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# The Indelible Verwoerd's Edicts: A Critical Review of their Indirect Impact on South African Basic Mathematics Education Reforms.

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## ABSTRACT

Several decades into having become a democratic state, the proclamation "What is the use of teaching the Bantu child mathematics when he cannot use it in practice" (Verwoerd, 1953 cited in Clark & Worger, 2004, p.48) haunts the mathematics classroom and its curriculum reform. Drawing from the ideas of Althusser's ideological state apparatus and critical discourse analysis, this article argues the non-causal inference of Verwoerd's mathematics ideological construct on the current mathematics education reforms. Significant discussions and efforts have been dedicated to improving basic mathematics education in South Africa, but many of these discussions and efforts have yielded inadequate outcomes. Policies in basic mathematics education have inadequately addressed the challenges faced in the mathematics classroom. This article critically reflects on Verwoerd's ideological edict and how it has indirectly shaped and continues to shape the culture and the state of mathematics teaching and learning and how the culture has translated into education policies.

**Keywords:** Bantu Education, Culture, Ideology, Discourse, Policy

## INTRODUCTION

Education is a contested endeavor and continues to inform the development of cultures and countries' social capital. In 1954 Hendrik Verwoerd, Minister of Native Affairs at the time, said "There is no place for [a black man] in the European community above the level of certain labour. Within his own community, however, all doors are open" (Pelzer & Speaks, 1966, p. 83). It is through Verwoerd's positional thinking that South Africa saw the birth of the Bantu Education Act, which would determine how a 'black man' would be educated. To think and analyse some of these statements when reflecting on the current state of the education system, the paper draws from Althusser's ideological state apparatus idea and critical discourse analysis. The early reference to the theoretical frameworks aims to prevent a staggered and disconnected flow of ideas between literature, descriptions, and interpretations of the statements.

The article takes a conceptual writing form, and it outlines some of the notable traits of apartheid education in South Africa, and the state of mathematics education in the basic education sector. It also outlines Althusser's ideological state apparatus and critical discourse analysis theories and uses the theories to make arguments about the ideological impacts on mathematics education policy and the improvement of mathematics education in South Africa.

### *History of Apartheid Education in South Africa: Ideological Outlook*

The South African education system has been shaped by the legacies of the past and there are ongoing efforts to address these past issues. Thobejane (2013, p.1) argues that "constructing a new education system in post-apartheid South Africa cannot be fully grasped without a proper understanding of the pervasive impact of Bantu education." What is the pervasive impact of Bantu education? Where does it begin? And what are the foundations of this education that haunt the nation close to three decades into democracy?

Verwoerd's racist policy quest saw the formation of the Bantu Education Act (Act No. 47) in 1953 (Union of South Africa, 1953). Bantu education was created as an "inferior type of education" that was designed to "maintain the subordinate and marginal status of the majority racial group" of South Africa (Thobejane, 2013, p. 2). Abdi (2003, p. 92) describes Bantu education as "extensively in control of almost all the learning programs of South Africa's disenfranchised majority population." An important trait of Bantu Education was the total control of the education of the oppressed people by the governing state. (Abdi, 2003).

As such, the state used education as a tool of domination, ensuring that it "perpetuated hierarchical views of society and fostered an ideological consciousness of superior-inferior, master-servants, and ruler-ruled structure" (Thobejane, 2013, p. 2). It is this characteristic of the education system that is central to the argument of this article. Education is "always an identity formation" (Msila, 2007, p. 146). Bantu education was an intentional building of systems that guaranteed an embedded ideological foundation that would shape the identity of an African child. As argued by Abdi (2003, p. 90), the education system was "designed to create a psychologically weak native", resulting in a passive citizen that would not question colonialism. Schooling was, therefore, a central "purveyor of ideology", instilling the idea that the majority of black people should "learn how to prepare themselves for a realistic place in white-dominated society" (Christie & Collins, 1982, p. 60).

