



This is the post-print of Czerniewicz, L. & Brown, C. 2012. The habitus of digital “strangers” in higher education. *British Journal of Educational Technology*. 44(1): 44-53. DOI: 10.1111/j.1467-8535.2012.01281.x.

It is made available according to the terms of agreement between the author and the journal, and in accordance with UCT’s open access policy available: <http://www.openuct.uct.ac.za/sites/default/files/UCTOpenAccessPolicy.pdf>, for the purposes of research, teaching and private study.

The habitus of digital “strangers” in higher education 1

Laura Czerniewicz and Cheryl Brown

Abstract

Research into South African students’ digitally mediated learning and social practices revealed a sub-group termed “digital strangers”, students lacking both experience and opportunities, who had barely used a computer and who did not have easy access to technology off campus. Using a Bourdieun framework, this group’s technological habitus and access to capital were considered within the field of higher education. There was a focus on two forms of cultural capital: embodied cultural capital, specifically disposition and values; and objectified cultural capital especially computers and cell phones. Social capital - in terms of personal connections and the values of those close to the students - was also considered. The investigation showed a complex technological habitus, with a paucity of access and limited practices in relation to computers, while computers and their associated practices are highly valued within higher education. Simultaneously, diverse practices and widespread indications of astute use of cell phones were described even though these remained under-acknowledged both by the students and the institutions in which they operated. Students recognised what the field of higher education valued, but they also used what they had available in order to best operate within the field. The findings point to a contradiction between students’ practices and the field of higher education yet also show how student practices with an alternative form of objectified capital are pushing the boundaries of the field itself.

Keywords: Bourdieu, habitus, cultural capital, cell phone, mobile phone, computers, higher education, digital strangers, digital native, South Africa

Introduction

This paper reports on part of a research project investigating South African students’ technological habitus, specifically their cultural capital in its objectified and embodied forms (Bourdieu, 1986). Bourdieu’s concepts of habitus, capitals and field enable the disentangling of the complex inter-relationships between background, identity and the demands of higher education. Habitus provides a way of showing students’ “ways of acting, feeling, thinking and being...how [they] carry [their] history, how [they] bring this history into [their] present circumstances, and how [they] then make choices to act in certain ways and then not others” (Maton, 2008, p. 53).

Examining access to capital allows the elaboration of aspects of students’ habitus, especially their dispositions and attitudes to both learning and to the forms of technology which they use to access their education, as well as the forms of technology they have access to. This paper focuses on cultural capital in its embodied and objectified forms. Embodied cultural capital refers to dispositions, values, competencies and representation of self-image; objectified cultural capital refers to the physical manifestation of cultural goods, in this case computers and cell phones (as they are referred to in the South African context). Also relevant is social capital in terms of personal connections and the values of those close to the students. Given that habitus always exists in relation to a field, in this case that of higher education, the paper then considers the juncture / disjuncture of students’ habitus and higher education itself.

We report here on a group of young (under 22 years old) inexperienced students, termed “digital strangers”. These students have had limited exposure to computers before coming to university; and many have fared poorly in institutional computer literacy tests. The institutional context in which they find themselves is one where access to computers can be considered fair on campus but unequal and uneven off campus (Czerniewicz & Brown, 2009). This echoes South African society broadly where only 14.8% of households have a personal computer (ITU, 2007) and access to broadband is limited with penetration rates around 7% (Vermeulen, 2010). The digital divide is further exacerbated by regional differentiation with personal Internet access being as low as 3% in some provinces compared with 20% in others (Goldstuck, 2008, p. 119).

We first noticed this group of “digital strangers” when we started trying to understand what computer experience academics can expect their South African students to have. We concluded that it is only a digital elite who meet the criteria of a “digital native”: a person from “the millennial generation”; one who has grown up with digital technology, one who comes to university familiar with computers; and one who is purported to learn to use computers informally - either teaching themselves or through social networks such as family and friends - rather than needing to be taught (Prensky, 2001). We also observed a contrasting group of students at the opposite end of the continuum who were lacking both ICT experience and opportunities, had used a computer for fewer than four years; and did not have direct access to ICTs off campus (Brown & Czerniewicz, 2010) - these we termed “digital strangers”.

