ICT on the Margins: Lessons for Ugandan Education

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In this end piece, we argue that while this special issue shifts debates on the digital divide to address students' capacity to use Information and Communication Technologies (ICT) for productive social purposes, access to ICT remains a major challenge in countries like Uganda, in which less than 1% of the population has access to the Internet. However, since the case studies address marginalised communities in Australia, Brazil, Greece and South Africa, the findings have relevance to Uganda and other developing countries. Five lessons, in particular, are important for curriculum planning and policy development in Uganda: the need to collect empirical data on ICT access and use; the importance of recognising local differences across rural and urban communities, male and female students; the need to promote professional development of teachers so that they can make effective use of ICT in classrooms; the importance of integrating in and out-of-school digital literacy practices; and the need to consider how global software can best be adapted for local use. We conclude that if ICT is to play its part in achieving Education for All by 2015, there is an urgent need for collaborative partnerships between a wide range of stakeholders at both the local and global level.

The Dakar 2000 demand for Education for All by 2015 is based on the premise that education is a human right that enables people to improve their lives and transform their societies (UNESCO, 2000: 8), a process that is enhanced by engagement with technology and the Internet (Burbules & Torres, 2000; Stromquist, 2002). To this end, the United Nations' Millennium Development Goals (MDGs) of 2000 call for global partnerships that make available the benefits of new technologies, particularly Information and Communication Technologies (ICT). Given this broader context, it was intriguing to read the articles in this special issue from the policy and practice context of Uganda, a country in East Africa described by the United Nations as one of the 50 'least developed' countries in the world (UNDESA, 2006). While we are sympathetic to the Editors' wish to shift debates on the digital divide from a focus on availability of ICT to greater emphasis on people's capacity to use ICT in productive social practices, access to technology resources remains a major challenge in countries like Uganda. A United Nations 2006 report notes, for example, that while 14% of the world's population was using the Internet by 2004, over half the population in developed regions had access to the Internet, compared to 7% in developing countries and less than 1% in the 50 'least developed countries' (UNDESA, 2006).

Having said this, however, given that the focus of the special issue is on the relationship between ICT and literacy in marginalised communities in Australia, Brazil, Greece and South Africa, the case studies raise issues that are pertinent to the Ugandan context. Further, we appreciate that the theme of this special issue is to move beyond the dialogic discussions of ICT use among young people to advancing new theoretical frameworks for empirical research. In presenting our comments, we first provide a brief background to ICT in the Ugandan context, and then draw on five lessons from the case studies that can inform ICT curriculum development in Uganda.

ICT in the Ugandan Context

Uganda, like many countries in the developing world, faces enormous challenges of poverty, political instability, gender inequities and HIV/AIDS. In 2001, the population below the poverty line was estimated at 35%, and the literacy rate was approximately 70%, with males at 80% and females at 60% (UBOS, 2002). A British Protectorate until 1962 when Uganda was granted independence, English is now the official language, although few speak it as a mother tongue. There are many ethnic groups in the country, speaking a wide variety of Bantu and Nilotic languages. The economy is based on agriculture, which accounts for 80% of the labour force. With the majority of Uganda's 28 million people living in rural areas, there is very limited access to ICT.

However, despite multiple challenges, Uganda's educational ambitions with respect to accessing new technologies have much in common with the most developed regions of the world (Brock-Utne, 2000; Chivhanga, 2000; De Roy, 1997; Tikly, 2003), and the Ugandan Ministry of Education and Sport is seeking diverse means of incorporating new technologies in its education system. As McConnell (1998) notes, Uganda is steadily embracing the information age. There are over 100,000 telephone lines in use and about 1.5 million mobile phone users (CIA, 2006). There are 5 million radios, 500,000 televisions (CIA, 2006), 1365 Internet hosts and an estimated 500,000 Internet users, most of whom access the Internet through visiting Internet cafes (McConnell, 1998). Jensen (2002) observes that although these estimates for ICT users are still low compared to other countries, it is important to note that there is group use of these services. For example, a group of 10 people can be found listening to one radio or watching programmes from one television. The same applies to mobile phones and home phones. Nevertheless, there remain relatively few people in the 'peripheral' communities of Uganda (Braga, this volume) who access contemporary ICT services, including radios, TVs, mobile phones and computers.

