

# Using Clarity programs

## A report on ICT integration in a poorly-resourced institution

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“Software should be available not just at university, but also students at secondary school should have the opportunity to use it.” These are the words of Melkamu Hailu, a journalism student at Mekele University, Ethiopia. A report by Dr Albert P’Rayan, an instructor at Kigali Institute of Science and Technology in Rwanda, concludes as follows: “There is a big appetite for integrating technology into teaching. Teachers as well as students are eager for access to ICT materials.” These personal reflections by students and teachers are echoed in a report compiled at the University of London following a survey of 147 eLearning practitioners from 34 countries in Africa. The report’s first conclusion is that, “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.”<sup>1</sup>

There are two messages here. The first is a recognition that technology is now so central to education that students who are denied it are being actively disadvantaged. Not only will their ICT skills be lower, their language skills and academic performance will suffer relative to their counterparts who do have access to technology. The second is more pragmatic: once a student has left university, no professional employer is going to look at them unless they have basic ICT skills – at least. Or, to frame it more positively, a high level of ICT competence enables young people to compete with their global counterparts on a level playing field, and this is as true in Africa as it is in India, China and the Philippines.

Why is it, then, that ICT resources are not more widely available in schools and universities across the continent? Contrary to popular perception, it is not cost – or at least, cost need not be a major factor. It is the failure to provide a solution which is adapted to local conditions and which is backed up with appropriate training and support.

Let’s look first at an ambitious, expensive project set up by CISCO Systems in 2006. The project’s objectives include the following:

“The project will enable simple village schools to receive streamed Internet and TV-based educational content, creating a strong foundation for e-learning. Many students are already making significant strides, as quality education content is transmitted via satellite and shown on flat-panel plasma screens in remote rural classrooms – some situated three days’ travel from the nearest town.”<sup>2</sup>

Although the project was handsomely funded, it only takes a moment’s thought to realise that (a) the technology is designed for a much higher-tech environment which has, for example, a stable and consistent power supply, and (b) when something does go wrong, it’s highly unlikely that there will be anyone in a remote village with the knowledge and expertise to fix it. It’s simply not a sustainable solution. Paradoxically, the more complex and expensive a solution, the more likely it is to fail, and bottom-up, lower-tech initiatives have a much higher chance of success.

<sup>1</sup> <http://www.gg.rhul.ac.uk/ict4d/workingpapers/Hollowelearning.pdf>

<sup>2</sup> [http://www.cisco.com/web/about/ac79/docs/wp/Ethiopia\\_SS\\_0320a.pdf](http://www.cisco.com/web/about/ac79/docs/wp/Ethiopia_SS_0320a.pdf)

# Using Clarity programs

## A report on ICT integration in a poorly-resourced institution

Let's turn now to a different project with a different budget and a very different approach. This initiative, which began in 2009, is to integrate ICT materials for English at Aksum University<sup>3</sup> in northern Ethiopia. The project was set up by Clarity,<sup>4</sup> a publisher of ICT materials for English, in conjunction with Voluntary Service Overseas<sup>5</sup> (VSO) which funds an English coordinator at the university, and was spearheaded by Aksum University itself. The objective was to integrate five interactive learning resources<sup>6</sup> into the teaching of English.

The key to the success of this project was to base it on the technology and expertise that was already established within the university. This, in turn, made it much more likely that the training – an essential part of the integration process – would be both comprehensible and useful to the instructors involved in exploiting the learning resources. Next, project objectives could be modified as fresh challenges and opportunities arose, ensuring this remained a bottom-up initiative rather than a space-age solution dropped in from above with no ongoing involvement. And finally, a practical and affordable pricing model was devised to protect the sustainability of the project.

In practice, this meant using 20 stand-alone computers, and gearing the interactive resources to that technology, as opposed to persuading the university to exploit the full technical capability of the resources (such as networking them or introducing online components). The computers were already being used by students and teachers, and maintained by an Aksum University technician.