At the same time, amongst students of all backgrounds, cell phones are ubiquitous, although smart phone ownership cannot be assumed. In earlier phases of this research project, we found cell phones widespread (98.5% of students surveyed in 2007 at different universities had a cell phone), undifferentiated socially and the main means of access to the Internet off campus by students from low socio-economic groups (Czerniewicz, Williams, & Brown, 2009). At that time 78% of South African students accessed the Internet via their cell phones (Kornberger, 2009).¹ Yet as is typical for many South African university students, cell phones are a form of technology generally not valued as a learning tool in institutional contexts (Ng'ambi, 2011); indeed often considered threatening, and termed “disruptive technologies” (Sharples, 2002).

While this group (of digital “strangers”) may be small (comprising 22% of a sample of 2743 reported previously, *ibid*), it is significant because redress and disadvantage remain burning issues in South African education. Internationally ICT literacy is acknowledged as a critical component in higher education, and in the South African context it is interwoven with the general social inequalities which continue to plague and frame higher education. How universities respond to the needs of students with disadvantaged background is essential to their potential for success. Indeed, as Scott observes, the preparedness of our higher education system to deal effectively with South Africa’s contemporary realities is critical for development as well as for individuals’ life chances (Scott, 2011).

¹ Specific details of cell phone ownership and use by all South African students are not available. Research amongst school children research shows that 98-99% of high school learners across all school types owned a cell phone (Tustin, D, van Aardt, I & Shai, 2009, New media usage and behaviour among adolescents in selected schools of Gauteng, UNISA). Amongst the general population, December 2010 figures from the South African Research Advertising Authority Foundation found that 76% of South Africans across the board own cell phones (<http://www.saarf.co.za/cellphone.htm>).

This project, which has been ongoing since 2003, has investigated various aspects of students' access to and use of ICTs for learning at university. In this paper we report on Phase 3 of the project which involved a nested case study approach (Lieberman, 2005) starting with a brief survey of 543 students across 6 universities² as the background to 114 first-level telephone interviews, 46 second-level interviews, and culminating in 6 focus groups with a total of 38 students. As previously, we have used the commonly applied chronological scheme pertaining to the millennial generation as being born between 1980 and 2000 (Howe & Strauss, 2000) (Reeves, 2008), and consequently we focused on the generation of university students born since 1982.

For the aspect of the research reported on here, we used a purposeful sampling strategy (Ryan & Bernard, 2000) and focused on the experiences of a sub group of the 46 students whom we had interviewed twice and were identified as "digital strangers" through their responses to the survey. This group of 18 students lacked both experience and opportunities, had been using a computer for fewer than four years when interviewed and did not have direct access to ICTs off campus. We endeavoured to obtain a sample of students with an even gender balance (10 males and 8 females), and from three different institutions - these included from a historically disadvantaged rural university, a historically advantaged urban university and a historically advantaged regional university. The interviews were semi structured; students were encouraged to tell the story of how they came to use ICTs and to describe their current ICT experiences.

Given our interest in habitus, itself a Bourdieun concept, and given that Bourdieu's theories framed the research itself, we used Bourdieu's theoretical constructs directly in the coding and categorisations process (Maxwell, 2008). The overall project consisted of a research team of four people all of whom were involved in the analytical process of this data. Firstly, each individual's data was categorised within Bourdieu's theoretical constructs, then we went through a verification process where we read and checked each other's categorisations to obtain agreement. This led to various coding categories emerging within the constructs (Ryan & Bernard, 2000) (Yin, 2003) and culminated in a matrix showing the value, importance, use and lack of use made by individuals in relation to computers and cell phones separately and as a generic group. We examined positive, negative and neutral statements and specifically considered the conditions of use and the choices students were making about ICTs. We also considered their social capital - the ease, familiarity, knowledge and skills they felt their family, friends and university exhibited in relation to ICTs. We then aligned this data to our research questions and examined the responses for the collective group of digital strangers for the purposes of this paper (Stake, 2000).

