

## **ICT, CULTURAL KNOWLEDGE, AND TEACHER EDUCATION IN AFRICA**

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**Abstract.** In this paper, we make a case for the need to carry out more culturally appropriate research on ICT and teacher education in Africa generally and in Uganda more specifically. We begin by examining the promise of ICTs and digital literacies, and highlight the importance ascribed to ICTs for national development and educational change. While agreeing that ICTs may have transformative potential in developing countries, we argue that the much-hyped potential may not be realized if the major focus of promoting ICTs in a developing country like Uganda is merely to provide greater access to global information, rather than encouraging local knowledge production for wealth creation. We frame our argument with reference to the New Literacy Studies perspective of viewing literacy as a social practice situated in a specific sociocultural context.

### **1. Introduction**

Information and Communication Technology (ICT) has become one of the most common terminologies in development discourse. ICT is considered as the primary force in socioeconomic transformation. In recognition of the role information and communication plays in our lives and societies, the United Nations—with UNESCO as the lead agency—held the World Summit on the Information Society (WSIS) in 2003 and in 2005. In 2003, 175 countries were represented by more than 11,000 participants at the Summit, which adopted the Geneva Declaration of Principles and the Geneva Plan of Action (2003). In that Declaration, participants voiced their commitment to a people-centered, inclusive and development oriented information society and acknowledged that ICTs have immense impact on virtually all aspects of human life (Tamukong, 2007).

In developing countries in general and Africa in particular, ICTs are viewed as the panacea to solve the persistent problems of underdevelopment and economic stagnation.

Steps taken to embrace ICT for socioeconomic transformation range from enactment of ICT laws and policies to the establishment of fully-fledged ICT Ministries to spearhead the promotion of ICT for national development. Governments and development partners are investing many resources to initiate ICT projects in sectors such as education, health, tourism, trade and commerce, agriculture and environmental management in the belief that this can lead to social transformation and improvement in the quality of life for ordinary people.

While we agree that ICT may have the potential to transform society through the rapid free flow of information globally, we argue that the transformative potential of ICTs, especially in non-Western contexts, may not be fully realized if local cultural knowledge is underestimated, especially in the field of education. Computers and the Internet are digital tools for constructing meaning and communication, and originated within the sociocultural context of Western societies. Their application in a nonwestern sociocultural context may not necessarily yield the same results as they would in a Western sociocultural context. Computer training programs in developing countries like Uganda largely tend to focus on teaching the trainees to simply access already existing information on the Internet or to carry out basic word processing functions. Hardly any mention is made of the skills needed to generate new knowledge and to upload it onto the Net for the rest of the global world to consume. This in our view only perpetuates dependence among the trainees, stifles their creativity, and undermines local knowledge production.

## 2. Conceptual Focus

We frame our argument within the New Literacy Studies perspective, which sees literacy as situated social practice embedded in a cultural and ideological context (Prinsloo, 2005; Street, 1984, 2001). We view the New Literacy Studies as an emerging school of thought from a body of independent yet conceptually linked work produced over the last two decades across a number of disciplines, including anthropology, history, psychology, and sociolinguistics, all emphasizing a social approach to literacy research (Barton & Hamilton, 1998; Barton, Hamilton, & Ivanic, 2000; Gee, 1996; Heath, 1983; Scribner & Cole, 1981; Street, 1984).

The New Literacy Studies seeks to direct our attention towards the understanding that there is a need to move beyond limited psychological accounts of literacy to ones that capture the complexity of literacy practices in society (Snyder & Bulfin, 2008). As opposed to framing literacy as a set of discrete skills easily transferable from one person to another, the sociocultural approach focuses on examining literacy practices and events by considering the role of literacy in people's everyday lives (Barton & Hamilton, 1998; Pahl & Rowsell, 2005; Prinsloo & Breier, 1996; Snyder, Angus & Sutherland-Smith, 2002; Street, 1995, 2001).

As Coiro, Knobel, Lankshear, and Leu (2008) have noted, the space of New Literacies is highly contested. Some authors conceive New Literacies as new social practices and conceptions of reading and writing (Street, 1984, 1995); others see New Literacies as important new strategies and dispositions required by the Internet and emerging with new technologies (Leu, Kinzer, Coiro, & Cammack, 2004). There are

those who see New Literacies as novel discourses (Gee, 2003) or new semiotic contexts (Kress, 2003; Lemke, 2002) made possible by technologies, while others see literacy differentiating into multiliteracies (New London Group, 2000) or multimodal contexts (Hull & Schultz, 2002). Clearly, there are many who focus on the juxtaposition of several of these orientations (Lankshear & Knobel, 2003, 2006).

Our conceptualization of ICTs and digital literacy in this paper is rooted in Prinsloo's (2005) and Street's (1984, 2001) notion of social literacy, since both scholars have much experience in development contexts. Street (2001) in particular, challenges the representation of local people in villages as "illiterate" and unsophisticated. He argues that there is not only a wealth of literacy in the villages but there are also different practices associated with literacy (e.g., churches and mosques, schools, markets, meetings, ceremonies). He observes that dominant voices characterize local people as "illiterate" while on the ground ethnographic and culturally sensitive observations indicate a rich variety of literacy practices.

