

Learning about HIV/AIDS in Uganda: Digital Resources and Language Learner Identities

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Bonny Norton
Shelley Jones
Daniel Ahimbisibwe

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Abstract: While the HIV/AIDS epidemic has wrought havoc in the lives of millions of people in sub-Saharan Africa, access to information about the causes, symptoms, and treatment of the disease remains a challenge for many, and particularly for young people. This article reports on an action research study undertaken in a rural Ugandan village in 2006. Twelve English language learners, all of whom were young women, participated in this study. The focus was a digital literacy course that sought to help the participants gain access to information about HIV/AIDS through global health Web sites available in English, Uganda's official language. Our conceptual framework is drawn from theories of investment and imagined identities in the field of language education, and our central questions are twofold: (1) What were the learners' investments in the language practices of the digital literacy course? and (2) What was the relationship between the learners' investments in the course and their identities? Our findings suggest that the learners' multiple investments in the digital literacy course derived not only from the significance of HIV/AIDS to their lives, but also from the opportunity to appropriate a range of imagined identities that offered enhanced possibilities for the future.

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Keywords: Access, digital literacy, health, language

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Résumé : Bien que l'épidémie de VIH/sida a ravagé la vie de millions de personnes en Afrique subsaharienne, il demeure difficile pour nombre d'entre elles, les jeunes particulièrement, d'avoir accès à de l'information sur les causes, les symptômes et le traitement de cette maladie. L'article rend compte d'un projet de recherche-action entrepris dans un village de l'Ouganda en 2006. Douze jeunes femmes apprenant l'anglais ont participé à l'étude qui, centrée sur une formation en culture numérique, visait à aider les participantes à avoir accès à de l'information sur le VIH/sida par l'intermédiaire de sites Web de partout dans le monde dédiés à la santé et disponibles en anglais, la langue officielle de l'Ouganda. Le cadre théorique est tracé par les théories de l'investissement et des identités imaginaires dans le domaine de l'apprentissage linguistique, et la problématique s'articule autour de deux questions :

quels ont été les investissements des apprenantes dans les pratiques linguistiques de la formation en culture numérique? Quelle est la relation entre l'investissement des apprenantes dans la formation et leurs identités? Les résultats montrent que les multiples investissements des apprenantes dans la culture numérique n'étaient pas motivés seulement par l'importance du VIH/sida dans leurs vies, mais qu'ils l'étaient aussi par l'occasion qui s'offrait à elles de s'approprier une gamme d'identités imaginaires qui rehaussent leurs perspectives d'avenir.

Mots clés : accès à l'information, culture numérique, santé, langage

In the literature on applied linguistics and HIV/AIDS, Higgins and Norton (2010) note that while HIV/AIDS has been an object of study for sociolinguists and discourse analysts for approximately two decades, most of this research has examined contexts that are relevant to gay men in resource-rich nations. The bulk of this research has focused on stigma, risk, and sexual identification in face-to-face interactions (cf. Jones & Candlin, 2003). Applied linguistics research on HIV/AIDS in resource-poor contexts is a much more recent development. In a review of sociolinguistic research in public health domains in sub-Saharan Africa, Djite (2008) concluded that there is a 'relative dearth of sociolinguistic studies in the area of health' (p. 94) despite the millions of people who are infected across the continent.

Our research team at the University of British Columbia, which has worked in Uganda for the past eight years, has sought to address this gap in the sociolinguistic research by including research on HIV/AIDS and youth in our research agenda. Our research includes multimodal instruction on HIV/AIDS (Kendrick, Jones, Mutonyi, & Norton, 2006; Mutonyi & Kendrick, 2010), peer education in HIV/AIDS youth clubs (Norton & Mutonyi, 2007), sexual health literacy for young Ugandan women (Jones & Norton, 2007), and language policy with respect to HIV/AIDS (Jones & Norton, 2010; Norton & Mutonyi, 2010). With reference to the research presented in this article, we are centrally concerned with the ways in which young Ugandan women can overcome the barriers to health care services in the country, particularly with reference to HIV/AIDS information. It is well documented that reproductive and sexual health care services in Uganda are inadequate and often unfriendly to youth (Neema, Musisi, & Kibombo, 2004), and our project sought to investigate whether global health Web sites might provide a virtual health care service for young people. However, many of these global Web sites

85 are in English, which is a second (though official) language for
Ugandan people. In this context, language can potentially be a signifi-
cant barrier to accessing health information, and the need to integrate
English language instruction and digital literacy was an important
aspect of our study.