Students' technological habitus

Habitus, according to Bourdieu, is structuring in that it is informed by background and past experiences, and structured in that shapes one's future experiences and engagement with the fields of which it forms part; it is not random. Technology plays an important role in students' habitus through access to particular forms of cultural capital; it also shapes how they engage with their studies. The

² These were distributed to students across institutions at computer literacy training, library courses and in areas courses where ICTs were a professional component eg computer science, information systems etc

embodied and objectified states of cultural capital are especially relevant, to both students' scholarly identities in the field of higher education and to their personal identities.

Habitus has to be discerned as it cannot be directly observed in empirical research – it has to be apprehended interpretively (Reay, 2004, p. 76). Habitus can be empirically viewed obliquely by asking students how they see themselves, and how they see the role of the technology in their learning and social lives; and by exploring their backgrounds especially in terms of their interests and their reported confidence and proficiency with ICTs.

Who are these digital strangers we report on? The majority of students in this group (14 of the 18), come from rural areas or townships³ where access is limited. Computers were not available in these students' homes and they had to be resourceful and find access elsewhere, through for example community centres, schools, "*Computers at my area? At home? There is no computers at home*" (UL 553), and "*I don't have access to a computer when I am at home but I usually go out, and visit a particular High School there in my location, and work at that particular time*" (WSU 276). In the three cases where computers were available at home, access was limited because it belonged to the family business, or was owned by the student's sibling or was bought without anyone in the family knowing how to use it. Consequently, students do not have the benefit of a home environment that is able to provide support or knowledge about computers, "*It's only in the family where there is none [knowledge about computers] like that, but my friends, and teachers, as well as tutors do have that knowledge*" (WSU 276).

This does not mean that computers and the associated technological knowledge are not valued by the students' communities. Indeed, the opposite is the case, "*... others think that I am better than them though I still need some knowledge. ..., because in my area... I can say I am higher [in knowledge about technology]—I am topping because people of my area regard Standard Ten as a huge achievement and they have a limited knowledge, and we also don't have electricity there, then using computers is something high*" (WSU 273).

Some of these areas where students come from, are environments which lack infrastructure as basic as electricity or postal services: *....so that I could communicate with them to avoid using letters because where we were staying there was nothing like letters because it was remote villages and there were no post offices, so it was better to have a phone, that really worked*" (WSU 273). In these contexts the integral nature of cell phones is striking, "*Eh my parents don't use computers because they are in remote areas, they just use cell phones*" (WSU 273). The word "just" used by this student indicates how the cell phone has come to be regarded as an ordinary part of life.

Cell phones have become so common that they are not really even considered to be technology at all "*Q How long have you been using technology for? /A Um, not really for a long time, because I haven't used it, up until I was at university./ Q How long have you been using cell phones for?/ A Cell phones I've been using for a long time./Q How old were you when you first started using a cell phone?/A I think I was about 11, 12, somewhere there.*" (UCT 14). This response was typical- all students had to be prompted during the interviews to consider their use of cell phones as an ICT at all. Although some had access for most of their senior schooling years, others were given cell phones by their family as a means of keeping in contact when they left home. Thus, "*Nobody taught me how to use a cell phone 'cause my parents bought me a phone when I was in boarding school*" [UCT 106].

Yet having access is not simply about the object, it's about knowing how to use it. As Bourdieu states, "To possess the machines, he only needs economic capital; to appropriate them and use them in accordance with their specific purpose (defined by the cultural capital, of scientific or technical type,

³ In South Africa a township or "location" denotes an area which under apartheid was reserved for black people usually in the outskirts of towns.

incorporated in them), he must have access to embodied cultural capital, either in person or by proxy” (Bourdieu, 1986, p. 250). Students learn to use computers and cell phones differently as they have been exposed to them at different stages of their lives and have different levels of confidence in relation to particular kinds of technology. Their embodied capital differs in relation to the different objectified states - computers or cell phones.

