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# Survey of e-Learning in Africa

**Based on a Questionnaire Survey of People on the e-Learning Africa Database in 2007**

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# Survey of e-Learning in Africa<sup>1</sup>

This report summarises information about the status of e-learning in Africa based on 316 responses to a questionnaire circulated in 2007 to people on the *e-Learning Africa* database.<sup>2</sup> This represents approximately 4% of people on the database, and is likely to reflect those who are already most committed to the use of e-learning within Africa. Respondents to the survey were from 42 different African countries, with Kenya (15%), South Africa (12%), Nigeria (11%), Ethiopia (9%) and Uganda (8%) furnishing most respondents (see Annex 1 for further details). Of those providing details of their gender, 25% (77<sup>3</sup>) were women and 75% (230) were men. Of those who reported an educational context within which they were working, 118 (37%) were from higher education institutions, 16 (5%) from primary or secondary schools, 14 (5%) from NGOs, and 9 (3%) from vocational and technical institutions. Of those who responded to questions about e-learning and blended learning, 72% said they used e-learning (although this only represented 48% of all respondents) and 78% used blended learning approaches. The majority of identifiable respondents to the survey were thus men, working in universities who had some experience of e-learning.<sup>4</sup>

These respondents provided a wide variety of information about their e-learning practices, and it is difficult to draw overarching generalisations based on the evidence provided. Nevertheless, three main conclusions can be drawn:

- there is a wide variety of different e-learning practices in Africa;
- e-learning is still very much in its infancy across most of the continent; and
- there is much enthusiasm amongst respondents for developing the potential of e-learning in their countries.

However, respondents also identified key constraints in seeking to implement and develop e-learning strategies and practices, including the lack of infrastructure (particularly connectivity, and especially in rural areas), the need for appropriate training and capacity development, a lack of relevant digital content, and the cost of implementation. Typical responses thus include the following:

- *Our institutions e-learning developments are still at an infancy stage in that we are still working on trying to identify a suitable e-learning*

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<sup>1</sup> I am most grateful to comments from Rebecca Stromeyer and David Hollow on earlier drafts of this report; the assistance of SPIDER in drafting the original questionnaire is also gratefully acknowledged.

<sup>2</sup> For more details on e-Learning Africa, see <http://www.elearning-africa.com/>

<sup>3</sup> Throughout this report, figures in brackets indicate the absolute number of respondents.

<sup>4</sup> Unfortunately, many respondents left various sections of the questionnaire blank, and this therefore adds to the difficulty in interpreting the results.

*platform to adopt for our content development and learner management (Botswana)<sup>5</sup>*

- *The Ethiopia Federal in conjunction with the State TVET Authorities and representatives of the ICT sector are currently developing an appropriate strategy for the further development of ICT and blended learning (including e-learning), addressing the issues of e-module development, development of distance education in TVET, necessary human resource development and other factors influencing the availability of ICT in the TVET sector (Ethiopia).*
- *Lack of awareness from most of the teachers and heads of our universities that the use of eLearning could be a benefice for the teaching or training ; I don't see any motivation of developing eLearning by our school chefs. a lack of equipment and required structures (lab with good computers, a good Internet connection, soft ware...) and also the financial resources to support the training of the trainers, the production of the contents of eLearning, to adopt another context (Cameroon)*
- *We don't use any eLearning even though we are a distance learning center. Only distance training in VC and the satellite-based ones were thought about from the beginning. But when people call us, they always hope to be able to follow courses without having to move. At the time we have a lot of demands for distance learning, particularly for the ones with a diploma, but we don't have any platform for this (Senegal)*

### **Types of course addressed by e-learning**

When asked about the educational levels addressed by their e-learning courses, respondents listed the following:

- Higher education 53%<sup>6</sup> (169)
- Continuing education 37% (116)
- Vocational 23% (74)
- Secondary school 22% (70)
- Informal/non-formal 22% (69)
- Technical education 21% (66)
- Primary school 10% (33)
- Special educational needs 9% (28)

This reinforces the view that, amongst practitioners who responded to the survey, the majority of uses for e-learning were in the higher educational and vocational fields.