90 The study was conducted in 2006 in a rural Ugandan village, where
we developed a digital literacy course with the primary aim of helping
the participants, 12 young women, gain access to information about
HIV/AIDS through global health Web sites. The particular research
questions that we are addressing in this article are twofold: (1) What
95 were the learners' investments in the language practices of the digital
literacy course? and (2) What was the relationship between the lear-
ners' investments in the course and their identities? The conceptual
framework for the study is examined in greater depth below (see
'Conceptual Framework and Literature Review').

100 Higgins and Norton (2010) emphasize that research on HIV/AIDS
in any geographic setting must take into account the role of context
in the production of knowledge. This is particularly important in
resource-poor contexts, where educational efforts are often compro-
mised by the limited availability of resources, gender relations, and
105 cultural belief systems that differ from Western biomedical perspec-
tives. In this spirit, we turn next to the research context in which our
study was conducted.

110 The research context

Young women in Uganda, as in many parts of Africa, face numerous
socio-economic, cultural, and educational challenges that negatively
impact their ability to access the information they require to make
115 informed choices about HIV/AIDS and healthy sexual relationships
(Jones & Norton, 2007; Norton & Mutonyi, 2007). Although young
women often have limited choice about the nature of their sexual
relationships, their lack of access to information about possible preven-
tative measures for infection by HIV/AIDS and limited avenues for
120 treatment makes them even more vulnerable to inequitable cultural
practices (Jones, 2010). Responding to findings from studies (Jones,
2008) that indicate that young women require greater sexual health
education and based on the emerging and promising potential of tech-
nology to connect learners to global databases (Warschauer, 2003), we
125 sought to link content and mode in our action research. Given that
English is the official language in multilingual Uganda and that all

of our participants spoke a mother tongue other than English, we were aware that promoting access to the digital world would also require additional support in English language instruction.

130 The village where we conducted the study, pseudonymously called Kyato, is in southwestern Uganda and borders a trading centre that is approximately seven miles from the nearest town centre, Ganda. Poverty is endemic in Kyato, there is no running water, and the limited electricity available comes from solar power. Most of the participants' families survive by subsistence-level farming, with small incomes generally earned by men in the roles of labourers, tailors, or taxi drivers. Women can sometimes earn a very small income through the sale of crafts, such as mats and baskets made by women, or the sale of extra food grown in the family gardens. The official per capita income is less than \$1 US per day. Malnutrition, disease, and poor living conditions are widespread. Every participant in this study has been affected in some way by HIV/AIDS: they have lost friends, siblings, relatives, and even parents to the disease. HIV/AIDS was never far from their thoughts, and it constituted a perpetual source of anxiety and fear.

The study

150 In 2006, Norton was fortunate to receive a grant from the Canadian organization BC TEAL to support AIDS education and English instruction in Uganda. BC TEAL is the association of the British Columbia Teachers of English as an Additional Language and is committed to the integration of health information among English language learners, their family members, and wider communities. In the implementation of the grant, Norton invited Jones and Ahimbisibwe to collaborate on the project since they were also actively working in Kyato: Jones had just completed her PhD research in Kyato (Jones, 2008) and Ahimbisibwe was a community librarian. The grant provided an ideal opportunity to promote access to HIV/AIDS information for community members as well as expanded opportunities for English language learning. To make the project manageable within our time and funding constraints, we focused in particular on the young women who had taken part in Jones's doctoral research.

165 While the primary purpose of the BC TEAL grant is to develop materials to 'promote AIDS and health education through content-based ESOL instruction' (BC TEAL, 2010), we also drew on funds

170 from a federal grant (Social Sciences and Humanities Research Council
of Canada) to investigate whether digital access to HIV/AIDS infor-
mation for English language learners in Kyato might be a particularly
powerful means to access HIV/AIDS information and to better under-
stand language learner identity in relation to digital innovations.
175 Although there has been increasing research in new literacies, and
digital literacies in particular (see Coiro, Knobel, Lankshear, & Leu,
2008), many scholars note that much of the research in this area has
focused on research in wealthier regions of the world, and there is a
great need for research in poorly resourced communities to impact
global debates on digital literacy (see Andema, Kendrick, & Norton,
180 2010; Mutonyi & Norton, 2007; Snyder & Prinsloo, 2007; Street, 2001;
Warschauer, 2003).