The same argument could be made of the ICT projects prevalent in teacher education program in Africa. The programs are often devoid of local knowledge and local experiences. The trainees in these programs are generally assumed to have no digital literacy when they enroll for ICT training courses and programs despite the fact that some of these people have mobile phones, TV sets, VCR and DVD players, radios, cameras, and recorders in their houses. Their daily interactions with these tools are rarely recognized and integrated into the training programs they receive. The trainers make little effort to incorporate people's daily experiences with locally available digital tools, which constitute their literacy practices in real life. Hence, the training becomes abstract and de-contextualized, and people often lose interest in them.

We agree with Street's (2001) argument that good educational practice requires facilitators to build upon what learners bring to class, to listen—not just deliver—and to respond to articulation of „need' as well as make their own „outsider' judgment of it. Indeed, as Wright (2001) observes, the innovations and adaptations which many teachers in the developing world have already devised within the constraints of their situation need to be „mined'- i.e., scrutinized for negative and positive attributes, adjusted accordingly, tested and incorporated into more realistic teacher training, thereby integrating the best from their traditions. Otherwise, the much-cherished modern technologies and the state of art methodologies from outside the local context may actually lead teachers, teacher educators, and learners to being undermined by the very technologies they were led to believe would empower them.

According to Street (2001), in developing contexts, the issue of literacy, including computer literacy, is often represented as simply a technical one whereby people need to be taught how to decode letters. He refers to this approach as an "autonomous model" of literacy. Street explains that the autonomous model works on the assumption that literacy in itself—autonomously—will have effects on other social and cognitive practices. The model, however, disguises the cultural and ideological assumptions that underpin it and that can then be presented as though they are neutral and universal. He proposes the ideological model as an alternative because he believes it offers a more culturally sensitive view of literacy practices as they vary from one context to another. In this work, Street encourages us to focus more on how people take hold of literacy than talking about the impact of literacy. The ideological model addresses not only the

cultural meanings but also the power dimensions of literacy. Street (2001) states: "It seems to me quite impossible to address the issues of literacy without addressing these issues of power" (p. 9).

In the context of Uganda, we have taken it for granted that adopting modern technology will automatically lead to an improvement in the quality of education in schools and colleges. However, as Mutonyi and Norton (2007) note, we need to examine the influence of modern technology on the teachers being trained to use these technologies. What power relationships does digital literacy engender in the local context? How do the trainers position themselves during training sessions and how does power affect the trainee's ability to function with the new technology? What challenges do they face in trying to function with the new skills in the local context? How can ICTs best be integrated into the teaching and learning in schools and colleges in Uganda? These are some of the questions that need to be highlighted when discussing digital literacy in non-Western contexts.

According to Street (2001), the concept of literacy practices attempts both to address the events and the patterns around literacy, and to link them to something broader of a cultural and social nature. This means the context in which people practice literacy of any kind is very important for any meaningful analysis of their literacy practices. The concept of literacy practices recognizes the fact that we bring to literacy events a range of concepts and social models about what the nature of the event is, what makes it work and what gives it meaning. Thus, to understand the extent to which teacher educators in Africa and in Uganda more specifically use ICT in their professional practice, it is not enough to limit the discussion to what they are able to do with computers and the Internet in their teaching practice. We also need to ensure that we integrate the discussion into the historical, cultural, and economic contexts in which they are trained and in which they operate.

The ideological model of literacy begins from the premise that variable literacy practices are always rooted in power relations and that the apparent innocence and neutrality of the autonomous model serves to disguise the ways in which such power is maintained through literacy. As Street (2001) rightly observes, there are no genres of power as such, but only certain culturally based ways of knowing and communicating that have been privileged over others. Whereas many educators and policy makers see digital literacy skills simply as a neutral skills to be "imparted almost injected in some medically based discourse to all in equal measure" (p. 13), the ideological model recognizes that educational policy and decision making have to be based on prior judgments regarding which literacy to impart and why, a perspective which in our view is very pertinent for subsaharan Africa.

Drawing on research carried out in contexts of social inequality in South Africa and on the orientation to literacy studies focusing on literacy as situated practices (Prinsloo & Breier, 1996; Street, 1984), Prinsloo (2005) argues that despite their global impact, New Literacies are best studied as "placed resources" with local effects. He develops his case by further drawing on social models of literacy, language and communication. He examines data from a structured, high technology workplace in Cape Town townships, and from examples of young children's school encounters with computers in Khayelitsha, Cape Town, to develop and illustrate his argument. He concludes that the New Literacies do not have an intrinsic resourcefulness. The

resourcefulness of ICTs is not universal; instead, it depends on the sociocultural context in which they are placed. According to Prinsloo, this view is often obscured by much that is taken for granted in discussions of the New Literacies in well-resourced contexts in the Western world.

Prinsloo goes on to recommend situated research to establish whether the New Literacies offer opportunities for particular users as opposed to relying on assumptions. The study shows that computers frequently operate as exotic and dysfunctional resources when they are inserted into an educational context in which they do not have a significant part to play in relation to the social and technological practices that characterize that context. Instead of assuming that computers have universal value, we need to investigate their relevance in the local context.