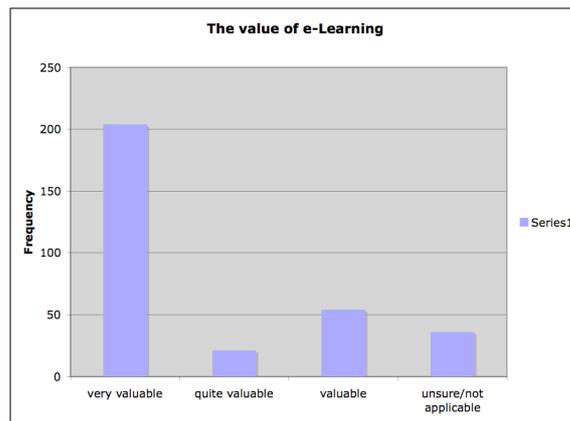
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<sup>5</sup> Use of *italics* in this report indicates a direct quotation from a respondent; spelling, grammar and punctuation are left as in the original quotation

<sup>6</sup> Percentages indicate the % of respondents who said that their e-learning courses addressed this level of education

## The value of e-learning

Unsurprisingly, given that the respondents were drawn specifically from a database of those interested in e-learning, 68% of respondents remarked that they thought that e-learning is, or could be, very valuable for their learning and teaching needs, 6% suggested that it was quite valuable, 17% that it was valuable, and only 11% were unsure or thought it inapplicable.



## How to make e-learning more effective

Many different suggestions were received as to things that would make e-learning more effective in respondents' countries. Among the most frequently mentioned were:

- Availability of hardware (particularly computers)
- Faster Internet connectivity/improved bandwidth
- Improved software
- Appropriate policies favouring e-learning
- Provision of technical support for e-learning at a range of scales
- Lower prices for connectivity
- Availability of reliable electricity
- Appropriate content in appropriate languages
- Awareness raising about the value of e-learning
- Improved training for teachers in e-learning at all levels

## Learning Management Systems and e-learning practices

Many respondents were unable to say which Learning Management Systems (LMS) they were using. In response to the question 'Which e-learning management system(s) do you use', a respondent from Burundi thus commented that '*I don't understand this question, but the system I am using is linux and win*' whereas others commented that they simply used the Internet (24 respondents) or e-mails (6 people). The most popular LMS was Moodle, mentioned by 13% of respondents (40), followed by WebCT<sup>7</sup> with 7% (23), KEWL.NextGen with 6% (19), Blackboard with 6% (18), and Sakai/Vula with 4% (12). The popularity of Open Source systems, especially those developed in South Africa, is clear from this, as is the complete absence of some proprietary systems that are popular in other parts of the world, such as Fronter. The over-riding conclusion to be drawn from this evidence is that the

<sup>7</sup> In 2006 WebCT was acquired by Blackboard, and since then it has been phased out in favour of the Blackboard brand.

majority of those claiming to be using e-learning are not using an integrated formal learning management system at all, but are rather using basic digital technologies to enhance their learning, more often than not interpreting e-learning simply as accessing information from the Web.

This was reinforced by respondents in their answers to questions concerning the specific e-learning practices and methods that they used in their teaching/learning. Although it is difficult to generalise from the diversity of comments received, the dominant practices seemed to be the use of the Internet by 11% (34), e-mail by 10% (31), CDs by 9% (28), the Web by 7% (22), video by 5% (17), chat by 4% (13), and presentations by 4% (13). Discussion forums were only mentioned by 3% of respondents (9), multimedia by 2% (7), the use of digital libraries by 2% (6), messenger by 2% (6), and only 1 respondent specifically mentioned educational games. This again suggests that there is still not a particularly high level of sophistication in the usage of e-learning among the majority of the respondents.

In another question, respondents were specifically asked whether they were involved in the development of e-learning content, and 41% (130) answered in the affirmative; the majority of respondents therefore did not see themselves as being involved in content production for e-learning. Interestingly, in a further question, even fewer respondents (only 34% or 109 individuals) claimed to be involved in the management of e-learning courses.