While the general mission was to provide low-quality education, Verwoerd expressed a strong stance on the exclusion of an African child from studying mathematics or any field related to mathematics as a specialisation (Abdi, 2003). It is on this premise that I interrogate the extent to which this ideological undertaking has affected mathematics development in the South African education system. According to Macrae (1994, p. 271),

"One of the mistakes (more appropriately, crimes) of apartheid was to waste the talent and potential of the huge majority of its people, particularly in the scientific and technological fields. As a consequence of the separate and unequal development, 86 percent of the African population is seriously underachieving in mathematics. The legacy of apartheid for mathematical education includes the subordination of ethnocentric considerations to European traditions and the exclusion of the majority of the population from access to and participation in mathematics-related professions."

For this reason, the traces of the construct of Bantu education are still evident in the shortcomings in the South African Basic Education sector. It was highlighted by the African National Congress (ANC) in 1994, that "apartheid education and its aftermath of resistance has destroyed the culture of learning within large sections of our communities, leading in the worst-affected areas to a virtual breakdown of

schooling and conditions of anarchy in relations between students, teachers, principals, and the education authorities" (ANC, 1994, cited in Spaull, 2013, p. 2).

Although it must be acknowledged that there are various developments to improve the level of literacy and numeracy, South Africa's improvement is still hoped for. The factors highlighted in the ANC's statement can be seen in the number of challenges faced in predominantly disadvantaged schools. Others may argue that it is an excuse for the governing party's (African National Congress) little development and improvement of the education system (Clercq, 2020). However, there is a need to be critical of the underlying factors and principles that have resulted in these challenges. The next section will take a closer look at the state of education in general, and mathematics education in particular, in South Africa.

### *The Mathematics Education Deficiencies in South Africa*

The South African education outlook is characterised by "severe underperformance, high-grade repetition, high dropout, and high teacher absenteeism" (Spaull, 2013, p.2; Fleisch, 2018). While these include research findings which reported on the underperformance (Fleish, 2018) in numeracy and literacy, the focus of this section will be on the numeracy area.

Spaull (2013) contends that there is a dualistic nature of the South African primary schooling system, leading to bimodality in student performance. He argues that

(1) "For whatever reason, historically disadvantaged schools remain dysfunctional and unable to produce student learning, while historically advantaged schools remain functional and able to impart cognitive skills; (2) The constituencies of these two systems are vastly different from the historically Black schools still being racially homogenous (i.e. Black, despite the abolition of racial segregation ) and largely poor; while the historically White and Indian schools serve a more racially diverse constituency, although almost all of these students are from middle and upper-class backgrounds, irrespective of race." (Spaull, 2013, p. 2)

Spaull highlights the deeply embedded historical traits that maintain the structural deficiency in the education system. The challenges that are currently witnessed in the previously disadvantaged schools (schools attended predominantly by black people) are not to be exclusively attributed to the post-democratic era mismanagement. Instead, Spaull (2013) acknowledges how the past oppressive system has shaped the nature of the current education system.

According to Mlachila and Moeletsi (2019), there are various factors, such as inadequate public education funding, inadequate resources, poor content knowledge, and low accountability that contribute to poor educational outcomes. There are many research articles and reports that have covered the issues around mathematics education in South Africa (Alder & Pillay, 2016; Jojo, 2019; Adler, Alshwaikh, Essack, & Gcsamba, 2017; Spaull, 2013 and many others). While there are many factors attributed to poor performance in mathematics education, the leading factor is poor teacher content knowledge (Spall, 2013; Askew, Bowie, & Venkat, 2019)

Teachers are central to the success of education outcomes. The Organization for Economic Co-operation and Development (OECD) report of 2005 concluded that "factors to do with teachers and teaching are the most influences on pupil learning. In particular, the broad consensus is that teacher quality is the single most important school variable influencing pupil achievement."

(OECD, 2005, p.2). The conclusion is supported by other reports that highlighted that "the quality of an education system cannot exceed the quality of its teachers" (Schleicher, 2011, p. 204). It is, therefore, a cause for concern that "most South African Grade Six mathematics teachers do not possess desirable levels of mathematics content knowledge." (Spaull, 2013, p. 25). It is an alarming reality especially because primary education is critical in building a foundation for the learners' future education endeavours.