The action research study was conducted from May to November,
2006, and the 12 young female participants ranged in age from 16 to
19, with a mean age of 17.8. The study included the development of
185 materials for an English digital literacy course, the development and
analysis of two participant questionnaires (Q1 and Q2), and analysis
of detailed journal entries made by both Ahimbisibwe as course
instructor and the participants as learners. Q1 asked the participants
about their expectations of the course, their interest in computer lit-
eracy, their knowledge or familiarity with the Internet, and the
190 extent of their interest in health information in general and in HIV/
AIDS in particular. This questionnaire was administered at the begin-
ning of the course, which took place during school holidays, from
August to September, 2006. Q2, administered at the end of the
195 course, included questions about what participants had learned
from the course, the benefits that technology and the Internet might
have for the future, the health information that the participants had
acquired, and information about HIV/AIDS they might still wish to
obtain.

200 The digital literacy course, developed by Jones, comprised an
intensive six-session, 46-hour curriculum that took into account
the fact that the participants had had very little experience with
computers or the Internet. In order for the participants to access
health Web sites at the closest Internet café in Ganda, they
205 needed a comprehensive introduction to computers and digital tech-
nology as well as hands-on practice. Course instruction, which was
given in English, took place both in the Kyato community library,
where a computer and solar power were available, as well as the
Internet café in Ganda, which was about a 45-minute walk from
210 Kyato.

Conceptual framework and literature review

As our research questions focused on language learner identity in relation to learner investment, it is important to explore these concepts in greater depth. The construct of *investment*, as Norton and Toohey (in press) note, was developed by Norton to complement the construct of motivation in the field of second language acquisition (SLA) (see Norton, 2000, 2010, in press). The construct draws on economic metaphors that are associated in particular with the work of Pierre Bourdieu (1982/1991). Drawing on her previous research, Norton argues that learners invest in the target language at particular times and in particular settings because they believe they will acquire a wider range of symbolic and material resources, which will, in turn, increase the value of their cultural capital and social power. As the value of learners' cultural capital increases, learners reassess their sense of self and their desires for the future. Thus, Norton argues, there is an integral relationship between language learner investment and language learner identity.

The construct of investment recognizes that learners often have complex desires as they engage in the language practices of classrooms and communities. Previous work on motivation frequently conceived of individuals as having unitary, fixed, internalized, and ahistorical 'personalities.' Investment, on the other hand, sees language learners as having complex identities, which change across time and space and are reproduced in social interaction. Thus, while motivation can be seen as a primarily psychological construct (Dörnyei, 2001), investment is defined as a sociological construct and seeks to make meaningful connections between a learner's desire and commitment to learn a language and his or her changing identity. The construct of investment assumes a wider range of questions associated with a learner's commitment to learning the target language. In addition to asking 'To what extent is the learner motivated to learn the target language?' the teacher or researcher can also ask, 'What is the learner's investment in the language practices of this classroom?' This was one of the central questions of our study.

Related to the construct of investment is that of imagined communities and imagined identities (Anderson, 1991; Kanno & Norton, 2003; Norton, 2001; Pavlenko & Norton, 2007). Benedict Anderson (1991), who first coined the term *imagined communities*, argues that what we think of as nations are imagined communities 'because the members of even the smallest nation will never know most of their fellow-members, meet them, or even hear of them, yet in the minds

of each lives the image of their communion' (p. 6). Thus, in imagining ourselves connected with our fellow human beings across space and time, we can feel a sense of community with people we have not yet met but perhaps might hope to meet one day. Developing this notion with reference to language education, Kanno and Norton (2003) and Pavlenko and Norton (2007) have argued that in many language classrooms learners may have the opportunity to invest not only in the classroom community but in communities of the imagination – desired communities that offer possibilities for an enhanced range of identity options in the future. Imagined identities can vary significantly, from the imagined identity of the public professional – the doctor, lawyer, or teacher – to the imagined identity of the local homemaker or farm worker. Norton (2010) argues that 'an imagined community assumes an imagined identity, and investment in the target language must be understood within this context' (p. 356).