To promote ICT usage, some organisations are stepping in to provide access to contemporary communication media (Jensen, 2002). For example, Uganda has benefited from the Uganda-connectivity (UConnect) programme, which is providing computers, training and Internet services to schools in urban settings (Eremu, n.d.). Also, there has been increased ICT provision in major administrative centres to enhance and ease communication among governmental departments (Edejer, 2000). Makerere and Kyambogo Universities are becoming centres for training teachers to use the Internet as a resource in their classrooms (UConnect; USAID, 2006), and some 130 urban schools have benefited from the

UConnect initiative (Nawaguna, 2005). Computer science has been introduced as a subject in many of these schools, although it is currently not an examinable subject in the Uganda National Examination Board (UNEB) (Eremu, n.d.).

In order to bridge the rural and urban ICT divide, Worldlink and Schoolnet are setting up telecenters in rural schools (Mayanja, 2002). While only about 30 primary schools have benefited from this initiative so far, the goal is to connect all schools through Schoolnet. The major concern is that there are few curriculum resources in schools, and the hope is that ICT and especially the Internet can ease the resource burden in schools and help teachers develop materials for classroom use. The challenge, in addition to electricity cut-offs, is the limited number of Internet providers and the high costs of satellite via telephone connections (UConnect, 2005). There needs to be subsidised Internet access if all schools are to be connected (Nawaguna, 2005).

In spite of these challenges, there is a growing recognition that contemporary information and communication technologies are taking root in Uganda, especially among young people (Edejer, 2000; Nawaguna, 2005). It is reported that many are experienced in mobile phone and Internet use in terms of text messaging and resource searching (Mwesigwa, 2002), and the National Curriculum Development Centre (NCDC) is currently trying to develop an ICT curriculum for teachers and schools, capitalising on out-of-school ICT practices. Our next section will consider to what extent the case studies in this volume can inform this process of curriculum development in Uganda.

Lessons for ICT Curriculum Development in Uganda

As Uganda promotes ICT as a means to development, there are five central lessons that can be drawn from the case studies in this volume to help the curriculum development process. We identify each in turn, highlighting both the opportunities and challenges that exist with respect to each lesson.

1. *Collect empirical data*: This will enable the policymakers and curriculum developers to better understand how young people are accessing, adapting and using contemporary ICT. Snyder and Prinsloo (this volume) suggest that understanding how people use ICT provides insight into how ICT impacts everyday living. Furthermore, detailed empirical studies in local contexts are particularly helpful in understanding ICT use. Uganda therefore needs to have detailed empirical case studies that can inform policy and curriculum development. Given that ICT is a major tool for bridging gaps in knowledge, the research should focus on what knowledge is sought by young people in each community and how policy and curriculum can scaffold the knowledge acquisition process.
   Opportunity: ICT is a relatively recent phenomenon in Ugandan communities, so there are few studies that can inform policy and curriculum development for young people. The need for a curriculum provides incentive for empirical studies that provide insights into ICT and their potential.
   Challenge: Policymakers prefer quantitative research with accurate predictions, rather than ethnographic studies that provide detailed understanding of context (Robinson-Pant, 2004). In addition, policymakers frequently

employ their own research teams rather than drawing on other researchers' findings.

2. *Recognise local differences*: As indicated above, not all communities in Uganda can access the Internet. Most policies and curriculum materials in Uganda view educational communities as homogeneous groups and do not take into account the social and political histories of different local settings, particularly with respect to discrepancies between rural and urban settings. In this regard, the work of Mitsikopoulou (this volume) is highly relevant in that she documents the digital literacy practices of two young people within very different socioeconomic contexts. Although Uganda may be aiming for a 'cosmopolitan' outlook for ICT use, the 'progress and development' narrative best describes how the society impacts ICT use in most communities. In addition, there are very few ICT competent parents in Uganda who could be identified with the cosmopolitan narrative. However, this is not to negate the fact that some young people in Uganda do indeed come from affluent homes and are often exposed to advanced ICT competency levels. The central point is that the promotion of ICT use for young people should not be undertaken as though invariant to inequitable social conditions in local contexts; a major challenge for policymakers and ICT curriculum developers is to accommodate a range of ICT users. Tackling local inequalities might lead to more effective use of ICT, with a concomitant impact on development.

   Opportunity: The Millennium Development Goals (MDGs), on which Uganda currently draws for prioritising programmes, advocate greater equity between urban and rural communities, and male and female students. This opens a space for new discourses on the relationship between inequitable social conditions and everyday ICT use.

   Challenge: There are few resources to increase access to many of the services that provide information to communities. For example, gender inequalities still exist in spite of years of advocacy. Further, Uganda's national curriculum does not take into account social inequalities between rural and urban contexts.

