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**STUDENT ACCESS TO AND SKILLS IN USING TECHNOLOGY IN AN ODL  
CONTEXT**

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## **ABSTRACT**

Amidst the different challenges facing higher education and particularly distance education (DE) and open distance learning (ODL), access to information and communication technology (ICT) and students' abilities to use ICTs are highly contested issues in the South African higher education landscape. While there are various opinions about the scope and content of the digital divide, there is increasing empirical evidence questioning the uncritical functioning of the digital divide in South African higher education discourses.

In the context of the University of South Africa (Unisa), as a mega ODL institution, students' access to technology and their functional competence (amongst other critical issues) are critical issues to consider as Unisa prepares our graduates for an increasingly digital and networked world.

This paper discusses a study that investigated students' access to technology and their capabilities in using technology, within the broader discourse of the "digital divide". Results support literature that challenges a simplistic understanding of the notion of the "digital divide" and reveal that the nature of access is varied.

**KEYWORDS:** access, digital divide, ICT, open distance learning (ODL), skills, Unisa

## **INTRODUCTION**

Even with growing access to the Internet and to wireless communication, abysmal inequality in broadband access and educational gaps in the ability to operate a digital culture tend to reproduce and amplify class, ethnic, race, age, and gender structures of social domination between countries and within countries. (Castells 2009:57)

The reality and function of the notion of a digital divide in South Africa, as a developing country, should be understood against the backdrop of the manifold challenges facing higher education in general (e.g. Barnett 2000a, 2000b) and particularly in South Africa (e.g. Czerniewicz 2004; Moja & Hayward 2000; Kraak 2000; Teffera & Altbach 2004; Waghid 2002). It is, therefore, important to situate the debate on the content, scope and impact of the digital divide against the backdrop of major societal changes in order to address various forms of exclusion prior to 1994 based on racial, language and gender criteria.

Against the broader backdrop of the various challenges facing higher education, and distance education provision in particular, the issue (however contested) of digital inclusion or exclusion is of particular importance. Though ICT use tends to accentuate social disparities between rich and poor (Butcher 2011:30), access to technologies is part of the "new geographies of power and access that have reconfigured the world" (Czerniewicz 2004:146). The digital divide is, however, a much broader and multilayered phenomenon than just a technological emphasis (Castells 2009; Czerniewicz & Brown 2005; Czerniewicz & Brown 2010; Furuholm & Kristiansen 2007). The need for a more nuanced and critical understanding of the digital divide is, therefore, of the utmost importance (e.g. Brown & Czerniewicz 2010; Castells

2009; De Haan 2004; Van Dijk & Hacker 2003). The issue of the digital divide is, furthermore, a “political battlefield” (Van Dijk & Hacker 2003:321) embedded in the broader discourses, such as the employability of graduates (Chetty 2012). In the general context of critiques regarding our uncritical use of notions such as the digital divide and the knowledge economy, the myth of “anyone, anywhere, anytime” and technology as the only and most important driver of educational change (see e.g. Friesen 2008), our research contributes to illustrating that the digital divide is not a simplistic separation between “haves” and “have-nots”.

In this paper, we would like to explore *variations in the digital divide* in a specific context of the University of South Africa (Unisa). We will, firstly, provide an annotated overview of a number of authors who “debunk” (Brown & Czerniewicz 2010), “demystify” (Warschauer 2002), “reconfigure” (Czerniewicz & Brown 2010), “rethink” (Underwood 2007) or “reconceptualise” (Warschauer 2002) the notion and function of the digital divide as germane to higher education discourses. We agree with De Haan (2004), who proposes a “multifaceted dynamic model” for understanding the digital divide. After providing an overview of the discourse on the digital divide, we provide and analyse findings of a questionnaire which aimed to determine, among other things, the nature of students’ access to technology and their skills in the specific context of Unisa, one of the mega universities in the world.

The significance of this research lies in its contribution to the discourse pertaining to the institutionalisation of e-learning in mega open universities (e.g. Panda & Mishra 2007).

## RESEARCH CONTEXT

Unisa is one of the mega universities in the world with over **350,000** students in 2011. In 2011, **282,248** students registered on the Unisa learning management system, namely myUnisa. As Unisa endeavours to optimise the affordances of technology to increase the effectiveness of teaching and learning, it was essential to determine to what extent the notion of the “digital divide” was an accurate reflection of the Unisa student profile.

Prior to 2011, no dedicated Unisa-wide research was done to determine the level of access and technological capabilities of students. Given the broader vision of online provision, this kind of intelligence was becoming important for the institution to reflect on. Clearly, if students do not have access to ICTs, then many of the perceived advantages of using ICTs for education do not translate into reality. Positively though, the past year has seen a welcome growth in the number of students who have access to myUnisa (282 248 as on 27 October 2011). However, this does not translate to full and sustained internet access.

Within this context, a survey was undertaken to investigate student access to and effective utilisation of ICTs. It broadly aimed to provide intelligence which could be used by management to inform decisions within the context of providing effective learner support. In contributing to knowledge about our students, the research challenged common assumptions about students’ access to technology.

