

**'FRAMING AND CLASSIFYING' THE IMPLEMENTATION OF THE GRADE 10
CURRICULUM AND ASSESSMENT POLICY STATEMENT:
A CASE STUDY OF SELECTED SCHOOLS IN KWAZULU-NATAL**

By

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Submitted in accordance with the requirements
for the degree of

DOCTOR OF EDUCATION

in the subject

CURRICULUM STUDIES

at the

UNIVERSITY OF SOUTH AFRICA

SUPERVISOR: PROFESSOR M.W. MAILA

2015

DECLARATION

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I declare that ‘FRAMING AND CLASSIFYING’ THE IMPLEMENTATION OF THE GRADE 10 CURRICULUM AND POLICY ASSESSMENT STATEMENT: A CASE STUDY OF SELECTED SCHOOLS IN KWAZULU-NATAL is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

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‘FRAMING AND CLASSIFYING’ THE IMPLEMENTATION OF THE GRADE 10 CURRICULUM AND ASSESSMENT POLICY STATEMENT: A CASE STUDY OF SELECTED SCHOOLS IN KWAZULU-NATAL

ABSTRACT

The South African education system has been evolving since the country became democratic in 1994 and a number of curriculum reforms have been introduced within a short space of time. These reforms revolve around power and control and therefore, Bernstein’s concepts of classification and framing form the conceptual framework for this study.

This study attempts to give a picture of what is currently happening in schools pertaining to the implementation of the grade 10 Life Sciences (LS), Business Studies (BS), and Engineering Graphics and Design (EGD) Curriculum and Assessment Policy Statement (CAPS). The dual aim of this study was to find out educators’ understanding and interpretation of the CAPS that can be observed in their teaching practice and to establish how decisions on subject content (selection, sequencing and pacing) are made. Also of importance was to determine whether educators view and treat their subject as unique or as similar to other subjects.

The study used a qualitative approach, using case study design. Observations were used as the main method for data construction. Four LS, BS and EGD educators from four different schools were observed teaching the same class for five consecutive lessons. Thereafter, these educators were interviewed. For triangulation purposes, learners and the subject advisor were participants in this thesis. For this purpose a group of ten randomly selected learners from observed classes per subject and school were requested to complete a questionnaire and the LS, BS and EGD subject advisors were interviewed.

The subject advisors insisted that educators follow the CAPS so that learners would be able to write common assessment tasks at the end of each term. Although educators claimed that they were following the CAPS regarding content selection, sequencing and pacing, observations

showed that educators were not following the CAPS document. The findings suggest that well coordinated interventions are required to support and monitor educators' practice.

Key words:

Framing; Classification; Curriculum Assessment and Policy Statement; National Curriculum Statement; Subject Advisors; Educators; Grade 10 Learners; Life Sciences; Business Studies; Engineering Graphics and Design

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LIST OF ACRONYMS USED IN THE STUDY

ATP – Annual teaching plan

C2005 – Curriculum 2005, the new curriculum that was introduced when South Africa became a democratic country

CAPS – Curriculum and Assessment Policy Statement Grades R–12, new curriculum policy document that is designed to simplify teachers’ duties of lesson preparation, teaching and assessing; this curriculum policy is being implemented incrementally, commencing in 2012 and was completed in 2014

CEM – Council of Education Ministers, the council that is made up of different ministers in the National Assembly and is responsible for passing laws

CNE – Christian National Education

DBE – Department of Basic Education

DoE – Department of Education, referring to the Department of Basic Education (DBE) as it is currently known since higher education institutions were separated from schools in terms of departments and the education ministers responsible for those departments

FET band – Further Education and Training band (grades 10–12)

GET band – General Education and Training band (grades R–9)

Note: GET and FET are the two bands in basic education that were introduced during curriculum reforms. The aim was to give learners a choice to take either the vocational or academic route at the end of GET.

HEDCOM – Head of Education Committee

HoD – Head of Department within the school

ICS – Interim Core Syllabus, introduced after 1994 when South Africa became a democratic country. This curriculum was introduced in the interim to cleanse the old apartheid curriculum while still working on the National Curriculum Statements (NCS) for the FET Band.

LoLT – Language of learning and teaching

LPG – Learning Programme Guide, the policy documents that were designed per subject to facilitate the implementation of the NCS

NCF – New Curriculum Framework for Life Sciences

NCS – National Curriculum Statements for grades 10–12, introduced in 2006 to replace ICS

NSC – National Senior Certificate, a certificate that was issued for the first time at the end of 2008 to those learners who passed their grade 12, consisting of a minimum of seven subjects, four of which are classified as fundamental subjects and compulsory for all grade 12 learners

OBE – Outcomes Based Education, the approach towards education that was adopted by the South African Government because its principles are similar to the values enshrined by the South African constitution. This is the mode in which C2005 was going to be implemented.

RCL – Representative Council of Learners

RNCS – Revised National Curriculum Statements for grades R–9, a curriculum reform introduced after C2005 was reviewed in the year 2000

SAG – Subject Assessment Guide, a policy designed for each subject to assist with assessment by specifying the number of assessment tasks per term

SGB – School governing body

SMT – School management team, consisting of the principal, deputy principal and heads of departments

TESOL – Teachers of English to Speakers of Other Languages

TIMSS – Trends in International Mathematics and Science Study

ACKNOWLEDGEMENTS

I would like to thank the Lord Almighty God for guiding me through this study, for in Him all things are possible. I am grateful to the following organizations and people for their support and contribution to this study:

The DUT, UNISA and NRF for funding this study; the DUT writing centre, especially Nonhlanhla, for helping me with Turn It In; the KZN DBE, for allowing me to conduct research in their schools; all the participants in this study; my family, for their love, support and encouragement; my supervisor, Prof M.W. Maila, for his truthfulness, patience, support and encouragement; and finally, the KZN Language Institute for editing this thesis.

CHAPTER ONE

BACKGROUND OF THE STUDY

1.1. INTRODUCTION

This study attempts to give a picture of what is currently happening in South African schools pertaining to the implementation of the new Curriculum and Assessment Policy Statement (CAPS). The main purpose of the research is to investigate how educators understand and implement the CAPS document. Educators' understanding and interpretation of the CAPS can be observed in their classroom practice. Their practice can be compared to policy. At the time of this study, schools were using the CAPS in grade 10 (2012). Grades 11 and 12 were still using the National Curriculum Statements (NCS), which would be gradually phased out by 2014. The CAPS were a result of the review of the NCS implementation by a task team. This team consisted of a panel of six experts, led by Hoadley, that were appointed by the Minister of Basic Education, Angie Motshekga, in July 2009 to investigate the NCS implementation problems and develop a set of strategies to solve them (DBE, 2009:5). This review was one of a number of curriculum reforms that have taken place since 1994 when South Africa became a democratic country (Jansen, 1999). In this study the 2003 Life Sciences (LS), Business Studies (BS) and Engineering Graphics and Design (EGD) grade 10 NCS and the CAPS policy documents were analysed in terms of framing and classification. Framing and classification are the two Bernsteinian concepts that form the theoretical framework for this study and are outlined in detail in Chapter Two.

Major changes have been taking place in the South African education system since the introduction of democracy in 1994 (Jansen, 1999; Jansen & Christie, 1999; Chisholm, 2000; Chisholm, 2004; Muller & Taylor, 1995). This section gives a brief overview of those changes that were introduced by the first education minister in the new democratic South Africa, Professor Sibusiso Bhengu. The curriculum reform was a response to a white paper on Education and Training (DoE, 1995), calling for an education reform that would address the imbalances of the past (Muller & Taylor, 2000). For the reform to be acceptable, it had to create social justice by providing equal access to quality education. On the 26 February 1997, the Council of Education Ministers (CEM) took a

decision to “replace Apartheid Education by an Outcomes-Based Education (OBE) in the General Education and Training (GET) band and the Further Education and Training (FET) band by 2005” (DoE, 2003a:2). The resulting curriculum reform was called Curriculum 2005 (C2005).

The environment in which the implementation of C2005 took place was characterized by “enormous infrastructure backlogs, resource limitations, inadequate supply of quality learning support materials and absence of common national standards for learning and assessment” (DoE, 2003a:2). These inequalities resulted from the different education systems that had served to prepare different race groups for the different status positions that they were to occupy later on in their lives. Poorly resourced schools supplied inferior education that had been tailor made to prepare Blacks for subordinate positions in life, while there was high quality education for Whites to prepare them for the leadership positions that they would have to take (Adler, 2000b; Ensor, 2004).