Theories of investment, imagined communities, and imagined identities have been very productive in the field of language education (Norton & Toohey, in press), and there has been growing interest in the ways in which digital technologies might increase learner investment in the language practices of classrooms and possibly enhance the range of identities available to language learners. Lam (2000, 2006), for example, examined the computer-mediated transnational identities that immigrant youth in the United States were fashioning for themselves as multilingual, multi-competent actors. She found that these identities allowed them greater access to language learning than the identities available to them in school, where they were stigmatized as immigrants and incompetent language users. In Canada, Dagenais, Moore, Lamarre, Sabatier, and Armand (2008), who are interested in the affordances of digital technology for the language learning and teaching of elementary children, investigated the linguistic landscapes around two elementary schools in Vancouver and Montreal. The project drew on innovative digital resources, such as digital photography, to show graphically how the children imagined the language(s) of their neighbourhoods and how they constructed their identities in relation to them. Dagenais et al. argued that this documentation of the actual and imagined neighbourhoods, as seen by children, provided rich pedagogical information on the children's understanding of their community.

In the more poorly resourced country of Uganda, Kendrick and Jones (2008) conducted research to analyze drawings and photographs produced by primary and secondary school girls learning English. Like Dagenais et al. (2008), Kendrick and Jones used multimodal

295 methodologies to investigate the girls' perceptions of their partici-
 300 pation in local literacy practices and to promote dialogue on literacy,
 women, and development. The girls' visual images were found to
 provide insight into their imagined communities, communities in
 which command of English and access to education were available.
 They concluded:

305 Providing opportunities for girls to explore and consider their worlds
 through alternative modes of communication and representation has
 immense potential as a pedagogical approach to cultivate dialogue about
 the nature of gender inequities, and serve as a catalyst for the positing of
 imagined communities where those inequities might not exist. (Kendrick &
 Jones, 2008, p. 397)

310 In conducting our study, we wished to better understand the partici-
 pants' investments in the digital literacy course. We also aimed to
 investigate whether digital technology improved access to HIV/AIDS
 information and whether the Internet increased the range of imagined
 identities available to language learners.

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Findings and analysis

320 We will examine our findings with reference to the two research ques-
 tions addressed, respectively, in this article: (1) What were the learners'
 investments in the language practices of the digital literacy course? and
 (2) What was the relationship between learner investments in the
 course and learner identities?

Investments in the digital literacy course

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There is much evidence to suggest that the participants in this study
 were deeply invested in the language practices of the digital literacy
 course. In Q2, all 12 participants noted how much they had learned
 in the course and how interested they were in various aspects of the
 330 course, from learning about the computer to searching for information
 on the Internet. Filista's¹ comment below is representative of the com-
 ments of the other 11 participants:

335 This course has helped me to know what a computer and Internet is so this
 course has been so important to me whereby I have also learn about the
 question of AIDS and its answers. (Q2)

Ahimbisibwe also frequently noted in his journal how excited the participants were. 'I could tell by their faces that the girls were interested,' he noted on August 20, 2006. 'They were all enthusiastic to start,' he continued on August 23, and on September 3 he remarked that it was 'unbelievable' what progress the participants had made.

The participants' investments in the language practices of the digital literacy course derived in part from the opportunity to access the English language in multiple new ways. For example, in response to the question, 'How do you think you could benefit from learning to use the computer?' Henrietta responded that she would 'understand more about English language,' commenting further, 'I got communication. I have learnt the English language because the English in Internet has been very create and it has arranged properly' (Q2).

Three particular areas of interest noted by Ahimbisibwe in his journal also provide important explanations as to why the participants were highly invested in the language practices of the course: the participants had been given access to information about HIV/AIDS, they had learned how computers and the Internet work, and they had been given the opportunity to share their learning with their peers in presentation format. Prior to the course, Ahimbisibwe notes, these were all 'very new things' and the participants had little hope of accessing them in the near future (Ahimbisibwe, Journal, September 3, 2006). We will discuss each of these three areas in greater depth.

Investments in digital information about HIV/AIDS

As indicated above, information about HIV/AIDS is difficult to access in remote Ugandan communities, and HIV/AIDS is a topic that both parents and teachers tend to avoid (Neema et al., 2004). Further, Norton and Mutonyi (2007) note that HIV/AIDS clubs are one of the few sites in which young people can access information on the disease and 'talk what others think you can't talk.' In the digital literacy course, with reference to access to health information and HIV/AIDS more specifically, there was consensus that access to the Internet had provided crucial and comprehensive information about HIV/AIDS. All 12 respondents made specific reference to the knowledge they had gained about HIV/AIDS. By way of example, Yudaya noted,

I have got health information from the Internet which concern to the HIV/AIDS. Now I know how to prevent AIDS/HIV and other information about

380 it. AIDS stands for acquired immune deficiency syndrome and what of HIV
is human immune deficiency virus. (Q2)

