PAPER 5

# International lessons for the digital age

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| Author | Paul Breen |
| Address for correspondence | University of Greenwich |
| | Humanities Department |
| | King William Building |
| | Old Royal Naval College |
| | Park Row |
| | Greenwich SE10 |
| | paulbbreen@hotmail.com |

## Abstract

*Some commentators hold the view that the digital divide is a problem largely caused by lack of access to appropriate technologies which, when overcome, will act as a virtual panacea for many interlinked ills. Yet, others see this as far too simplistic an analysis in the search for radical solutions in a world of such extreme social inequality and global inequity.*

*This paper will argue for a bottom-up rather than a top-down approach to finding those solutions, advocating a greater amount of needs-based work in this field, getting to the root of the problem by taking into account the particular set of conditions within each situation or case study. At the same time it will strive to create a more harmonious world view where each small scale project is seen as part of a network searching for broader solutions rather than an end product in themselves.*

*In order to provide a framework for this argument, and support theories with informed practice, a case study of a teacher training project delivered to Rwandan students, through the medium of the English language and new technologies, will be used as an example of what has been achieved so far in the field of online learning, and what lessons could be learned for the future. The paper shall also argue for greater involvement on the part of British universities, so that voyages into this multidimensional terrain, widely explored but largely uncharted, remain more pedagogic than economic.*

## Introduction

Within both the academic and business worlds, and indeed further beyond into media and popular culture, there is a belief that one of the most pressing issues that needs to be addressed is a resolution to the growing problem of a technological gap between the developed and developing worlds, and between the rich and poor within developed societies themselves. This belief can be traced back to the turn of the century, and found in references, not just in academia but also politics. Such instances include a speech by former United Nations Secretary General Kofi Annan to the Millennium Assembly in 1999 when he spoke of "a yawning digital divide" between developed countries, such as Japan and the US, and their less developed counterparts in Africa. He exemplified this by pointing out that at this time there were "more computers in the USA than in the rest of the world combined and more telephones in Tokyo alone than in the whole of Africa" (1999), the perception being that access would be the best means of bridging the developmental gap.

Others such as Brenda Gourley (2004), speaking about the particular context of Africa, argued that there is "no simple solution (technology) to a complex problem." Mark Warschauer (2003), in earlier writings about technology and social inclusion, had argued that the very notion of a digital divide is somewhat oversimplified, and that knowledge is an

equally important component in the battle to bridge not just the digital divide but also concurrent and interlinked divides in such areas as income, opportunity, and information. As a means of highlighting this from a global perspective he uses case studies from across the world, similar to those found in the work of Keniston (2001), and the aforementioned Gourley (2004). The latter author offers an excellent example from the work of Lumbreras & Sanchez (1998) where new technologies, if exploited effectively, can offer light in the darkness to those who may have been previously marginalised from society. This scenario was of teachers working in Chile on a project called *Hyperstories* which "exposes blind children to a learning methodology that uses 3D sound interactive software to help them construct cognitive structures that represents their surrounding space" and aims to move the participants from darkness to what they describe as "aural vision" (2004).

Through this example, described by its creators (1998) as one that "opens a path for disadvantaged blind children to enjoy the benefits made possible by the new technologies", it is easier to readily envision how, if the affordances of technology can be exploited to overcome blindness, the same tools can be used to close the lips of Annan's (1999) "yawning" divide. Yet this project did not work with such effectiveness on the merits of technology alone, but rather found its success in allowing participants to engage with it in a meaningful and beneficial manner, as envisioned by Warschauer (2003). Common sense should dictate that there is no point in facilitating ease of access to technology, which could be defined as *process*, if there is no tangible *product* at the end of that facilitation.

From past initiatives designed to aid developing societies, it is clear that exercises which were either cosmetic or enforced, or sometimes both, were often more damaging than doing nothing at all. This idea was voiced by South African MP Kader Asmal in a speech at the All-Africa Ministers' Conference on Open Learning and Distance Education where he spoke of Africa having been scarred by a history of being used as "a laboratory for educational experiments for external agencies". This distrust, according to Taylor (1995), citing the earlier work of Nyerere (1968), stems back to the mistakes of the colonial age, with the imposition of educational systems which replicated the British model and were "based on the assumption of a colonialist and capitalist mankind" instead of the native race's "cooperative instincts" (1968).