This historical system of inequality meant that many poor rural schools failed to implement this new curriculum. At the time, educators were trained for only two to three days on how to implement the new, and totally different curriculum. They were expected to start implementing it soon after the training workshop. Malcolm (2005:110) describes this situation as a “voyage of faith”, where educators were sent out with the hope that they could meet the challenges of implementing a new curriculum in an under-resourced system without support (Harley & Wedekind, 2004; Sayed & Jansen, 2001). In 1999, C2005 was in its second year of implementation when Professor Kader Asmal became the Minister of Education. The minister started a campaign to determine the progress and challenges experienced since the implementation of OBE in the GET band. Many interest groups expressed frustration with the design and implementation of C2005. As a result of these expressed concerns, the minister set up a committee in February 2000 to review the implementation of C2005.

On 31 May 2000, the committee presented its report that confirmed the limitations and recommended that the curriculum be streamlined and strengthened. In November 2000 the minister appointed a ministerial project committee to manage the streamlining and strengthening of C2005 for grades R–9. The committee released a clearer and simpler version of C2005 for public comment

between the 30 July and the 12 October 2002 (DoE, 2003a). The public welcomed this simpler version of the C2005. The Revised National Curriculum Statements (RNCS) for grades R–9 were approved by the cabinet and endorsed as policy by the CEM on the 15 April 2002 (DoE, 2003a). These changes in the GET C2005 impacted on the FET C2005. The original plan by the CEM, on the 26 February 1997, was to develop a new curriculum for FET to be phased in to grades 10 to 12 in 2003/2004 and completed in 2005. This plan had to change on the 19 March 2002, when the Heads of Education Committee (HEDCOM) proposed the incremental phasing in of OBE into grade 10 in 2004. This proposal was approved by the CEM, who called for the development of the NCS for FET by March 2003. These NCS for FET were to be based on the principles and design of the RNCS for grades R–9, with the key principles (DoE, 2003a) being

- high knowledge and skills for all
- human rights
- inclusivity
- socio-economic and environmental justice
- articulation and portability
- integration and progress
- outcomes based approach and credibility
- quality
- efficiency
- relevance

In order to improve the state of readiness of the FET band to cope with the curriculum and institutional changes, there were further delays, however, with plans for OBE to only be phased into grade 10 in 2006. This delay in the phasing in of OBE to the FET band meant that the 2003 grade 10 would have to be taught the ‘old’ syllabus, though these learners had been exposed to OBE since their 7th grade. Fortunately, the 2003 grade 10 learners were not taught in the original old syllabus (DoE, 2003a), as changes had been effected since 1994 to ensure that the Senior Certificate was improved. Concurring with the DoE (2003a), Taylor, Muller and Vinjevold (2003) and Fleisch (2000) point out that this included learning outcomes being developed and languages becoming standardized, following the recommendations of the committee.

In addition, the Scottish Qualifications Authority found the Senior Certificate to be comparable to other reputable examination systems and qualifications. Five common examination subjects were written for the first time in 2001 and continuous assessment was introduced in the FET band in that year. All these changes were implemented in the interim while waiting for the phasing in of the OBE into the FET, a band that is optional to those learners who wish to further their studies beyond the compulsory education phase, generally those learners who want to go on to higher education institutions. As a result of these changes and learners' requirements, FET changed from 2006 onwards, with phasing in the grade 10 level from the Interim Core Syllabus (ICS) that was driven by aims and objectives, to FET NCS, influenced by the labour market and political vision (Chisholm, 2005; Young, 2003).

The NCS at FET level started in 2006 and the first National Senior Certificate (NSC) examinations were written in 2008. The implementation of the NCS was not free from challenges and, as a result, in July 2009, the Minister of Basic Education, Angie Motshekga, appointed a task team to investigate the problems related to the implementation of the NCS. The task team conducted intensive research involving all the stakeholders, including teachers, through deliberations and submissions. Through these interactions, the task team identified three main problematic areas: a) Challenges regarding the implementation of curriculum policy and guideline documents such as the Learning Programme Guide (LPG) and Subject Assessment Guide (SAG), as these documents were interpreted at all levels of the education system, caused confusion; b) the difficult transition between grades and phases with reference to the difference in the number of learning areas done in grade 3, that is, three learning areas compared to nine learning areas that are done in grades 4 to 9, as well as grades 9 and 10 where there is a transition from nine learning areas to seven subjects; and c) assessment was challenging, particularly continuous assessment, as the new assessment policy in the GET was never developed to support the NCS (DBE, 2009).

As the team continued to collect information, it became obvious that educator support and training for curriculum implementation and teaching and learning support materials had to be included in their report and recommendations. The CAPS were phased in from 2012 to 2014, starting with grades R–3 and 10 in 2012, grades 4–9, grade 11 in 2013, and grade 12 in 2014 (DBE, 2011d).

In this study intensive case studies in three selected subjects were conducted in four different schools, involving one educator and one class per subject and school. Adler (2000) argues that in-depth case studies are required so that claims about substance teaching with an emphasis on understanding, as opposed to procedural teaching with an emphasis on rote learning, can be made. These case studies are descriptive (Yin, 1993), as they state what is happening within the classroom. Data analysis further describes the events, using the language of description that is explained in the conceptual framework. A case study can be defined as a research strategy when the investigation is done within its real life context (Thomas, 2011). Winston Tellis (1997) argues that a case study is a research methodology that is ideal when there is a need for an in-depth investigation. Yin (1994) recommends that when using a case study as a research methodology, four stages should be followed: a) Design the case study. b) Conduct the case study. c) Analyse the case study evidence. d) Develop the conclusions, recommendations and implications.

The first three stages were followed for each subject and school as a separate case study. A comprehensive report on all case studies was written, highlighting similarities and differences among the case studies. Conclusions, recommendations and implications were developed after analysis of the different subjects and schools.

Here, the LS educator, BS educator and EGD educator were observed teaching the same class over five lessons, although in some subjects this was not possible. The full explanation is given in Chapter Five of this document. This was done in order to observe the educator in the continuity of his/her practice (Adler & Reed, 2000) to see how the five lessons were ordered or linked over five consecutive lessons, thus, conducting in-depth studies where claims regarding substance or procedural teaching could be made.

After observing five lessons per subject under study, ten randomly selected learners per subject were given questionnaires. The original plan was that learners would respond in writing within one hour in the researcher's presence, but this plan failed to materialize in the schools, due to timetabling. As a result, these questionnaires were given to subject educators to distribute to learners. This resulted in the collection of less than ten responses in some subjects, as shown in Chapter Five, Table 4: Coding of participants. The learners were assured that their personal

identities would remain anonymous. To ensure this, learners were asked not to write their names on their responses and they were identified by their school and subject. For this, learners were told to write school A, B, C or D (as per researcher's instructions) and the name of the subject for analysis purposes. The same assurance was given to principals, educators and subject advisors. As a result, the real names of the schools, educators and subject advisors were not used in the report.

1.2. CONCEPTUAL FRAMEWORK

Two of Bernstein's concepts that provide a language of description for the data were used (Hoadley, 2005:17; Bernstein, 1996:135-137; Ensor & Hoadley, 2004). The main concepts used were classification and framing. These two concepts capture the South African curriculum reforms that have been taking place since 1994. When analysing curriculum reforms, changes revolve around power and control. According to Bernstein, classification refers to power relations between different agencies, contexts or discourses. Framing refers to how those relations within agencies or discourses are negotiated and can answer the question: Who controls what within agencies, contexts or discourses? These concepts are explained in detail in Chapter Two.

1.3. PURPOSE OF THE STUDY

The purpose of the study was to investigate the implementation of the CAPS that were introduced in 2012 to grade 10. The study focuses on three Grade 10 subjects to see how educators teach and assess learners in these subjects and compares their practice with policy. A further aim of this study was to find out educators' understanding and interpretation of the CAPS that could be observed in their teaching practice. The study can inform General Subject Didactics lecturers about the current curriculum policy and practice in schools. This information can also enable lecturers to equip Bachelor of Education students with knowledge and skills to correctly use the curriculum policy documents when planning and teaching their lessons during micro teaching and work-integrated learning and when they later qualify as educators. This can reduce the burden on the Department of Basic Education of training newly qualified educators on how to use curriculum documents, as was mentioned in the report by the task team that reviewed the NCS (DBE, 2009)

that newly qualified educators experience problems when it comes to curriculum policy implementation.