Once the learning materials had been selected, the next step was to draw up a schedule for implementation. The first phase of the project was centred on a training visit to Aksum by Clarity staff. It's almost always true that without

training a school or university – or any organisation for that matter – will find it difficult to get the best results out of a new technology. Bringing in a trainer who can quickly and efficiently highlight the key benefits a system can bring, as well as the pitfalls to avoid, is often the best way of protecting the investment put into acquiring the technologies, and of ensuring maximum benefit for the end-users.

The training visit was scheduled for mid-October 2009, so a deadline for installation of the learning resources was set at the end of August. This allowed plenty of time for delays, and for any installation problems to be ironed out, in the first instance by local staff, and only if this failed, remotely by Clarity. As it turned out, installation ran smoothly and the university was able to move immediately to stage two. This involved giving preliminary access to the programs to targeted teachers. The purpose of this stage was to highlight any practical, pedagogical or technical issues that could be usefully tackled in the training session. Again, a deadline was set well in advance of the training, giving time for the Aksum-based project leader to report to Clarity, and for the Clarity trainers to integrate these issues into the training schedule.

Then the training took place. It dealt with three main areas: developing a rationale for using ICT; learning how to use the programs themselves; and learning how to exploit the programs in class and for homework and self study. These sessions were so successful that at the end of the first hour, 60 people applied to join future classes. The final stage of this phase, once the trainers left, was for the teachers to integrate the five programs into their teaching. This is ongoing.

So, what have the results been up to now? The system has been up and running for six months and initial findings have been documented by project leaders Cathy Newman and Tsegay

<sup>3</sup> <http://aksumuniversity.org>

<sup>4</sup> <http://www.clarityenglish.com>

<sup>5</sup> <http://www.vso.org.uk>

<sup>6</sup> Tense Buster (a grammar program), Active Reading, Study Skills Success, Road to IELTS and Author Plus (an authoring program enabling teachers to make their own activities). For more details, see [www.ClarityEnglish.com](http://www.ClarityEnglish.com)

# Using Clarity programs

## A report on ICT integration in a poorly-resourced institution

Girmay. The first challenge was that the ICT skills of the students were surprisingly weak:

“Generally, lack of computer skills is a big problem as it makes the users slower to learn about and use the software.” This has been addressed in semester two by setting up optional classes in computer skills. This is an excellent example of a challenge being turned into an opportunity; not only do students have new and effective tools for learning English, the tools themselves are motivating them to improve their general ICT abilities.

The next challenge is common to self access centres the world over: a lack of focus on the part of students. They come to the computer room, look at the resources available, and are unable to make informed decisions about the most productive way of spending their time. In Aksum this was solved by setting up “one Clarity training afternoon each week where the centre is manned by one or two staff members who give advice on appropriate programs and levels for individual users.”

The final significant problem is technical. Students come into the centre with their flash drives, perhaps to work on a Word document, and infect the computers with viruses. This problem is common to all institutions worldwide which do not have a sophisticated network support team – Clarity has seen it in Sri Lanka, Libya, Thailand and elsewhere – and it has the potential to bring the whole system grinding to a halt. However, in Aksum a solution was quickly found and implemented through a tool called Deep Freeze,<sup>8</sup> costing around US\$47 for ten stations. Deep Freeze takes an image of the hard disk and restores it on a daily basis, so any viruses that have infected the system by day are eliminated overnight, ensuring that downtime is kept to a minimum.

Let’s turn to the benefits. The project leaders have identified two categories: general

educational and class management benefits, and those specifically related to language. The three most important general educational benefits include exam skills, listening skills and enhanced language accuracy.