Another notable factor is language and location, and Howie (2003) notes that in the findings of her research study, she found that "pupils who spoke either English or Afrikaans at home achieved higher scores in both the mathematics and the English tests than those who did not." (p.13). Furthermore, she highlights that "students attending school in rural areas perform worse in mathematics than those attending school in urban areas" (Howie, 2003, p. 13). Unlike teacher content knowledge, language is a central aspect of people's culture.

While all these factors are equally important in terms of what should be explored and addressed, the focus of this article is to foreground an ideological argument that advances the notion that there is a lurking historical ideology that continues to inform the culture of learning in mathematics education. The next section will explore, through the lenses of theory, edicts that have long-term implications on the shaping of the culture of learning that is espoused by education policies.

### *Althusser's Ideological State Apparatus and Fairclough's Critical Discourse Analysis*

"Man is by nature an ideological animal" (Louis Althusser, 1970, p. 28)

Ideology is a powerful tool in the creation and definition of people (subjects). Ideology has the capacity to "define the (grammatical) subjects' range of action and possibility: what they are capable of doing, what they must and must not do." (Myers, 2005, p. 152). This power of ideology was expressed in the intentional crafting of declarations (discourse) during the apartheid era. Through the lenses of critical discourse analysis, one can deduce that, through discourse, ideology has the power to create "social power abuse, dominance, and inequality." (van Dijk, 1997, p. 1). The first example to consider is the declaration by the Eiselen Commission:

> The Bantu child comes to school with a basic physical and psychological endowment which differs so slightly, if at all, from that of the European child, that no special provision has to be made in educational theory or basic aims But education practice must recognise that it has to deal with a Bantu child, i.e. a child trained and conditioned in Bantu culture, endowed with a knowledge of a Bantu language and imbued with values, interests and behavior patterns learned at the knee of a Bantu mother. These facts must dictate to a very large extent the content and methods of his early education. The schools must also give due regard to the fact that out of school hours, the young Bantu child develops and lives in a Bantu community, and when he reaches maturity, he will be concerned with sharing and developing the life and culture of that community. (Eiselen commission, 1951 cited in Christie & Collins, 1982, p. 69)

Ideology, which in this case was propagated by discourse, made it possible to maintain and transform social relations of power (Fairclough, 1989; 2013). As evidenced by Eiselen's statement, the objective was to perpetuate a system that would a have limiting factor in the development of black people in the social structures. Norman Fairclough's

development of critical discourse analysis is cemented in the question of how language contributes to the domination of some people by others (Fairclough, 1989; 2013).

The concept of power often strikes the human mind with fear as it is often loosely associated with only oppression and domination of the subject. However, Foucault (1982) takes it a step further in his study of what he called "dividing practices", where he said that the "subject is either divided inside himself or divided from others" (p. 778), which objectifies the subject. Bantu education and the Group Areas Act managed to achieve both levels of the exercise of power. Foucault (1982) argued that the subject is placed in "power relations which are very complex" (p. 778) and he suggested that maybe the appropriate method that can be used to understand these power relations could be to investigate "the forms of resistance and attempts made to dissociate these relations" (p. 780).

It is worth noting that the black child's (subject) identity was carefully crafted through discourse to reflect the apartheid ideology that deemed Africans inferior to European white people. Eiselen's declaration further goes on to define and dictate the limitations of the black child in terms of his place in society. The analysis of Verwoerd's edict in relation to mathematics will be discussed later in this section.

Fairclough (2010) asserts that discourse and power "flow into each other" (p.4). From a critical perspective, Fairclough (2010) strongly suggests that to "talk about discourse and power in terms of hegemony" (p.95) entails talking about the idea of "constituting and reconstituting social relations through discourse" (p.64). According to Skog (2014), hegemonic systems are "orders of discourse where relations of domination are sustained as part of the legitimizing common sense" (p.36). It is for this reason that the Eiselen Commission defended the establishment of the Bantu Education Act. It was argued that this type of education was 'good' for the Bantu child. The idea by Skog (2014) captures how apartheid ideology was able to maintain and legitimise dominance through ideology. The maintenance of dominance was possible because ideology "stitches together a comprehensible narrative out of a complicated world, explaining both the nature of that world and our particular place in it" (Myers, 2005, p. 151).