The researcher chose these three subjects because in the university where the researcher is currently working, the Bachelor of Education programme is divided into three specializations: (1) economic and management sciences, which includes the following subjects: accounting; economics, business studies, mathematics and computer applications technology; (2) technology, which includes the following subjects: electrical technology, mechanical technology, civil technology, engineering graphics and design and mathematical literacy; and (3) natural sciences, which includes the following subjects: biology, chemistry, physics and mathematics.

The researcher believes, as a General Subject Didactics lecturer, that being well grounded in curriculum policy and practice can help in capacitating student educators with the knowledge and understanding of policy guiding their practice as educators. This study can help in identifying the key areas of teaching practice that might need to change or be adjusted, thus informing the lecturer on how to design and plan useful study guides for General Subject Didactics students. This would result in students becoming effective and efficient educators in the near future. The study can also make a valuable contribution towards monitoring and supporting educators' practice in implementing the new curriculum policy, thus informing both subject educators and subject advisors on possible problematic areas in implementing the curriculum policy.

The two curriculum statements, the NCS and the CAPS, were compared to identify similarities and differences between them. The same conceptual framework was used to analyse data collected from lesson observations, interviews and questionnaires. This was done in order to facilitate a comparison between curriculum policy statements (CAPS) and practice (classroom practice observed). This comparison was important because educators were expected to implement both policies concurrently in 2012 and 2013 when the CAPS were phased in to grade 10 in 2012, while still using NCS for grades 11 and 12. The same thing happened in 2013 when the CAPS were used for grades 10 and 11, while still using NCS for grade 12. Therefore, current educators and those that qualified in 2012 and 2013 needed to know how to implement both policy documents.

This study is a development from a study the researcher conducted in 2006 for a Master of Education degree. That earlier study investigated the implementation of the Interim Core Syllabus that was used in the FET phase, post 1994, while the design of the National Curriculum Statements was still in progress. The findings of that study claimed that teaching in the classroom was procedural rather than teaching for substance. In this current study, the implementation of the CAPS that replaced the NCS is investigated to find out if there have been any changes in practice since NCS was introduced.

Benefits of this study could, directly or indirectly, be useful to all the participants. It is possible that subject advisors can gain a better understanding of what is happening in their subjects and, in turn, they can design strategies to help educators and highlight common problems or success stories based on educator's practice, thus facilitating effective curriculum implementation workshops. Schools could also gain insight into what is happening in different subjects and devise plans that can be incorporated in their school improvement plan and, in that way, improve the school's performance when implementing the CAPS. Educators will become familiar with policy documents, since they will be forced to read them and inform the researcher about the topics they intend covering during lesson observations. Learners could benefit from the study because educators are most likely to prepare more thoroughly for all the recorded lessons. In addition, the country as a whole is likely to benefit because the higher education institutions involved with teacher education could get insight into common challenges faced by educators when implementing new curriculum reforms, thus preparing student educators from an informed angle.

1.4. PROBLEM STATEMENT

The South African education system, that is, its curriculum, has been evolving since South Africa became a democratic country. The State wants to provide the same good quality education for all South Africans in order to promote social justice and equality. This ideal presents itself with a lot of challenges because South Africa is a widely diverse country, her citizens coming from different backgrounds due to the inequalities of the past. Providing a common curriculum for all poses a problem, because good quality education does not have the same meaning for all South Africans. Levels of development for various groups are too far apart and schools are not equally resourced

in terms of infrastructure, available facilities and the quality of human resources. These inequalities contribute a lot to the challenges faced by educators when implementing curriculum reforms like C2005, RNCS and NCS, as explained in the introduction. As a result of these challenges, a number of curriculum reforms have been introduced in South Africa within a short space of time since 1994.

As explained, C2005 was introduced to the GET phase, while the ICS was introduced to the FET phase in 1996. In the year 2000, C2005 had to be reviewed and RNCS was endorsed as policy in 2002 to replace C2005 in the GET phase (DoE, 2003a). This resulted in delaying the introduction of the NCS in the FET phase by three years, from 2003 to 2006. In 2009, the four-year old NCS had to be reviewed due to implementation challenges, hence, the introduction of the CAPS in 2012. Seemingly, each curriculum reform has been more prescriptive than its predecessor. One is tempted to think that the problem may not lie entirely on the curriculum reform itself, but on something else. If this is the case, changing the curriculum will not solve the problems faced by the South African education system. The real cause of the problem needs to be clearly identified and directly addressed.

This study explores current practice in a variety of school contexts and subjects to see how it relates to the NCS grades R–12 (CAPS), as envisaged by the Department of Basic Education. This description of what is currently happening might help curriculum planners at the state level to make informed decisions on implementing curriculum changes, thus ensuring that the new curriculum achieves its aims and overcomes the challenges that were faced when GET and FET-NCS were first introduced, unintentionally producing contradictory effects (Ensor, 1999; Muller, 2004; Adler, Pournara & Graven, 2000; Gaigher, 2006). Having experienced different curriculum policies, both as a teacher and as a learner, the researcher hopes that this study can make a useful contribution to curriculum reform studies that have been conducted in other countries with a similar background to that of South Africa. A good example of such a study was conducted by Morais and Neves in Portugal in 1999 (Morais and Neves, 1999a; Morais and Neves, 1999b), in which the authors analysed the natural science syllabus of the 5th, 6th and 7th years of schooling (ages 10 to 13) to investigate the extent to which the Portuguese reform (1991) for elementary school introduced fundamental changes in the discourses and competences it valued (Neves &

Morais, 2001). South African studies that dovetail with this study have been conducted by Dowling (1993), Hoadley (2005), Adler (2000) and Davis (1998).

1.5. MAIN QUESTION AND SUBQUESTIONS

The primary question of the research is to investigate how educators interpret and implement the CAPS through their practice, with the main focus on the framing relationships between educators and learners and the classification relationships. These relationships are compared with the CAPS policy, that is strongly classified and framed, compared to NCS. Classification focused on the relationships between different subjects, between different topics within each subject under study and the relationship between the school code and community code. The main question of the research is to investigate how educators understand, interpret and implement the CAPS document, using the following five subquestions:

- How does policy relate to practice in the selected subjects?
- What are the framing relationships between teachers and learners in the selected subjects?
- What are the classificatory relationships between Life Sciences and other subjects, between its different sections and between Life Sciences knowledge and everyday knowledge?
- What are the classificatory relationships between Business Studies and other subjects, between its different sections and between Business Studies knowledge and everyday knowledge?
- What are the classificatory relationships between Engineering Graphics and Design and other subjects, between its different sections and between Engineering Graphics and Design knowledge and everyday knowledge?

To find answers to the five research subquestions stated above, the following objectives are pertinent:

- critiquing and synthesizing education policy analysis and education policy implementation,
- establishing how decisions on subject content (selection, sequencing, pacing and rules of evaluation) are made in classrooms (framing relationships),

- establishing how teachers and learners relate and how learners' interactions are controlled,
- determining which knowledge and subject terminology is legitimized in the classroom (classification, inter-disciplinary and inter-discursive boundaries), and
- establishing how subject content is ordered in the specified subjects of the research (classification, intra-disciplinary boundaries).

1.6. RESEARCH DESIGN AND METHODOLOGY

This study is located within the social sciences and operates within an interpretative paradigm. Interpretative researchers try to find out what is happening in the research context by analysing and interpreting data, using theories or concepts that provide the language of description for the data (Harley & Parker, 1999 in Graven, 2002:22-28). This study follows a qualitative approach, using case study design, where observations are used as the main instrument for data collection. This is combined with questionnaires and interviews, and therefore uses mixed methods for data collection for triangulation purposes, not as a mixed method approach. In this study the use of quantitative instruments was not informed and did not inform qualitative instruments (Creswell, 2009; Creswell et al., 2007; Creswell et al., 2003 in Fritschi, 2008:49-51). Creswell et al. (2007) argue that when using a mixed method one needs to decide on timing, weighting and the method of mixing. The researcher needs to decide how to use collected data, and which is, between qualitative and quantitative data, the most important and how and when these data should be integrated. Since these considerations were not made, this study does not use a mixed method approach, as explained above.

