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Thesis abstract

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Abstract

The focus of this study is on the discourse of equality and quality in South African education as constructed in the South African White Paper on e-Education (2004). Using Postcolonial Theory as a theoretical framework for Critical Discourse Analysis (CDA) the study identifies four narratives in the White Paper that guide the discourse on equality and quality in South African education: the ‘digital divide’ narrative, the integration of the digital stranger narrative, the technological deterministic narrative, and the auditability and performability narrative.

It is argued that these narratives, while evident in policies around the world, originate from states and international organisations in the global North. As such the narratives are insensitive to the reasons for South Africa’s inequality in education and work to reproduce systemic patterns of signification that fail to redress past and existing inequalities specific to South Africa. Rather than uncritically consuming global knowledge narratives, new critically informed (South) African narratives, conscious of global narratives and committed to social equality, need to be produced that are anchored in new ways of “seeing, thinking about and acting” (Soudien, 2011, p. 265).

Keywords
Critical Discourse Analysis, Information and Communication Technologies, South Africa, White Paper on e-Education,
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Introduction

This study applies a Critical Discourse Analysis informed by Postcolonial Theory to the discourse on equality and quality in the White Paper on e-Education (the White Paper), published in 2004 by the South African Department of Education. The study begins by providing a contextualisation of the White Paper on e-Education and then moves on to a critique of the White Paper’s discourse on equality and quality by analysing four narratives in the text: the ‘digital divide’ narrative, the integration of the digital stranger narrative, the technological deterministic narrative, and the auditability and performability narrative. The study finds that because of shifts in South African policy shortly after democracy towards a growth economy, the White Paper on e-Education’s primary goals of redress, equality and quality in education were undermined. Furthermore, the study suggests that the policy might inadvertently be allowing historical inequalities in education to continue as the four narratives studied work to guide the construction of notions of “equality” and “quality”.

Research questions

My key research question was: “How does the White Paper on e-Education construct notions of equality and quality in South African education?” My secondary research questions were: “How are the key narratives constructed in the document? What contextual elements have shaped the adoption of these narratives for the discourse on equality and quality? How does the White Paper use these narratives normatively?”

Significance of this study

While there has been much work done on the implementation or lack thereof of the White Paper on e-Education (see Montesh & Basdeo, 2011; Bladergroen, Chigona, Bytheway, Cox, Dumas & van Zyl, 2012 for implementation studies in schools; and Louw, Brown, Muller & Soudien, 2009 for implementation studies in tertiary education in South Africa), there has been very little critical work done on the White Paper. Moodley (2005) calls for critical engagement with South Africa policies and programmes as the “absence of power from explicit discussions of ICT [have resulted in] faulty analysis and poor policy” (Moodley, 2005, p. 20). Echoing this call for critical analysis, Andreotti and Pashby (2013) state that “the lack of analyses of power relations and knowledge production … often
results in educational practices that unintentionally repeat historical patterns that maintain conditions of inequality and injustice” (p. 423). This study therefore applies a Critical Discourse Analysis of power relations and knowledge production to the *White Paper on e-Education* creating a broader analysis than what has been offered to date on the policy. This analysis is presented so that, as Paulo Freire (1972) writes, “it [is] possible for people to enter the historical process as responsible Subjects” (p. 16). My hope is that this analysis allows researchers (myself included) to enter as responsible Subjects into the historical construction of a critically aware discourse of equality and quality in South African education.
Chapter 1: Postcolonial Theory as a theoretical lens

Postcolonial Theory is both contestation and (re)creation. Ania Loomba sees Postcolonial Theory as a “contestation of colonial domination and the legacies of colonialism” (Loomba cited in McEwan, 2008, p. 18). The word “contesting” is derived from the root Latin word “contestari” which means to “call upon to witness” (The Concise Oxford Dictionary, 1983). Postcolonial Theory disrupts colonial dominations and legacies by bearing witness. In the Latin sense, using the term “witness” implies legal structures, and in so doing, a place for justice, be it social or criminal or historical or environmental, is constituted. Postcolonial writers bear witness to colonialism’s domination and legacy, calling others to witness the effects too. To witness here does not stop at seeing but incorporates the idea of seeing and speaking out. Cheryl McEwan (2008) elaborates on the idea of Postcolonial Theory as contestation when she states that in the context of development studies, it “creates possibilities for rethinking development, for considering resistances to dominant discourses of development and alternatives to them, and for interrogating how ‘we’ speak and write about the South” (p. 196). Postcolonial Theory then create spaces of engagement with colonial dominations and legacies.

Sara Ahmed (2000) introduces post-colonialism as a “failed historicity”, that is, “a historicity that admits of its own failure in grasping that which has been, as the impossibility of grasping the present” (p. 9). Failed historicity is a witness, but a limited witness acknowledging that its lenses dim and brighten the view in various ways. Ahmed (2000) continues that Postcolonial Theory, rethink[s] how colonialism operated in different times in ways that permeate all aspects of social life in the colonised and colonising nations. It is hence about the complexity of the relationship between the past and the present, between the histories of European colonisation and contemporary forms of globalisation. That complexity cannot be reduced by either a notion that the present has broken from the past …. or that the present is simply continuous with the past. To this extent [post-coloniality] allows us to investigate how colonial encounters are both determining, and yet not fully determining, of social and material existence. (p. 11)
As the analysis of South Africa’s post-Apartheid policies unfold in this study, Ahmed’s conception of failed historicity and an acceptance of the complexity of colonial encounters will be shown to be a useful tool for thinking about the White Paper on e-Education.

This study will use McClintock’s (1992) definition of colonialism as “involve[ing] direct territorial appropriation of another geo-political entity, combined with forthright exploitation of its resources and labour, and systematic interference in the capacity of the appropriated culture to organize its dispensations of power” (p. 89). McClintock (1992) distinguishes between two types of colonialism: “internal” and “imperial” colonisation. According to this definition of colonialism, South Africa experienced colonialism as imperial colonisation first by the Dutch, followed by the Victorian British and then, after gaining its independence from the United Kingdom, whites internally colonized South Africa by extending and enhancing colonial era laws as Apartheid legislation (see chapter 3 of this study: Contextualising the White Paper on e-Education).

While some argue that Postcolonial Theory cannot exist because “colonialism is not dead” (Dei, 2006, p. 2), McEwan (2008) provides a helpful explanation of the two meanings of the ‘post’ in Postcolonial Theory. Firstly, as a temporal aftermath: This is a period after colonialism, measured in a linear progression of time and in binary oppositions (McClintock, 1992, p. 85). This definition sets colonialism in the past and as such, it cannot belong in the present. Following the example of McEwan (2008, p. 17), I add a hyphen between post and colonialism (post-colonialism) to indicate post-colonialism as a temporal aftermath. Secondly, as a critical aftermath: This understanding of ‘post’ is of “cultures, discourses and critiques that lie beyond, but remain closely influenced by colonialism” (McEwan, 2008, p. 17). This is postcolonialism as a condition with on-going effects (Rizvi, Lingard and Lavia, 2006, p. 252). This is the understanding of Postcolonial Theory that I will be using and it will be appearing as postcolonial (without the hyphen) in this paper. Importantly, Ahmed (2000) does not use this convention when referring to post-colonialism but keeps the hyphen even though she understands post-colonialism as critical aftermath (p. 9).

Postcolonial Theory builds on Dependency Theory which states that core (in this case, post-colonising) states are enriched at the expense of periphery (in this case, post-colonised) states and that core nations create dependency in periphery nations in various ways (Cardoso & Faletto, 1979). Postcolonial Theory goes a step further arguing that it is
the core who are dependent on the periphery (Ahmed, 2000). Ahmed continues that this relationship was one of hybridisation where the two met and joined in ways that profoundly changed both. The substance of the relationship was altered by the hybridisation that occurred because “the conditions of meeting are not equal… How others are constituted and transformed through such encounters is dependent upon relationships of force” (Ahmed, 2000, p. 12). Postcolonial Theory therefore tries to become a partial (failed?) witness to the encounters of colonialism by seeing how the encounters altered the participants in different ways. This key concept in Postcolonial Theory leans on Edward Said’s (1978) work, Orientalism, where the occidental Self builds notions of itself based on its construction of an oriental Other.

Postcolonial Theory works to understand power relations between actors (McEwan, 2008, p 3; Barnett, 2006, p. 154). It recognises that power is not just military might or economic strength but also resides in the actors’ ability to represent, to speak for and speak about themselves and the other actors. Postcolonial Theory argues that, for the most part, this power to name and create knowledge about has resided in the West. This study aims to subvert the prevailing assumptions on the role of ICT in South African education couched in the discourse for equality and quality by raising an overt critique of the language use in the White Paper on e-Education (McEwan, 2008, p. 26).

Postcolonial Theory in this study

I use the approach to Postcolonial Theory described above to anchor this Critical Discourse analysis of the White Paper on e-Education for a number of reasons. Firstly, it is a suitable approach to the South African context as South Africa is a post(-)colonial state in both of McClintock’s types of colonialism. Secondly, Postcolonial Theory is an adequate choice due to its suitability to the broader discursive questions I will be asking in the study. Cheryl McEwan (2008) notes that Postcolonial Theory “addresses issues such as identity, race, ethnicity and gender, the challenges of developing post-colonial national identities and relationships between power and knowledge” (p. 22). Postcolonial Theory is therefore relevant for this paper as I investigate South Africa’s postcolonial national identity as expressed in the White Paper for e-Education. Lastly, this approach dovetails well with Critical Discourse Analysis as Aulette-Root (2000) argues that Postcolonial Theory “must be linked to critical discourse analysis during the analysis of these African texts” (p. 179).
Chapter 2: Method

2.1. Critical Discourse Analysis (CDA)

This study interrogates the discourse of equality and quality in South African education as expressed in the White Paper on e-Education by analysing four of the narratives found in the policy: the ‘digital divide’ narrative; the integration of the digital stranger narrative; the technological deterministic narrative; and the auditability and performability narrative. These four narratives are deliberately highlighted because they concentrate on issues pertaining to questions raised by Postcolonial Theory. The aim of this study is to examine the relations between the language used to construct realities in and beyond the policy and the sociocultural conditions which created their possibility. Fairclough (1995) theorises that Critical Discourse Analysis (CDA) is a “framework – a theory and method – for studying language in its relation to power and ideology” (p. 1, emphasis added). CDA is concerned with the production of the meaning in texts, the social practices surrounding the production of texts and discursive practices of texts (Fairclough, 1992, p. 4). In analysing texts in this way, Fairclough (2010) aims to “show an emergence of discourse… the relations of dialogue, contestation and dominance between discourses” (p. 20). This method therefore suits the aim of this study.

The description, interpretation and explanation of narratives in CDA is done in terms of language analysis and social theory (Fairclough, 1992, p. 3; Janks, 1997, p. 329; Rogers, Malancharuvil-Berkes, Mosley, Hui, & Joseph, 2005, p. 366). Michel Foucault’s concepts of discourse, knowledge and power are often used as social theory in Fairclough’s CDA. Discourses, in the Foucauldian sense, “do not just reflect or represent social entities and relations, they construct or ‘constitute’ them” (Fairclough, 1992, p. 3). Discourses cast people as social subjects, for example as “connected” or “unconnected” teachers (Fairclough, 1992). Knowledge is identified as a tool, rather than “a way of ‘accidentally’ or ‘naturally’ grouping ideas and meanings together” (Aulette-Root, 2010, p. 178). Foucault argues that through the use of this tool – knowledge – power establishes what is possible to be known (Foucault in Aulette-Root, 2010). Power is then the cause and the consequence of discourse and knowledge. CDA traces power through the use of language as a social practice where power is understood to have the possibility of being both liberating and oppressive (Rogers et al., 2005, p. 369). The key question in CDA,
according to Aulette-Root (2010), is “what [do] the texts do rather than what their creators may have intended for them to do?” (p. 178).

Fairclough (1995) proposes three connected frames of analysis which he collectively calls “Form-Meaning Analysis” (p. 133). These frames investigate a “discursive event” (any “instance of discourse”) in a text, where “text” is defined as a product of social symbolic forces which can be written, spoken or visualised (Fairclough, 1992, p. 3). The first frame of analysis is “Text Analysis” which “attends to language analysis of texts” (Fairclough, 1992, p. 4). The second frame is “Discursive Analysis”. It “specifies the nature of the processes of text production and interpretation… which types of discourse are drawn upon and how they are combined” (Fairclough, 1992, p. 4). The third frame is “Social Practice”. This refers to “issues of concern in social analysis such as the institutional and organisational circumstances of the discursive event and how that shapes the nature of the discursive practice, and the constitutive/constructive effects of discourse” (Fairclough, 1992, p. 4). Janks (1997) suggests that the two-dimensional boxes Fairclough (1995) proposes might be better understood as three-dimensional boxes located one inside the other. I submit that they should be understood as a hollow equilateral triangular based prism where each frame of analysis is a rectangular side of the prism with the discursive event suspended between these three sides (see figures 1 and 2 below).