### **Advantages and disadvantages of using technical platforms for education**

Numerous contrasting views were expressed as to the advantages of using technical platforms for education, including

- Ease of access to information
- Ability to supervise students at a distance
- Safe digital environment for students to submit work
- The potential for interactivity amongst and between learners and teachers
- Combination of both synchronous and asynchronous learning
- Enabling of quality education for increasing numbers of students
- Potential for re-use of content
- Students can learn at their own pace
- Facilitates the management of student records
- Helps motivate students

One unusually comprehensive response concerning the advantages of such systems was as follows:

- *It encourages learner centred approach to learning.*
- *No cancellation of classes in case the lecturer is out of the other to attend a conference.*
- *These platforms cater for individual differences eg, through the collaboration tools, students who are too shy (introverts) to ask questions in class have the opportunity to do so.*

- *Assignments are no longer pushed under the lecturers' doors . These are safe environments for students to submit their assignments and also get their grades.*
- *Tracking students' progress also helps to rectify their problems before it is too late to help them.*
- *Minimising academic dishonesty is also practiced because there some softwares such as Turnitin (plagiarism detection software) which can be incorporated in these platforms to detect any work which is not acknowledged by students (Botswana).*

Responses such as this indicate that amongst some respondents there is indeed a very high level of understanding concerning the potential and value of e-learning.

There also appears, though, to be some variation in views about the value of technical platforms depending on the country in which respondents are living and working. Although the numbers are insufficient to draw any firm conclusions, several respondents from Nigeria, for example, tended to emphasise the way in which such platforms can support the 'massification' of education, while those from South Africa emphasised motivational factors and the opportunities that they provide for an enhanced learning experience. There are also diverse views about the costs of implementation of these systems. Advocates of Open Source solutions, especially those from South Africa tend to suggest that they can '*reduce the cost of current face to face learning*', whereas those from other countries where costs of electricity and connectivity are high, or institutions are tied into proprietary systems, suggest that such solutions can be much more expensive than traditional modes of teaching.

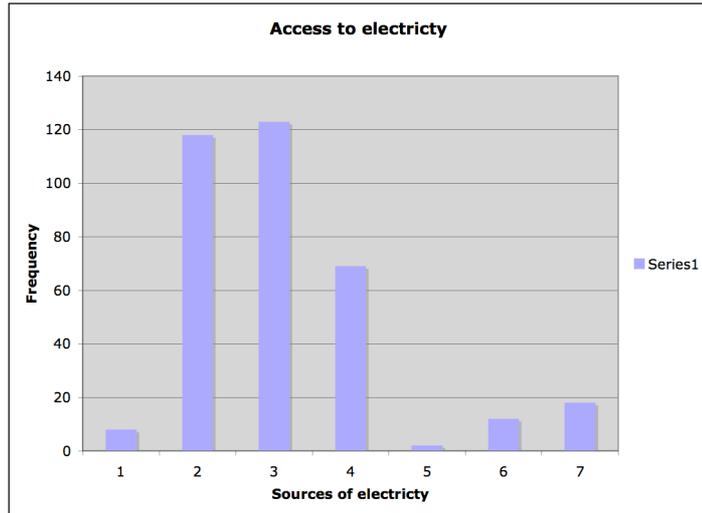
The benefits of e-learning systems are not, though, without disadvantages, and many respondents drew attention to these, typified by the following:

- *Moodle has a quite steep learning curve and it needs a fair time investment in face-to-face, hands-on, training to get started, which is not easy to arrange when working on a voluntary base. The saying „The first online course you do well is the second“ is very true. To overcome this starting inertia is very hard because it takes time to really deeply understand the potential of eL and see the results, especially when working with a foreign language and being a newbie with PC. Prompt tutoring is crucial (Burundi)*
- *Disadvantages which I have personally identified are that many people are not familiar with most of these platforms and by this I am refering to both lectures and learners and as a result this has been a disincentive, also many students and lectures do not have access to current and latest platforms and many have also found it costly to be able to afford these latest technical platforms (Ghana)*
- *In my circumstances, the disadvantages are; there are many problems.our school is many, many kilometers away from town. many times we experience technical problems. The advantages are not many. when the system is working well, we can experience good communication and a quick one:and that is an advantage (Kenya)*