Johnson and Onwuegbuzie (2004:18) argue that mixed methods combine the strengths of both qualitative and quantitative research, while also compensating for their weaknesses (Punch, 2009:290). In *Teachers of English to Speakers of Other Languages (TESOL)* a case can be a person, school, classroom or programme (Faltis, 1997; Johnson, 1992; Nunan, 1992 in TESOL). Case studies can be qualitative or quantitative, that provide concrete illustrations of the findings. A case study can consist of one or up to four cases, not more, to facilitate a detailed analysis that is contextualized (Gall, Borg & Gall, 1996; Johnson, 1992; and Stake, 1995 in TESOL).

In this research study, three case studies were conducted in each of the four different schools in UMgungundlovu district in KwaZulu-Natal. According to Spring (1997), case studies are good at clarifying complex issues and they can strengthen what is known through other research. Case studies, in this study, mean an intensive analysis of the teacher-learner relationship in a classroom situation, where an educator teaches one of the subjects and is observed by the researcher. The five consecutive lessons taught by one educator in a specific subject, questionnaires given to those students and the interview with that educator is considered as one case study. The choice of cases in this study depended on the subjects under study. Therefore, schools, educators and learners doing those subjects were identified for this study.

Information oriented sampling was used instead of selection that is based on representativeness. Schools were chosen for convenience, that is, the researcher used those schools that were easily accessible in terms of their location. A maximum of four schools were used to facilitate a more rounded approach to research, that is, conducting an intensive research using a smaller sample instead of focusing on getting a general picture, as some scientists are guilty of doing. The researcher also looked at learners' portfolios or exercise books to see if the tasks done were in line with the curriculum statement. These different methods were used for triangulation purposes to address the question of validity and reliability.

Triangulation is the crosschecking of information from different sources to see if there is corroboration (Johnson, 1997). Data triangulation was done in order to promote validity because the information was drawn from different sources. Johnson describes the types of validity as descriptive, interpretive and theoretical. Descriptive validity means that the researcher must ensure that the report given is a true reflection of what was said or done by the participants. Interpretive validity means that the researcher shows a high degree of understanding and accurately reports the viewpoints, thoughts, intentions and experiences of the participants. Theoretical validity is the degree to which the theoretical framework is used to analyse the data (Johnson, 1997).

This study is a practice based case study, that is, it attempted to learn from the educators' classroom practice to find out what is actually happening in the classrooms with the focus on the teacher-learner relationship (in practice) and to compare that to policy (Adler & Reed, 2000a). Data

collected was analysed and interpreted using theories and concepts, since the study falls under the interpretative paradigm. There is a lot of debate regarding the use of the case study as a research method, the main argument being that the study could lack validity (Flyvbjerg, 2004).

Bassey (in Adler & Reed, 2000b) identified two kinds of empirical study in educational research. There is a research for generalization, that is, one that involves a large population through careful sampling, and a research for singularities, that is, a case study. This study is an example of singularity research, as it does not aim for generalization. Only a “fuzzy generalization” can be made from these case studies. Flyvbjerg (an experienced researcher) came up with this notion of fuzzy generalization after seeing a number of quality studies not impacting on teachers or policy makers because the findings were too specific and therefore could not be generalized (Adler & Reed, 2000b). Contrary to this, Flyvbjerg argues that most generalization in scientific research is based on the case study. For example, Aristotle’s law of gravity was not based on large samples, yet it was considered correct for a very long time; the very same law was falsified with one practical experiment.

He further argues that there are five misunderstandings about the case study that make this research method less credible and states

1. General, theoretical (context-independent) knowledge is more valuable than concrete, practical (context-dependent) knowledge.
2. One cannot generalize on the basis of an individual case; therefore, the case study cannot contribute to scientific development.
3. The case study is most useful for generating hypotheses, that is, in the first stage of a total research process, while other methods are more suitable for hypotheses testing and theory building.
4. The case study contains a bias towards verification, that is, a tendency to confirm the researcher’s preconceived notions.
5. It is often difficult to summarize and develop general propositions and theories on the basis of specific case studies. (Flyvbjerg, 2011)

Flyvbjerg, when disputing the five misunderstandings respectively, says

1. Predictive theories and universals cannot be found in the study of human affairs... Concrete context-dependent knowledge is therefore more valuable than the vain search for predictive theories and universals.
2. One can often generalize on the basis of a single case, and the case study may be central to scientific development via generalization as supplement or alternative to other methods. But formal generalization is overvalued as a source of scientific development, whereas “force of example” and transferability are underestimated.
3. The case study is useful for both generating and testing of hypotheses, but is not limited to these research activities alone. Eckstein (1975: 80) argued that case studies are even better when used for hypotheses testing than when developing them.
4. The case study contains no greater bias towards verification of preconceived notions than other methods of inquiry. On the contrary, experience indicates that the case study contains a greater bias towards falsification of preconceived notions than towards verification.
5. It is correct that summarizing case studies is often difficult, especially as concerns case process. It is less correct as regards case outcomes. The problems in summarizing case studies, however, are due more often to the properties of the reality studied than to the case study as a research method. Often it is not desirable to summarize and generalize case studies. Good studies should be read as narratives in their entirety. (Seale et al., 2004:420-434; Flyvbjerg, 2011: 302-311).

When considering Flyvbjerg’s misunderstandings listed above, together with the disputing arguments, one is tempted to join in. Firstly, the statement that “theoretical or context-independent knowledge is more valuable than concrete, practical (context-dependent) knowledge” cannot be generalized because the value of context-dependent or context-independent knowledge depends on its use. This position is supported by Bernstein (1996), when he argues that the community code (context-dependent knowledge) is not necessarily inferior or deficient compared to the school code (context-independent knowledge). Their value depends on the purpose for which they are used. For example, the purpose of schooling is to introduce learners into the school code (context-independent knowledge) (Hoadley, 2006). To teach learners the community code within a schooling environment would be doing an injustice to those learners because they will learn nothing new from school, thus defeating the purpose of schooling.

Similarly, studying theories in order to find out what teachers are currently doing in their classrooms would be a waste of time. The better option would be to go into the classroom and physically observe what is going on in order to obtain a more accurate view. This is where case studies are imperative and some research studies cannot be concluded without the use of concrete, practical (context-dependent) knowledge. Therefore, both theoretical and concrete knowledge is important, depending on its purpose. In this study, both theoretical and concrete knowledge were used in collecting and analysing data.

The second misunderstanding states that one cannot generalize on the basis of an individual case. Yet, a single case study was enough to falsify a worldview idea, as explained earlier, where Aristotle's law of gravity was falsified by one carefully conducted experiment (case study) (Seale et al., 2004:420-434).

The study was conducted in four selected high schools in KwaZulu-Natal. Different schools were chosen in terms of geographical location and the subjects offered. The schools had to offer the three subjects under study for comparison purposes during data analysis. The three subjects involved in each high school were LS, BS and EGD, all of them grade 10, chosen because the CAPS were introduced at this level in 2012. Five consecutive lessons per subject were observed and recorded, subject advisors and subject teachers were interviewed and ten randomly selected learners, per subject and school, were requested to fill in short questionnaires. Student teachers were observed during their lesson presentations in micro teaching and during their work integrated learning (WIL). During micro teaching students were taught according to CAPS, covering all content as prescribed by the policy. During WIL student teachers taught topics that were prescribed by the subject educator, even when it did not match the time frames set in the CAPS document, but all content stipulated in CAPS for that topic was covered. Student teachers' practice differed from that of educators in the schools. The main difference was that students relied heavily on the CAPS and they used different textbooks and other resources when planning their lessons to ensure that they covered all the content.

1.7. LIMITATIONS OF THE STUDY

The study is a descriptive investigation of the implementation of the CAPS that was phased in to grade 10 in 2012. It is limited in the fact that it focused on only three subjects instead of all subjects covered in the Bachelor of Education programme, that is, one subject per specialization (Technology = EGD; Economic and Management Sciences = BS and Natural Sciences = LS (DBE, 2011). The fact that this study is focused on the implementation of the new curriculum as it is being introduced, presents some limitations regarding sample size, access and longitudinal effects. Data collection had to be completed within the year of the curriculum introduction, because the study wanted to capture what was happening in the classroom as the curriculum was being implemented for the first time in the FET phase. Access to schools was limited by the mid-year examinations and the school holidays. To overcome these limitations, the researcher had to take leave from work for six weeks and go to the schools in July and August to make sure that data collection was completed before the September holidays.

This study did not try to monitor how educators, principals, subject advisors and district managers do their work when it comes to new policy implementation. Although information on policy implementation management can be inferred from data collected, further research on this needs to be conducted.