Figure 1: The equilateral triangular based prism of Fairclough’s three frames of analysis based on Fairclough’s (1995) diagram
Figure 2: A two dimensional version of the prism in Figure 1, showing the three frames of analysis constructing the boarders of the discursive event (or vice versa).

CDA and Postcolonial Theory

This study uses CDA grounded in Postcolonial Theory (see chapter 1) as an analytical framework. Both CDA and Postcolonial Theory focus on the use of language to represent and create knowledge about a subject with both aiming to problematize language (Fairclough 1995, p. 1; McEwan, 2008, p. 11). With its focus on intertextuality, CDA is a critical approach that supports Postcolonial Theory’s aims to “demonstrate how the language of colonialism still shapes western ideas about other parts of the world” (McEwan, 2008, p. 23). Rizvi et al. (2006) argue that Postcolonial Theory as a theory and a practice shows how discourse and power are “inextricably linked” (p. 250), as does CDA. In the same way that CDA looks for “links” between and within discourses (Fairclough 1995, p. 134), Postcolonial Theory looks at “transverse linkages between and across nation-state frontiers and the global/local inter-relationships that cannot be read off against a nation-state template” (Hall, 1996, p. 250).

Critiques and shortfalls of CDA

According to Rogers et al. (2005) the three most common critiques of CDA are (a) that theories and ideologies are read into the data; (b) that there is an imbalance between social theory and linguistic theory and method; and (c) that CDA is regularly separated from social contexts (p. 372). My responses to the three critiques inform my own position on CDA's suitability for this study. First, policy is highly political as it is an exercise of the state that is ideologically and historically positioned. It is therefore important to illustrate how ideologies can be read into policies even if the intentions of the author cannot be verified. Second, CDA aims precisely to emphasize the relationship between social
formation and power, and therefore social theory is better positioned to make that connection clear. Third, while CDA might not be at the ‘coal face’ of social contexts it certainly is not divorced from them. Some distance from the social context is helpful as distance can highlight how political interests are situated within social contexts.

There is another struggle with using CDA which I find particularly pertinent as I am using CDA with Postcolonial Theory. Aulette-Root (2010) points out that, “The paradox is that as we are engaging in an analysis of these knowledge and power relations we are doing so based on theory that has been identified, articulated, and attributed to a European scholar in a European context (p. 179). While Aulette-Ro"ot (2010) sees this as problematic and that it might be seen as trying to unsuccessfully “use the master’s tools to dismantle the master’s house” (Lorde, 2003, p. 26), Postcolonial Theory provides an adequate solution. Postcolonial Theory is at once speaking to the post-colonies and to the post-colonisers. This is particularly seen in postcolonial fiction when writers “interact with traditional colonial discourses but modify or subvert it, perhaps by retelling a familiar story from the perspective of an oppressed minor character in the story” (McEwan, 2008, p. 24). In doing so, postcolonial writers use various methods to ‘write back’ to the (post)colonial master. This study aims to work in a similar way: to “pay close attention to issues raised by postcolonial theory in regard to the emergent discourses that are reviewed, and will use critical discourse analysis to critique those discourses” (Aulette-Ro"ot, 2010, p. 179).

2.2. Reliability and validity/ Reflexivity and resonance

CDA is a qualitative research method and as such its reliability and validity is based on the researcher’s clear personal reflexivity in the study and how the study resonates with other studies using the same method and ontological anchors. The former will be expressed in this section while the latter will become apparent in the analysis. According to Rogers et al. (2005), “Reflexivity is crucial in research agendas involving Critical Discourse Analysis in education research” (p. 382). Following Lingard’s (2009) suggestion that the researcher’s positionality is “clearly relevant in determining the approach to be taken to policy analysis” (p. 228), I will reflect on my positionality in this section. I am writing this thesis as an academic researcher for my Masters in Education and Globalisation for a Finnish university. My theoretical underpinning for this study is that of Postcolonial Theory which is has been explained in Chapter 1: “Postcolonial Theory as a theoretical lens”. I am a South African teacher and academic, writing in South Africa about a South
African policy for teaching and learning. I am therefore part of the global South but as a white, English speaking, middle class, tertiary-educated female I am part of the privileged elite of South Africa (see conceptions of South African whiteness in Soudien, 2012, p. 177 – 180). I write this study in 2013 almost two decades from the beginning of the ‘New’ South Africa and ten years from when the *White Paper on e-Education* was published. 2013 was also the year in which the policy was planned to be completely implemented by (DoE, 2004, p. 16).

This policy analysis is not value-neutral nor does it take the policy’s definition of the problem as neutral or value-free. In this sense, the research is critical. Although this study analyses the government of South Africa’s construction of discourse, it must be noted that there was never total consensus in the state apparatus for the policy (see Moodley, 2005). This analysis retains the state as a key actor in policy but recognises that there are many non-state actors that contribute to the formation of national strategy that are particular to South Africa as a postcolonial state in the Global South (Lingard & Ali, 2009, p. 238).

### 2.3. Reading this policy as text and discourse

Ball (1993) argues that policy can be understood as either text or discourse. Policy as text “see[s] policies as representations which are encoded in complex ways and decoded in complex ways. Policy is both contested and changing” (p. 11). Understanding policy as discourse means thinking in a way that recognises the power of policy to constitute that of which it speaks which “in the practice of doing so, conceal their own invention” (Foucault quoted by Ball, 1993, p. 14). The state is then the product of policy discourse rather than the creator of it as “policy as text” recognises. Following Postcolonial Theory and Critical Discourse Analysis, this study understands policy simultaneously as text and discourse. It is a consequence and a creator and sometimes, it is the consequences of its own creation. As a text, the *White Paper on e-Education* holds discourses that will be decoded recognising that it is a “product of compromises” and that policies “shift and change their meaning”; that action from them cannot be “predicted or assumed” and that policies do not “tell you what to do; they create circumstances in which a range of options available in deciding what to do are narrowed or changed” (Ball, 1993, p. 11-12). Furthermore, policy will be recognised as “positioned within discourses, which today are often globalized” (Lingard, 2009, p. 237) and as such, four of the narratives present within the policy will be analysed. As a discourse, the *White Paper on e-Education* will be understood as a
normative discourse describing how things are, prescribing how they should be, and as a document that calls for resources to bring about the changes necessary to sustain the imagined future according to the description and prescription of the policy (Levinson, Sutton & Winstead, 2009). Therefore, ontologically, I hold both the idea of “policy as discourse” and “policy as text” to be valuable in the understanding of the policy and the research done on it (Fairclough, 1992, p. 3).

The *White Paper on e-Education* exists as a written document and constitutes the hopes of the national government in 2004 for the use of ICT in education for equality, quality and redress in South African education. This study focuses on the official policy, that is, the policy as set out by the South African government rather than the informal or unofficial policies of schools, teachers or learners (Soudien, 2001). As such, I will privilege official discourses, texts and knowledge in my analysis of this top down policy. The study will read the social, political, local, regional and international context in which the White Paper was formed as well as see how it is part of the formation of a post-Apartheid South Africa. The study uses Critical Discourse Analysis informed by Postcolonial Theory “to expose the ways that [official] policy functions as ideology” (Levinson et al., 2009, p. 774).

When analysing the *White Paper on e-Education*, it is critical to remember that it is a South African national policy and as such functions within a certain genre. Fairclough’s (1995) defines genre as: that “use of language associated with a particular social activity… that draws on a range of discourses [and narratives]” (p. 135). The social activity of this text is to make policy. The aim of such a policy is to call to attention, set benchmarks and enable regional governments to act. Singh (2010) points out that South African policies regarding technology revolve around “socio-centricity”, technology use for the improvement of lives, and “techno-centricity”, the increase in technological possession for the reduction of comparative statistical imbalances, which can be mutually complimentary or contradictory (p. 218).

### 2.4. Race, class and gender

I have struggled with ways of getting around the usage of the colonial and Apartheid era racial categorisations of South Africans of ‘African’, ‘white’, ‘coloured’ and ‘Indian’. I found that in my effort to avoid these categories I either created new categories which
simply “reconstructed race and racial identities” (Chisholm & Sujee, 2006, p. 146) or minimalised the effect of South Africa’s centuries racial segregation and inequality.

Some South African researchers have attempt to move away from racial categories in referring to difference in South Africa and use language categories instead. Czerniewicz and Brown (2010) state that “inequality of access is a reality for South African students […] who do not speak English as a home language” (p. 364), while Van der Berg, Burger, Burger, De Vos, Du Rand, Gustafsson, … & Von Fintel, (2011) refer off handily to “one of the African languages, versus Afrikaans or English” with regards to schools choosing a language to be tested in (p. 7). This turn to using home language as a category in research might be due to the change in statistics available to researchers after 1994. Under Apartheid law, children were categorised by race but after 1994 and the abolition of Apartheid laws, this form of categorisation was no longer used in statistics gathered by the government in schools. “Home language”, however, remained as a category. With very few white children speaking Xhosa as a home language and very few African children speaking English or Afrikaans as a home language, marking one’s home language as English or Xhosa became de facto a way of identifying race in schools. Language (home or language of teaching and learning), however, is an unsatisfactory categorisation firstly because of its broad brush effect which diminishes significant difference (e.g. the difference between a white, city dwelling, Afrikaans-speaking boy and a coloured, farm dwelling Afrikaans-speaking woman). Secondly, when studying the way language is used in much of the research on South African education, there is little or no difference registered between Zulu or Xhosa home language learners while there is difference registered between English- and Afrikaans-speaking learners. For example, Czerniewicz & Brown (2010) state that, “in terms of home language, most [digital elites] speak English (32%) or Afrikaans (40%) […]while the digital stranger category has] 80% speaking a South African language of African origin as their home language” (p. 363). This pattern of representation is then essentially working as a white/non-white categorisation by another name and homogenises speakers of “South African languages of African origin” in the same way that racial terms homogenise.

In trying to avoid using race in this study, I found that I was not coming to terms with the fragility of these terms, but rather reinforcing them. I will use the racial categories that exist currently and are “familiar to South Africans and those who know South Africa” (Soudien, 2001, p. 313) acknowledging that racialisation is a purely social construction.
Like Crain Soudien (2001) I recognise that by employing the terms ‘African’, ‘coloured’, ‘Indian’ and ‘white’, I am “complicit in entrenching the racial meanings surrounding their use” (p. 313). I use them tentatively, knowing their frailty and the silences they create.

Although I will use the categories of race familiar to South Africans, I do not use race exclusively, for example in the same way that Critical Race Theory does. Previously, I criticised using language as a categorisation because of its broad brush effect and the same can be said of race. Class is a helpful category for understanding South Africa, but in isolation to other categories, it presents an ahistorical, uncomplicated picture of a heterogeneous society. Exploring integration in South African schools, Crain Soudien (2004) references Harold Wolpe’s argument that “neither race nor class, by itself, is capable of explaining the nature of South African social formation and the ways in which privilege, power and position are distributed” (Wolpe, 1988 cited in Soudien, 2004, p. 90). Chisholm and Sujee (2006) agree and point out that,

Each racial category [in South Africa] has in its own way also been cut across by class. There have been and continue to be working class and unemployed whites, Indians and coloured people, and schools have emerged to serve them. Many formerly white, Indian and coloured schools thus cannot automatically be equated with middle class schooling. Many of these schools also share several characteristics with schools in townships. (p. 145)

Crain Soudien (2004) identifies gender as one of the “mega scapes” in South African society along with race, class and language. Equality, as articulated in the South African Constitution, is inclusive of gender equality (South African Constitution, section 9). Presumably then, gender should be a part of this study on the discourse of equality and quality in the ICT in education policy. However, gender will not be included. This was not an oversight but rather a reflection of the literature on gender in ICT in education currently available for South Africa. South Africa’s gross enrolment ratio in 2004 (the year of the publication of the White Paper on e-Education) stood at 98% with the gender parity index at 1.01 which suggested that most children were in school and that there were as many girls as boys in schools (Isaacs, 2007). When focusing on the quantitative results of participation and performance, conclusions are drawn similar to Gilmour and Soudien (2009) who state that “unlike the vast class and race disparities noted earlier, male and female performance is relatively equal […] with females outperforming males in some
areas” (p. 288). Specially referring to gender education and ICT, Cantrell and Visser (2011) state that “earlier empirical findings about gender and computer attitudes reveal no significant gender differences in South African college students’ attitudes toward computer usage and adaptability” (p. 282). Brown and Czerniewicz (2009) state that, “in terms of access to technological resources ICTs appears to have equalized between genders” (p. 62).