Clearly then, the developing world does not see itself as a mannequin to be dressed in western charity clothes. Africa, and other regions of the world where there are developing societies, needs something more substantial than mere access in order to bridge the gap because as Asmal (2004) stated, "technology is not a panacea for the challenges that confront education and training on the African continent." He further warned that Africans must guard against the "uncritical introduction and adoption of distance education and the associated new technologies" (ibid), echoing the views of western thinkers such as Thorpe who declares that projects are not "necessarily collaborative or constructivist purely on the basis of using new technologies" (2002:107).

Collaboration is the key term here because, as argued by Taylor (1995), it was without any form of mutual partnership that the great age-old African tradition of cooperative learning *(which is ironically now very much in fashion throughout the western world)* was almost irreparably destroyed by the influence of missionary and colonial education. He asserts that this is the dominant reason for the current discrepancy that exists "between African culture, which may be seen as defining some form of cooperative learning, and the present school culture" in place there (1995:240).

Perhaps from this it is possible to surmise that one other important area that needs to be addressed is the actual 'ownership' of education as such and the 'ownership' of the new technologies that are the tools of this digital age, at the heart of which there is such a yawning divide not just of access but also of information. It raises the pertinent question of whether those who have the tools also have the right to decide in what way they should be

shared, and whether or not the new technologies could be used as weapons to police dissent within the developing world by placing preconditions upon that dispersal of access.

The word 'divide' itself has colonial echoes, and crosses too wide a spectrum to be condensed into a singular source of division, as expressed on the website of the organisation Third World Majority. Here, the digital divide is portrayed as "a continuance of already existing divides of race, class, and gender disparities that are firmly institutionalised in the U.S. and other Western nations rather than a new and isolated phenomenon" (2002). This challenges the myth of living in a new world/new age of technology where the past and such matters as ethnic, economic, and class differences can be forgotten under the encompassing net of modern technology. On the contrary, only by accepting and acknowledging the real depth of division in the world today, largely caused by the mistakes and inequities of the past, can society move forward in global equilibrium.

## Putting theory into practice

As an example of a society in desperate need of progress from a colonial and dismembered past to a harmonious future, there are few places that could compare with Rwanda. Fittingly, in the context of the argument in this paper, the present government there believes that the best means of progress is through the utilisation of new technologies to empower its people with knowledge, because it was the manipulation of ignorance through propaganda that fuelled the civil conflict of the middle nineties as explained in de Swaan's (2002) essay on the social construction of hatred.

On the basis of this desire to engage with new technologies and new ideas, an Italian university set out to build an online bridge of equal partnership between Rome and Rwanda, whereby a teacher training programme was designed and delivered to a group of African students. The pre-stated objective was that this course would then be replicated by the latter in the future, without the need for any further intervention from the westerners. This cross continent initiative bore the name *Twese Hamwe*, which translates as 'all together', a clever play on words that were used as a source of division during the civil war. It took as its motto the words of the Taoist philosopher Lao Tzu *(to give a man a fish, you feed him for a day, but if you teach a man to fish, you feed him for a lifetime)*, and adopted the latter part to "give someone the Net, you feed them…"

The net that connected Rome and Rwanda in the Twese Hamwe project was the World Wide Web and the use of contemporary online cooperative learning methodology and materials to deliver a training course for teacher trainers. These trainees, who were being prepared for the autonomous replication of this same course in the future, were Rwandan students, a mix of genders and ranging in age from middle twenties to late thirties, all of whom had lived through the civil strife.

Although it was a small scale independent project, administered by students and staff of the Italian university, it serves as an example of what can be achieved through the medium of new technologies and how the lessons learned from such projects can be beneficial if they engender a foundation for collaboration and replication rather than being an end result in themselves, a condition which Davis (2004) defines as being "doomed to succeed." This often comes from a false sense of accomplishment in having "re-invented the online learning wheel" (ibid), as echoed by Keniston's (2001) analysis of the Indian context where pilot projects are plentiful, in the field of new technology, but rarely form part of any larger, interconnected plan with a longer term vision.