1.8. TRUSTWORTHINESS OF DATA GENERATING PROCESSES

In qualitative research, trustworthiness is a major issue. Lincoln and Guba (1985:290) argue that there are four issues of trustworthiness that need to be addressed to support the research findings, thus making them good enough to be considered. These issues are credibility, dependability, transferability and confirmability. Credibility concerns the evaluation of research findings to see if they can be trusted. This is done through the conceptual interpretation of data taken from the participants' original data (Lincoln & Guba, 1985:296). In this study, data was collected from different sources, that is, lessons were observed, transcribed and analysed to see the framing relationships between the teacher and the learners within the classroom. Lessons were coded, using three different types of classification relationships, namely, inter-disciplinary, intra-disciplinary

and inter-discursive relationships. Curriculum policy documents were analysed to check their structures and classify sentences as either very strongly framed (F++), strongly framed (F+) or weakly framed (F-) (Hoadley, 2005:22). Questionnaires from learners and teachers and information from subject advisors' interviews were analysed, using the conceptual framework on which this study is based.

Data collection was multilayered, as explained in the previous paragraph, and it was collected over an extended period. Five consecutive lessons for each subject in each school were observed, followed by questionnaires and interviews. Then transcribing was done, following Johnson's (1997) strategy of low inference description, that is, using direct quotations from participants and analysing this data. Johnson (1997) calls this data triangulation when data is collected using multiple data sources. On completion of analysis, the researcher went back to the participants for a debriefing to confirm if the analysis represented them correctly, that is, participant feedback (Johnson, 1997).

The researcher piloted the study with the Bachelor of Education second year students who had been given, as part of their study programme, a task to analyse the CAPS documents for their major subjects, and to plan and teach lessons for the first term in grade 11 during micro teaching. This was done for marks for the students, while the researcher checked if educators use curriculum statements as blueprints or if they interpret them. The findings were then compared to those that transpired from data collection and analysis of this study. The comparisons are discussed in the last chapter of this thesis.

Transferability is another trustworthiness issue to be considered. Transferability checks whether the research findings can be applicable to other contexts and to what extent. The findings from the pilot study were documented and a comparison done, once the study was completed, to check for dependability. Confirmability is the extent to which findings are shaped by the participants and not the researcher's bias (Lincoln & Guba, 1985). Debriefing sessions were done to try and address confirmability. Data was triangulated to make it valid and reliable, that is, to achieve corroboration. Johnson (1997) argues that there are three types of validity: descriptive validity, interpretive validity and theoretical validity. To address descriptive and interpretive validity, the researcher

checked the factual accuracy of her transcript and report during debriefing sessions (Shenton, 2004:63-75). Theoretical validity was addressed by the fact that data was analysed using the conceptual framework. The quantification of the sources of data are as follows: six policy documents, twelve educators, three subject advisors, and one hundred and twenty learners from different schools, that is, ten learners per subject.

1.9. ETHICAL QUESTIONS

Qualitative research raises a lot of ethical questions because of its nature, especially those pertaining to informed consent and confidentiality (Holbrook, 1997 in Konza, 2011; Cohen et al., 2010: 51-75). Taking these ethical questions into consideration, this study did not endanger anyone, as there were no experiments performed on the participants. All participants were required to sign an informed consent. This was done after the researcher had disclosed her full identity and background, explained the purpose and procedure of the study and assured the participants that their dignity and privacy would be respected and protected (Johnson, 1997). The researcher only reported what was currently happening. The names of all participants remained anonymous to maintain confidentiality. No misleading information was given to any participant. Each participant was requested to sign the consent form to confirm that they understood that the researcher was conducting research as part of her doctoral studies at UNISA and that they freely agreed to participate in the study. Even if all these ethical procedures are followed, one cannot guarantee that during data collection ethical questions will not arise, because the researcher interacts with participants for a long time. Ethical problems could arise when participants expect the researcher to do something about issues that might transpire during their interactions. Fraenkel and Wallen (1990), Raffe et al. (1989) and Cohen et al. (2010: 63-65) stress that confidentiality is the main issue underpinning qualitative research. In this study participants were assured that confidentiality would be maintained and that no information obtained through the study will be used against them.

1.10. CLARIFICATION OF TERMS

The term data means all the information that was collected and analysed in this study. It came from a number of sources, namely, observations, questionnaires, policy documents and interviews.

Questionnaires are a list of questions that were given to learners to fill in after the five observed lessons per subject and per school. These questionnaires consist of mainly closed questions, where only indicated responses are allowed, like a check list, and then one or two open-ended questions are included where learners are given a chance to express their opinions. Questionnaires were used because they are cheaper to make for a large group. Learners were asked to answer relatively short questions and most questions required a tick to indicate the preferred response. This ensures that almost all questions will be answered and the information collected can be easily interpreted. The disadvantages of using the questionnaires are that they can provide shallow information because they are not flexible and the researcher cannot ask follow-up questions based on participants' responses. Some participants might just ignore the whole questionnaire or parts of it, especially when questionnaires are given and collected on different days (Goodman & Goodman, 2011). To limit these problems in this study questionnaires were supposed to be completed in the researcher's presence, but timetabling in schools did not allow it.

Sources of data include everything that was done or was used to collect the information for this study. Interviews were used as one of the tools to gather information from teachers and subject advisors. Here, the researcher talked to the participants and got information directly. Advantages of interviews are that they are flexible and adaptable. In-depth information can be collected because reasons for answers can be sought and clues followed up. The shortcomings are that interviews are time consuming and the responses are subjective and difficult to analyse (Goodman & Goodman, 2011).

The terms teachers or educators were used interchangeably in this study. These terms refer to the individuals who taught the lessons that were observed. Teacher or educator refers to the person who is skilled to teach. In this study, three educators per school were observed. These were the educators assigned to teach the subjects in this study, as per the schools' timetable.

Subject advisor refers to the person who holds a position of being a subject specialist for a specific subject. They are experts in their subjects who are supposed to help educators in teaching their subjects (DBE, 2012). Three subject advisors were involved in this study.

A district is the first level of administrative subdivision within the province, the second level being the circuit (DBE, 2012). UMgungundlovu District and UMsunduzi Circuit is the area where the study took place. Permission to conduct this study was requested from the district director.

1.11. DIVISION OF CHAPTERS

This thesis consists of seven chapters, which are divided as follows:

CHAPTER ONE: BACKGROUND OF THE STUDY

This chapter gives an overview of the whole study, starting with the background information, an explanation of the purpose of the study, its limitations and how it was conducted.

CHAPTER TWO: THEORETICAL FRAMEWORK

In this chapter, all concepts used in the study are defined and discussed to show their relevancy. Meanings attached to each concept for the purposes of this study are explained to prevent misconceptions that might occur, as these concepts can have more than one meaning. The conceptual framework is part of the theoretical framework.

CHAPTER THREE: LITERATURE REVIEW AND POLICY ANALYSIS

The literature related to this study is reviewed and an analysis of data collected from the comparative analysis of the NCS and the CAPs policy documents for the three subjects under study is given in this section. This chapter also explains why the literature reviewed is necessary for the study, besides pointing out what has been studied and the gaps that were experienced.

CHAPTER FOUR: RESEARCH METHODOLOGY

This chapter contains the full description of the research methods and techniques that were used to collect and analyse data.

CHAPTER FIVE: LESSON ANALYSIS FOR LIFE SCIENCES, ENGINEERING GRAPHICS AND DESIGN, AND BUSINESS STUDIES

The analysis of questionnaires and interviews and a general description of what happened during lesson observations, interviews and questionnaire responses are given in this section.

CHAPTER SIX: INTERPRETATION OF DATA

This chapter consists of the analysis and interpretation of the data generated from lessons, interviews and questionnaires.

CHAPTER SEVEN: RESEARCH FINDINGS, RECOMMENDATIONS AND CONCLUSION

This final chapter discusses research findings, makes recommendations and provides a conclusion.

1.12. CONCLUSION

The South African curriculum has been evolving since the country became democratic. Although a number of curriculum reforms have been introduced in South Africa, curriculum challenges seem to persist. Seemingly, the more changes to the curriculum, the more things remain the same because the CAPS resemble CNE. The CAPS are content driven, which is similar to CNE when compared with the NCS.