The majority of students (77%) learnt to use a cell phone themselves and to figure it out as they went along “*Q What did you learn to use first?/ A cell phone first./ Q Who taught you how to use it?A Nobody taught me how to use a cell phone ... I had to learn on my own, [mine] like just, crashed, crashed, until I knew how it functions*” (UCT 106). Others learnt through a family member “*My sister was using the cell phone, and then it happened that I was watching everything she was doing, and then I learnt it for myself*” [UCT9]. Their attitudes towards cell phone use were positive, as this typical remark indicates: “*I cannot think of anything that is difficult to do on my cell phone*” (UFH 503)”.

This contrasts with students’ experiences with computers, “*No when I started having a phone, I already knew a lot of things in it, I did not experience any problems with it, but when it comes to computers it’s difficult, I just realized that it’s very difficult, that’s all what I can say*”(WSU 2) and they generally do not see the skills and knowledge they have with cell phones as relating to or being transferable to the computer.

While the reasons for such difficulties might partly lie in the technology itself, a positive disposition towards technology; attributes such as confidence and the expectation that one can solve technological problems oneself lie elsewhere. Being able to let something “*crash and crash*” until working out how it functions is something more subtle, a certain kind of self-assurance. This kind of embodied cultural capital is of great value for student success in their studies, and its lack is a distinct disadvantage. These findings beg the question whether universities are sufficiently exploiting student confidence with cell phones, and utilising this in support of their learning.

The value of cell phones is expressed through a dimension of an almost literal embodiment for students which for some evokes issues of privacy “*Yes, no one else must touch my phone, that is an issue of privacy—they must not interfere with my privacy*” (WSU P5) while for others it is seen as part of their wardrobe “*Without my cell phone I would feel incomplete, I would feel like I am not wearing my earrings, I wouldn’t feel right at all*” (UFS552) and “*Your phone is like your closest companion, some form of attachment*” (UFH5) Indeed, “*a cell phone is ah, virtually[needed] every situation each and every day*” [Rhodes 180].

Computers too can assume important and central roles in students’ lives. For example, one student who has very limited access to computers, and who owns a cell phone without Internet access describes how essential computers have become to him, and how he will go out of his way to use computers, and the associated Internet: “*.... I am more into PC’s I am more into them. A day doesn’t pass without touching one. Even if it is typing, going to the net, Facebook, I have to be on the PC. [Q: what happens if you are not?]/A: it has never happened, even if it’s on Sunday, I come to campus, to the computer lab. / [Q: and how do you feel if you don’t go on the computer every day]/A: like when I’m at home, OH! I don’t know, I feel like my, something is short. I feel like I have lost something. [laughs... it’s like there is something like, you know every day you have to eat. Let me say at one o’clock if you have not eaten, you are going to feel that something’s wrong like. Ja. Like something is missing in my life..... I’m addicted! Addiction!*” (UFS 549).

What emerges is a group of students who come from backgrounds with limited exposure to computers; many without computers in their homes, some without computers in even their communities. Their families are unlikely to provide them with support and help in solving computer-related problems. In other words, with regards to a particular form of technology- computers- in terms of economic, social and cultural capital, they are disadvantaged. Their cultural capital in both objectified and embodied forms with regards computers is limited, and their social capital in terms of enabling networks similarly so.

Yet these students' technological habitus does not fit neatly into a deficit mould, one which can be simplified as under-developed, fraught with difficulties and neatly characterised by disadvantage. Computers are only one form of technology albeit the dominant and most legitimated one. With regards to cell phones, a different picture emerges. In terms of economic capital, students find the resources to obtain cell phones. Importantly this is not simply because they are well off, but because they value cell phones highly, and consider them important - even essential - and they will choose to use their limited resources to acquire them⁴. Amongst student groups traditionally considered disadvantaged, cell phones are owned and used with confidence; providing a form of cultural capital both objectified and embodied.

Yet we are reminded that a capital does not exist and function except in relation to a field (Bourdieu & Waquant, 1992, p. 101). Thus technological habitus – as expressed through students identities, dispositions, skills and backgrounds - only makes sense in relation to the field in which they operate, that of higher education. The effects and possibilities of the cultural capital students have access to must be appraised in that context.

Students' habitus in the field of higher education

Higher education, a relatively autonomous field, is the social arena within which the habitus of students must be analysed. One must analyse “the trajectories and strategies which are produced in the interaction between habitus and the constraints and opportunities which are determined by the structure of the field” (Jenkins, 2002, p. 86). As a field is a structured system of social positions, the nature of which defines the situation for their occupants, it is the accepted rules which legitimate what is valued in that field.