Perhaps many of these projects start out with noble objectives, like sailors of old embarking on new voyages of discovery, but some end up as trophies on the mantelpiece rather than forming a positive contribution to the uncharted waters of this field. From the outset the theoretical motives of the Hamwe project were pedagogic rather than financial or culturally

imperialistic, and were steered by a desire to research and prove the effectiveness of social constructivism and the blended learning approach.

A fuller definition of the online and blended learning approaches used by the project can be found in Breen (2007), but basically the project was taught partly in real time, by Rwandan lecturers based in their home university, and Italian tutors delivering tutorial-style instruction through the medium of a Virtual Learning Environment, which in this case was MOODLE. Two factors made this delivery easier, firstly the fact that the tutors were working voluntarily, and secondly that all of the trainees had prior experience of using computers and thus were able to "participate equally and fully in the learning experience" (Davis, 2004).

It is important to remember that ease of access is not just limited to physical concerns. There are two other key issues connected to it. The first is economics because it is important to balance the costs of access with the provision of a quality learning experience; a recurring issue not just in the field of online education, but also in the regular version. Butcher (2004) has written about how ideological arguments are usually made for the benefits of distance education but very often this is not supported by financial evidence that it works. If, however, it can be proven to be cost effective then there are clear benefits to be had (2004).

The second issue related to access in the online context is that of motivation, as highlighted in Salmon (2000), in the sense that if the external stimulus is inappropriate the students will not be motivated to use a learning platform that is almost wholly reliant on their autonomous participation in its activities and benefits.

This issue of motivation has also been raised by voices within the particular African context, such as Annan (1999), Asmal (2004), and Gourley (2004) who all see a common western hegemony in the design of learning materials as being de-motivational for non-western students, especially those who may view it as another form of colonisation, through the imposition of foreign ideas by means of a new medium. Organisations such as Third World Majority have also voiced these concerns, not just in the context of developing societies, but also within developed societies such as the United States where, for example, marginalised groups have no meaningful control over the content of the Internet.

 A key point of this is that a bridge across the digital divide does not just mean shipping knowledge from the side of the 'haves' across the water to the 'have-nots'. If developing societies and marginalised groups are to have any meaningful access to digital sources of information then there is going to have to be a process of meeting them half way and making them partners in the flow of information. They need to have a share in the content of information, or the mistakes of the past will simply be made all over again, and the marginalised left just as voiceless as before.

This was why Twese Hamwe stated one of its key aims as being the desire "to set up a shared virtual library to smooth and reduce the barriers (economic, geographical, and technological) to knowledge access for students and lecturers of both universities." The key feature of this is that the language and the associated actions suggest collaboration rather than the imposition of knowledge by the strong on the weaker half of the partnership. This should serve as an example of what is needed in the digital age to rectify the gulf that has opened between those who have full access to the benefits of new technologies and those who appear to have been left trailing in their wake like clipper ships behind cruise liners.

In past times developed societies sent fleets off on great expeditions to colonise, convert, educate, or pacify less developed societies in foreign climes. Traces of that period still remain today, in both positive and negative forms, but there are two particular lessons that this era can offer the digital age. The first is that the greatest resource which can be exploited by new technologies is the platform they offer for free and rapid exchange and interaction of ideas, on an educational level, in the manner of what Scardemalia and Bereiter (1996) describe as "the potential not just for the co-construction of knowledge but

also for the collectivisation of knowledge." The second is the role that a society such as Britain could play in all of this, since history and language have placed it in a unique position in the world. As Tony Blair said in 2002, "what we do with information technology and how we use it, will determine our success industrially and as a society for years to come", adding that Britain must strive to "build an economy based on knowledge, on the alliance between technology and human capital."

Universities should be at the forefront of this knowledge-building process. Firstly there should be more courses geared towards the needs of the digital age, marrying pedagogy with productivity, and new courses developed to meet the traditional expectations of employers whilst also appealing to young people who have grown up in this digital age. Above all, they should strive towards running the type of economical organisations that theoreticians such as Blair might envision whilst simultaneously leaving room for projects such as Twese Hamwe that are both innovative and financially self-sustaining.