CHAPTER TWO

THEORETICAL FRAMEWORK AND CONCEPTUAL FRAMEWORK

2.1. INTRODUCTION

In this chapter, all concepts used in the study are defined and discussed to show their relevance to the study. Meanings attached to each concept for the purpose of this study are explained to prevent misconceptions that could occur, as these concepts can have more than one meaning. The conceptual framework is part of the theoretical framework in which this study is embedded. Key concepts in the theoretical framework that are relevant to this study are used to interpret data. Kamper (2012) defined theory as the scientific explanation of certain occurrences or phenomena that help to clarify things by making the hidden visible. The theoretical framework gives meaning to what researchers observe during their investigations (Gilbert, 1993). Appropriate use of the theoretical framework qualified the research study as scientific and scholarly.

This study is located within the social sciences and operates within an interpretivist paradigm. Interpretivist researchers try to find out what is happening in the researched context by analysing and interpreting data, using theories or concepts that provide the language of description for the data (Harley & Parker, 1999 in Graven, 2002:22-28; Bernstein, 1996:135-137).

Two of Bernstein's concepts that provide a language of description for the data are used (Hoadley, 2005:17; Bernstein 1996:135-137). The main concepts are classification and framing. These two concepts, as mentioned in Chapter One section 1.2 of this thesis, are used to interpret the South African curriculum reforms that have been taking place since 1994. When analysing curriculum reforms, as explained in Chapter One, it was noted that the changes revolved around power and control. According to Bernstein (1996), classification refers to power relations between different agencies, contexts or discourses, while framing refers to how those power relations are controlled. He states that, "Power and control are analytically distinguished and operate at different levels of analysis", and that, "Empirically, we shall find that they are embedded on each other" (Bernstein,

1996:19). Framing supports classification by producing what is referred to as “the animation of the grid” (Hasan, 2002 in Hoadley, 2006:17). Bernstein (1996:28) defines framing as pedagogic discourse, that is, framing equals instructional discourse (ID) (the rules of discursive order) over regulative discourse (RD) (the rules of social order).

When C2005 and OBE were introduced in 1997, subjects were referred to as learning areas in the GET Phase. Disciplinary boundaries between different disciplines were weakened. As the old curriculum was used to divide the people of South Africa, it was believed that a new one could now be used to unite them and promote social justice. C2005 was introduced to correct the social injustices of the past by reorganizing knowledge (Hoadley & Jansen, 2009:173). As the old curriculum was performance based and content led, with knowledge organized into separate subject disciplines, C2005 had to radically change that curriculum by integrating subject disciplines and calling them learning areas. The curriculum became competence based, focusing on what the learners know and can use. Instead of separate subject disciplines that are abstract and theoretical (focusing mainly on the elaborated school code) (Hoadley & Jansen, 2009:189), learning areas were introduced where knowledge is integrated in an attempt to link theory and practice by focusing on the restricted community code (Hoadley & Jansen, 2009:188). Disciplinary knowledge became integrated in such a way that subjects lost their unique identity (Graven, 2002; Hoadley, 2005:17). The topics within subjects became separated because different topics do not necessarily need to build on each other. According to Hoadley and Jansen (2009:184), when the South African curriculum changed from the apartheid curriculum to C2005, the organization of knowledge within the curriculum changed from a collection type, performance based and strongly classified curriculum to an integrated type, competence based and weakly classified curriculum. Table 1 below, adapted from Hoadley and Jansen (2009: 175, 179 and 190), shows the link between Bernstein’s concepts used in this study and their relevance.

Table 1: Comparison between two curriculum approaches

competence and performance curricula, community code/everyday knowledge and school code/school knowledge (Adapted from Hoadley & Jansen, 2009: 175, 179 and 190 showing the link between concepts)

	Competence approach or an integrated curriculum that is weakly classified and framed	Performance approach or a collection curriculum that is strongly classified and framed
Characteristics according to Bernstein	<p>Characterized by the idea of integration between subjects</p> <p>Makes strong links between school learning and real life</p>	<p>Stresses the importance of separate subject disciplines</p> <p>Does not draw extensively from real life in order to teach at school</p>
Learner	<p>Control over the selection, sequence and pace of learning.</p> <p>Assumption that all learners can learn but will do so in different ways and at different speed</p>	<p>Little control over the selection, sequence and pace of learning</p> <p>Assumption that not all learners can learn at all levels; as learning proceeds vertically, some learners are excluded</p>
Teacher	<p>Indirect role as facilitator of learning</p> <p>Control is personally negotiated</p>	<p>Direct teaching role; transmits knowledge according to defined pedagogical rules</p> <p>Control is hierarchical, the teacher decides</p>
Pedagogy	<p>Learner-centred</p> <p>Integrated ‘learning areas’</p> <p>Strong links to learner experience and everyday knowledge</p>	<p>Teacher and subject-centred</p> <p>Clearly demarcated subject areas</p> <p>Little link between formal school knowledge and everyday knowledge</p>

<p>Assessment</p>	<p>General competence criteria</p> <p>Focus on presences and on what the learner knows and can do</p> <p>No failure – only different lengths of time in which to succeed</p> <p>Teacher shares the task of evaluation with learners</p>	<p>Specific performance criteria – there are clear rights and wrongs</p> <p>Focus on absences and on what the learner has left out</p> <p>Failure if the learner does not complete things fully or correctly</p> <p>Teacher performs the task of assessment</p>
	<p>Community code/everyday knowledge</p>	<p>School code/school knowledge</p>
	<p>Randomly acquired from conversations overheard from the TV or radio; from watching the parents; from punishment or praise</p> <p>Unsystematic – picked up in bits and pieces</p> <p>Oral – difficult to hold on to and repeat</p> <p>Based on opinion – personal and local</p> <p>Practical and concrete – belongs to and talks about a particular context</p> <p>Acquired knowledge depends on family and community context and culture</p>	<p>Grouped into particular subject discipline (mathematics or science) developing subject-specific language</p> <p>Taught systematically with simpler concepts or tasks coming first and more complex concepts or tasks building on that later</p> <p>Generalizes – puts ideas together into concepts and becomes increasingly abstract</p> <p>Makes statements that claim to be true for many different contexts</p> <p>Based on evidence – comes from a long tradition of research and debates about what counts as important knowledge</p> <p>Written, giving more continuity over time</p>

		Depends on national curriculum that is the same for all children
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With C2005 and OBE, in addition, the demarcations between the school code and community code became blurred, due to the fact that indigenous knowledge systems are now valued in the same way or valued more than disciplinary knowledge (the school code is the specialized language that is used in school) (Taylor et al., 2003). Bernstein (1975) calls the school code an elaborated code, while Holland (1981) refers to it as a code that develops context-independent meanings. The same OBE principles were used in designing the NCS for FET. While FET educators were still using ICS as a curriculum, they were encouraged to start incorporating OBE into their teaching. This impacted negatively on teaching and learning because pedagogy became procedural instead of intentional (Chamane, 2006:4).

During C2005 educators, especially in the GET band, had to plan lessons that were context based so that learners could identify with what they were learning in schools. Knowledge learnt at school had to be concrete and practical instead of being abstract and theoretical (Hoadley & Jansen, 2009:173). The community code, or everyday knowledge, was seen as the opposite of the school code in the sense that it was restricted and context-dependent. This did not mean that the community code was inferior to the school code, but that they are each used for different purposes. While the community code emphasizes commonsense knowledge of everyday life, the school code “reveals differences from, rather than commonality”. Furthermore, “It means that your educational identity and specific skills are clearly marked and bounded” (Bernstein, 1975: 81). Therefore, these codes should be emphasized at different times and places. The school code should be emphasized during lessons and the community code during casual social interactions at break time or at home.

During the introduction of C2005 and OBE in 1997, some educators believed that textbooks were no longer needed because they were expected to create their own learning materials (Jansen, 2008:3). The learners themselves were believed to be rich sources of information. They had to bring learning materials from home, as some schools did not have enough resources and most OBE

textbooks, then, did not have much subject content and consisted mainly of group activities, self-assessment and peer assessment tasks. The subject content had to be context based, pacing and sequencing had to be learner based and there were no right and wrong answers. It was believed that all learners could achieve the envisaged competences at their own pace. When the learner failed, the word ‘failed’ was no longer used and instead the words ‘not yet competent’ were used. The education minister soon realized that there was a problem and appointed a committee to review the curriculum. The committee reviewed C2005 and recommended that the curriculum should be “strengthened by streamlining its design features, simplifying its language, aligning curriculum and assessment, improving teacher orientation and training, learners support material and provincial support” (DoE, 2000 in Bantwini, 2010:85).