## LITERATURE REVIEW

The question of the digital divide as part of the “double logic of inclusion and exclusion” (Castells 2009:25) is pertinent in education and Castells warns that the one common fundamental form of exercising power is to exclude (Castells 2009:50). Underwood (2007:213) indicates that the term “digital divide” became the lingua franca in the 1990s referring, in general, to those who have access to technologies and those with no access. Underwood (2007:214), furthermore, states that the notion of the digital divide “is a simplistic model, even at an economic level, and that it is better to think of information-based economic nodes, within and across regions and within and across countries”. There is also the need for a more nuanced understanding of the digital divide by also taking into account the “Second-level Digital Divide” capturing the skills dimension of access to technology (Underwood 2007:214), the different levels of digital literacy and the divides resulting of the use of English as language of communication in many online educational platforms (Underwood 2007:215). Warschauer (2002, no page numbers), therefore, states that the “notion of the binary divide between the haves and the have-nots is thus inaccurate and can even be patronising as it fails to value the social resources that diverse groups bring to the table”.

De Haan (2004:67-68) moots three problems with current understandings of the digital divide, namely, (1) concerns about the simple criterion of access; (2) the fact that the digital divide is mainly descriptive and fails to take into account the factors that cause the divide; and (3) the lack of concerns regarding the consequences of differential access. He, therefore, proposes a multidimensional model in contrast to the general binary understanding of access versus no access. De Haan (2004:71) states that most of the discussion on the digital divide privileges the possession and use of a personal computer (PC) and internet connection, while “less attention has been paid to *digital skills* or competence and to *motivation*” (for a critical discussion of the impact of digital skills and motivation see De Haan 2004:75-76). See De Haan (2004:70) and Van Dijk (2006) for a discussion on different understandings and models mapping the richness of the notion of “access”.

Warschauer (2002, no page numbers) summarises criticisms against the notion of the “digital divide” as follows: “There is not one type of ICT access, but many; the meaning and value of access varies in particular social contexts; access exists in gradations, rather than in bipolar opposition; [...] and, acquisition of ICT access is a matter not only of education, but also of power.”

## METHODOLOGICAL APPROACH

The research aimed to evaluate the current status of student access to and use of a various ICTs, as well as their skills and capabilities in using such technologies. It collected baseline information from students registered on the institutional learning management system (myUnisa) and those not registered. Underpinning this two-pronged aim was the acknowledgement that while access to technology is crucial, given Unisa’s ODL context and strategic commitment to online learning in the very near future, having the *ability to use* technology is equally important. The statistical analysis is descriptive, using the data to interpret the range of access and capabilities of Unisa students.

The key research questions were as follows:

- What is the extent of ICT access among Unisa students?
- What are the technological capabilities of Unisa students?

## RESEARCH APPROACH

The sampling approach was non-random and *purposive* (as described by Johnson & Christensen 2008; Teddlie & Yu 2007; Tongco 2007). The strength of purposive sampling lies in its intentional bias (Tonca 2007:154). There were two groups of students the study aimed to profile, namely students who had already joined myUnisa or used mobile applications to access and use the technology provided by Unisa, and those who had not joined myUnisa and did not use technology to interact with the university. Consequently, the methodology was two-fold:

- a) an online survey option to students who had a myUnisa account and accessed the technology provided by Unisa, and
- b) a paper-based option to those students without a myUnisa account or with an account, but who is not using it. Here, the intention was to gain insight into: why these students have not joined myUnisa (either via mobile or PC); what the current extent of their technology capabilities is; and, what future possibilities might be. To improve response rates, an SMS was also sent to students' mobile phones.

However, it was recognised that a proportion of students were not accessing technology, with the primary indicators being the low usage of myUnisa and other technology provided by Unisa. To avoid bias, it was deemed important to accommodate these students via a paper-based questionnaire. Those regional offices with a low number of students using myUnisa relative to the actual number of Unisa students were selected.

## FINDINGS AND ANALYSES: TWO THEMES

It is pertinent to understand how the analyses were approached and the findings represented. It was acknowledged that within the online group of students who use myUnisa, there could be students who have access to a computer or the internet and those who do not have this access. Similarly, within the paper-based group, there could be students with or without access. The results support this and challenge the common assumptions that all students using myUnisa have access to a computer or the internet, and that students who are not using myUnisa do not have this access.

While many interesting findings emerged from the survey regarding the current status of student access and use of various ICTs, only the key aspects are discussed. This paper particularly aims to unpack the themes of access to technology in an ODL environment as well as having the *ability* to use technology.

## CONCLUSION

This research provides evidence that the construct of the digital divide as a “bipolar societal split (Warschauer 2002) has very little, if any, empirical basis in the context of Unisa. Access to technologies and the skills to use these technologies vary and refuse to fit neatly into a binary model of “haves” and “have-nots”. Authors, such as Brown and Czerniewicz (2010), Czerniewicz and Brown (2005), De Haan (2004), Van Dijk (2006) and Warschauer (2002) provide findings to support an understanding of access to technology as a multifaceted, dynamic construct embedded in broader socioeconomic, political, environmental and technological realities.

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