## Analysis of course design

Davis (2004) writes that "building the infrastructure for online learning requires that many factors be considered, so it is difficult to provide a straightforward checklist or recipe to follow." He goes on to quote Lu (2002), writing about gases, who says that "scientists often classify systems as 'ideal' versus 'non-ideal', (more commonly understood as 'real' and "if we apply this concept we can define the ideal and then look at the deviations from ideality that manifest themselves in the real." As the aforementioned Tony Blair may well understand, it is easy to say what may or should be done in an ideal world but it is often more difficult to put those fine ideals into practice on the ground. Others such as Keniston (2001) might well argue that this very obsession with the search for an 'ideal' is what hinders many of these projects from reaching their full potential, by being inhibited in their approach to 'real' analysis.

In order to examine the lessons that projects such as Twese Hamwe can offer to British universities, it was necessary to first establish a framework for course analysis. After careful consideration the framework chosen was that espoused by Moore (1995) at *The Third Distance Education Research Symposium Conference* in which a group of researchers were asked to consider "the effect of research on improving the quality of distance education practice." In their framework for analysis they developed four key areas which were course design; instruction; policy and administration; and learners and learning. Although this paper is focused on 'digital' rather than distance education, this framework can be adapted to meet the needs of the present discussion.

Looking at the first key area of course design, the creators of the Twese Hamwe project wanted a flexible platform which allowed teachers to put a wide range of materials online, including lesson notes, PowerPoint presentations, discussion forums, and bulletin boards. In this way it could serve as a forum for interactivity for both students and teachers and allow students to work at the course in their own time and pace.

The 'ideal' format which the programme followed was a generic framework shaped around the basic principles of Salmon's (2000) five step pyramid for developing online educational courses through the medium of Computer Mediated Communication, as detailed in Appendix One. This was then adapted to fit the principles of a social-constructivist model of learning, which basically holds the belief that knowledge is best constructed through social activities, those activities in this case being conducted through a Virtual Learning Environment. Further details of this are available in Breen (2006a) and Breen (2007).

This course was designed to run for thirty five weeks, for a total of approximately two hundred and ten hours. This was broken down into three hours per week of formal academic training in the classroom, provided by lecturers from the Rwandan university, and then one hundred and five hours of more flexible, self-paced online training managed from

a distance by the tutors from the Italian university. In the formal, classroom based lessons the lecturers explained theoretical and methodological aspects of the course whilst online activities, supported by the project's learning platform, provided deeper insight into those theories explained during formal class work and provided for interaction and collaboration amongst participants.

As this course progressed, there was ease of outside access to both student and tutor records of its progress which made it easier to conduct qualitative and quantitative research of its results. This fitted in with Davis's (2004) assertion that "ideally, the development of an e-learning system should include a plan for the independent evaluation of all aspects of the system and especially of the degree to which it enables or enhances the achievement of the stated learning outcomes."

The first area of research that was conducted was in student attitudes to course design, asking three straightforward questions, with the responses collated in the unpublished dissertation (Breen, 2006), samples of which are included in Appendix Two. The three questions asked were:

1   What do you like about the online learning platform?
2   What do you dislike about the online learning platform?
3   What do you find difficult about the platform?

Although answers were not compulsory and only nine out of fifteen trainees responded, the responses provided a valuable insight into areas of consideration for course designers of courses and materials in this field. It is clearly vital to create a sense of belonging to a community of learners, in order to establish a space in which students can deliver their skills in the areas of critical thinking and expression of their own opinions.

Responses also show that it is essential to have ease of access, for students, and to avoid information overload. It is important that good content is not drowned out in a sludge of inaccessibility, poor graphics, and useless information. It is also important that the voice of students is listened to, that there is an open forum for discussion and partnership, that the tutors are not just critics but also facilitators of new ideas, perhaps even incorporating student participation, which can be easily monitored in Virtual Learning Environments, into more traditional modes of assessment.

As mentioned earlier, access is not simply about physical usage. In the same manner as Blair (2002) argues that giving someone a PC alone does not make them productive, the act of simply providing students with a set of learning materials on a Virtual Learning Environment does not provide them with the opportunity to become constructive learners and participants. They must also become actively engaged in the management of their own learning process. By fostering this type of engagement, colleges and universities can maximise the affordances of the digital age, reduce time spent physically in the classroom, integrate themselves with the twenty-four-seven era of education, and offer new opportunities for engagement to students on a part-time or distance basis. There is a great sea of possibility out there that is not being fully explored at present, not just on foreign shores, but also within reach here in the British Isles.