Moving from quantitative measures of school assessments and physical access to technology to qualitative measures of use and content of technology, there are suggestions of gender inequality in South African ICT schooling in the literature. Brown and Czerniewicz (2009) propose that “[gender] differences in the use [of technology] are still apparent in some contexts” (p. 62). Isaacs (2007) argues that there should be more “targeted interventions that promote girls and women in particular” (p. 25) although it is not clear if this suggestion would challenge or uphold existing gender stereotypes. Focussing on the quantitative concerns of access, researchers have often ignored or downplayed gender as a significant scape of research on ICT in education in South Africa. Moving the focus from physical access to content and usage could open a new set of research questions that show gender to be a weighty factor for education policy researchers, makers and implementers. It is therefore my suggestion that more research should be done in this area.
Chapter 3: Contextualising of the *White Paper on e-Education*

According to CDA, the context of production of the South African *White Paper on e-Education* should be included in the analysis of discourse. Unfortunately, there is only one history of the policy available in Isaacs (2007) which is based on the history that the policy provides for itself. It is not clear how this history was compiled or if all factors that contributed to the policy were included. It is not Sara Ahmed’s (2000) “failed historicity”. It is a linear, unidirectional history that plots the establishment of governmental bodies, the publication of reports and the setting of strategies. It shows an inevitable production of a policy on ICT in education. As such, it is not an ideal source for this paper but it is the only source available to researchers currently.

A story of the production of the *White Paper for e-Education* was published by infoDev – a subsidiary of the World Bank – as part of a broader study of ICT policy creation and implementation in Africa (Isaacs, 2007). According to Isaacs (2007) the policy development for ICT in education in South Africa began in 1995 with the launch of the Technology Enhanced Learning Initiatives. This was a year after South Africa’s first democratically held elections in 1994. The 1994 elections resulted in the African National Congress (ANC) coming to power and remain a highly symbolic moment in the history of South Africa. The elections marked the end of centuries of white segregationist rule, first by Dutch colonisers (17th and 18th century), then by British colonisers (18th to 20th century) and mostly recently by the Apartheid government (1948 – 1994). The colonial and Apartheid governments passed laws over centuries to “systematically expand and enforce the privileges of white South Africans” (Fiske & Ladd, 2004, p. 2).

As part of the move towards democracy for all in the early 1990s, the South African Department of Education (DoE) was formed from nineteen different Apartheid departments of education. Apartheid’s “equal but separate” development plans for different racial and linguistic groups in South Africa created an education system that was specifically designed to keep African, coloured and Indian people out of the higher paying echelons of the modern economy (Verwoerd, 1954). This was partly achieved through education policies like the *Bantu Education Act* (1954), the *Extension of University Education Act* (1959) and the colour bar legislations which prescribed education and employment based on racial categorisation. Government school resource allocation was based on race with white students receiving the most resources (per student) and African
students the least (Fiske & Ladd, 2004, p. 44). The curriculum (the Christian National Education Policy of 1948) focussed on ethnic pride and shame and reserved certain subjects, like higher level mathematics and advanced technical training, for whites only (Fisk & Ladd, 2004). It was then the immediate responsibility of the new South African government (post-1994) to repeal these laws and pass new laws that promoted redress, equity and equality (Gilmore, 2001). In 1996, the South African Department of Education was mandated by the new Constitution of South Africa to “through reasonable measures make progressively available and accessible” basic and further education (The South African Constitution, section 29). All changes in South African education policies were to be taken with the urgent “need to redress the results of past racially discriminatory laws and practices” (The South African Constitution, section 29). The White Paper on e-Education positioned itself as such policy when it stated that, “…developments in ICTs create access to learning opportunities, redress inequalities, improve the quality of learning and teaching, and deliver lifelong learning” (Department of Education [DoE], 2004, p. 16).

Despite such policy interventions to improve the overall quality of education most of South African learners have continued to underperform in international and local benchmark testing. The Progress in International Reading and Literacy Study (PIRLS) 2006 concluded that South African learners had the worst reading level out of the forty countries tested. Spaull (2013) separates the results for literacy from PIRLS 2006 according to languages of learning and teaching at schools (for my hesitations on such distinctions read section 2.4. “Race, Class and Gender” in this study). He argues that most of the learners in English or Afrikaans language schools achieved much higher scores than most of the learners in African language schools. The Southern and Eastern Africa Consortium for Monitoring Educational Quality II (SACMEQ II) found that more than half of South Africa’s learners could not understand basic written information (Equal Education, 2010, p. 5). In Spaull’s (2013) analysis of the reading scores for the 2009 SACMEQ III, he grouped scores according to school wealth. He suggests that reading scores are similar in the three poorest quartiles while the wealthiest quartile is on average 150 points ahead of the rest. The international tests have been heavily criticised (for a fuller discussion of these tests internationally, see Sayed, 2010 and in South Africa see Muller, 2004). The South African government therefore set its own tests, the National School Effectiveness Study (NSES) in 2007 and more recently, the Annual National Assessments (ANAs) for all grade 3s and 6s. Using the results from the numeracy scores generated from the NSES 2007, Spaull (2013)
compared the scores of historically African only schools to those of historically white only schools. He argues that there is, again, a significant difference on the average scores recorded by historically white only schools which are higher than those recorded by historically African only.

Assuming that the quality of education can be measured as the ability to perform well in tests (van der Berg, 2004, p. 77), Spaull (2013) displays that there is great inequality in the South Africa’s quality of education. It is beyond the scope of this study to answer why such inequalities exist, however for additional reasons beyond Spaull’s three that are illustrated here, read Gilmour and Soudien (2009) and van der Berg et al. (2011). Suffice it to say that the colonial and Apartheid legacies of unequal mass education according to race, language and class are still highly functional in South African education today so that “rich and white children perform better than poor and black children” (Soudien, 2007, p. 183).

The White Paper is sectioned into seven chapters. The introduction familiarises readers with the need for ICT in society and education, how ICT should be used for development in Africa, the concept of the digital divide, the South African government’s response to the digital divide and finally, a current (2004) profile and distribution of ICT in South African schools. The second chapter is named “e-Education”. It gives the working definitions of concepts in the policy relating to e-Education. This chapter continues with an explanation of the significance of e-Education and e-school development as a policy goal. The third chapter is “The use of ICTs in education”. This short chapter, a total of three pages, explains the benefits of ICT in education for learning, assessment, management and administration. Chapter four, “The policy framework”, points to key strategic targets in the policy: equity, access, capacity building and the setting of norms and standards by the DoE. “Strategic objectives” forms the fifth chapter. This chapter re-emphasises the importance placed on access and introduces the need for various types of development: firstly, professional development for management, teaching and learning and secondly, the development and distribution of electronic content resources. It calls for connectivity and community engagement together with research and development. Chapter six is concerned with “Funding and resourcing”. It states the need, the principles and the sources for investment from the government and the private sector. “Implementation strategies”, the final chapter, lays out a system-wide approach of the policy requiring co-ordination and collaboration horizontally and vertically (within and beyond the Department of Education).
as well as monitoring and evaluation. The chapter ends with three sets of three year planning cycles that establish progressive achievement goals for policy implementation by 2013. The policy’s seven chapters are bookended with a foreword by Naledi Pandor (the Minister of Education in 2004) and a glossary of ICT terms on the final two pages.

The *White Paper on e-Education* is a “strategic” policy according to Kozma’s (2008) types of policy rationales. It aims to “provide a rationale, a set of goals, and a vision for how education systems might be with the introduction of ICT and how students, teachers, parents and the general population might benefit from its use in schools” (Kozma, 2008, p. 1084). The final version of the *White Paper on e-Education* was passed in 2004 and planned to be fully implemented by 2013 so that,

> Every South African manager, teacher, learner in the general and further education and training bands will be ICT capable (that is use ICTs confidently and creatively to help develop the skills and knowledge they need as lifelong learners to achieve personal goals and to be full participants in the global community) by 2013. (DoE, 2004, p.17)

According to Cantrell and Visser (2011) the aim of this policy was to “articulate a governmental response to the ‘new’ information and communication technology environment in education, and its potential application to existing school curricula for enhanced learning and teaching environments in South African schools” (p. 276). As a strategic policy, it hopes to “motivate change and co-ordinate disparate efforts so as to advance the nation’s overall educational goals” (Kozma, 2008, p. 1084). The White Paper is classed as having “multiple rationales”. It encompasses all four of Kozma’s (2008) rationales that are “used to justify the investment of funds in educational ICT” (p. 1085) as illustrated in Table 1 below,

Table 1: Comparing Kozma’s different rationale for types of ICT policy and the rationale for ICT implementation in the *White Paper on e-Education*

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<td>Support economic growth (p. 1085)</td>
<td>President Thabo Mbeki has underscored the importance of ICTs for [...] economic development at numerous South African</td>
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The White Paper on e-Education is part of the “development of a five-year national e-strategy that aims to enable and facilitate electronic transactions in the public interest, including in the education sector… [t]hrough the Department of Communication’s Electronic Communications and Transactions Act (2002) [which] leads all ICT initiatives in South Africa” (DoE, 2004, p. 10). The Electronic Communications and Transactions Act states that careful assessment of how to integrate “previously disadvantaged persons and communities” (Department of Communications [DoC], 2002, p. 22) must be taken in all ICT policies. This should be done by making “facilities and infrastructure available or accessible”, by “securing support services for such facilities and infrastructure”, and lastly by “rendering assistance and advice to such persons and communities on ways to adopt and utilise electronic transactions efficiently” (DoC, 2002, p. 22). As one of the overarching policies of the White Paper on e-Education, this policy sets the tone for how the concept of difference is understood in the White Paper, what integration means and how it can be achieved.
The RDP (Reconstruction and Development Programme) was the South African Government’s post-Apartheid redistribution plan from 1994-1996. It “was very specific in identifying ICT as a key feature in the meeting of basic needs” (Singh, 2010, p. 213). In 1995, the President of South Africa, Nelson Mandela, spoke of “the importance of democracy, integration and the elimination of the digital divide” (Singh, 2010, p. 214) while Thabo Mbeki, then Vice President of South Africa, spoke on the need for ICT for “economic competitiveness, culture, reconstruction and development” (Singh, 2010, p. 214). In 1997, The RDP was replaced by the GEAR (Growth, Employment and Redistribution) plan. GEAR called for wide ranging changes in the economic sector with tax reforms, international competitiveness, “public sector reforms... asset restructuring, budgetary reprioritisation and improved service delivery” (Department of Finance [DoF], 1996, p. 7). The plan also set the purpose for the education sector in terms of growth and employment: “employment and training policies [are to] enhance the growth potential of industry” (DoF, 1996, p. 7) and specifically stated that education was to be “a key determinant of long-run economic performance and income redistribution” (DoF, 1996, p. 15). The emphasis on the purpose of ICT at this juncture turned towards “electronic training, education, and increasing public awareness of the importance of ICT literacy” (Singh, 2010, p. 216). Mbeki, who oversaw the change from the RDP to GEAR, was elected President of South Africa in 1998 and was in office at the time of the publication of the White Paper on e-Education in 2004. Both the RDP and GEAR were heavily criticised. The RDP was criticised for being too idealistic and the GEAR plan for having lost the sense of redress and equality through democracy by focusing on economic growth before redistribution (Cuthbertson, 2008).