In universities, computers have more value and legitimacy than cellular technology. Despite much hype about the possibilities of mobile learning, and despite ubiquitous access to cell phones, , universities globally are still trying to overcome the “experimental status of m-learning” with most Rajasingham concludes after an analysis of mobile learning projects in New Zealand, China, Spain, Germany and the United States that m-learning is “restricted to short-lived, short-funded pilot projects or to researchers using individual courses as experiments outside mainstream methods offered by their institutions” (Rajasingham). In South Africa, at the time of this investigation, a study of elearning across 14 universities indicated that only two institutions were investigating or undertaking pilots using mobile learning technologies (Brown, Thomas, van der Merwe, & van Dyk, 2008), an indication that m-learning is not mainstreamed in our context either.

⁴ A study of students in schools in low socio-economic areas found that amongst the 17 year old students interviewed, about half of all their expenses were spent on cell phones Kreutzer, T 2009, Generation Mobile: Online and Digital Media Usage on Mobile Phones among Low-Income Urban Youth in South Africa, <http://tinokreutzer.org/mobile/MobileOnlineMedia-SurveyResults-2009.pdf>

Students recognise that the technology that counts in the field of higher education is the computer, “A computer is more important than an cell phone because for academic work I must know computers. I can’t pass with a cell phone” (UCT 37) and “I would spend a lot on a computer ...all my work that I do for university is through the computer” (Rhodes 171) and “I would love to have my own computer because here at UCT I think you cannot survive without your own” [UCT6].

A computer also represents progress, an offer of escape from disadvantaged circumstances and an opportunity to succeed in the new social world “I want most to excel at computers because I didn’t have that advantage at school, I don’t want to be left behind” (UCT 17) and “I just realized that in my entire life there is nothing that will assist me except computers” (WSU P1).

The extent to which success with computers is regarded as an achievement is evident in this rather metaphorical account:

And where I come from they don’t like school – you see, if you have your friends and you are ten in number, only two of you will manage to go to school up to Grade 12, I [had] never come across a computer up until I arrived here [at university, so..... it’s moving from a gravel road to the smooth one. Yes, when I arrived here there was a fast traffic.....I was walking on a bumpy gravel road, so when I arrived here I must merge, here traffic is too fast, you see. So it’s hard to fit in, just imagine, I am new, I only know a computer by seeing it on a TV. ... So it’s an endless path, it’s just like life you don’t know where it will end but it becomes interesting every time you expect something new you discover something... so at least now I can say it smooth (WSU 2).

It is not surprising that students work hard to do well with computers as they “play to increase or conserve their capital...in conformity with the tacit rules of the game” (Bourdieu & Waquant, 1992, p. 99) which place a higher priority on the computer as an educational device compared to the cell phone. The metaphor above also demonstrates students’ perceptions of a computer as enabling an escape from and highlights the invisibility of the cell phone even to the students themselves.

Yet we are reminded that “ they can also get into it to transform partially or completely, the immanent rules of the game ...they can work to change the relative value....the exchange rate between various species of capital, through strategies aimed at discrediting ... forms of capital upon ...and valorising the species of capital they preferentially possess” (*ibid* p99).

We see this playing out where students become active agents who use the economic and cultural that they do possess i.e. their cell phones for academic purposes. This appears to be a secondary strategy, i.e. one they employ when they are unable to use a computer: “When I am studying at home or when there something that I think of doing, maybe I come across that particular topic that I am not good at, I then use Internet on my cell phone -in other words some bit of research” (WSU 269) a powerful strategy nevertheless, “I use my cell phone for searching for academic related stuff”(UL 556) and “I use my cell phone for Google, to search for information, stuff like that” (UCT 23) . We also see how the possibilities are opened up for students particularly in terms of anywhere, anytime access “....my cell phone has Internet....., in most cases I use it for that purpose, maybe when I am doing my assignments I get confused then just go and Google information, and see what happens” (WSU 273) and “All my course work documents are saved on my cell phone, and I have my cell phone with me at all times” (Rh 160).