## Sharing thoughts of the tutors

Having looked at the attitude of students to this online learning project, the next step was to examine the opinions of those at the wheel of the learning platform, as such, namely the Italians who were tutoring the Rwandans from a distance. Therefore, a set of Likert survey questions were formulated, adapted from the standard model of measuring attitudes to one that demanded more detailed statements. The questions that were posed to the tutors concentrated on issues related to the teaching of the course, its level of interactivity, the access, the pacing, and the cost effectiveness. Fuller details of the questions can be found

in Appendix Three, followed by a statistical interpretation of results in Appendix Four, and in Breen (2006), but for the purposes of this paper, a summary here should suffice.

The responses showed that there were three particular points within this survey which met with very strong agreement in the eyes of most tutors. The first two were related to the areas of enjoying teaching on the course; and an acceptance that online socialisation (building an online community) is crucial to determining the eventual progress and development of the course. This echoes the student views in Appendix Two and such thinkers as Salmon (2000), Collis and Moonen (2001), and White (2003), but a very interesting slant on this issue came from one of the tutors who spoke about socialisation being a three stage process composed of student socialisation with the platform, student interaction with other students, and simultaneously student interaction with the tutors. The first of the three components is most interesting in terms of the discussion about access because it really encapsulates that idea of the online platform as an interactive force, almost a living, breathing, heaving sea, in which students play around with Lao Zhu's metaphorical net.

Perhaps most crucially, in the light of winning the economic argument for distance education in the digital age, the third area of agreement was that projects such as Twese Hamwe are a cost effective means of providing teacher education in developing countries. As stated in Butcher (2004), the case for using new technologies and digital education to cross the divide between developed countries and their less developed counterparts will only be convincing, for such sceptics as Asmal (2004), when the economic benefits are proven and visible for all to see. This further supports Keniston's (2001) recommendation that these projects should be transparent and the lessons learned from them shared freely amongst others in the field. This must not only be done in the African context but also here in Britain, where it would be interesting to see what tutors feel about the blended learning approach and the usage of more online learning materials as a way of making courses accessible to a greater range of students. One fact that clearly emerged from the Twese Hamwe experience is that there must be a monitoring system built into the VLE, which there was in this case, so that the efforts of students are recorded and the material is online for practical rather than cosmetic purposes.

## Policy and administration

Returning to the economic argument, which appears to be the cornerstone of many projects in the contemporary educational world, this case study serves as an example of what can be achieved with online courses at relatively little cost, should issues of administration be kept to a minimum. The figures in Appendix Five provide details of the financial outlay of the Twese Hamwe project and show that the total budget of the project was thirty nine thousand euros. Of course this was largely helped by the fact that sixteen thousand euros were raised through sponsorship and the work of the tutors was voluntary. Still, it is something of an achievement to run a fifteen week course, spanning two continents, on this level of budget. Furthermore, since the course was specifically designed for replication in the future and much of the costs were accumulated at the commencement stage, there appears to be a strong argument in favour of online education that is properly managed and designed with long term goals in mind.

In terms of policy, returning to the earlier concerns of those in the African and online educational milieus, and to tutor responses in Appendix Three and Four, it is vital that these projects are driven by pedagogic rather than economic concerns. Thus the question that has to be asked is whether or not such online courses actually work as a means of meeting the standard dictionary definition of what education is supposed to do.

Indeed, this is a question that has been posed throughout much of the literature, with the underlying assumption being that the classroom based educational experience provides the yardstick to which its online mirror image should aspire. However, with specific reference to

the third statement in the Likert survey, one of the tutors did not agree that students had learnt *as much* from this blended learning course as in a traditional classroom based teacher training course. Upon clarifying this response with an interview, (which perhaps highlights the weakness of Likert surveys as a stand alone research tool) it transpired that the respondent actually believed students can learn *more* in an online or blended learning domain because, in keeping with constructivist theories, there is greater demand on them to engage in their own learning process.