When the White Paper on e-Education refers to redress, equality and access it displays its foundations in the hopeful imaginings of the early democratic period of South Africa and the RDP. The expressed purpose of the White Paper on e-Education expresses how this should be accomplished is well within a GEAR policy framework reflecting the policy’s delay in being published. The four narratives that this study problematizes (see next section) rest within the assumptions of GEAR. This study suggests that the four narratives work together (at best) to hinder or (at worst) to undermine the democratic goals of redress, equality and quality in South African education by guiding the discourse on equality and quality.
Chapter 4: Discourse and narratives

The cartography of narratives and discourse in South Africa is a complicated one. As Soudien (2001) points out, “the discursive map of South Africa is a complex web of sometimes discrete and discontinuous themes. Sometimes overlapping and synchronous ideals, and frequently contesting and contradicting notions of self and other” (p. 313). This study highlights discursive events in the *White Paper on e-Education* as “instances of discourse” (Fairclough, 1992, p. 3). Particular discursive events have been grouped and sorted into four overlapping narratives that support a critical postcolonial analysis of the White Paper: the ‘digital divide’ narrative (section 4.1), the integration of the digital stranger narrative (section 4.2), the technological deterministic narrative (section 4.3), and the auditability and performability narrative (section 4.4). They are interdependent and to separate them out from each other for the purpose of analysis is artificial but, necessary. Together, these narratives comply with Taylor, Rizvi, Lingard and Henry’s (1997) notion of the “globalised policy discourses” (p. 61) which appear regularly in policies around the world but find their genesis in developed nations and particular international organisations like the United Nations, the Organisation for Economic Cooperation and Development and the World Bank (Lingard & Ali, 2009, p. 247). Chapter five of this study, discusses how these four narratives have guided the discourse of equality and quality in South African education.

4.1. The ‘digital divide’ narrative

The construction of the digital divide in the *White Paper on e-Education*

The term “digital divide” appears repeatedly in the *White Paper on e-Education*. It is defined in the policy as a “disparity in connectivity and infrastructure” (DoE, 2004, p. 9) within South Africa and beyond. The definition is then broadened in the policy to also include: the lack of “production of local content”; “overcoming cultural inhibitions and insecurities about developing competence for surviving the breakneck speed of the Internet age and creating a risk-taking culture”; as well as the need to “create open investment climates for the incubation, launch, acceleration and initial-public-offering phases of ICT-related small, medium and micro-entrepreneurship”; and lastly for ICT to be a “core feature of innovation and competitiveness” (DoE, 2004, p. 9). The digital divide is also
seen as an “opportunity to take best practices [from] the rest of the world and make it applicable in the best possible ways for our people” (DoE, 2004, p. 9).

The ‘digital divide’ in South Africa is understood by many researchers and the White Paper to run along the same fault lines as the socio-economic divide (which includes racial, class, gender, language inter alia) in South Africa (Castells, 1999; Cantrell & Visser, 2011; Czerniewicz & Brown, 2010; Isaacs, 2007). The policy states, “Disparities reflected in South African society also find expression in ICT integration into education” (DoE, 2004, p. 12). As such, the logic follows that to narrow the ‘digital divide’ would improve the quality and equality of South African education.

In a broader paragraph on the “Government’s response to the digital divide”, the policy quotes then President of South Africa, Thabo Mbeki, as saying that, “we must continue the fight for liberation against poverty, against under-development, against marginalisation… and… ICT is a critically important tool in that struggle” (DoE, 2004, p. 10). Both the terms “fight for liberation” and “struggle” are highly emotive terms in South Africa. The anti-Apartheid efforts were collectively called “The Struggle” or “The Liberation Struggle”. Acts against the Apartheid state were understood as part of the “fight for liberation” (Fiske & Ladd, 2004, p. 28). The anti-Apartheid struggle is used here as a metaphor for action. Fairclough (1992) points out that the use of metaphor “structure[s] the way we think and the way we act, and our systems of knowledge and belief, in a pervasive and fundamental way” (p. 194). By placing this quote under this heading, the anti-Apartheid struggle and the response to the ‘digital divide’ are powerfully fused and the symbolic impetus of the anti-Apartheid movement is lent to the effort to bridge the digital divide.

The OECD and the ‘digital divide’

Literature from the Organisation for Economic Cooperation and Development (OECD), “takes for granted [that] the ‘bridging the digital divide’ is the central issue of development” (Wade, 2002, p. 444). The OECD published a booklet called “Understanding the Digital Divide” in 2001. In this booklet the ‘digital divide’ is defined as “the gap between individuals, households, businesses and geographic areas at different socio-economic levels with regard both to their opportunities to access ICT and to their use of the Internet for a wide variety of activities. The digital divide reflects various differences among and within countries” (Organisation for Economic Cooperation and
Development [OECD], 2001, p. 4). South Africa has been a non-member of the OECD since 1996 and has therefore been offered the “possibility to adhere to OECD instruments and to participate in formal OECD bodies” (OECD\(^1\)). South Africa has “participated actively” in a variety of other OECD events open to non-members in a regional context and in OECD Global Forums (OECD\(^2\)).

This OECD booklet asks a series of questions on the ‘digital divide’ that are suggestively medical in nature,

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Where does it occur and why? What are its causes? How is it to be measured? What are the relevant parameters? What is its extent, that is, how wide is the digital divide? Where is it most critical? What are its effects likely to be in the short term? In the longer term? What needs to be done to alleviate it? (OECD, 2001, p. 4)
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The ‘digital divide’ is constructed as a potentially fatal disease that needs to be investigated and a cure prescribed. In this extended metaphor the OECD and similar organisations see their role as prescriptive rather than causative. They are the doctors diagnosing and prescribing while others are the patients responding to the prescriptions. Paulo Freire (1972) wrote that “every prescription represents the imposition of one man’s [sic] choice upon another, transforming the consciousness of the man [sic] prescribed to into one that conforms to the prescriber’s consciousness” (p. 23). Prescribing changes can, according to Freire, transform the self-awareness of the object of the prescriptive language. The White Paper for e-Education employs the verbs “response” (DoE, 2004, p. 6), “adopted” (DoE, 2004, p. 7) and “struggle” (DoE, 2004, p. 7) as descriptions of its reaction to the digital divide in South Africa. Elsewhere, in a section of the White Paper called “Government’s response to the digital divide” the response to the prescriptive language continues. With language that one would use to express a reaction to medication, the White Paper states that “over the last five years, Government, the private sector, parastatals, and non-governmental organisations have responded positively to the challenge of bridging the digital divide” (DoE, 2004, p. 10, emphasis added). The prescriptive language of documents like that of the OECD referred to above have allotted the role of “patient” and “receiver of help” to those diagnosed as having a digital divide. The wording of the White Paper and its position in this extended metaphor, indicate that the Department of Education has uncritically (perhaps unwittingly) accepted this positioning in the narrative.
‘Bridging the digital divide’

“Bridging the digital divide” is used as a common sense notion with little qualification but much application within the policy. Fairclough’s (1995) CDA understands ‘common sense’ as “both a depository of the diverse effects of the past ideological struggles and a constant target for reconstructing in on going struggles. In ‘common sense’, ideologies become naturalized or automatized” (p. 76). “Bridging the digital divide” provides the primary justification for ICT rollout and the adoption of an e-Education. The *White Paper on e-Education* states,

in response to this under-development [of infrastructure for ICT which is “widening the gap between Africa and the developed world”], Africa has adopted a renewal framework, the New Partnership for Africa’s Development (NEPAD), which identifies ICTs as central in the struggle to reduce poverty on the continent. (DoE, 2004, p. 9)

Here the policy constructs the “digital divide” is a self-evident fact. This is further supported by the layout of the policy. The section on this topic, named “The Digital Divide”, is the second section of the introductory chapter. The term is first mentioned in the policy’s foreword by education minister, Naledi Pandoor,

We hope this White Paper will enable the education sector and all our partners to ensure optimal availability and use of ICTs in education, in a manner that will create better access to quality education for all, and bridge the digital divide, both within our country, and between our country and other parts of the world. (DoE, 2004, p. 6)

By using the term ‘digital divide’ as a common sense notion, the political and power relations held within this definition are not questioned or critiqued. According to Ravjee (2007), digital divide studies emphasise two groups of problems for the bridging of the digital divide: problems of resource distribution and the problems of how ICT are used once access is obtained. Within this narrative, the policy focuses on issues of physical access and “meaningful ICT access” (Ravjee, 2007, p. 30). However, in trying to “bridge the digital divide” this policy may in fact be creating a divide in keeping with the theory of there being a digital divide.
According to Wade (2002) the global campaign for ICTs in education rests on a number of key assumptions around the ‘digital divide’. Firstly, that it is large and growing in size. Kofi Annan (Kofi Annan head of the United Nations quoted by Leach, 2008, p. 788), referred to a “yawning digital divide” at the UN Millennium Assembly in 1999. Secondly, that it has an ability to function independently from skills and resources: the Microsoft-UNESCO Partnership: Applying ICT to Transform Education opens by saying, “ICT skills and education play an important role in overcoming many of the most difficult challenges of development” (United Nations Educational, Scientific and Cultural Organisation [UNESCO], 2009, p. 1). Thirdly, it has a universal demand. The OECD(2001) justifies its efforts to measure the digital divide because of “current interest in these issues, both among governments and the public” (p. 5). Echoing these global assumptions, the White Paper on e-Education states,

[t]he challenge is to roll out ICT infrastructure that is specifically suited to Africa. Through appropriate technologies, it is hoped that South Africa will leapfrog into the new century, bypassing the unnecessary adoption cycle, and implement a solution that works now, and has the capacity to handle future developments. (DoE, 2004, p. 18)

The White Paper on e-Education retains similar assumptions to the international campaign for ICT in education. Firstly, it presumes that unequal access to ICT and digital exclusion (the digital divide) is the site of the major unequalising force in both the South African and world economy today (which deflects attention from the real on-going causes of inequality). Secondly, there is an assumption that ICT is constructed as an inherently benevolent and enabling technology that can leapfrog institutional and infrastructural obstacles (rather than a complex and ambivalent tool). Thirdly, the digital divide in South Africa is alleged to be able to be bridged by “supplying more ICT to poor, particularly rural and isolated regions” (Moodley, 2005, p. 4). Lastly, there is an unquestioned acceptance of “future development” (DoE, 2004, p. 18). The policy assumes that South African learners and teachers, economy and society are all to benefit equally from these “future developments”.

Wade (2002) sees a new type of “e-dependency” forming between governments of the developed and the developing countries. E-dependency is a “dependency on the [developed countries] as they introduce software and hardware systems that they have no capacity to
maintain for themselves and that become crucial to the very functioning of their corporate and public sectors” (Wade, 2002, p. 461). He continues, “they [the developing countries] then tie themselves to the standards of the ICT suppliers that their aiders choose and enter in an open ended dependency on these suppliers for the continued functioning of their public administration” (Wade, 2002, p. 461). Applying a postcolonial approach to the idea of e-dependency, the ‘developed’ countries would be in an e-dependency relationship to the ‘developing’ countries in at least three ways. Firstly, the ‘developed’ countries are reliant on the raw materials for ICT found in the ‘developing’ countries. Secondly, they are dependent on cheap and unprotected labour which will increase product margins of hardware and software. Thirdly, the ‘developed’ countries require the markets in the ‘developing’ nations to buy their hardware and software. As such, developed countries or multinational corporations are working to create an ICT need in ‘developing’ countries and provide the solution to that ‘need’ which strengthens the bonds between the countries. Even though the ‘developed’ country is dependent on the developing country’s growing economy, this does not work in favour of the ‘developing’ countries. Wade (2002) compares the ‘digital divide’ to the idea of a ‘tractor divide’. At a time in the West when tractor sales were declining, tractor makers lobbied their governments for help and the idea of selling the tractors to the newly formed African states who did not have (or need) tractors emerged. African states agreed to accept the tractors which then sat in African fields and sheds, hardly used and falling into disrepair. Wade (2002) then wonders whether the bursting of the Internet bubble by 2000 in developed countries had anything to do with the upswing in ICT for development in the early 2000s.

Problematising the term ‘digital divide’

Researchers find the term ‘digital divide’ a problematic one for many reasons, none of which are referred to in the policy. Moodley (2005) points out that the digital divide narrative has created a digital dichotomy between those who have and those who do not which implies a “static approach to technological innovation” and the “structuring of the social on the basis of a technological criterion” (p. 7). Secondly, it is not clear from the policy whether ‘bridging the digital divide’ is tool or a goal (Singh, 2010, p. 219). While this does not necessarily create conflict within a policy, for this policy it does as it sets the policy’s socio-centricity against its techno-centricity (see section 2.3 on “Reading the policy”). Thirdly, by accepting the assumptions entrenched in the narrative on the ‘digital
divide’, researchers and policy makers seek out and draw attention to points of fracture rather than points of fusion. One obvious fracture is around the access to computers and internet through computers. Every part of the process of getting on the internet in South Africa is a costly affair. The relationship between access and income (in a country which has a very high income inequality) is an easy correlation to map when one examines the high costs of hardware, software and infrastructure (telephone lines, ADSL lines, bandwidth, electricity). However, if policy makers were to include the use of cell phones (Czerniewicz & Brown, 2010; Moodley, 2005; Singh, 2010) they would find South Africa not so divided and might have a better platform for the usage of ICT in education.