Gelly remarked that she had been surprised to find that the 'highest
percentage of people who die AIDS are youth/teenage this is very
dangerous because me also I am a teenager' (Q2). Shakila, from a
385 slightly different perspective, discussed not only how to protect
herself, but also how to advise others:

From the Internet I searched different information on some of the health
information is about AIDS/HIV from the Internet. Now I know how to
390 protect myself from HIV/AIDS, how to know that someone is HIV positive,
what to do if I become affected that I rest, I don't work hard, I have to look
for treatment that I can get ARVS that stop the cells to multiply. I knew the
symptoms of AIDS but I got all these from the Internet. Through the use of
Internet just know I can advise different things to my friends about HIV/
395 AIDS. (Q2)

In a similar spirit, Sofia noted not only that 'I can be prevented using
condom' but that 'I can counsel somebody with AIDS by telling him
that being HIV positive it doesn't mean the end of your life' (Q2).

400 Several participants were particularly concerned about the way in
which AIDS had affected their own country, and five participants
(Shakila, Caroline, Henrietta, Joanne, and Gloria) noted that they had
learned much about the relationship between AIDS and the develop-
ment of Uganda. As Sofia noted, 'I would like to get more information
405 of how the dangerous disease can develop the country instead of unde-
velop it' (Q2). Fortunately, much new and important local information
was also found on the Internet, such as the role of TASO, Uganda's
leading AIDS Support Organization,² which, as Joanne noted, has
'tried to look after the affected people through rendering services'
410 (Q2). It is significant that the participants were able to locate this sup-
portive and local health services organization through access to the
Internet.

Other health information, including information on malaria and
early pregnancies and information particularly relevant to Uganda,
415 was also researched on the Internet. For example, Sofia noted,

From the Internet I have got some other information like the information
about malaria and so I want also to know more about it like how it spread,
its symptoms and how it can be prevented because malaria is a very big
420 problem in our area so more information is needed from that. (Q2)

With regard to early pregnancies, Doreen added,

425 On the Internet I searched many health information including AIDS/HIV/
STD and other diseases like malaria. Apart from these I searched about girls
who become pregnant when they are still at school. I found it and they are
very many who become pregnant and some are ending up affected with
AIDS so what should we do? (Q2)

430 As if in response, Tracy noted,

It was very important and interest for me to know how to prevent
pregnancy when I am still studying like using contraceptives and abstinence
from sex. I became happy because some of us don't know how to prevent
435 pregnancies and we do lack some information. (Q2)

Investments in digital resources

It is very difficult to gain access to computers and other technology in
rural Uganda, primarily because of the expense involved and the great
440 inequities between urban and rural areas (Mutonyi & Norton, 2007).
Further, as Jones and Norton (2007) have shown, young women in par-
ticular struggle to fund even the most basic necessities of life, and
paying for computers and Internet access would be a luxury far
beyond the budgets of most young rural women. Our findings
445 suggest that the participants were highly invested in learning about
computers and the Internet, which were the central themes of the
digital literacy course. Henrietta's comment below captures many of
the responses to the question, 'What did you learn from this course?':

450 I learnt how to use a computer/introduction to the computer. I learnt to
access information on the Internet. I learnt how people can communicate
through Internet. I learnt how people get information from the Internet.
I learnt the methods of preventing HIV/AIDS and all about AIDS. (Q2)

455 The participants commented that 'computers make the work easier,'
'save time,' are essential for 'accessing information,' and promote
'communication with other people' (Q2). A number also thought that
knowing about computers and the Internet is important for future
employment. Gelly, for example, commented,

460 I have learn how to use a computer, how to write the information on the
computer and how to search the information on it. It can help me to get job

opportunities in my future because now days every job needs to be with an
 465 experience to computer such as being an office manager, secretary
 accountancy and others. (Q2)

Participants agreed that there was still much they would like to learn
 about computers, such as how to develop their own Web sites,
 470 upload photographs, and use Skype, or, in Tracy's words, 'learn to
 talk to somebody while his or her image appears on a screen' (Q2).

It was interesting to note Ahimbisibwe's observation that after the
 participants had found the information they wanted on HIV/AIDS,
 they turned their attention to 'other interesting things on the
 Internet' as they did not know when they would have a similar oppor-
 475 tunity again (Ahimbisibwe, Journal, August 30, 2006).