Yet despite the evident valuing of the computer as a learning device in higher education, students are strategic and realistic. A computer is beyond the financial reach of this group, with only one interviewee reporting that this was a possibility for them “*Ja I’d like to buy my own laptop ... My parents would buy it for me*” [UCT106]. For the rest it remains a dream rather than a reality “*Let me just say I prefer a cell phone as technology but due to you know, I can say because I am still poor so it’s gonna be that affordable as compare to using my own PC*” (UL 548). The rest make the most of what economic capital they do have, even if they do so reluctantly. Consequently some make conscious economic decisions “*we try to buy cell phones with Internet so that there is no need to go to computers*” (WSU 1). Cost is an important determinant of behaviour “*....., last semester during the exams, my friend sent me a please call me, and then on Mxit [mobile chat] she asked me for a scope, the materials to study for the exam, so then it’s a very long scope so I had to type it all out. It’s cheaper than an SMS and calling, so ja*”.(UFS F5). Web based mobile chat offers students cheap and effective ways of engaging with their studies even though they might prefer laptops.

Conclusion

The research being undertaken through this project suggests that indeed the relations between the different types of capital and the field are not static: they are contested and fluid. We must ask the question whether alternative forms of objectified cultural capital change and modify the ways students relate to higher education. Our findings suggest that it does. Because habitus is an open system of dispositions that is constantly subjected to experiences and therefore constantly affected by them in a way that either reinforces or modifies its structures (Bourdieu & Waquant, 1992, p. 133), we see that student’s habitus is modified by the types of technology they have access to and the ways that they are able to exploit those technologies to engage with the demands of higher education.

Computers are valued as the dominant form of technology in higher education. As an educational tool they are prioritised in higher education, and institutional structures seldom exploit the ubiquitous mobile as an administrative or learning strategy (Brown & Czerniewicz, 2008) . However, cell phones are clearly essential to digital strangers’ personal identities; yet at the same time are inevitably mixed up as part of their scholarly identities.

Digital strangers have mixed feelings about this and appear to acknowledge and value computers more highly than cell phone in the field of higher education yet practically often have to use their cell phone as a necessity. In terms of cultural capital, they bring practical abilities and dispositions from cell phones to bear on their learning practices even as they themselves do not necessarily consider these skills as transferable or valued. One might suggest that through the students’ habitus, a new form of objectified capital- the cell phone, is testing the existing dominance vested in the legitimate form of technology- the computer. This will be further tested with students’ increasing access to “smart phones”.

The field of higher education is not static and is also influenced by the practices of those who comprise it- it’s a two way process. Field and habitus exist in relation to each other. Students’ habitus is not merely determined or contained and shaped by the field; students have agency and ways of engaging with the field, which in turn changes their habitus and their relationship with the field. Thus one might suggest that through students habitus, a new form of objectified capital – the cell phone is testing the existing dominance vested in the legitimate form of technology – the computer .

Students recognise what the field values, but they also use what they have and what they can to gain entry to the field. In the South African context this is not surprising. Specific types of technology - cell phones, and computers- shape identities and engagement with the field of higher education in different ways. These are both distinct and overlapping. Specifics forms of capital, viz computers, are privileged in the field of higher education, yet student practices with an alternative form of objectified capital are pushing the boundaries of the field itself. This research in students' digitally-mediated practices adds weight, along with other research (Hodgkinson-Williams & Ng'ambi, 2009) (Kukulska-Hulme & Traxler, 2009), for the case for institutions to consciously engage with the m-learning opportunities available within all educational contexts faced with social and digital inequalities.

