within programmes that respondents are personally involved with the overarching priorities for donor engagement focussed around training, infrastructure and start-up costs. In regard to training, teacher training, training of trainers and scholarships for course participants were identified priorities, with the objective of ensuring an overall increase in capacity building for eLearning. More widely, funds were requested in order to raise public awareness regarding the potential of eLearning. In regard to infrastructure, the purchasing of both hardware and software were prioritised, alongside funds for ongoing maintenance for programmes. It was also noted that to promote eLearning there was important role for donors in providing the necessary supportive infrastructure of power supply and bandwidth. Respondents also highlighted the need for donor resources when establishing new programmes and developing new course content.

A similar set of issues were identified when answering regarding the priorities for donor intervention across eLearning programmes in Africa as a whole. Training and capacity building were repeatedly emphasised, alongside more specific requests for funding in order to host workshops. A recurring theme from respondents was the frequent impossibility of launching an eLearning initiative without some form of donor assistance and thus initial start-up costs were considered to be an appropriate priority for donor assistance. The most regularly identified specifics within this were hardware, software, bandwidth and infrastructure. In addition, several responses focussed on the provision of electricity, with one requesting donor help 'to assist the development of reliable energy sources'.

As can be seen, there is a direct link between what respondents consider to be the most significant challenges regarding eLearning and what they consider to be the priority areas for donor support. In both cases the recurring priority themes focus around the issues of effective training and bandwidth in order to facilitate more effective eLearning in Africa.

### **4.4. Monitoring, evaluation and impact assessment**

The fourth focal area of the survey was regarding the central place of effective monitoring, evaluation and impact assessment within eLearning (Wagner et al 2005). Respondents were asked firstly what they considered to be the most significant factor limiting the implementation of effective monitoring, evaluation and impact assessment within the programmes they are involved with. The most common answer was 'lack of internal organisational capacity' with 39% of respondents identifying it as the most significant factor. The second most common direct response, with 13%, identified the fact that such activities were 'conducted without stakeholder participation' as most significant limitation. Somewhat surprisingly, only 9% suggested that pressure from donors was the most significant constraint. However, it was requested that a priority for donor funding within eLearning should be the provision of funding for the programme evaluation that is needed.

Following from this, respondents were asked three open questions, firstly regarding what they saw as the three most significant challenges in conducting effective monitoring, evaluation and impact assessment within ICT for education programmes across Africa as a whole, secondly why this is the case, and thirdly how they should best be addressed. This resulted in over 300 discrete answers from which the most striking theme relates to the diversity of challenges identified. Recurring issues were infrastructural constraints, lack of training, prohibitive costs and logistical challenges, cultural attitudes surrounding assessment, imposition from supply driven agendas, limited awareness and ineffective leadership, absence of standards, baselines and confusion regarding methodology and terminology. Within the broad array of responses, three dominant themes emerged that focused around resources, infrastructure and understanding. Each of these are now assessed in turn.

The two main areas of lacking resources were in relation to money and personnel. The lack of funding available for monitoring and evaluation was a frequently mentioned challenge with comments such as 'no funding for the process'. In addition, the 'lack of facilities, for example, staff to do the monitoring' combined with the issue of trained personal and 'lack of good monitoring and evaluation professionals' occurred throughout the answers. These constraints are each exacerbated by the fact that monitoring, evaluation and impact assessment is generally viewed as a low priority and 'considered difficult, time-consuming and expensive'.

Alongside this, the lack of infrastructure and systems in place to facilitate effective monitoring, evaluation and impact assessment was a frequent complaint. This was linked to the issue of ineffective 'management' and limited 'internal organisational capacity' resulting in limited opportunities for training, capacity building and lack of understanding regarding appropriate methodology and 'monitoring tools development'. It was considered that this led to a situation where potential monitoring, evaluation and impact assessment was hampered by unreliable data collection, lack of baselines and the challenges surrounding gaining honest, transparent feedback.