Fourthly, “digital divide studies […] tend to support some form of state and institutional intervention to address these divides” (Ravjee, 2007, p. 29). In doing so, these type of studies support the role of the state as the sole or key provider of ICT in education which ignores the different position a postcolonial state may play in global politics. Lastly, the term ‘digital divide’ is unhelpful because it ‘has given too much emphasis to the technology and has thus drawn attention away from other divides and inequalities [that] new ICT by themselves cannot bridge” (Moodley, 2005, p. 7).

4.2. The integration of the digital stranger narrative

“The notion of integration depends heavily on how the concept of difference is defined” (Soudien, 2004, p. 89)

“Discourses are practices that systematically form the objects of which they speak… Discourses are not about objects; they do not identify objects, they constitute them and in the practice of doing so conceal their own invention” (Foucault quote in Ball, 1993, p. 14)

The term “digital stranger” (Czerniewicz & Brown, 2010) is one that two South African based researchers have come up with in reaction to Prensky’s (2001) “digital native” and digital immigrant”. According to Prensky (2011) the “digital native” has “spent their entire lives surrounded by and using … all the toys and tools of the digital age [meaning that] today’s students think and process information fundamentally differently from their predecessors” (p. 1). The “digital immigrants” are those who “were not born into the digital world but have, at some later point in our lives, become fascinated by and adopted many or most aspects of the new technology” (Prensky, 2001, p. 1). In their critique of this
concept, Czerniewicz and Brown (2010) point out that this approach “sets up a binary opposition between those who are ‘natives’ and those who are not, the so-called ‘digital immigrants’” (p. 357) and “implie[s] power relations and superiority attached to those with particular sets of skills and dispositions” (p. 354). Pointedly, they argue that the naming of the ‘native’ and ‘immigrant’ groups is particularly problematic in South Africa where the term ‘native’ is “synonymous with colonialism, apartheid, and domination and does not connote images of superiority and the future” (Czerniewicz & Brown, 2010, p. 354). They conclude that “it is crucial that we as educators, as academics and as educational technologists reject deterministic and exclusionary labels and actively change this discourse” (Czerniewicz & Brown, 2010, p. 366). Their solution to Prensky’s notions of the “digital native” and “digital immigrant” is to create two new digital categories, the ‘digital stranger’ and the ‘digital elite’, which they feel better reflect the South African context.

Access

Czerniewicz and Brown (2013) define a person from the ‘digital elite’ as one who is of “the millennial generation”; who has grown up with digital technology, who comes to university familiar with computers; and who is purported to learn to use computers informally rather than needing to be taught” (p. 46). They define the ‘digital strangers’ as 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 4 years; and did not have direct access to ICTs off campus” (Czerniewicz and Brown, 2013, p. 46). They continue, “the majority of students in this group (14 of the 18) come from rural areas or townships where access is limited.” (Czerniewicz & Brown, 2013, p. 47). Czerniewicz and Brown (2010) rename the ‘digital divide’ in South Africa a “digital Apartheid” (p. 363) and in so doing, superimpose the idea of a ‘digital divide’ on to South Africa’s strongest metaphor for unequal distance and difference, Apartheid. While this metaphor reflects a better politically informed construction of reality, it does not construct alternatives for interaction in South African society. It continues to reinforce deterministic notions of technological progress and development as the only way ‘forward’, ironically, precisely in what appears to be an attempt to challenge deterministic constructions.

In line with this type of thinking, the White Paper on e-Education states,
e-Education is about connecting learners and teachers to each other and to professional support services, and providing platforms for learning. e-Education will connect learners and teachers to better information, ideas and one another via effective combinations of pedagogy and technology in support of educational reform. It supports larger systematic, pedagogical, curricular and assessment reforms that will facilitate improved education and improved use of educational resources such as ICT. (DoE, 2004, p. 14)

Firstly, if e-Education is about “connecting learners and teachers to each other and to professional support services, and providing platforms for learning” (DoE, 2004, p. 14), it would appear that without access and training to e-Education, learners and teachers are unconnected to “each other and to professional support services” and unconnected to “platforms for learning”. Secondly, the ‘digital strangers’ are assumed to have poor information and few ideas for incorporating educational reform. Lastly, they are isolated from “larger systematic, pedagogical, curricular and assessment reforms”. Thus, the wording, the particular way chosen to ‘signifying’ particular domains of experience (Fairclough, 1992, p. 190), constructs teachers and learners who are e-illiterate as possibly in grave danger as they will miss the “larger systematic, pedagogical, curricular and assessment reforms”. Their current non-ICT mediated methods of communication and connectedness are not considered to be of any value by this policy. This policy therefore groups a large proportion of learners and teachers from various backgrounds into one category - as those that lack (for a CDA study of educator discourses on ICT in education see Bladergroen et al., 2012) - and assumes that ICTs will create new, stronger interpersonal connections.

Sara Ahmed (2000) discusses this attitude to the stranger in her book Strange Encounters: Embodied Others in Post-Coloniality. She states that “the stranger has come to mean all that was excluded or de-legitimated in modernity with its belief in order, sameness and totality” (p. 4). Similarly, Crain Soudien (2004) reminds us that “[t]he notion of integration depends heavily on how the concept of difference is defined” (p. 89). These teachers and learners, now defined as outsiders to e-Education, are understood to be excluded from the modern (or perhaps in this case, post-Apartheid) education system. There seems to be understanding in the policy that ‘digital strangers’ dwell in pre-1994 education and that including them into the e-Education system will bring them out of their “darkness” into the “light”. Without integration by the government in e-Education, ‘digital strangers’ are
forever lost in an unequal and low quality education system. There may be other reasons for the teachers’ and learners’ reluctance to embrace e-Education (see Gudmundsdottir, 2010; Chigona & Mbhele, 2010), but the policy historicizes the data in a very specific way so it seems that the only reason for their stranger identity is because of a lack of access and training. The policy therefore, fetishizes the digital stranger. “Stranger fetishism” is the “fetishism of figures: it invests the figure of the stranger with a life of its own in so far as it cuts off ‘the stranger’ from the history of its determination” (Ahmed, 2000, p. 5). In CDA terms, it creates a shared background knowledge about a heterogeneous grouping of teachers and learners.

“Stranger fetishism” appears in Czerniewicz and Brown’s definition of the South African higher education learners who they class as ‘digital strangers’. Czerniewicz and Brown (2013) define the ‘digital strangers’ as “contrasting” and at “the opposite end [to digital elites]”, indicating the ‘digital elite’ is the standard and all else is contrasting or other. Czerniewicz and Brown (2013) continue by arguing that ‘digital strangers’ come from “rural areas or townships” (p. 47). Rural areas or townships are very different places to come from; people from these areas have very different histories and motivations. Drawing many people together, based on a certain ability or lack thereof, is to “give the [digital] stranger a life of its own” (Ahmed, 2000, p. 5). This is how the ‘digital elite’ recognises the ‘digital stranger’ rather than how the ‘digital stranger’ would identify themselves (if they exist at all).

Postcolonial Theory poses some fundamental questions to this idea of “digital stranger”. Sara Ahmed (2000) questions the effects of including and excluding, both of which necessitate the need to a) create ‘the stranger’ in reference to the non-stranger, and b) to homogenise many people by one aspect. To use the words of Ahmed (2000), “we need to consider how ‘the [digital] stranger’ is an effect of processes of inclusion and exclusion or incorporation and expulsion that constitute the bodies of [digital] communities” (p. 6). In constituting ideas of digital strangers/immigrants or digital elite/natives, particular differences are defined and set which reflect and normalise South Africa’s historical segregation patterns rather than destabilize them. The ‘digital stranger’ then becomes everything the digital elite is not. S/he is outside. By constructing the two categories as separate from each other, the opposing binaries of the digital stranger/elite in effect create the “digital Apartheid” that the researchers are seeking to identify. Perhaps in this sense, Czerniewicz and Brown’s (2010) ‘digital stranger’ is made aware of their outsider status.
by the authors themselves (p. 363). Recalling the Foucauldian notions referred to in the section 2.3: “Reading this policy as text and discourse” in this study and quoted in the beginning of this section (Foucault quote in Ball, 1993, p. 14), the integration of the digital stranger narrative is a practice that has systematically formed the objects of which it speaks. The narrative has constituted them and in the practice of doing so has concealed its own invention.

Ability

The *White Paper on e-Education* primarily focuses on opening access for the ‘digital stranger’. However, it acknowledges that the ‘digital stranger’ should be motivated and trained to improve his/her digital abilities too.

> Beyond the issue of access, there is a gap in the ability of learners and teachers to use these technologies effectively, to access high-quality and diverse content, to create content of their own, and to communicate, collaborate and integrate ICTs into teaching and learning. (DoE, 2004, p. 13)

Although the focus has now moved from access to ability, the discourse of ‘integrating the digital stranger’ persists. There are multiple reasons given for lack of digital ability in the extract. Once again, the wording positions the ‘digital strangers’ as being those without. They are without the ability to: “use technologies efficiently, to access high-quality and diverse content, to create content of their own, and to communicate, collaborate” (DoE, 2004, p. 13). There is again an assumption that without ICT ability, learners and teachers have been unable to create their own content and that the quality of information they have managed to get has been low. Other forms of non-digital technology in education, books, elders, libraries, textbooks, magazines, television shows and radio programs seem to disappear. The policy allows assumptions regarding the heterogeneous ‘digital elite’ to remain unchallenged (see Valtonen, Pontinen, Kukkonen, Dillon, Väisänen, & Hacklin, 2011).

This narrative is most clearly identified in its attitude towards teachers. The *White Paper on e-Education* states,

> Many teachers have grown up in environments with limited electronic technology, and thus find the adaptation to working with ICTs more difficult than their learners
do. A programme that urgently addresses the competencies of teachers to use ICTs for their personal work, in their classrooms, must be developed. This will require extensive staff development and support. Thus, ICTs will be central to the pre-service training of recruits and the on-going professional development of practising teachers. (DoE, 2004, p. 22)

In this example, similar understandings to those of Czerniewicz and Brown’s “digital elite/stranger” discourse are heard: “teachers have grown up in environments with limited electronic technology and thus find the adaptation to working with ICTs more difficult than their learners do” (DoE, 2004, p. 22). According to this policy, many teachers are digital strangers because of their experience of “limited electronic technology”. They are the “many” and so by extrapolation of this argument, there must be a few teachers who have grown up in environments of ample electronic technology who find the adaption to working with ICTs less difficult than their learners do (the digital teaching elite).

Integration

The issue of integration in South African education is not limited to the *White Paper on e-Education*. Since 1991, issues of integration of access and ability in education policy and in schools have become a topic of research in South African education (see Soudien, 2004). The process of racial integration of South African schools started in the early 1990s, a decade before the *White Paper on e-Education* was published. The issues raised by some researchers in the racial integration of South African schools gives insight into the integration of the ‘digital stranger’ into the ‘digital community’. Soudien (2004) notes that “integration in education in South Africa can be argued to be a process of accommodation in which subordinate groups or elements of subordinate groups have been recruited or have promoted themselves in the hegemonic, social, cultural, and economic regime at the cost of subordinate ways of being, speaking and conducting their everyday lives” (p. 112). Elsewhere, Soudien and Gilmour (2009) study learning and equitable access in the Western Cape, a province of South Africa. They argue that while “full enrolments [are] being recorded in the compulsory phases of schooling… substantial equity and equality have still to be achieved” (Soudien & Gilmore, 2009, p. 281). They argue for two levels of explanation of this: in-school factors (school management, language, learner age and teacher attitudes) and out-of-school (income and race) factors. None of these factors has
particular strength in and of itself. Rather, they work together in a web of complicated ways to include or exclude.

Analysising the integration of the digital stranger narrative within the *White Paper for e-Education*, this study argues that there will be little difference between the racial integration of South African schools and the integration of the digital strangers if implementation focuses solely on ICT access and ability which exist within similar in-school and out-of-school factors. For such a transformation, “there would clearly be a need to highlight not only access and social inclusion, but also the importance of rethinking the terms of this inclusion” (Rizvi & Lingard, 2009, p. 450). It is not just about thinking who is included, but rather thinking about why there is a categorisation of ‘us’ and ‘them’, ‘digital elites’ and ‘digital strangers’, and how by integrating the ‘digital stranger’ these categories and the determination of a single possibility for the future are reaffirmed. The latter is explored further in the next section.