Investments in learner-centred pedagogy

As Ahimbisibwe noted in his journal on September 3, the student-
 480 centred pedagogy of the course – which included pair and group
 work, class presentations, and regular student-teacher interaction –
 was also novel for these young women, who were accustomed to
 large, teacher-fronted classrooms. As he noted, all of these practices
 were 'very new' to the young women in the study. In Jones's doctoral
 485 research, participants had shared with her their experiences of many
 unsatisfactory classrooms, as evidenced in the following excerpt
 (Kendrick et al., 2006, p. 110):

- 490 SHELLEY: How is learning English through doing a project like this
 different from learning English in the classroom?
 ROSE: In class teachers write on the blackboard – and we just listen ...
 SHELLEY: In the research project how do you use English?
 ROSE: Communication.
 495 SHELLEY: Do you learn more by studying English or by communicating in
 English?
 ROSE: Communicating ...
 SHELLEY: Why?
 ROSE: Because when you communicate, you think your own English.
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The data from our study suggest that the participants were indeed
 'thinking [their] own English,' and it is this ownership of meaning-
 making that was central to their investment in the digital literacy

505 course. Shakila, for example, commented very favourably on the organization of the course 'because it has been good and beg you to help and organize other courses like that one because we learned many things' (Q2).

510 The participants were also invested in discussions on global issues beyond the formal curriculum. At the time that this research was conducted the Iraq War was in its third year, and the participants were very interested to learn more about the war and international figures such as Saddam Hussein and George Bush. Doreen commented,

515 On the Internet also I got information about many people for example Saddam Hussein whereby I searched his image and I see him with some of his information. I didn't searched Saddam only but also I searched our president Museveni and I managed to see him on the Internet so this was so great for me. (Q2)

520 Similarly, Tracy explained how the Internet provided her with information she had not been able to obtain from other resources, and this gave her greater access to key participants in the war: 'I searched for Bush George's picture on the Internet via Google search, I saw how Bush looks like. More also, I looked for Saddam's picture. It was very interesting because I was just hearing of their names without seeing them' (Q2).

Investment, imagined identities, and language learners

530 We now turn to consider findings from our second research question: What was the relationship between learner investments in the course and learner identities? There is much evidence to suggest that the development of digital literacy provided an enhanced range of identity options for the future of these young women, identities that could be considered imagined identities. Tracy, for example, specified her interest in becoming part of a global academic community as she desired 'to talk with people from different countries like to acquire some information from outside universities' (Q2). Particularly profound is 535 Henrietta's comment that 'they have joined the group of knowledgeable people around the world' (Q2). In related comments, several participants expressed a desire to engage in activities that would enable them to develop, change, or deepen their understanding of themselves as young women in the larger global context. Jenenie expressed an 540 interest in expanding her knowledge and worldview by stating that she wanted to become 'mentally modernized' (Q1). Henrietta explicitly 545

stated her belief that knowledge gained through the Internet would enhance self-knowledge as she would 'learn more about myself through sharing view with Canadian people' (Q1). These comments speak to the need for educational opportunities that cultivate young women's capabilities and encourage them to engage more fully in the world (Jones, 2011).

Although none of the participants had had any sustained contact with the Internet before this study, it was clear that they quickly embraced the digital as a means through which they could appropriate new identities and consider a wider set of options for the future. Sofia, for example, noted that her 'main interest' in learning more about the Internet was that it enabled her to 'know everything which can help my life now and in the future' (Q1). She further remarked, 'My interest in learning Internet is in managing to searching for myself in case I want something to acquire from outside.' Likewise, Joanne commented, 'I would also like to get discussion with other students in other country. And also I would like to get skills how I can also start my own project in future' (Q1).

Future employment that might arise from expertise gained in the digital literacy course was a central concern for these young women, most of whom struggled economically. Penina wanted to be an entrepreneur, Tracy wanted to be a doctor, Gloria a dress-maker, Sofia a business person, and Jeneine the principal of a secondary school. To attain such imagined identities would be rare for many young Ugandan women in rural areas, but the participants hoped that digital technology would help them achieve their ambitions. Caroline, for example, expressed her belief that, given time and experience with digital technology, she would become more confident and better able to interact effectively and meaningfully with people around the world: 'If I get to know how to deal with it, it becomes easy for me to deal with outside people' (Q1). Using the Internet to access information about people and places with whom they had personal connections was of particular interest to the participants as it seemed to bridge the gap between the virtual and the real world, linking their identities – as, for example, students, community members, and research participants – with the larger world on the Internet. For example, Shakila stated,

I got information about the location, history of [Kyato] Community Library, I searched information about Shelley her background, what she did in Uganda and Canada particularly. I searched information about Mr Masinde