The final area of challenge related to the issue of overall understanding regarding the role of monitoring, evaluation and impact assessment within an ICT for education programme. There were references to the difficulty in getting key stakeholders to 'value the importance of monitoring and evaluation' and the 'lack of interest' from authority figures within programmes. A consequence of this was the lacking motivation and limited buy-in to the process, with a challenge of 'getting enough parties to participate in evaluation'. As a result, where such exercises were undertaken they were often 'conducted without stakeholder participation' and became perceived as a threatening, externally imposed activity. The ICT emphasis and limited understanding of appropriate methodologies also led to situations where, within monitoring, evaluation and impact assessment, 'focus is on technology rather than on pedagogy'.

Following these three foci, from the responses given it is clear that respondents had varying conceptions regarding what was being referred to in the question asked. Most focused on assessing the ICT itself, whilst only a few emphasised the education. A lot of challenges identified were in reference to the generic issues of eLearning, and framed around the improvement of ICT infrastructure for its own sake. From this it is reasonable to deduce that a significant implicit challenge within current debates surrounding effective monitoring and evaluation of eLearning is a lack of understanding or consensus regarding what it actually entails and why it is of significance to begin with. However, the responses regarding how best to tackle the challenges encountered demonstrated that the lack of clarity is in no way universal. Indeed, clear guidelines emerged regarding how current practice might be improved in relation to monitoring, evaluation and impact assessment of ICT for education programmes. Respondents highlighted the following twelve priorities:

- Raise awareness regarding the important role of evaluation
- Invest in providing training so people understand the specifics of how to assess programmes
- Prioritise research and the development of effective methodologies
- Ensure that impact assessment strategies are developed at the early stages of programmes
- Utilise a variety of programmes as a broad benchmark for impact assessment
- Invest in dialogue, sharing experiences and coordination between programmes
- Involve community based organisations within the consultation process
- Ensure good governance within monitoring and evaluation and have no tolerance for corruption
- Allocate both financial and human resources for monitoring and evaluation within the programme budget
- Ensure that African educationalists have a central role in designing the monitoring and evaluation of programmes rather than just technologists
- Base partnerships on transparency and effective collaboration between sectors



- Engage end users and beneficiaries actively and systematically in the design of the evaluation process

## 5. Conclusions

The study has identified the challenges and priorities of practitioners within the arena of eLearning in Africa. Alongside this it has highlighted significant areas for donor attention and emphasised the need for an increasing focus upon effective monitoring, evaluation and impact assessment. As noted previously, it must be remembered that these responses are derived from a minority and elite group within the field of African education and thus cannot be considered as fully reflective of wider priorities. In closing, six reflections are offered which synthesise the key findings of the survey and begin to build upon them for the purpose of ongoing research:

- The three most significant consequences of introducing eLearning are perceived to be the possibility for higher student motivation, improved student attainment, and increased value of education amongst the community.
- Clear priorities for eLearning practitioners relate to effective training and increased bandwidth. Significant limitations are the associated start up and maintenance costs, combined with the risk of equipment theft.
- Practitioners place clear emphasis on the importance of donor funding. However, questions remain surrounding the viability of funding initiatives which are unsustainable without long term donor support. Perhaps a more appropriate focus for donors is in creating an enabling environment, through provision of necessary electricity and bandwidth infrastructure, within which a broader array of eLearning activities may become independently viable.
- Effective monitoring, evaluation and impact assessment remain a priority for the development of eLearning in Africa. This should be viewed as an integral aspect of each programme and structured in such a way as to contribute to the capacity development of participants (Morgan 2004).
- The promotion of collaboration and knowledge sharing through the development of transparent multi-stakeholder partnerships is central to overcoming the significant challenges currently faced by eLearning practitioners (Unwin 2009).
- The overall rationale for eLearning in Africa is still overly grounded in technology-driven agendas. There are encouraging signs that pedagogy is being increasingly prioritised but sustained work is required to ensure that the potential of eLearning

continues to progress beyond simply training for ICT and focuses instead on educational outcomes.

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