References

- Bourdieu, P. (1986). The forms of capital. In J. Richardson, *Handbook of Theory and Research for the Sociology of Education* (pp. 241-258). New York: Greenwood.
- Bourdieu, P., & Waquant, L. (1992). *An Invitation to Reflexive Sociology*. Cambridge: Polity Press.
- Brown, C., & Czerniewicz, L. (2010). Debunking the digital native: beyond digital apartheid, towards digital democracy. *Journal of Computer Assisted Learning* , 26, 357-369.
- Brown, C., & Czerniewicz, L. (2008). Trends in student use of ICTs in higher education in South Africa. *10th Annual Conference of WWW Applications*. Cape Town.
- Brown, C., Thomas, H., van der Merwe, A., & van Dyk, L. (2008). The impact of South Africa's ICT infrastructure on higher education. *Proceedings of the 3rd International Conference of E-Learning* (pp. 69-76). Academic Publishing Limit.
- Czerniewicz, L., & Brown, C. (2009). A virtual wheel of fortune? Enablers and constraints of ICTs in higher education in South Africa. In W. K. S. Marshall, *Bridging the knowledge divide: Educational technology for development*. Colorado: Information Age Publishing.
- Czerniewicz, L., Williams, K., & Brown, C. (2009). Students make a plan: understanding student agency in constraining conditions. *ALT-J Research in Learning Technology* , 17 (2).
- Goldstuck, A. (2008). *Internet access in South Africa*. Retrieved from World Wide Worx.
- Hodgkinson-Williams, C., & Ng'ambi, D. (2009). *Case Study 5: Mobile Learning*. . OpeningScholarship. University of Cape Town: Centre of Educational Technology.
- Howe, N., & Strauss, W. (2000). *Millenials rising: The next great generation*. New York: Vintage Books.
- ITU. (2007). *Household Internet and Computer Access* . United Nations.
- Jenkins, R. (2002). *Pierre Bourdieu*. London: Routledge.
- Kornberger, M. (2009). *The SA Student Social Media Report Student Village and Interact RDT*.

- Kukulska-Hulme, A., & Traxler, J. (2009). Designing for mobile and wireless learning. In H. Beetham, & R. Sharpe, *Rethinking pedagogy for a digital age: designing and delivering e-learning*. London: Routledge.
- Lieberman, E. (2005). Nested Analysis as a Mixed Method Strategy for Comparative Research. *American Political Science Review*, 99 (3), 435-452.
- Maton, K. (2008). Habitus. In M. Grenfell, *Pierre Bourdieu: Key concepts* (pp. 49-65). London: Acumen.
- Maxwell, J. (2008). Designing a qualitative study. In *Handbook of Applied Social Research Methods*.
- Ng'ambi, D. (2011). Enhancing Student Interaction in Didactics Teaching Approaches – the Right to Text During Class. *Proceedings of the 6th International Conference on e-Learning*. Kelowna, Canada.
- Prensky, M. (2001). Digital natives, digital immigrants. *On the Horizon*, 9 (6), 1-9.
- Rajasingham, L. (. (2011). *Will Mobile Learning Bring a Paradigm Shift in Higher Education?* Retrieved June 22, 2011, from Education Research International: <http://www.hindawi.com/journals/edu/2011/528495/>
- Reay, D. (2004). It's all becoming a habitus': beyond the habitual use of habitus in educational research. *British Journal of Sociology of Education*, 25 (4), 431-444.
- Reeves, T. C. (2008). *Do generational difference matter in instructional design?* ITForum.
- Ryan, G., & Bernard, H. R. (2000). Data management and analysis methods. In N. D. Lincoln, *Handbook of Qualitative Research (second ed.)*. California: Sage Publications.
- Scott, I. (2011). Access, success and curriculum: aspects of their organic relationship. In R. D. (eds.), *Access to higher education in South Africa: Reflective of under-prepared students or under-prepared institutions?*
- Sharples, M. (2002). Disruptive devices: mobile technology for conversational learning. *International Journal of Continuing Engineering Education and Life Long Learning*, 12 (5/6), 504-520.
- Stake, R. (2000). Case Studies. In N. D. Lincoln, *Handbook of Qualitative Research (second ed.)*. California: Sage Publications.
- Vermeulen, J. (2010). *Broadband penetration: It's not looking good for South Africa*. Retrieved June 22, 2011, from mybroadband.co.za: <http://mybroadband.co.za/news/broadband/17085-broadband-penetration-it-s-not-looking-good-for-south-africa.html>
- Yin, R. (2003). *Applications of Case Study Research*. Thousand Oaks: SAGE Publication.