4.3. The technological deterministic narrative

Understanding technological deterministic narratives

In a seminal discussion paper for the United Nations, Manuel Castells (1999) declares that “ICT is the essential tool for the economic development and material well-being in our age” (p.4). In technological deterministic narratives like Castells, “technological development is [constructed to appear] autonomous of society; it shapes society, but is not reciprocally influenced. In more extreme varieties of technological determinism, technology is seen as the most significant determinant of the nature of a society” (Moodley, 2005, p. 2). Technology is understood to be neutral, apolitical, ahistorical and therefore applicable everywhere. This narrative “restructures political liberalism so that it conflates instrumentalism with action, exhibitionism with communication, image with reality” (Pinar, 2013, p. 5). When problems of implementation are encountered, questions around how to better implement ICT policies and programmes through training and resourcing are asked rather than questions that challenge around the technological deterministic narrative (Wade, 2002). Lastly, technologically deterministic narratives are not solely about narratives concerned with technology, but are narratives that understand society as functioning instrumentally – even ideas are instruments defined by their
usefulness – functioning to structure “systems of organization and communication [in schools and education departments] as bureaucracies and factories” (Grant quoted in Pinar, 2013, p. 9).

Mackenzie and Wajcman (1999) differentiate between “hard” and “soft” technological determinism; “hard” determinism meaning that technology takes the central role in change while “soft” determinism means that technology plays a role along with other factors in social change. Rather than using these as mutually exclusive categories, I will use them in this paper as extremes of a sliding continuum. Notably, whether “hard” or “soft”, this discourse retains its assumptions of the unidirectional movement of social change towards seamless development and a single future. According to Holloway and Valentine (2003), technological determinism is a narrative in which a ‘new’ technology,

is presumed to impact (either positively or negatively) on society, replacing what has gone before and producing a predictable set of effects which are presumed to be more or less the same everywhere. Technologically determinist accounts are commonly apocalyptical in that they usually draw on metaphors of inevitable change in which people are seen as under threat from techno-“shocks” or “waves”. (p. 75)

Technological deterministic narratives in the *White Paper on e-Education*

According to Fairclough (1995) texts are defined as “social spaces in which two fundamental social processes simultaneously occur: cognition and representation of the world and social interaction” (p. 6). This analysis works off the premise that this occurs in every text. The concern of this analysis then is to find out what representations and allowances of social interaction are in the text and how they relate to each other. By identifying the technological deterministic narrative in the texts from the *White Paper on e-Education* below, this study draws attention to how the notion of social change for the discourse on equality and quality through ICT in education is constructed in the policy.

One cannot word search “technological determinism” in the policy as was done in the analysis of the digital divide narrative (see section 4.1). To analyse the technological deterministic narrative, this research chose whole sentences or paragraphs which literally and ideologically conjunctivised ICT and social change in the policy. Shields (2011) points
out that, “where there is agreement that ICT can significantly improve the efficiency or effectiveness of educational interventions in delivering desired social changes… perceived social problems are reformulated as technological problems and deficits in society essentially become deficits in technology” (p. 94). A prime example in the policy of technological deterministic narrative appears on page 16 of the document,

The Department of Education believes that developments in ICTs create access to learning opportunities, redress inequalities, improve the quality of learning and teaching, and deliver lifelong learning. ICTs can accommodate differences in learning styles and remove barriers to learning by providing expanded opportunities and individualised learning experiences. (DoE, 2004, p. 16)

In this extract it can be seen that “[t]he South African government has embraced the ideology that ICT represents modernization and it is seen as a key technology for alleviating poverty” (Moodley, 2005, p. 4-5). This message is undergirded by its wording. This extract uses wording that allows for little space for consideration of any other alternatives. For example, the phrase “developments in ICTs create access to” is certain and forthright. There is no cautionary pause (“could”, “maybe”, “perhaps”, or “sometimes”) between the words “ICTs” and “create” which would dilute the sense of the strength of ICT to act.

Furthermore, by starting with “The Department of Education” this paragraph is given an authority that is difficult to contest. The Department is an official body that is made up of many different people (bureaucrats, members of Parliament, teachers, administrators, district officers, curriculum advisors, and principals of schools) and has a constitutionally mandated purpose to provide education in South Africa. At this time, 2004, the DoE was concerned with primary, secondary and tertiary education and training in South Africa. As such, there must have been a plethora of ideas, thoughts and approaches towards ICT in education in the DoE, however, the policy does not reflect this. This is partly because of its genre – it is a policy paper that is advocating action – and partly because it was a top down policy. The policy speaks of its genesis in international meetings with various “chief executive officers from major international corporations and experts active in the field of information and communication technologies” (DoE, 2004, p. 10). This is not specific to South Africa as Lingard (2009) argues that in recent times, “policy gestation especially for national, state-centric, top-down policies can now increasingly be traced to international
organisations and globalised education policy discourse” (p. 233). For more on the history of this policy, refer to chapter 3 of this study. Understood as such, the White Paper on e-Education can be placed toward the “hard” side of Mackenzie and Wajcman’s (1999) technological deterministic continuum.

By studying the metaphors used in the White Paper on e-Education, the intertextuality of the South African national policy to that of ‘developed’ countries and to that of international organisations is clear. Appearing in the foreword of the White Paper on e-Education, Minister Naledi Pandor writes,

ICTs are central to the changes taking place throughout the world. Digital media has revolutionised the information society and advances in ICTs have dramatically changed the learning and teaching process. This has opened up new learning opportunities and provided access to educational resources well beyond those traditionally available. (DoE, 2004, p. 6)

Holloway and Valentine’s (2003) “metaphors of inevitable change” as a feature of technological deterministic narratives can be seen in this extract. According to the DoE, ICTs in education have “revolutionised the information society” (DoE, 2004, p. 6), “opened up opportunities” (DoE, 2004, p. 6) and “dramatically changed the learning and teaching process” (DoE, 2004, p. 6). The verbs “revolutionised”, “opened” and “changed” are in the past tense creating a sense of fact, it is something that has happened, and of singular inevitability, it is the only way South African education must go. The adverb “dramatically” further empowers ICTs in education as the driver for change because it implies that significant changes have occurred.

The United Nation’s Millennium Development Goals

While no mention of policies outside South Africa other than NEPAD are made in the White Paper, the use of “metaphors of inevitable change” mirror the type of metaphors found in the analysis of the United Nation’s Millennium Development Goals (UN MDG). In 2000 most states adopted the eight development targets of the UN MDGs. The eighth MDG, a global partnership for development, “calls on governments, in cooperation with the private sector, to provide more aid, develop fairer trading systems, deal comprehensively with debt problems of developing countries and ensure greater access to
affordable essential drugs and new technologies” (Integrated Implementation Framework [IIF], emphasis added). The MDGs purport to be neutral, globally relevant and implementable (Rizvi & Lingard, 2010, p. 146-148). Reading Target 8, with its focus on involving the private sector, ensuring that people have greater access to ICTs and its assumptions of ICTs benefits, its normative technological deterministic narrative is clear. ICTs are treated as life-giving essentials as they are grouped in the same category as “affordable essential drugs”. It is beyond the scope of this study to analyse other UN policies but similar conclusions to those found here have been made of the Education for All programme adopted at the UN’s World Education Forum in Dakar in 2000 (See Sayed, 2010).

Both Naledi Pandor’s statement in the foreword (quoted previously) and the MDG 8F construct a notion that a revolution has happened of which the “benefits” need to be opened to all people by governments with the co-operation of the private sector. The choice of these metaphors creates a sense that the information society is fast-paced, ever-changing and developmental in nature. Not only is technological deterministic narrative about ICT as technology, but the whole education system becomes understood in technological ways. Equality and quality of education are understood as effects of a finely tuned socio-educational machine which every nation could have if they just worked hard enough and paid enough for. Furthermore, this policy uses the “situated knowledge” (the findings, knowledge, assumptions and corrections of those documents from the UN) as universal and applies it into the South African context with the only qualification of difference being that South Africa needs more support to implement and sustain this program. Thus, the intertextual property of the policy comes to the fore. It is not just a policy that speaks to those in and beyond the Education Department in South Africa but also to those beyond the borders of South Africa (to the UN in this case) by reflecting their words. The social order of discourse (Fairclough, 1995, p. 10) in which this policy is functioning by using the technological deterministic narrative is an international rather than a national social order of discourse. This is particularly problematic for the discourse of equality and quality in South African education because the UN MDGs are not sensitive to the nuances of South Africa’s past and present day inequalities in society or education.
Explaining implementation challenges using the technological deterministic narrative

Mackenzie and Wajcman (1999) argue that technological deterministic narratives “promote a passive attitude to technological change” by focussing on what to adapt to, rather than shape technological change (p. 5). The final two extracts for this part of the analysis show how the policy addresses reasons for the lack of current usage (the first extract) and for challenges to the roll out of ICT usage in the classroom (the second extract).

Internet access is becoming more common, but the use of the Internet for teaching and learning purposes is very limited, due to high connectivity and telecommunication costs, lack of local content and examples, and inadequate technical and pedagogical support at local level. (DoE, 2004, p. 13)

Three critical elements will determine ICT's future as an effective tool for social and economic development. The first is cost. Any solution that South Africa adopts has to be cost-effective if we are to meet our developmental demands and reach the most remote parts of our country. Second is the question of sustainability. It is no use having state-of-the-art technology unless it can be sustained. Third is the efficient utilisation of ICTs. Deployment of ICTs does not guarantee their efficient utilisation. Capacity building and effective support mechanisms must accompany deployment. (DoE, 2004, p. 19)

Both extracts give reasons (three each time) as to why ICT is experiencing and may experience limited functionality in schools. These reasons work to construct ‘background knowledge’ - the choosing and simplification of the numerous assorted features of background information which can be drawn upon to construct ‘knowledge’, choosing certain “facts to be known” over other facts (Fairclough, 1995, p. 44). According to the extracts, the major issue in South African education is how to provide access to ICT and the training of teachers and principals. The solutions are mostly practical in nature and are concerned more with questions of “how to”, “when to”, “where to” rather than “why to”, “whether to”, “to whose benefit are”. In offering these solutions the policy narrows the possibility for questioning further. According to Mackenzie and Wajcman (1999), technological determinism “promotes a passive attitude to technological change. It focuses our minds on how to adapt to technological change, not on how to shape it. It removes a vital aspect of how we live from the sphere of public discussion, choice, and politics”
(Mackenzie & Wajcman, 1999, p. 5 italics in original). Thus, the policy works as text that embodies a discourse and simultaneously is a discourse on equality and quality – creating the specific confines of possible discussion for policy implementation.

Both extracts list high financial costs as the first barrier to implementation. The awareness of cost is first brought up in the foreword of the *White Paper on e-Education* and re-emerges often throughout the policy (the words “cost” or “cost-effective” appear 19 times in the policy in total). These “high” costs are offset by the “large” benefit broadening e-Education access and training will bring. Mackenzie and Wajcman (1999) warn that “in situations of technical innovation, key factors are *future* costs and *future* profits. Since there is an element of uncertainty in these, they cannot be taken as simple, given facts” (Mackenzie & Wajcman, 1999, p. 21, italics in original). However, in South Africa, the rates of return to education often suffer two key weaknesses: the social and private benefits of more years of schooling are not as clear for analysis as the costs and secondly, factors like race, gender and experience in the work place which may influence income determination are ignored (Gustafsson & Mabogoane, 2012).

Contextualization for the adoption of this narrative

The South African government’s use of or belief in a technological deterministic narrative in this policy is understood in this study to be due to South Africa’s construction and imagined ideological history of itself as a post-Apartheid state, firstly to South Africans and secondly to other states and non-state actors. Under Apartheid, the role of technology was pivotal in creating the separate lives that the architects of Apartheid dreamed of: there were laws that inhibited access to education and employment that required the use of complicated technology to African, coloured and Indian people (the colour bar acts, the *Bantu Education Act* of 1954 and the *Extension of University Act* of 1956); white schools were given more money for spending on equipment and sciences that those of non-white schools (Fiske & Ladd, 2004); and television was only allowed in South Africa in 1976, joining radio as a form of public media that was under strict governmental control. If technology was used as something that divided people under Apartheid, as something that constructed inequality and low quality education, in the anti-Apartheid government, technology would now be used as a uniting force that created equality and high quality education. Stepping away from the focus on technology for a moment and turning to
curriculum studies, a similar technological deterministic logic has been noted by Harley and Wedekind (2004) in the South African Department of Education’s adoption of Curriculum2005, an outcome-based education curriculum. It was believed that “if the [Nationalist] curriculum had been used to divide races (as well as men and women within their ‘own’ racial groups), and to prepare different groups for dominant and subordinate positions in social, political and economic life, its new mission would be that of uniting all citizens as equals in a democratic and prosperous South Africa” (Harley & Wedekind, 2004, p. 195).