The project leaders identified a noticeable increase in motivation, stating that, “The software motivates learners to spend more time learning English.” There is a wealth of literature testifying to the positive effects of ICT on student motivation. To give just one citation, a World Bank report conducted by Infodev found that, “There appears to be general consensus that both teachers and students feel ICT use greatly contributes to student motivation for learning.”<sup>9</sup>

Secondly, “The software enables differentiation within a group. This is invaluable in the Aksum context where there is a very wide ability range in groups.” Students are able to work on the software at their own pace, with more able learners completing set tasks and moving on to other interactive activities. Because of the way the software is designed, as they work they continue to receive feedback on their answers, independently of the teacher. This enables instructors to spend more time with less able learners, helping to bring them up to the level of the rest of the group.

A Third finding is that, “The software has proved a vital resource as the university is very limited in paper resources.” Provided there is electricity, ICT activities can be used again and again, reducing costs and eliminating the need for photocopying – or even books. It’s worth noting in passing that other institutions in the region are considering putting their learning materials online for this very reason.

Turning to the language benefits, the project leaders found, *inter alia*, that, “Road to IELTS is the most popular program in helping preparation

<sup>7</sup> These statements are all from reports written by Cathy Newman and Tsegay Girmay.

<sup>8</sup> <http://www.faronics.com/en/Products/DeepFreeze/DeepFreezeCorporate.aspx>

<sup>9</sup> <http://www.infodev.org/en/Publication.154.html>

# Using Clarity programs

## A report on ICT integration in a poorly-resourced institution

and motivating them to take the test.” This product, developed by the British Council and Clarity, is especially useful in demystifying what can be quite an intimidating test for students based in a rural part of Ethiopia. The Speaking section of the program, for example, includes videos of the Speaking test, enabling students to see exactly what kind of setup they will be facing, and providing practice activities to help them prepare.

In terms of specific language skills, “The opportunity for listening is particularly valued and perceived in providing significant improvements in learners’ listening skills.” In Aksum, opportunities to interact with native speakers are limited, and access to authentic listening materials is restricted to websites such as CNN or the BBC which are useful only for more advanced learners. The learning resources provide graded audio at all levels from Elementary to Advanced with the added advantage that learners have control and can listen again and again. Finally, because of the motivational aspects of the software, students are prepared to spend more time addressing language accuracy. Grammar from a book is often perceived to be pretty dull stuff, but transfer it to an interactive multimedia format and it suddenly becomes appealing: “Tense Buster has enabled them to address gaps in their grammatical knowledge. They find the instant feedback particularly useful.”

It’s early days in this project, but initial findings are particularly encouraging, and the project is looking forward to phase two. This will involve migrating the materials online. The technology is not yet there to implement this – it is estimated that only about 5% of students have access to the Internet outside the university<sup>10</sup> – but an online solution will be in many ways superior.

The problem of viruses will be largely eliminated, students will have access to the resources 24 hours a day, whenever they can get onto a computer, and the cost will be brought down even further. Online access to Road to IELTS for a student for an entire year, for example, costs as little as \$6, the price of two packets of cigarettes. However, it is important to note that in keeping with the bottom-up approach of the project, migration online will not occur until local capacity allows.

The online approach illustrates how projects such as this one can become self-funding. As each student is set up with their own account, they pay an affordable charge on an annual basis. Where the number of students is sufficiently high – and this will be thousands rather than tens of thousands – the revenue generated pays not just for the resource, but also for the training visits, so that the university can reach a point where it has no financial outlay at all. And as the money comes from the students, it is not subject to the uncertainties of institutional budgets. The whole system therefore becomes sustainable.

The bottom-up approach delivers much more for much less; and what it delivers is much more likely to be both appropriate and sustainable for end-users. It relies on local infrastructure and local expertise, and provides a useful model for the integration of ICT materials – not just for English but for all subjects – as technology is increasingly adopted across the region. As Melkamu Hailu said, “Software should be available not just at university, but also students at secondary school should have the opportunity to use it.” The success of the project at Aksum shows this to be more than a dream: if the will is there, it is a practical and achievable aspiration. ■

<sup>10</sup> Figures from Mekele University, northern Ethiopia



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