590 the founder of [Kyato Secondary School] and why he established the school
the aim, location and the beginning and history of it. (Q2)

Of great significance, however, is that the participants did not wish to simply become consumers of information; they also wanted to become producers of information. Penina, for example, imagined herself contributing knowledge and ideas to others through publication: 'According to me I want to learn it to become one of the most people who can use it and to become publicable' (Q1). Sofia expressed a similar idea: 'I would like to share with the researcher in writing academic book or research' (Q1). Such global knowledge production is strongly advocated by scholars who wish to ensure that African ideas, knowledge, and experience are well represented in the international literature (Andema, Kendrick, & Norton, 2010; Mitchell et al., 2010). However, while some of the participants expressed their desire to take an active part in global knowledge production, others were primarily interested in expanding their friendship networks outside Uganda. For example, Jenenie noted, 'My main interest in learning more about the Internet is that I want to make friends outside my country like in Canada' (Q1). Similarly, Yudaya believed, 'In learning about the Internet, I think it could benefit me because I can communicate by someone when he/she is in different countries' (Q1). Likewise, Gelly stated, 'I heard that computers are usually used on the Internet so I would like to know how to use it, and how to send messages from outside countries' (Q1).

In the process of engaging in language practices with respect to imagined communities and imagined identities, gender issues were also central concerns for the participants. Doreen expressed her interest in learning more about the lives of other young women in the world to expand her understanding of what it means to be female beyond the only context she knew (that of rural Uganda): '[I would like to] learn more about the behaviours of other girls outside Uganda because me as I am I behave the way I behave like a Ugandan girl so what about others?' (Q2) Shakila, similarly, sought to learn about the experiences of females in different parts of the world by accessing information on the Internet, and in particular what she called 'information concerning with problems of girls' (Q1). With a related focus, Tracy wanted to know about 'female bodies, how do they look like,' suggesting that she was interested in expanding her understanding of herself as a young woman as well as her general understanding of the physical body 'because I am soon becoming a doctor' (Q2).

Discussion

The present study provides many insights into the ways in which the young women accessed information about HIV/AIDS through digital technology and those in which digital technology impacted their investments in the language practices of their classroom, providing an enhanced range of identities for their futures. Prinsloo's (2005) work on digital resources as *placed resources* has been particularly helpful in considering the significance of our findings for digital literacy research in poorly resourced communities.

Drawing on Blommaert's (2002) conception of placed resources as resources whose social value and functionality change when they are moved to other places, Prinsloo argues that placed resources 'function as artefacts and as signs that are embedded in local relations which are themselves shaped by larger social dynamics of power, status, access to resources and social mobility' (2005, p. 15). The central point that Prinsloo makes is that digital resources do not have intrinsic value; rather, their functionality and meaningful use is determined by what is socially available 'both by immediate interactive dynamics and by wider social and material practices' (2005, p. 15). From this perspective, several themes arising from the data become particularly salient. These concern how access to hitherto unavailable resources impacted imagined identities, how gendered identities became more salient, and how the researcher and the research project affected the scope of information desired by the learners. We explore these themes in greater detail below.

First, the Internet café was a previously unimagined space for the participants, who, before the course, had neither the funds nor the training necessary to access the Internet. During their last visit to the Internet café, the participants entered the room triumphantly, stating 'This is now our space.' It took relatively little time for the participants to appreciate what a significant source of information the Internet is, in both local and global contexts; extensive sources of information were now socially available to them (see also Mitchell, 2006; Mitchell & Sokoya, 2007). Indeed, as soon as they had explored information about HIV/AIDS, they quickly turned their attention to other information since they knew that future opportunities for Internet research would be rare. The participants searched for information on the community library in Kyato, for news of President Museveni, for background to the war in Iraq. Access to the Internet, Henrietta concluded, enabled the participants to join 'the group of knowledgeable

people around the world,' and Jenenie believed she had finally become 'mentally modernized.'

675 Second, the gendered identities of the participants emerged in multiple and significant ways, and information that might have been inaccessible was now within the reach of the socially imaginable. Many of the participants wished to better understand their own position as
 680 young Ugandan women by better understanding the position of other young women internationally. Their curiosity concerned not only 'the behaviours of other girls outside Uganda,' as Doreen said, but also the 'female bodies, how do they look like.' The liberation of women was a topic of keen interest, and some participants sought
 685 information on the ways in which women could be more active in promoting development. However, the challenges of being a young woman in Uganda were also implicit in many of the comments, particularly with respect to rape and defilement and how to overcome it. All of the participants were interested in finding ways to become economically more secure and to have greater choice over both personal and professional aspects of their lives. In this spirit, Joanne
 690 noted that she would like to initiate her 'own project' in the future (Q1).