Secondly, constructing the image of an anti-Apartheid state to the international community involved the ingratiating of South African policies. In 1961, South Africa was shunned by and, in turn, shunned the global community as it became an independent state and left the British Commonwealth almost simultaneously. And, although it never left the UN, the relationship was strained as South Africa was the subject of pointed reports by the UN (South African History Online [SAHO]). Although there was a motion passed in 1974 to cancel South Africa’s membership to the UN, no action was ever taken against South Africa because the French, British and American members of the Security Council vetoed such proposals. Therefore when South Africa became a democracy for all South Africans in 1994, it also had a new role to play on the international public relations front. Where the Apartheid government was publicly seen to be independent and aloof from world politics, rejecting many of the UN’s proposals, the anti-Apartheid government wanted to be seen to enthusiastically embrace the international community by ratifying the UN’s proposals and writing national policy in accordance with these ratifications. Another line of reasoning would be that the South African government was always ingratiated to the United States and the United Kingdom (hence their “protection” within the UN Security Council). Although the African National Congress (ANC) and its allies who came to power in 1994 were supported by the Union of Soviet Socialist Republics (USSR) during Apartheid, the dissolution of the USSR in 1989 meant that the ANC could no longer rely upon the USSR for international support (Filatova, 2011).

Part of the project of democratisation in South Africa has been an effort to create an equal and good quality education system (Gilmour, 2001; Fiske and Ladd, 2004). This confirms Friedman’s statement that a “stable and democratic society is impossible without a minimum degree of literacy and knowledge on the part of most citizens and without widespread acceptance of some common set of values. Education can contribute to both”

The expansion of ICTs is driving significant changes in many aspects of human endeavour throughout the world. At both micro and national levels, ICTs have increased the effectiveness and reach of development interventions, enhanced good governance, and lowered the cost of delivering basic social services. As in other spheres of social and economic development, ICTs have the potential to improve the quality of education and training. (DoE, 2004, p. 8)

The last sentence here is probably most telling of the policy’s understanding of the role of education and training in South African society: it is (an)“other sphere of social and economic development”. As such, education and training are seen to be part of the democratic project. Speaking of “digital democracy”, Andreotti and Pashby (2013) state that “the unexamined celebration of technology as a fantastic and ideal tool for facilitating and constructing a global democracy and the lack of engagement with ideological and political frames within which new technologies are produced and propagated may lead to practices that ironically can work against fairness and democracy” (p. 423). Or, as Pulkkinen (2007) puts it, “ICT, being a key enabler for global economy and cultural globalization as well, may have some undesired implications that could affect the quality of education” (p.14).

While Pulkkinen (2007) and Andreotti and Pashby’s (2013) line of argument against technological deterministic narratives lean towards the cautious side of the “optimistic-cautious continuum” of approaches to ICT (Ravjee, 2007), Shields (2011) takes a different line of argument and wonders if ICT has the ability to bring about any broad scale benefits at all. In his review of ICT in education in Nepal, Shields argues that, “few of the claims about ICT’s educational benefits have been substantiated empirically. [...] Given this disconnect between theory and empirical research, critics might well argue that support for ICT stems from an unfounded, ideological belief in technology” (Shields, 2011, p. 86). Shields consequently moves beyond the “optimistic-cautious continuum” and asks questions about whether ICT policies were ever about ICT or education or rather part of an effort to be seen as e-modern. Moodley (2005) mirrors this sentiment as he writes that “the post-apartheid South African government has embraced the ideology that ICT represents modernization and it is seen as a key technology for alleviating poverty” (p. 4).
These are all important considerations in the discussion of ICT and e-Education for equality and quality education in South Africa: can the unexamined celebration of technology as found in technological determinism lead to practices that ironically can work against equality and quality?

4.4. The auditability and performability narrative

In discussing issues of quality and equality in South African education, the conversation continuously revolves around issues of auditability and performability of policy and its runoff documents. “Auditability” and “performability” are terms used in Sara Ahmed’s (2012) book, *On Being Included: Racism and Institutional Life*. She says that “the shift to an efficiency model has involved a cultural and technological shift: the introduction of a set of disciplinary technologies for judging the efficiency and accountability of educational institutions” (p. 84). The shift towards auditability and performability in ICT in the South African education policies is clearly articulated by Isaacs’ (2007) statement that the White Paper on e-Education, “has been evolving since 1996 and is *embedded within a broader national government economic, social, and development strategy* which includes a dedicated policy on the transformation of learning and teaching through the use of ICTs” (p. 6, emphasis added).

Auditability

Ahmed (2012) uses Michael Power’s explanation of this shift as an “audit explosion” which reduces policy to being about “mak[ing] things auditable” (Power cited in Ahmed, 2012, p. 84). In politics that make things auditable, a “tick-box approach” (Ahmed, 2012, p. 106) constructing policies that can only see social issues within the frames of the solutions it can propose. It focuses on the problems that are measurable and seem to have measurable solutions, and technology then becomes a *supervisor* of teachers more than a space for considerably changing the reasons of why and how education happens. In Ahmed’s (2012) words, it becomes an exercise in “auditing the evidence of systems rather than the actual system itself” (p. 99).

Van der Berg et al. (2011) conclude that while “family and other environmental factors contribute greatly to the development of cognitive skills and subsequent labour market outcomes… these factors are less amenable to policy” (p. 7). They further describe
problems and provide solutions that can be addressed within an auditable framework: the number of teachers, teacher quality, textbooks, classrooms practices, discipline and management, assessment and feedback. ICT does not feature in this list because it can be understood to be part and parcel of the “improvement” of each of these managerial issues. In an auditable framework, policies can be seen to encompass inputs and outputs, efficiency and efficacy.

The *White Paper on e-Education* identifies the need for ICT in education to be auditable when it describes the type of changes ICT will bring to management in education,

> As with other types of organisations, schools and school systems are increasingly using management information systems for planning, monitoring, improvement and accountability purposes. ICTs have the capacity to automate processes and save time, thereby freeing managers to focus on instructional leadership. (DoE, 2004, p. 21)

> The rapid development of ICTs, the increased pressure for effective management of organisational performance, and a preference for self-managing institutions have resulted in the development of powerful management information systems. (DoE, 2004, p. 21)

> Implementing e-Education must ensure that available resources are maximized and utilised effectively through effective procurement, value for money, and management for sustainability. (DoE, 2004, p. 35)

Because “auditability” is a research term rather than a word used in policy, I have picked out extracts from the policy which voice the possibility of ICT’s use as a management tool. In the first extract, ICT in management is constructed as a useful tool for “planning, monitoring, improvement and accountability purposes” which should be done in a way that “maximizes resources”, is “effective” and is “value for money” (third extract). This is due to the “rapid development of ICTs, the increased pressure for effective management of organisational performance, and a preference for self-managing institutions” (second extract). The focus here on ICT in education is to support the management of education by creating systems of effective *measurement*. This is seen by the overuse of the word “effective” or its familiar, “time saving”, in the extracts. By regularly equating ICT and education management with measurement, the policy draws the use of ICT in education
management into the auditable space. The policy however does not consider that ICTs in education could, in creating conveniences, cause unintended consequences such as inefficiency and inefficacy (Pinar, 2013, p. 7). For example, teachers might have to spend their preparation time responding to parents’, departmental and other daily requests via email instead of preparing for their classes.

One of the text analysis methods that CDA suggests is an analysis of clause combinations. Analysing how clauses are combined can suggest the authors’ intent or how they might prefer the text to be read. This does not limit the reader’s interpretation of the text, but it does suggest the authors’ meaning and intention. In the first sentence of the first extract above, the dependent adverbial clause of reason “as with other types of organisations” modifies the main clause. It provides a description of why “schools and school systems are increasingly using management information systems for planning, monitoring, improvement and accountability purposes” (DoE, 2004, p. 21). This dependent adverbial clause of reason does two things: it shows the usage of ICT in educational management occurs because of a change beyond the schooling system and it classes schools and school systems as just another type of organisation that requires similar business-like management interventions (Ravjee, 2007). What type of other organisation it is classed as is unclear in the policy and this extract keeps it vague by constructing the complex sentence in the passive voice. It can be noted that the passive voice is used regularly when referring to the implementation of e-Education. This practice allows the onus of implementation to be removed from the state who is writing the policy to whoever is implementing ICT in education.

Performability

Performability is an “increasingly self-consciousness about how to perform well in [institutional] systems by generating the right kinds of procedures, methods and materials, where rightness is determined as the fulfilment of a system… for an institution to perform well, is being seen to perform” (Ahmed, 2012, p. 84-5). Soudien (2007) discusses the difference between form and substance in policy making which this research suggests resonates with the Ahmed’s idea of performability, remembering also that the word ‘form’ is embedded in the word performability. To change form in educational policy means to change what are “essentially the managerial matters of schooling: teachers, textbooks and
time” (p. 189), i.e. what Ahmed (2012) refers to as “procedures, methods and materials”. Focussing on performability and form de-emphasises the social context, the “conditions of race, class, gender, language, inter alia” (Soudien, 2007, p. 190) of the policy’s implementation. Importantly, the term “performability” and “performance” should not be mistaken as synonyms. “Performability” is placing an importance on being seen to perform; “performance” is the measurement of whatever is being measured, which in Human Capital Theory (see next heading in this section) is often recorded in test scores and salaries, but in other theories would be other measurements.

The South African Department of Education was and is painfully self-conscious of its performability. In order to better understand the performability of the White Paper the study moves on to read how it was presented in other spheres that supported its publishing. In CDA terms, the study is now moving to sociocultural practice highlighted by this narrative. In a guideline-setting document for the South African Presidential National Commission on Information Society and Development (PNC on ISAD), the need for this policy to “perform to appear” is clear. It says, “The Government recognizes the important role that ICT can play in the development of the economy, society in general and in education, skills development and training. It is for this reason that the Department of Education has published an e-Education Policy…” (Presidential National Commission on Information Society and Development [PNC on ISAD], p. 12). The PNC on ISAD document provides the White Paper on e-Education as proof of the government’s recognition of the “important role that ICT can play”. It shows that the White Paper on e-Education has the “right kinds of procedures, methods and materials” by continuing with this description of the policy: “[it] sets out a framework for the implementation of a strategy that aims to expand the use of ICTs and improve the quality of teaching and learning in a manner that prepares our country to compete in the global economy. The main goal of the policy is to ensure that every learner in both general and further education and training will be ICT capable by 2013” (PNC on ISAD, p. 12).

Its procedure is to “set out a framework”. Its method is to create a “strategy” with “goals”. Its material is ICT in education.
Human Capital Theory

The term human capital “refers to knowledge, attitudes, and skills that are developed and valued primarily for their economically productive potential. It refers to the productive capacities of human beings as income-producing agents in an economy and to the present value of past investments in the skills of people. Human capital formation is the name given to the process by which such capital is deliberately developed, and the expenditure (in time, money, etc.) is called human capital investment” (Baptiste, 2001, p. 185). Although the idea dates back to Adam Smith in the 18th century, more recently the Chicago School with Milton Friedman articulated a “formal theory of human capital theory” (Baptiste, 2001, p. 187) in the mid 20th century. In 1988, the OECD showed its approval of such ideas in comments such as, “The development of contemporary economies depends crucially on the knowledge, skills, and attitudes of their workers – in short, on human capital. In many respects, human capital has become even more important in recent years” (OECD, quoted in Baptiste, 2001, p. 188). This was also seen in the publications by the World Bank, who in their 1999 Education Sector Strategy stated that,

It has long been self-evident to many educators and parents that education, in addition to its immediate benefits, is also a form of investment, building people’s capacity to be more productive, earn more, and enjoy a higher quality of life. The rise of human capital theory since the 1960s, and its widespread acceptance now after thorough debate, has provided conceptual underpinnings and statistical evidence. Estimates by Nobel-laureate economists have shown that education is one of the best investments, outstripping the returns from many investments in physical capital. (World Bank, 1999, p. 6, emphasis added)

Human Capital Theory therefore rests on the assumption that “some individuals or social subgroups persistently occupy the lower rungs of the occupational ladder because they suffer from some psychological or skill deficit - that they are ‘culturally deprived’ or ‘socially disadvantaged’” (Hickling Hudson, 2002, p. 568). In this understanding, poverty is not the fault of the social structure but rather of the individual for not developing their human capital through education. The solution is to help make education accessible for individuals which would create social benefit for all. Education is therefore a worthwhile investment (Friedman, 1955).
Shields (2011) links Human Capital Theory to ICT in education. He says, “In this ‘investment approach’, technology in education is treated as a specialised or concentrated allocation of resources; while it is at odds with the perceived need for mass basic education, it serves the greater good of economic growth through the development of human capital” (p. 87). This sentiment appears in the *White Paper on e-Education*.