The fundamental element of critical discourse analysis in relation to this article is the way in which apartheid was able to proclaim, legitimise, and reproduce power relations (van Dijk, 2017). To expound on discourse, Wodak (1997), says:

"Discourse is socially constitutive as well as socially conditioned – it constitutes situations, objects of knowledge, and the social identities of and relationships between people and groups of people. It is constitutive both in the sense that it helps to sustain and reproduce the social status quo and in the sense that it gives rise to important issues of power. Discursive practices may have major ideological effects – that is, they can help produce and reproduce unequal power relations between (for instance) social classes, women and men, and ethnic/cultural majorities and minorities through the ways in which they represent things and positions people." (p.6)

Fairclough's (1989) model of critical discourse analysis consists of three interconnected analyses which are linked to three interconnected dimensions, namely: the object of analysis (including verbal, visual or verbal and visual texts), the processes by which the object is produced and received (writing/speaking/designing and reading/listening/viewing) by human

subjects and the socio-historical conditions that govern these processes.

The above are linked to the following: text analysis (description);

processing analysis (interpretation); social analysis (explanation).

In the process of analysis, there are micro and macro levels of analysis where "language use, discourse, verbal interaction, and communication belong to the micro level of the social order. Power, dominance, and inequality between social groups are typically terms that belong to a macro level of analysis." (van Dijk, 1997, p. 4). An example offered by van Dijk (1997) where a member of parliament offers a racist speech in parliament involves micro and macro analysis. There are multiple ways to analyze and reconcile the macro and micro levels of analysis in the example provided by van Dijk (1997, p. 4) these include:

"Members-Groups: Language users engage in discourse as members of (several) social groups, organizations, or institutions; conversely, groups thus may act 'by' their members."

"Action-Process: Social acts of individual actors are thus a constituent part of group actions and social processes, such as legislation, news making, or the production of racism."

"Context-Social Structure: Situations of discursive interaction are similarly part or constitutive of social structure, such as a press conference may be a typical practice of organizations and media institutions. That is, 'local' and more 'global' contexts are closely related, and both exercise constraints on discourse."

"Personal and Social Cognition: Language users as social actors have both personal and social cognition: personal memories, knowledge, and opinions, as well as those shared with members of the group or culture as a whole. Both types of cognition influence the interaction and discourse of individual members, whereas shared 'social presentations' govern the collective actions of a group. Thus, cognition is also the crucial interface (or with a biological metaphor: the missing link) between the personal and the social, and hence between individual discourse and social structure."

### *Power as Control*

There is an interpretation of power that resonates with this article, that is, power "can be seen as a capacity of people, or groups of people, to maintain social structures of inclusion and exclusion." (Skog, 2014, p. 37). According to van Dijk (1997) groups "have (more or less) power if they are able to (more or less) control acts and minds of (members of) other groups." (p. 5). It is convincing that the long-term goal of apartheid and its products (education acts and social acts) was to achieve a mass psychological engineering of the black majority in order to protect the interests the white domination. Appropriation of this power as a means of control is afforded by scarce social capital such as status, money, information, culture, force, and different forms of public engagements and discourse (van Dijk, 1997). These various benefits were in the control of the state ensuring sustenance. To prevent an interpretation of power as an absolute act, van Dijk (1997) indicates that "Groups may more or less control other groups, or only control them in specific situations or social domains." (p.5).