## Conclusion

In the shift towards a conclusion of this paper it may appear that a shortcut has been taken and one vital link in Moore's (1995) framework has been abandoned, that of learners and learning. On the contrary, learning is the frame around which the conclusion has been built and the vessel in which we must all move forward, with constructive interaction, on the great wave of educational opportunities afforded by the digital age.

We are all learners in this new age, from the students we teach, and the societies we assist, to teachers themselves who, in the words of Yates (2004) are "gatekeepers of culture and guardians of democracy" in this era when individual identities often seem to get lost in the great rush towards globalisation. Being a learner in this age, though, is different to the past. This is an age where both learners and tutors, recipients and creators, need to work in the kind of partnership that made the Twese Hamwe project so successful in building a foundation for the future.

On the surface, one small project may not seem to offer much to a huge debate, where more expansive answers are currently being sought, but this is possibly the mistake that has been made in the search for a solution to the problem of the digital divide. The age of grand crusades to impart knowledge from the top down should have died a long time ago, and given way to a more simple approach where small scale projects and the voices of marginalised communities are brought together on a flatter plain of partnership than was offered by the hierarchical models of the past.

This paper is not laying claim to the uncritical success of this project in Rwanda and nor is it elevating it to the status of a trophy on the mantelpiece. It has simply shown an example of what can be implemented and achieved with new technologies, and how the knowledge gained from such small scale projects can be put to broader use in the field of online learning, if people pool their knowledge, learn from their mistakes, and create clear blueprints for the future, dictated by pedagogic rather than purely economic principles.

Giving people access to technology is not enough on its own. That alone shall not empower those who are currently alienated, marginalised, disaffected, computer-illiterate, or under-utilising the power of new technology to educate themselves or in the case of teachers, to educate their students in a more engaging and interactive manner. Users, and not just creators of digital education resources, also need access to a form of partnership that in all cases does not have to be or indeed cannot be a partnership of equals, but rather a partnership that means having the right to have their voices heard.

Access then is the key to opening doors to an era when there is less of a digital divide, both at home and abroad, remembering that it is not access to machines alone that will make the world a better place in the twenty first century. Rather, as suggested by such thinkers as Warschauer (2003), there must be equilibrium of access to knowledge, education, opportunity, creation, and employment. Only then can there be a true achievement of the task of giving people a net to feed from the seas of knowledge for a lifetime.

## Appendix one

In Salmon's work the five stages of development are sometimes illustrated in the form of a pyramid but I have detailed them in tabular form in the diagram below.

| Stage | Features |
|---|---|
| (1) Access and motivation. | Getting used to the computer interface and becoming familiar with the technology and courseware. Individual access and ability to use CMC is essential for participation. |
| (2) Online socialisation. | Participants establish their online identities and find others with whom to interact, namely the other teacher trainers in the Twese Hamwe project. |
| (3) Information exchange. | Participants contribute course-related information with tutors acting as guides and catalysts for discussion. |
| (4) Knowledge construction. | Course related group discussions occur and the interaction becomes collaborative – participants move towards a stage of working amongst themselves rather than relying on the tutors for guidance. |
| (5) Development. | Participants look to more benefits from the system to help them achieve their personal goals, explore how to integrate CMC into other forms of learning and reflect on the learning process. |

Adapted from White's (2003:57) summary of Salmon's (2000) framework.

# Appendix two

## Student responses to online evaluation

| Students | Answer one | Answer two | Answer three |
|---|---|---|---|
| Student 1 (male) | Meeting other people online, sending and receiving messages from other participants. Seeing pictures of other participants. | Enjoys all things on the platform and the organisation of the platform but sometimes meets with network problems. | Nothing is difficult apart from sometimes accessing the Virtual Library and examining extra course details on the platform. |
| Student 2 (male) | Collaborating with other people, being trained on the platform, sending and receiving messages from the teachers. | Direct quote: "According to me, everything goes the proper way. I hate nothing." | Using the synchronous chatting function is the one thing that causes him some difficulty. |
| Student 3 (male) | Meeting other people online. The ease of sending messages. Finding course notes on the platform. Direct quote: "I like everything on it." | Direct quote: "I like everything on it." | Direct quote: "I have a problem of using the chat properly." |
| Student 4 (female) | Communicating online with all members of the Twese Hamwe project. Checking the library and finding information. | Nothing. | Entering the platform sometimes and also some problems with username and password for library access. |

| Student 5 (female) | Direct quote: "On the platform I have many things that I can say. For instance on the platform I like to find many people, find the thoughts of several people, know people who visited the platform so you can ask help from them. | Direct quote: "On the platform something which I do not like is that when I go on it I do not find immediately the connection." | Direct quote: "Something that I find difficult very difficult on the platform is that on it, it is not easy for everyone to go and visit the library." |