There is sufficient empirical evidence that *investments* in ICTs yield positive results for learners and teachers. (DoE, 2004, p. 16, emphasis added)

e-Education views ICTs as a resource for reorganising schooling, and a tool to assist whole-school development. It includes ICTs as: a tool for management; an administration tool to *increase productivity*; a resource for curriculum integration; a communication tool; a collaborative tool for teachers and learners; and a learning environment that advances creativity, communication, collaboration and engagement. (DoE, 2004, p. 14)

[ICT] is further a motivational tool and enhance [sic] *productivity*. Success in the infusion of ICTs into teaching and learning will ensure that all learners will be equipped for full participation in the *knowledge society* before they leave further education and training (FET) institutions. (DoE 2004, p. 14, emphasis added)

Cabinet has approved the concept for the establishment of an Advanced Institute for ICT. The AIICT will undertake world-class, needs-based and applied research in ICTs, leading to development and innovation for the benefit of the economy, to *advance the quality of life* of all South Africans and advancement of the region as a whole. (DoE, 2004, p. 32, emphasis added)

Comparing the italicised words in the extract from the World Bank to those in the *White Paper on e-Education*, there is a clear sharing of vocabulary and wording (see Table 2).

**Table 2: Comparison of italicised words in the World Bank and White Paper extracts**

<table>
<thead>
<tr>
<th>World Bank extract</th>
<th>Extracts from the <em>White Paper on e-Education</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment</td>
<td>Investment</td>
</tr>
<tr>
<td>More productive</td>
<td>Increase or enhance productivity</td>
</tr>
<tr>
<td>Higher quality of life</td>
<td>Advance quality of life</td>
</tr>
</tbody>
</table>
By sharing these, the policy shows its interdiscursivity with a Human Capital Theory. As a policy that uses Human Capital Theory as its base line, the *White Paper on e-Education* embodies Ahmed’s notions of accountability and performability in two ways. Firstly, it sets out measures and tick-boxes for the implementation of e-Education in line with the priorities of Human Capital Theory. Secondly, its very existence is part of a broader national and international accountability and performability as South Africa creates policies to comply with international economic and technological expectations of organisations like the World Bank and the OECD which conflate notions of quality and equality with measureable signs and symptoms of progress (Sayed, 2010). This focus on policy is not just a phenomenon in South African policy-making but in “most of the governments that are trying to compete on the global markets [by] placing the onus of policy on education to produce the “human capital” most appealing to global competition … educational policy has become an even more important part of economic, trade, labour and social policy in western countries” (Pulkkinen, 2007, p.18).

Woven through the discourses of auditability, performability and Human Capital Theory in the *White Paper on e-Education* is the talk of redress for an equal and high quality education system. For South Africa, following the global shift towards performability and auditability was compounded by the change in policy from an Apartheid state to an anti-Apartheid state. Critical to this change was the hope and promise of “an end to division, separation and inequality” (Soudien, 2007, p. 182). There were significant changes in policy but these changes were often changes in *form* because the negotiated settlement in the early 1990s meant that “social institutions… were restructured within the rules and the bureaucratic parameters of the institutions as they were found in [the late-Apartheid era]” (Soudien, 2007, p. 183). Therefore, some policies (particularly for education) became tick lists of what was auditable and what it meant to be seen to perform as an anti-Apartheid government. However, as Ahmed (2012) warns, “When equality becomes a performance indicator,” as it does in the *White Paper on e-Education*, “[policies] present the ‘best view’ of the organisation [the state in the South African case]. It is thus not surprising to note the increasing proximity of equality and excellence… excellence is the way an organisation can reflect back on itself” (p. 108). And when the state reflects back on itself rather than the people reflecting back on the state, one can begin to wonder if a democratic oligarchy or whether the envisioned people’s democracy is being built.
Chapter 5: Conclusions

An overview of the study

This study has applied a Critical Discourse Analysis informed by Postcolonial Theory to the discourse on equality and quality in the White Paper on e-Education. In the introduction, the research question, “How does the White Paper on e-Education construct notions of equality and quality in South African education?” was broadly outlined. The secondary research questions were: How are the key narratives constructed in the document? What contextual elements have shaped the adoption of these narratives for the discourse on equality and quality? How does the White Paper on e-Education use these narratives normatively?

This study aimed to broaden discussion around ICT in education in South Africa by providing a critical postcolonial analysis of the White Paper. Chapter 1, “Postcolonial Theory as a theoretical lens”, the reasons why Postcolonial Theory was used in the study were explained. In Chapter 2, CDA was described, its appropriateness to the study justified, and the researcher’s positionality.

Chapter 3 presented a contextual setting of the White Paper. It demonstrated that the change in the role of redress (from a redistributive goal to an economic outcome) impacted the discourse on equality and equality in the White Paper on e-Education. It is argued that by the time of its publication the White Paper had been written as part of a multi-departmental turn towards ICT for economic growth, employment and better governance for redress. This study suggests that because of this shift in policy as well as the international climate at the time, the White Paper’s primary goals of redress, equality and quality were undermined.

In Chapter 4 four narratives were identified in the White Paper on e-Education: the ‘digital divide’ narrative (section 4.1), the integration of the digital stranger narrative (section 4.2), the technological deterministic narrative (section 4.3) and the auditability and performability narrative (section 4.4). In section 4.1, the study argued that while the term ‘digital divide’ is highly contested as an appropriate term for describing communities, the White Paper on e-Education uses the term as a “common sense” notion. The narrative positions organisations like the OECD in hegemonic positions, prescribing change, and
South Africa in a conforming position *responding positively* to the changes suggested. The investigation into the integration of the digital stranger narrative (section 4.2) focussed on how the *White Paper on e-Education* formed the digital ‘stranger’ of which it spoke in terms of access and ability. This section brought up the studies on the assimilationist style of racial integration in South African schools, arguing that by constructing the digital ‘stranger’ based on Apartheid’s fault lines, historical inequalities were not disrupted. The study continued with an inquiry into how the White Paper was woven together with a technological deterministic narrative (section 4.3) which concluded with the suggestion that the technological deterministic narrative may ironically work against equality and quality in South African education. Lastly, analysis of the auditability and performability narratives in the White Paper (section 4.4) suggested that Human Capital Theory has been applied in such a way as to construct a discourse that points to and measures equality and quality in education without implementing it.

Criticism of assumptions of the role of ICT in education for the discourse on equality and quality

These four narratives work to guide the discourse on equality and quality in the *White Paper on e-Education*. The narratives construct normative instrumentalist definitions of equality and quality in the South African context which are different to those of South Africa’s early democratic period (Gilmour, 2001). The discourse on equality and quality has become measurable, technical and ahistorical. The four narratives work together to support assumptions regarding the role of ICT in education for the achievement of equality and quality in education.

Firstly, the assumption that equal access to knowledge creates equal education. Gilbert (2010) argues that a central feature of the Western-style knowledge that is taught in South African schools is that it functions as an early employment sorting mechanism for students. For example, to study engineering in South Africa, a student needs to do well in advanced mathematics, science and, importantly, in English or Afrikaans as the school exit examinations are only set, written and marked in English or Afrikaans. According to the Apartheid education and work segregationist laws (the Colour Bar, the Extension of Universities Act and the Bantu Education Act) white people (who invariably spoke English or Afrikaans as their home language) were the only ones allowed to enter the engineering
field. Post-Apartheid, South Africa has repealed those Apartheid laws and opened access of study for all. The form has changed but by keeping the language requirements the substance of segregation has remained. As long as this is the modus operandi for South African education, providing “equal access” to all in a public education system through ICTs will only open up the early sorting features of Western knowledge to the entire population which does not result in equal work opportunities for all, but rather, “the reproduction of existing inequalities” (Gilbert, 2010, p. 67).

The second popular assumption is that ICTs allow equal access to education and therefore the redress of colonial and Apartheid inequalities. ICTs in education cannot leapfrog social challenges to South Africa’s development that are the result of hundreds of years of inequality. Samoff and Stromquist (2001) argue, “Technology did not create subordination and exploitation. People did that. Nor can technology itself bring justice, or equity, or peace to our very troubled world. People must do that too” (p. 632). Technology has an ability to entrench, continue or break inequality depending on who is using it and for what purposes. For example, research by Ravjee (2007) on online courses offered by previously whites-only universities has shown that most of those taking the online courses are African students while those taking the face-to-face lectures at the same universities are mostly white students. This shows a “clear continuity in the physical university space as a predominantly white academic space” (Ravjee, 2007, p. 35).

Thirdly, there are assumptions made with regard to issues of quality in education. The narratives create a certain perspective of quality in education – that it is fixed, measurable and that it “hinges” (Soudien, Motala & Fataar, 2012, p. 4) on equal access through ICTs. This perspective of quality only serves the needs and wants of some groups of society. Samoff and Stromquist (2001) define the “some groups of society” as those who are “already best off in information as well as in available wealth and political leverage” (p. 647). They argue that these groups are “most likely to dominate and manipulate the new technologies and use them to reinforce and entrench their advantage” (Samoff and Stromquist, 2001, p. 647). Additionally, these narratives work in the White Paper to identify teachers and principals as the main culprits for the poor quality of most of South Africa’s schools. As such, they ignore schools and universities as sites of contradiction, “simultaneously reproducing hegemonic practices and ways of thinking and sites of struggle, contestation and resistance” (Ravjee, 2007, p. 32). For many years, the education sector in South Africa has been a site of tremendous government control and social
contestation, the tragic highlight being the 1976 Soweto Uprisings where African students were shot at by government forces as they took to the streets to protest against Afrikaans as the language of learning and teaching in their schools (Fiske and Ladd, 2004). The White Paper is a top down policy that treats teachers and principals not as trained, autonomous professionals but rather as workers in large institutions rolling out one-size-fits-all quality control measures decided on by management.

Finally, the four narratives examined in this study work to reinforce assumptions of unequal global and local power relations. Each of these narratives is based on “global knowledge” which is processed, centralised and decontextualized information which may reject or disregard indigenous knowledge (Samoff & Stromquist, 2001, p. 647). In addition to global knowledge’s ability to universalize and homogenize, technology’s “intensification of immediacy and efficiency erases heterogeneity, and cultural [and] political subjectivity” (Pinar, 2013, p. 10). The global knowledge that has informed the discourse on equality and quality in the White Paper is not sensitive to the nuances of South Africa’s particular inequalities or reasons for poor quality of education in Apartheid-era African, Indian and coloured schools. In an address to the General Meeting of URTNA (the Union of National Radio and Television Organisations of Africa) in 1995, Nelson Mandela spoke on the potential of wasting an opportune moment for ICTs to make profound impacts on the society at large. He refers to the “global village” and questions, “How is this village organised? The spectre of a privileged few setting the cultural agenda for the world's majority is very real. If we allow this to happen, then the potential of new technologies to build bridges will have been wasted” (SAHO). According to the findings in this study, because these narratives have allowed for the opportunity to “build bridges” in South Africa to be wasted - or perhaps dominated and manipulated by those “better off” - the four narratives in the White Paper on e-Education reproduce systemic patterns of signification that fail to redress past and existing inequalities (Ravjee, 2007, p. 36).

Rather than consuming global knowledge narratives with little or no analysis, new critically informed (South) African narratives, conscious of global narratives and committed to social equality, need to be produced that are anchored in new ways of “seeing, thinking about and acting” (Soudien, 2011, p. 265). These critical narratives should guide the discourse on equality and quality in South African education.
References


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