Discourse and power are interrelated in critical discourse analysis because, first, access to discourse materials in different disciplines is in itself a powerful medium. Secondly, human actions are controlled by the mind thus control of people's minds which includes their perceptions, opinions,

and knowledge, grants us the power to control their actions. Thirdly, people's minds are controlled by text and talk. Therefore, discourse "may at least indirectly control people's actions, as we know from persuasion and manipulation." (van Dijk, 1997, p. 5). The major achievement of the exercise of power through deliberate discourse is to "control people's beliefs and actions in the interest of dominant groups, and against the best interests of the will of the others." (van Dijk, 1997, p.5).

Now, back to Verwoerd's edict: "What is the use of teaching the Bantu child mathematics when he cannot use it in practice?" (Verwoerd, 1953). In the center of Verwoerd's statement is the Bantu child, as a subject, and what follows from this point is informed by the subject's place in society at the time. Verwoerd's statement brings up three aspects, that is, cognitive ability, valued knowledge, and the exclusionary society (which is an arena in which this unfolds).

The words "teaching" and "cannot use it" reveal the first point of interest in Verwoerd's edict. Through these words, Verwoerd, although not intentionally, acknowledges that the Bantu child has the cognitive capability to learn the mathematics subject. The point of contention, at least according to this statement, is the role and status of the Bantu child in the apartheid state. As seen in the introduction, "there is no place" for the Bantu child in society (Pelzer & Speaks, 1966, p. 83). If there are inclusionary practices applied against the African people, why waste resources teaching the Bantu child mathematics? As seen here, mathematics was a valued subject under apartheid education and as such was only reserved for white children.

It is understood that discourse, which advances ideology, creates a means to "control people's beliefs and actions in the interest of dominant groups, and against the best interests of the will of the others" (van Dijk, 1997, p. 5). In this case, the discourse was perpetuated in the interest of white people and children's education. It further noted that "discursive practices may have major ideological effects – that is, they can help produce and reproduce unequal power relations between (for instance) social classes, women and men, and ethnic/cultural majorities and minorities through the ways in which they represent things and position people." (Wodak, 1997, p. 6).

There are major ideological effects on the current system that may have been created by the ideological engineering in apartheid education policies.

### *Implications for Mathematics Education Reforms in the South African Context*

A well-renowned economist Professor James Heckman, has argued that:

"Policies that seek to remedy deficits incurred in early years are much more costly than early investments wisely made and do not restore lost capacities even when large costs are incurred. The later in life we attempt to repair early deficits, the costlier the remediation becomes" (Heckman, 2000, p. 5).

To fairly address the challenges in the education system, one has to acknowledge the issues of the historical inheritance of oppressive ideologies. It is understood that discourse "may at least indirectly control people's actions, as we know from persuasion and manipulation." (van Dijk, 1997, p. 5). Could it be that the education system is under ongoing manipulation by earlier ideologies that are deeply embedded in the system? Understanding certain policies' directions in mathematics education could reveal a glimpse to help answer this question.

In 2011, the education minister, Angie Motshekga said "Our national curriculum is

the culmination of our efforts over a period of seventeen years to transform the curriculum bequeathed to us by apartheid." (Department of Basic Education [DBE], 2011, p. i) This is an important opening statement in the Curriculum and Assessment Policy Statement (CAPS). It is cognisant of the historical ideological and systematic inheritance that comes from the apartheid government rule.

An extensive intentional transformation of the curriculum was concentrated in the period of 1995 to 2006, driven by the transformation or redress agenda (Adler, Alshwaikh, Essack & Gcsamba, 2017). This was an important exercise; however, it is important to question the level at which the transformation was addressed. There is a level of formal access to education, whereby the education minister would highlight the number of learners enrolled in a particular subject. In the minister's speeches, this is often presented as an improvement. However, the conversation on epistemological gains is often not considered in the debates.

Adler et al. (2017) highlight that post-2006, the South African curriculum efforts can be "described by a shift to a focus on performance and quality across the system coupled with increased attention to teachers' knowledge." (Adler et al., 2017, p.1). Although this may be the case, it has become a "truism that the large majority of South African learners perform poorly at mathematics." (Taylor, 2021, p. 2). While this is an undesired situation, it has been recorded that there are gradual improvements in performance at both primary and secondary levels (van der Berg & Gustafsson, 2019).