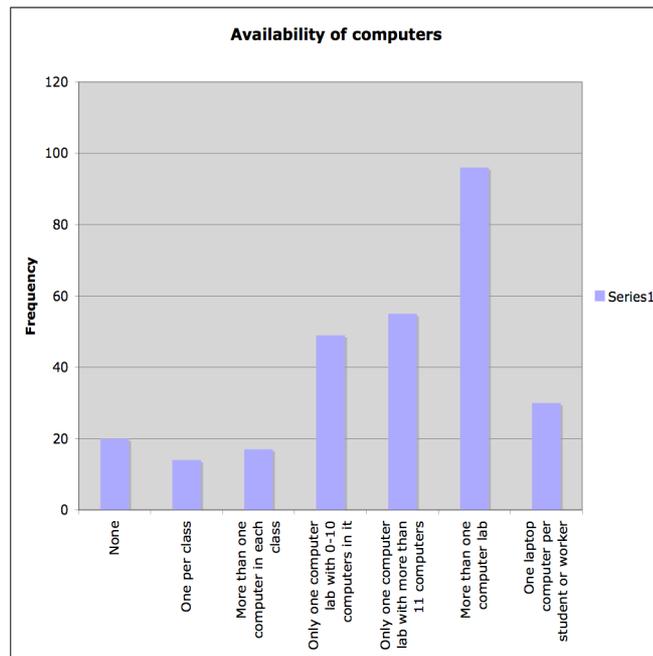
- *need of a huge availability of the teacher, who already has a lot of work, costs for the students who don't have any computer and Internet and have to go to the Internet-café and pay, less cooperation between the students, pedagogical heterogeneity between the different courses (Morocco).*

### Infrastructure: the availability of electricity, computers and the Internet

Among the many problems facing those involved in delivering e-learning, the availability of electricity is often mentioned as being of particular importance, especially in rural areas. However, in response to a question that asked people to describe the availability of electricity where they work, only 8 respondents mentioned that they had no supply of electricity at all (source 1 on diagram). Interestingly, 37% of respondents (118) indicated that they had a regular supply of electricity (source 2), and a further 39% (123) said they had irregular mains electricity (source 3). Other sources of electricity used by respondents included local hydro-electric power (source 4) mentioned by 22% of respondents (69), batteries by 6% (18), and solar power by 4% (12); wind power was mentioned by only 2 respondents as a source of electricity. This survey was admittedly undertaken among active users of e-learning, but the quite widespread availability of electricity would suggest that other factors may actually be more important in deterring people from developing e-learning activities than just the supply of electricity.

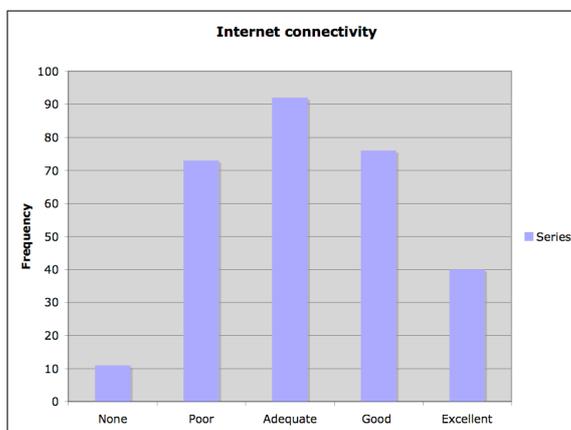


Respondents were also asked about the availability of computers in their places of work, and again this indicated that access to computers may be higher than is sometimes expected:



96 respondents (30%) indicated that there was more than one computer lab in their place of work, and as many as 30 people (9%) claimed that there was one laptop computer available per student or worker. At the other extreme, only 6% (20) of respondents said that there were no computers available where they worked, and only 4% (14) commented that there was only one computer per class available.

Another aspect of infrastructure that was explored in further detail was the availability of Internet connectivity. As might be expected, this was broadly normally distributed, but as many as 13% of respondents (40) claimed that their connectivity was excellent, and only 27% said that it was poor (73) or non-existent (11); 66% of respondents said that their connectivity was at least adequate.