The RNCS for the GET phase were said to be clearer, compared to C2005, in terms of what educators needed to teach and assess. The same pattern of specifying the learning outcomes and assessment standards for different grades was followed when the NCS for the FET phase were designed and implemented. Post 1994, power and control of the curriculum was removed from curriculum designers in order to change it from being a blueprint that prescribes to educators what to teach and assess, and when and how, to the curriculum that is learner-centred and allows for democratic decision making. Power and control were given to learners in the classroom, because learning was learner paced in the belief that all learners are capable of achieving when given enough time (Hoadley & Jansen, 2009:174). This arrangement soon proved to be a disaster, because the country was not ready in terms of both human and material resources.

The majority of schools were overcrowded and the majority of educators were unqualified, underqualified or not suitably qualified for the subjects that they were teaching (Harley & Wedekind, 2004; Sayed & Jansen, 2001; Hoadley & Jansen, 2009). Educators also had poor content and conceptual knowledge (DHET, 2011:8). Plainly put, this meant that South Africa did not have enough subject specialists, as envisaged by the National Curriculum Statements, which made it difficult to implement it properly. Currently, curriculum reviews seem to be going back to the blueprint kind of curriculum. Curriculum policy, especially the CAPS, is now specifying the content to be taught within stipulated time frames and how it should be assessed (DBE, 2011a:4). The CAPS have similar features to the old curriculum features, as explained by Hoadley and Jansen

(2009:173), that it is content led and designed by experts rather than all stakeholders. Power and control are given back to the curriculum designers who are experts in their subject disciplines. Educators are told what to teach, when and how to teach and assess, that is, if they follow the curriculum statements as they are without interpreting them.

Using Bernstein's concepts, curriculum reforms in South Africa seem to be moving back to strong classification and framing. As explained in the previous paragraph, curriculum designers are being given back power and control. The new curriculum document (CAPS) clearly specifies the topics to be taught, when to teach each topic and how to assess, by specifying the type and number of assessment tasks per term in each grade. In the codes used to indicate the value of classification, Bernstein states that classification can be very strong (C++), strong (C+), or weak (C-). According to Hoadley (2005:17-22), classification in a classroom situation can be very strong (C++) interdisciplinary, which means that the subject is highly insulated from outside influences, and only specialized concepts are used in that lesson, so learners need to avoid using concepts from other subjects. Here, the subject is treated as a singular (Bernstein, 1996).

Table 2 below explains the classification relationships between subjects, between topics within a particular subject, between the school code and the community code, and the spaces between the educator and the learners. For example, if classification of spaces between the educator and the learners is strong, it means that the educator does not share his/her space with learners. The educator might remain standing in front of the class by the chalkboard. He/she does not move around between the learners' desks. Learners also do not come up to the chalkboard to write or paste pictures or charts. In other words, educator's and learners' spaces are completely separated. Incorporating a comparison of these concepts into this study, it can be stated that prior to 1994, classification was very strong in terms of relations between discourses and relations between spaces. Academic subjects were separated and each subject maintained its unique identity. Learners' space in the classroom was clearly defined and totally different from the educator's space. Educators were expected to teach according to the syllabus, tests were marked according to the memorandum that was based on the subject content. In contrast to this, the curriculum reform soon after 1994 (C2005 and OBE) weakened classification. Academic subjects became learning areas, as disciplines were integrated in the GET phase (RNCS). Educator and learners equally

shared spaces within the classroom. Teaching had to be learner paced and learners were allowed to express their own opinions when assessed. Therefore, tests were not strictly marked according to a memorandum, because general knowledge was valued.

In the current curriculum reforms (CAPS), classification and framing seem to be strengthening, with the curriculum statement specifying the content to be covered in each topic per grade (DBE, 2011a:4). Teaching and assessment strategies and when each assessment task should be done are also specified. This means that educators and learners no longer have choices in selecting, sequencing and pacing of the subject content within the classroom. The challenge in this study was to see if educators were making similar transitions in their practice.

In this study, classification is looked at in terms of the following:

- boundaries between subjects, i.e. **inter-disciplinary boundaries**, for example, between Life Sciences and other subjects,
- boundaries within a subject, i.e. **intra-disciplinary boundaries**, looking at how different topics within the subject are ordered and if they are separated or integrated,
- boundaries between the school code and community code, i.e. **inter-discursive boundaries**, the school code (which is elaborated and context-independent) and the community code (which is restricted and context based) (Bernstein, 1996:147-156), and
- teacher-learner boundaries, i.e. the strength of the demarcation between spaces used by teachers and learners.

Table 2: Hoadley’s classification of teaching relationships between discourses and spaces (2005:22)

Classification	Relations between discourses	Inter-disciplinary (Strength of boundary between a specific subject and other subject areas)
		Inter-discursive (Strength of boundary between school subject content and everyday knowledge)
		Intra-disciplinary (strength of boundary between topics within a specific subject)
	Relations between spaces	Teacher-learner (strength of demarcation between spaces used by teachers and learners)

Framing is the second of Bernstein’s concepts that is used together with classification. Classification is concerned with power and framing focuses on control. According to Bernstein, classification and framing complement each other. While classification stipulates boundaries, framing explores how those boundaries are negotiated (Bernstein, 1982, 1996). Bernstein (1996:12) defined framing as referring to the “control on communication in local interactional pedagogic relations between parents/children; teacher/pupil; social worker/client”.

In this study, framing focuses on the relationship between the educator (transmitter) and the learner (acquirer) within the classroom in terms of selection, sequencing, pacing and evaluation of the subject matter. Observed practice is compared with policy in the CAPS documents. Subject advisors were interviewed and their responses were compared to policy and practice. Framing is strong when the transmitter has explicit control over selection, sequencing, pacing, criteria and the social base (Bernstein, 1996:140; Hoadley, 2005:18). Conversely, framing is weak when the learner has more control over the communication and its social base (Bernstein, 1996). Strong framing is similar to what is known as a teacher-centred approach and weak framing is a learner-centred approach. The key here is “who controlled what” (Bernstein, 1996:26-30). Table 3 below clarifies the framing relationships in terms of discursive rules (instructional discourse – ID) and hierarchical rules (regulative discourse – RD).

Table 3: Hoadley’s framing relationships in teaching (2005:22)

Framing	Discursive rules	Extent to which teacher controls selection of content
		Extent to which teacher controls sequencing of content
		Extent to which teacher controls spacing of content
		Extent to which teacher makes explicit the rules of evaluation of learners’ performances
	Hierarchical rules	Extent to which teacher makes formal or informal the social relations between teacher and learners
		Extent to which the teacher controls interactions between learners

These concepts were chosen because they are all related and useful in describing teaching and learning in the classrooms that were observed during this study. While classification focuses on the strengths of the boundaries between agencies, contexts or discourses, in this study, classification focuses on the strengths of the boundaries between each of the chosen subjects and other subjects (inter-disciplinary); the topics within the subject (intra-disciplinary); the school knowledge and everyday knowledge (inter-discursive); and the relations between spaces (teacher-learner). Framing, on the other hand, focuses on the relationship between the educators and the learners within classrooms regarding the extent to which the educator controls selection, sequence and pace (discursive rules: instructional discourse; and hierarchical rules: regulative discourse) and on the relationship between the educators and the curriculum designers through the policy documents.

According to Bernstein (1996:28), there are two systems of rules regulated by framing:

- Regulative discourse (RD), i.e. the rules of social order.
- Instructional discourse (ID), i.e. the rules of discursive order.

Regulative discourse (RD), the rules of social order, controls the hierarchical relations between the educators (transmitters) and learners (acquirers) within the classroom situation. These rules allow

the transmitter (educator) to label the acquirer (learner) as, for example, ‘attentive’ or ‘disruptive’. This labelling is easily achieved when framing is strong. Where framing is weak, labelling becomes difficult, even for the acquirer who struggles to make his/her own mark by being creative or interactive.

The second rule that of the discursive order (ID), refers to selection, sequencing, pacing and the criteria of knowledge (Bernstein, 1996). The value of framing can change between the discursive rules and the social order rules. Generally, framing is strong when regulative and instructional discourses are explicit. In such cases, pedagogic practice is visible. However, where framing is weak, regulative and instructional discourses are implicit and mainly unknown to the acquirer (Bernstein, 1996), that is, pedagogic practice becomes invisible, especially to learners.