# Appendix three

## The Likert Survey Statements

1 You have enjoyed the experience of teaching on this course and as a result this course has been good for your own professional development.
2 At the beginning the tutors and students in the developing country (Rwanda) were as comfortable with the technology and the methodology used as the tutors in the developed country (Italy).
3 Students have learnt as much from this course as in a traditional classroom based teacher training course.
4 Students have participated actively in the interactive (information exchange) parts of the course i.e. bulletin boards, forum, online café, etc.
5 Students have been able to understand the different stages of the course and this has allowed it to progress at an appropriate speed.
6 More time could have been spent on the introductory phase of online socialisation.
7 Students have been comfortable with the use of Moodle as a learning platform.
8 The online socialisation phase is crucial to determining the eventual progress and development of the course.
9 At the end of this course the trainees will be able to transfer the training model to other courses inside and outside the Rwandan university with minimal guidance from the tutors in Rome.
10 Projects such as Twese Hamwe are a cost effective means of providing teacher education in developing countries.

# Appendix four

Responses to the Likert Survey Statements of Appendix Three.

| Name of respondent | Q.1 | Q.2 | Q.3 | Q.4 | Q.5 | Q.6 | Q.7 | Q.8 | Q.9 | Q.10 |
|---|---|---|---|---|---|---|---|---|---|---|
| Tutor A | 5 | 1 | 1* | 3 | 3 | 1 | 3 | 5 | 5 | 5 |
| Tutor B | 4 | 3 | 2 | 2 | 2 | 2 | 3 | 5 | 4 | 5 |
| Tutor C | 4 | 2 | 3 | 3 | 3 | 3 | 3 | 4 | 4 | 4 |
| Tutor D | 5 | 3 | 4 | 4 | 4 | 2 | 4 | 5 | 4 | 5 |
| Tutor E | 4 | 2 | 2 | 3 | 2 | 3 | 3 | 5 | 3 | 4 |
| **Total** | **22** | **11** | **12** | **15** | **14** | **13** | **16** | **24** | **20** | **23** |
| **Mean figure** | **4.4** | **2.2** | **2.4** | **3** | **2.8** | **2.6** | **3.2** | **4.8** | **4** | **4.6** |

Key: 5 = Strong Agreement. 4 = Agreement. 3 = In the middle. 2 = Disagreement. 1 = Strong disagreement.

N.B. Tutor A, in response to question three, felt the need to add the following comment as a footnote: "They have learnt more, how to collaborate, how to share knowledge and how to experiment with new ways of attending lessons and studying."

# Appendix five

## Financial results of the Project

| Breakdown of costs | Cost | Summary of the fundraising |
|---|---|---|
| Professional costs Italian university (Conception/inception stage) | € 14.300.00 | Project self-financing |
| Professional costs of Italian university (Project Management in the phase of implementation – 5 months) | € 4.000.00 | Project self-financing |
| Professional costs Italian university (Coordination – twelve month analysis of the impact and effectiveness of the project) | € 5.000.00 | Project self-financing |
| Reimbursement costs for three lecturers from the University of Kibungo (1.800 euros total – 100 euros per month for a total of 18 months) | € 5.400.00 | Sponsorship by Faculty of Science of Communications, Italian university |
| Study bursary for 20 students of the University of Kibungo (340 euros total – 20 euros per month for a total of 17 months): | € 6.800.00 | Sponsorship |
| Cost of equipment for the University of Kibungo (Video projector; PC portable etc) | € 4.025.00 | Faculty of Science of Communications, Italian university |
| **Total budget of the project** **Total sponsorship** | **€ 39.525.00** **€ 16.225.00** | |

# References

**Annan, K**. (1999). Speech given to the Millennium Assembly, 1999. In Gourley, Brenda. (2004). *'The Digital Divide: Solution or Problem.'* Paper Presented at the All Africa Ministers Conference on Distance Education, 2004.