Schollar (2008), reporting on the findings of the Primary Mathematics research project which looked at over 7000 learners from 154 schools in South Africa summarises the conclusion as follows: Phase 1 concluded that the fundamental cause of poor learner performance across our education system was a failure to extend the ability of learners from counting to true calculating in their primary schooling. All more complex mathematics depends, in the first instance, on an instinctive understanding of place value within the base-10 number system, combined with an ability to readily perform basic calculations and see numeric relationships . . . Learners are routinely promoted from one Grade to the next without having mastered the content and foundational competencies of preceding Grades, resulting in a large cognitive backlog that progressively inhibits the acquisition of more complex competencies. The consequence is that every class has become, in effect, a 'multi-grade' class in which there is a very large range of learner abilities, and this makes it very difficult, or even impossible, to consistently teach to the required assessment standards for any particular Grade. Mathematics, however, is a hierarchical subject in which the development of increasingly complex cognitive abilities at each succeeding level is dependent on the progressive and cumulative mastery of its conceptual frameworks, starting with the absolutely fundamental basics of place value (the base-10 number system) and the four operations (calculation)'' (Schollar, 2008, p. 1).

Schollar (2008) exposes the epistemological deficiencies in the efforts seen in mathematics education. By its own admission, the Department of Basic Education acknowledges that policies alone do seem to address the shortcomings of the mathematics education objectives. Noting that "the teaching and learning of mathematics in South African schools is not yielding the intended outcomes of South Africa's education policies and curricula" (DBE, 2018, p.6). The Department of Basic Education speaks about creating a dynamic classroom culture, in which the teacher plays

a critical role in "establishing this culture" (DBE, 2018, p. 19). The establishment of culture is a social exercise, and it is integral in forming and defining the identity of the members of society.

Although apartheid is in the past, there are accountabilities that anyone who dares desire to contribute to improving education must undertake. Firstly, there must be a deliberate acknowledgment of the impact of the ideological constructs that shaped the identity of the citizens that are now responsible for educating the next generation of citizens and scholars. The Mapungubwe Institute for Strategic Reflection (MISTRA) research project notes:

"Mathematicians attach positive connotations to the subject such as 'exciting', 'creative' and 'curiosity'; yet many learners do not. Instead, many believe that the subject is for the 'intellectually gifted'; and the manner in which it is taught reinforces these attitudes and perceptions. The history of elitist access to mathematics, and the employment context requiring mathematics to gain decent work, have major political and socio-economic implications. While education may be used for emancipation, mathematics can be used as a weapon to increase and perpetuate inequality". (MISTRA, 2019, p. 3).

The project findings note an important aspect; that is, although we have turned our backs on the apartheid days the same inequalities that were envisioned by Verwoerd in policies may be perpetuated to this day. The idea that mathematics is for a selected few is the 'power', which has become a common 'maxim', affording it an exclusionary power. As it stands, mathematics is "perceived as a difficult subject, accessible only to the few" (Terera & Ngirande, 2014, p. 432) in South Africa. Research records that learners' mathematics aptitude is linked to their attitudes and beliefs toward mathematics (Mazana, Suero Montero, & Olifage, 2019).

The South African education system must purge itself of the embedded ideological engineering that was carefully constructed by apartheid education. The identity transformation of the citizens must happen at all levels of society to ensure that the generations to come can explore education without any limiting discourses (ideology).

## CONCLUSION

The greatest concern we should have is that ideology outlives the time and epoch in which it is created and enacted. Althusser (1970) argues that the peculiarity of ideology is that it is endowed with a structure and a functioning such as to make it a non-historical reality, i.e., an omni-historical reality, in the sense in which that structure and functioning are immutable, present in the same form throughout what we can call history. (p. 29)

In the earlier sections, I asked 'Could it be that the education system is under an ongoing manipulation by earlier ideologies that are deeply embedded in the system?' And there is no definitive answer. However, our duty is to interrogate this throughout our construction of society and to deliberately destroy any traces of dangerous ideological advancements.

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