3. *Promote professional development:* Professional development should be viewed from two perspectives. The first addresses the need to develop teachers' competencies with ICT and the second addresses the need for critical ICT skills. Bulfin and North (this volume) point out that although young people may be competent users of ICT, they need to develop a more critical approach to ICT use. The young people in their case study did not recognise the vulnerability associated with instant messaging tools and the television programmes they chose to watch or emulate in their classroom projects. However, this scaffolding can only be achieved if teachers themselves are competent in both ICT and critical skills. How teachers' critical ICT skills can be developed can be inferred from the Brazilian case study (Braga, this volume). The South African case study, on the other hand, provides some insight into the poor ICT use in the classroom. As suggested by Walton (this volume), the 'drill and practice' approaches should be discouraged through appropriate professional development. Walton also cautions against an exam-driven curriculum which impacts use of ICT literacies.

Opportunity: The need for professional development has been identified by USAID, which has supported a project to address teacher education (USAID, 2006). This provides a window for further advocacy for all practising teachers.

Challenge: The amount of money needed to invest in professional development will be a challenge (Edejer, 2000). In addition, drill and practice approaches may become an unintended consequence of the ICT curriculum, given that most schooling in Uganda is exam-oriented.

4. ***Integrate home and school ICT literacy practices:*** The case studies in this volume have demonstrated how ICT literacy practices in the home context impact young people's school practices. Indeed, a central argument of the special issue is that home and school practices constitute a continuum, rather than distinctly different practices. Bulfin and North (this volume) found that young people negotiate home and school spaces in their use of ICT, and provide insight into two ways in which home and school ICT literacy practices can be integrated. First, teachers need to tap into young people's 'authoring' abilities in terms of enhancing peer learning and navigation of the home and school space; second, teachers need to capitalise on the way young people use ICT as multimodal forms of media. Koutsogiannis (this volume) has offered various frameworks through which young people's ICT literacies can be understood. What is needed is research that helps identify which framework best captures the current discourses on ICT and their use.

   In Uganda, home and school spaces are often seen as distinct, especially given that most school literacies are exam-driven. As Bulfin and North (this volume) have noted, teaching critical literacy requires more than highlighting the problems of popular culture. The recognition that young people's ICT practices are 'mediated by these texts and technologies' provides a starting point for discussion on how these artifacts impact the lives of youth.

   Opportunity: The call to integrate home and school literacies is gaining momentum in Uganda. Further, the recognition that summative evaluation limits critical thinking and application of school knowledge has opened up space for discourse on how to build on home literacies (*New Vision*, March, 2005a, 2005b).

   Challenge: Learning is highly teacher-centred, so students are expected to do what they are told. This approach to learning first needs to be modified if student authorship is to be recognised within school settings.

5. ***Interrogate the local in the global:*** As ICT becomes a globalisation tool, it is important for Ugandan curriculum developers to interrogate the ways in which local ICT practices may diverge from global expectations. For example, Walton (this volume) illustrates that global software developed for a local audience may have important limitations. How can Uganda make this software suitable for local use? Furthermore, as demonstrated in these case studies, most ICT use assumes an ideological frame that may be incompatible with local communities. In addition, while most of the studies on ICT use in Uganda (Edejer, 2000; Eremu, n.d.; McConnell, 1997; Nawaguna, 2005) point out the advantages of ICT to the local context, they have little to say about Uganda's contribution to the global context, except in the realm of business. How can the young people who fit the 'cosmopolitan' narrative (Mitsikopoulou, this

volume) be encouraged to contribute to global discourses about the Ugandan context? In essence, how can ICT provide opportunities for Uganda not only to access, but also to contribute to global knowledge production?

Opportunity: More ICT centres are being opened to provide training for young people and professionals (UConnect, 2005). In addition, there might be opportunities for shared resources within local and global communities.

Challenge: Most of the service providers in Uganda are from developed countries, a phenomenon that raises questions about incompatible ideologies and practices.

Conclusion

Although Uganda may be defined as one of the 'least developed' countries in the world, this designation does not do justice to the creative ways in which teachers, students and curriculum planners are seeking to benefit from and contribute to advances in ICT at the global level. Our five lessons from the case studies in this special issue alert us to the opportunities and challenges of promoting ICT usage in schools and communities. Our hope is that, in time, Uganda, along with marginalised communities in Australia, Brazil, Greece, and South Africa, can celebrate their transition from the margins to the centre of the ICT world.

One challenge we would like to leave with the editors and contributors is how they might translate the ethnographic case studies in this special issue into 'policy-like language' that might impact curriculum development in marginalised communities in different regions of the world. Our experience in Uganda has taught us that collaboration with diverse stakeholders, including curriculum planners, policymakers and funding agencies is highly productive for capitalising on and sustaining ICT initiatives. If ICT are to play their part in the goal of achieving Education for All by 2015, the need for collaborative partnerships at both the local and global level remains an urgent priority.

Acknowledgements

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