**Asmal, K.** (2004). *Prospects, Possibilities and Perils: Distance education's response to Africa's development needs.* Paper Presented at the *2004 All Africa Ministers Conference on Distance Education*, Cape Town, South Africa. Retrieved November 8, 2007 from: www.polity.org.za/article.php?a_id=46293

**Blair, T.** (2002). Prime Minister's Keynote Speech to e-Summit. Paper presented at the e-summit, London, 19–20 November 2002. .

**Breen, P.** (2007). Lessons from an International e-Learning Project. *The International Review of Research in Open and Distance Learning, 8* (3).

**Breen, P.** (2006a). Coming out of the darkness of the past. *Turkish Online Journal of Distance Education, 7*(4).

**Breen, P.** (2006). *Drilling Through the Digital Divide.* Unpublished Master's thesis, University of Manchester, Manchester.

**Butcher, N.** (2004). *Financing Distance Education Programmes in African Education: A guide for sound investment.* Paper presented at the *2004 All-Africa Minister's Conference on Open Learning and Distance Educatio*n, Cape Town, South Africa.

**Collis, B., & Moonen, J**. (2001). *Flexible learning in the digital age.* London: Kogan Page.

**Davis, A.** (2004).*Developing an infrastructure for online learning.* T. Anderson & F. Elloumi (Eds.), Theory and Practice of Online Learning. Athabasca, AB: AUPress. Retrieved April 7, 2007 from: cde.athabascau.ca/online_book/ch4.html

**De Swaan, A**. (2002). Widening Circles of Disidentification. On the Psycho- and Sociogenesis of the Hatred of Distant Strangers. Reflections on Rwanda. *Theory, Culture & Society, 14*(2), pp. 105–122.

**Gourley, B.** (2004). 'The Digital Divide: Solution or problem.' Paper presented at the 2004 All Africa Ministers Conference on Distance Education. Cape Town, South Africa.

**Keniston, K.** (2001, December). *IT for the Common Man: Lessons from India, MN Srinivas Memorial Lecture.* Bangalore : National Institute of Advanced Studies, India Institute of Science. [MIT published as a working paper in 2002].

**Lumbreras, M. and Sanchez, J.** (1998). '*3D aural interactive hyperstories for blind children'* From Proceedings of the 2nd European Conference on Disability, Virtual Reality and Associated Technologies, Skovde, Sweden, 1998.

**Moore, G. M.** (1995). Editorial: The 1995 Distance Education Research Symposium: A Research Agenda. *The American Journal of Distance Education, 9*(2). 1- 6.

**Salmon, G.** (2000). *E-moderating: The key to teaching and learning online.* London: Kogan Page.

**Salmon, G**. (1998). *Developing learning through effective online moderation. Active Learning 9*, 3–8.

**Scardemelia, M. and Bereiter, C.** (1996). *'Adaptation and Understanding: A Case for New Cultures of Schooling.'* In Vosniadon, S.; De Corte, E; Glaser, R; and Mandl, H. (eds.). International Perspectives on the Design of Technology Supported Learning Environments. New Jersey: Lawrence Erlbaum Associates.

**Taylor, C.** (1995). Cooperative learning in an African context. *International Journal of Educational Research, 23*(3), 239–252.

**Third World Majority.** (2002). *The Digital Divide.* Retrieved 20/02/08 from www.cultureisaweapon.org/digitaldivide/mainframe.php

**Thorpe, M.** (2002). 'Rethinking Learner Support: the Challenge of On-line Learning.' *Open Learning 17 (2)*, pp. 105 -120

**Warschauer, M**. (2003). *Technology and social inclusion: Rethinking the digital divide.* Cambridge, MA: MIT Press.

**White, C.** (2003). *Language learning in distance education.* Cambridge: Cambridge University Press.

**Yates, C.** (2004). *Teacher Education at a Distance: Lessons and experience from Sub-Saharan Africa.* Paper presented at the All-Africa Minister's Conference on Open Learning and Distance Education, 2004.