### **3. Uganda's Experiment with ICT in Teacher Education**

In 2006, the United States Agency for International Development (USAID) conducted a study in Uganda with the objective of finding out if ICT makes a difference in the professional development of teachers in 16 of the Uganda's 47 Primary Teachers Colleges, and what issues would need to be considered in a scaling up of ICT activities (USAID, 2006). The study found that there was much enthusiasm for ICT in education, but that important challenges in teacher education needed to be addressed. First, ICT training for teacher educators is an urgent priority because teacher educators are particularly well-positioned to impart ICT skills to the teachers they prepare; second, teacher educators need to have access to pre-selected key resources such as web-based classroom materials to optimize time surfing the Web; and third, teacher educators need to form a network so that they can share useful resources. The study concluded that the more proficient teacher educators are with the use of ICT to identify materials and resources relevant to the Ugandan context, the more effective they will be in the training of teachers for Uganda's burgeoning primary school population. Based on the findings of the USAID study and other similar studies, steps have been taken to improve the quality of education in the country through ICT training initiatives. There is a concern, however, over the declining performance in students' achievement in national examinations, as shown in a recent newspaper story by Tabu Butagira and Grace Natabaalo, which appeared in Uganda's Daily Monitor of January 17, 2009. The article reported:

At least 89,306, nearly a fifth of the 463,631 candidates who sat Primary Leaving Examinations (PLE) last year, flatly failed all the four papers; English, Mathematics, Social Studies and Science, highlighting the highest failure rate in the three years. In the 2008 results released yesterday, officials said only 17,021 pupils passed in division one with as many as 10,666 of them boys and 6,355 girls. This number of grade one is just about half of the 31,969 pupils who obtained the top grade in 2007, showing more than 50% decline in absolute figures since the number of registered candidates grew from 404,985 the previous year to 463,631 last year.

It may not be easy to establish the real cause of the persistent decline in students' performance, but one action we can take is to start researching programs that have been

initiated to address the concerns about the quality of teacher education. The introduction of ICT in teacher education is one such program. We need to find out how the teacher educators are incorporating ICT in their professional practice, and how it translates into learning achievements. This cannot be achieved by simply focusing on the training programs in the computer labs established. We need to carry out community scans of the project sites to better understand how to integrate local knowledge and local literacy practices into ICT intervention programs. We need to identify the sites of local knowledge production in the community, the producers of local knowledge, forms in which local knowledge is available, and ways in which local knowledge is transmitted from generation to generation.

One of the greatest mistakes the colonialists made when they came to Africa and found no “schools” was the belief that there was no education on the continent; their knowledge of education was limited to the classroom of four walls. They had no clear understanding of the indigenous system of education where the fireplace at the homestead was, for example, an important site for the transmission of cultural knowledge. This misunderstanding is largely responsible for the failure of formal education to address the needs and aspirations of community needs in Africa. In many instances, schools have remained islands in the very communities they were expected to serve because they do not consider the lived experiences of the children and the local knowledge they bring from the community as useful. ICT and digital literacy initiatives should not underestimate the power of local knowledge. Conscious efforts should be made to explore ways through which ICT can be used to “transport” community resources to the classroom to make learning more engaging and accessible.

For the transformative potential of ICTs to be fully realized in education in developing countries like Uganda, the following agenda needs to be taken into consideration: (i) effort must be made to understand and integrate local knowledge and local literacy practices into intervention programs; (ii) interventions should not only focus on equipping people with digital skills to access information from the Web; in addition, participants’ generative and productive capabilities should also be developed in order to contribute local knowledge to the global discourse; (iii) ICT programs should be culturally and ideologically sensitive to the local situation; (iv) in-depth qualitative case studies should inform digital literacy intervention initiatives in local contexts; (v) the project beneficiaries should be involved in all stages of such programs, from inception, through to planning, implementation, monitoring and evaluation, in order to assume full ownership of such programs and guarantee their sustainability.

#### **4. Conclusion**

In the above discussion, we began by observing that ICT has become one of the most common subjects of discussion in development discourse. In developing countries, broadly, and in Africa specifically, ICT has been seen as the panacea to education challenges. Many African countries are under increasing pressure from foreign governments and multinational companies to formulate national policies and programs to promote ICT for national development. In Uganda, an ICT Ministry has been

established to spearhead the promotion of ICT to realize its vision of transforming the country into a knowledge-based society.

We agree with the ICT enthusiasts that ICT and digital literacy may have the potential to transform our economies and systems of education. However, we have sought to make the case that the Western model based on the mere transfer of digital literacy skills may not lead to the full realization of that potential. We have noted that much of the emphasis in ICT interventions in education has stressed the need to equip participants with digital skills to access information from the Internet. Little or no emphasis is being placed on the need to develop participants' capacity to generate knowledge for global consumption. Similarly, participants are not being prepared to critically evaluate the volumes of information they are likely to encounter on the Web, for both their authenticity and their relevance in local contexts. It is only when educators are both producers and consumers of global knowledge that ICTs will achieve their fullest potential in African contexts.

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