Finally, respondents were asked about their access to mobile 'phones, and the responses once again highlighted the very rapid spread of mobile telephony across Africa: only 6 people (2%) said that they did not own a mobile 'phone.

In interpreting these figures, it must be remembered that the respondents were drawn from the *e-Learning Africa* database, and many of them were from universities, but the findings of these questions specifically targeted at aspects of infrastructural provision suggest that these constraints may not be as significant as is often claimed. To be sure, availability of computers, electricity and Internet connectivity in Africa are indeed far below those in many other parts of the world, but it would nevertheless seem that much more could be done with the infrastructure that currently exists than is currently the case. Indeed, these findings would seem to contrast with those from the earlier questions asked of respondents about the factors that could enhance e-learning, which suggested that availability of computers, the Internet and electricity were indeed major constraints. Perhaps these 'hard' technological elements are the most visible aspects of e-learning and therefore the most easy to 'blame', whereas it might actually be the case that the real need is for greater attention to be paid to the 'softer' less tangible dimensions of human capacity development, management structure and policy enhancement. It is also undoubtedly the case that the quality of infrastructure provision varies hugely across Africa, but this national variation does not seem to have been the overall determining factor in explaining people's responses. Thus, South Africans accounted for 12% of the total number of respondents, and it might be expected that they would have had markedly higher opinions about the quality of Internet access in their country than did people from elsewhere. Interestingly, though, only 15% of the total number of responses given as adequate and above in terms of quality of Internet connectivity were actually

from South Africa, thereby suggesting once again that it may well be other factors that are more important in influencing the effective delivery of e-learning across Africa.

## **Conclusions**

This snap shot of e-learning in Africa is based on a relatively small sample of Africans who by their very presence on the *e-Learning Africa* database are already actively interested in e-learning.

The sample is thus a privileged one, but it is nevertheless abundantly clear that many different e-learning practices are currently evident across the continent. Relatively few of these are based on comprehensive Learning Management Systems, and most rely primarily on the use of the Web for gaining access to information, and on e-mail for communicating with colleagues and students. This confirms that e-learning is in its infancy in Africa, but the evidence from those consulted in this survey is that there is nevertheless considerable enthusiasm for the potential that it offers across the educational spectrum, not only for universities and schools, but also for vocational training, for lifelong learning, and for marginalised groups such as street children and those with disabilities.

The challenge that remains to be addressed is to identify the optimal e-learning solutions for different groups of people in African countries with varying levels of access to infrastructure and levels of training. The latter sections of this review suggest that it might not so much be the 'hard' infrastructural constraints that are holding back the expansion of e-learning in Africa, but rather the 'softer' dimensions of management, training, and the development of appropriate levels of expertise in e-learning design that are the most important factors that require attention. It is on such issues that sessions at future *e-Learning Africa* conferences in Ghana in 2008 and beyond need to focus if we are to work together successfully to use the vast potential of ICTs to empower future generations of African children.

**Annex 1**  
**Participants in the *e-Learning Africa* survey**

<b>Country</b>	<b>Number of respondents</b>	<b>Country</b>	<b>Number of respondents</b>
Algeria	4	Morocco	3
Benin	1	Mozambique	2
Botswana	5	Namibia	2
Burkina Faso	3	Niger	1
Burundi	5	Nigeria	35
Cameroon	10	Rwanda	5
Central African Republic	1	Saudi Arabia	1
Congo	1	Senegal	7
Democratic Republic of Congo	10	Sierra Leone	1
Egypt	6	Somalia	2
Eritrea	2	South Africa	38
Ethiopia	28	Sudan	3
France	1	Swaziland	1
Ghana	12	Tanzania	14
Guinea	3	Togo	3
Ivory Coast	4	Tunisia	4
Kenya	46	Uganda	25
Lesotho	1	UK	1
Liberia	1	Zambia	8
Libya	1	Zimbabwe	4
Madagascar	1		
Malawi	3		
Mali	3		
Mauritania	1		
Mauritius	3		