Third, with regard to the impact of our study on the scope of information desired by participants, it was significant that many of the participants made frequent reference to their desire to learn more about
 695 Canada, the University of British Columbia, and the researchers. These linguistic signs and practices had become socially available to the research participants, and they wished to make meaningful connections with signs and practices that had entered their worlds in unexpected and intriguing ways. What does *Canada* mean? Where and
 700 what is the University of British Columbia? Who exactly are Bonny Norton and Shelley Jones? As Shakila noted, 'I searched information about Shelley her background, what she did in Uganda and Canada particularly' (Q2). Likewise, Jenenie commented, 'I want to make friends outside my country like in Canada' (Q1). Such knowledge was not
 705 static, but generative of further action and collaborative engagement.

Conclusion

710 In responding to diversity in language and literacy education, McKinney and Norton (2008) have argued that teachers need to consider not only what is educationally possible, but also what is educationally desirable. In many poorly resourced communities in Africa and other parts of the world what is possible may appear bleak and

715 discouraging. However, our study suggests that the hopes and desires
 of young people in the most rural parts of Africa are no less ambitious
 than those of young people in Singapore, Seattle, or Sydney. The young
 women who participated in our study wanted access to current and
 720 reliable information on health, job opportunities, diverse international
 communities, and the English language. Further, they not only wanted
 to be receivers of global information; they wanted also to produce
 information, make their own Web sites, Skype with friends, and
 engage actively in the global production of knowledge.

725 While governments, policy makers, and funding agencies try to
 catch up with the desires of African youth and their need, in particular,
 for easier access to potentially life-saving health information, there are
 interim measures that might serve the needs of poorly resourced com-
 munities. Digital portable libraries such as eGranary³ are a prime
 example. Developed by the University of Iowa, eGranary is an
 730 'Internet in a Box' that comprises a hard drive with specialized brows-
 ing software which can be attached to a PC or a local area network.
 It contains millions of educational documents, including Wikipedia
 and World Health Organization data, which can be searched like the
 Internet but without the need for connectivity. As we have noted in
 735 recent research (Norton, Early, & Tembe, 2010), not only does
 eGranary provide a wealth of information for users, but it can be
 used to develop digital skills like browsing and searching. In the
 absence of a local Internet café, there may be other, more appropriate
 resources that can promote digital literacy in Kyato.

740 Findings from our study suggest that digital literacy is highly pro-
 ductive for accessing information about HIV/AIDS in African commu-
 nities and that global health Web sites can indeed serve as a virtual
 health care service, albeit in a second language. Significantly, access
 to the Internet also provided the participants with information about
 745 supportive health services such as TASO, which is available locally
 and welcomes clients who are young and old, female and male, rural
 and urban. Our study also demonstrates that learners are interested
 in a wide range of topics, including gender and development, both
 of which are relevant to the range and quality of health services avail-
 750 able to Ugandans. With reference to pedagogy, the study suggests that
 instruction in digital literacy can perhaps be rendered most effective
 when learners are invested in the language practices of their
 classrooms and communities and when they can draw on digital tech-
 nology to develop an enhanced range of identity options for the future.
 755 Participants in our study were able to imagine and appropriate identi-
 ties as autonomous learners, informed global citizens, and HIV/AIDS

counsellors. As such, it is possible that they forged strong, meaningful connections between themselves and a desirable range of imagined communities. This idea needs to be explored further in future research, and researchers should examine more closely the relationship between the ability to imagine and appropriate identities and learning success. Understanding this dynamic relationship in greater depth could have important implications for the best ways to structure language practice opportunities for the purpose of gaining access to health care information and services. This might also help to ensure that imagined identities are not only educationally desirable but educationally possible.

Correspondence should be addressed to **Bonny Norton**, Department of Language and Literacy Education, University of British Columbia, 2125 Main Mall, Vancouver, British Columbia, V6T 1Z4. E-mail: bonny.norton@ubc.ca

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Notes

- 1 The names of all participants are pseudonymous.
- 2 The AIDS Support Organisation (TASO), <http://www.tasouganda.org/>
- 3 eGranary Digital Library, <http://www.widernet.org/egranary/>

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