The value of framing and classification can be indicated by these pedagogic codes, namely, + representing a strong value and – representing a weak value; F stands for framing and C stands for classification. Therefore, C+ and F+ represent strong classification and strong framing respectively, while C – and F – represents weak classification and weak framing respectively. To add to these pedagogic codes, classification and framing (weak or strong) have an internal and an external value. A small ‘i’ means internal value to the unit of analysis and a small ‘e’ means an external value to the unit of analysis, with E standing for ‘elaborated orientation’ (Bernstein, 1996, 2000:100 and Hoadley, 2006). This can be represented as a formula, as shown below.

Figure 1: Bernstein’s Pedagogic codes

$$\frac{E}{\pm C \text{ i. e } / \pm F \text{ i. e}}$$

The relationship between classification and framing can be summarized as follows: Classification means power to create boundaries between agents or discourses and framing means control measures put into place to ensure that boundaries are kept and legitimized. Once this relationship is understood, the relationship between the principle of classification and the development of recognition rules can be worked with (Bernstein, 1996). According to Bernstein, recognition rules refer to the recognition of the speciality of the context, that is, the learner recognizes the school context and acts according to context-independent principles. As classification indicates how one

context differs from another, weak classification can make it difficult for the acquirer to recognize the speciality of the context, thus making it extremely difficult for him/her to make suitable choices so as to achieve the realization rules, that is, being able to apply one's knowledge by producing a legitimate text. Incidentally, framing is related to the development of the realization rules.

The achievement of the recognition rules means that the individual has the ability to recognize the boundaries between contexts. In the transmission and acquisition situation, on the one hand, the achievement of the recognition rules would mean that the acquirer (learner) is able to recognize what the subject or the context is about. Achieving the realization rule, on the other hand, means the ability to articulate and apply what one has recognized, meaning that the acquirer is able to create the legitimate text based on the context. While recognition rules operate between contexts, realization rules operate within contexts. Lastly, the term 'text' refers to anything that can be evaluated. A legitimate text can only be created by an individual who has demonstrated the realization rule (Bernstein, 1996).

Another concept, related to those explained above, used in this study is hierarchical analysis. Hierarchical analysis enables the researcher to break down the lessons into their classification and framing parts, and also, to look for the way in which knowledge is built up and organized within the lessons. According to Hugo (2005), "hierarchy is basic to our very functioning". In the same vein, hierarchy cannot be excluded from the classroom situation. In this study, hierarchical analysis focuses on the relationship between the teacher and the learner (transmitter-acquirer relationship) and also concerns the relationship between the learner and the surrounding context. Context, in this case, means what is included in that particular teaching and learning situation and what seems to be the source of knowledge for that particular subject learnt in that classroom. It can include drawings, learners' notes, textbooks and what is written on the board. Lastly, the relationship between the learner and the subject knowledge (content) is what is known as intentional hierarchy.

According to Hugo (2005), the word hierarchy means "sacred order or rule". Hierarchy works in a particular direction and once this direction is changed, the meaning also changes. For example, when a learner moves up the grades, he/she increases the complexity of learning. If he/she moves down the grades, the complexity of learning is decreased.

To further clarify the meaning of hierarchy within education, the three kinds of hierarchy that are at work are explained, and then the eight basic forces that are at work in hierarchy are described. According to Hugo (2005), there are three kinds of hierarchy at work in education:

- Nested versus non-nested hierarchy,
- Extensional hierarchy, and
- Intentional hierarchy.

The nested forms of hierarchy mean that the earlier parts of the hierarchy are included within it as the hierarchy moves up (Hugo, 2005), for example, classrooms are within the school, which is within the district in the province. In other words, a school cannot exist without classrooms and the district cannot exist without schools. A non-nested form of hierarchy, on the other hand, does not include its earlier parts within itself. An example of this is management hierarchy within an educational structure where there are clear levels of authority, but not inclusive relationships. A headmaster does not include within himself various teachers because there are schools where the principal is the only teacher, as in the example of a small farm school with an enrolment of forty learners.

Within the nested hierarchy there are two types of hierarchies:

- Extensional nested hierarchy, and
- Intentional nested hierarchy.

To refer back to the example of classrooms, school, district and province, used under nested hierarchy, this very same illustration is an example of an extensional nested hierarchy. The context or environment enlarges as one moves up the extensional nested hierarchy. It gets bigger and bigger, as in the example of the school being bigger than the classroom and the district being bigger than the school, and the province bigger than the district.

Intentional nested hierarchy does not work with extension, but with intention. Earlier, an example was given of learners moving up the grades and increasing their complexity of knowledge. This is similar to the intentional hierarchy where one moves from concrete to abstract, that is, from simple

forms of knowledge to more complex forms of knowledge; the movement of knowledge from local to general (Breier, 2004a; Breier, 2004b). Intentional hierarchy increases its span through its application not its size (Hugo, 2005). Abstract principles apply to a wide range of contexts because these become more generalized. For the purposes of this study, hierarchy, in this instance, stands for a subject, for example, Life Sciences.

There are eight forces working in hierarchy. Four forces work from outside the hierarchy (subject), and the remaining four from within the hierarchy (subject), which are discussed first. These are

- self-preservation
- accommodation
- atomizing
- emergence

Self-preservation means that the discourse maintains its uniqueness. The boundaries between agents or subjects are strong. The discourse protects itself from outside influences. In the classroom situation, the teacher might emphasize the use of correct subject terminology instead of using everyday language or terms from other subjects. For example, in a Life Sciences lesson, a learner might say, “food for the plant is manufactured in the leaves”, but to preserve the subject, the teacher might say “photosynthesis takes place in the parts of the plant that contain chlorophyll”, thus strengthening both classification and framing. Accommodation works in an opposite direction to self-preservation. It weakens classification and framing by allowing terms from other subjects or everyday language to be regarded as legitimate text during the lesson. When using the same example discussed here, the teacher might accept the learner’s answer, and add other examples of places where food is manufactured, for example, a bakery, as well as other places where different products are made. Accommodation means that the subject opens up its boundaries (weak classification) and allows outside influences to shape it or change its structure and to fit in within its context.

Atomizing means breaking down to the simplest form. This is a downward movement, from abstract to concrete. This occurs when knowledge is broken down to its basic elements to facilitate understanding. Here, the teacher might take an abstract concept and break it down to its simplest

form, using localized language or a community code (weakening classification and framing by allowing himself/herself and the learners to borrow concepts from other subjects or a community code to simplify concepts of the subject being taught at that time). This downwards movement is acceptable, provided the teacher moves back up with the learners once the required basic understanding of the concepts has been achieved. In other words, the teacher must emerge to the probability zone with the learners. Emergence is the opposite of atomizing, being a movement from local to general (Breier, 2004b), from concrete to abstract or higher orders of generalization. This means that the teacher needs to again strengthen classification and framing by substituting those community code terms that were used during atomizing with the correct discipline based concepts during emergence.

The four forces that work from outside the hierarchy are called zones. These are

- zone of exclusivity
- zone of inclusivity
- zone of potential
- zone of probability

These zones are related to the forces that work from within the hierarchy. Firstly, the zone of exclusivity operates at level zero together with the force of self-preservation. Here, the discourse does not allow any outside knowledge to influence its context. In other words, the zone of exclusivity strengthens classification, ensuring that the discourse maintains its exclusiveness. During lesson observation, the researcher verified if teachers were intentionally not using or allowing learners to use terms or concepts from other subjects while teaching their specific subject. If this were happening, it would mean that teachers are enforcing a strong interdisciplinary and inter-discursive classification to maintain the subject's unique identity.

The second zone, that of inclusivity, also operates at level zero, but in an opposite direction to the zone of exclusivity. The zone of inclusivity weakens the boundaries between agents or subjects. It weakens classification by allowing outside influences to shape its structure. This zone works together with an internal force called accommodation. Here, classification and framing

relationships are weakened to match the subject content with its context. In this instance, the subject might lose its unique disciplinary identity. Parker (2004:62) argues that disciplinary “knowledge empowers learners to make sense of society”. Parker, here, was talking about mathematical knowledge, arguing that learners should be taught abstract knowledge in order to empower them. The belief is that once learners understand disciplinary knowledge, they can then use that knowledge in their everyday lives. However, everyday knowledge cannot help you understand and use abstract or disciplinary knowledge. Seemingly, Parker supports a strong interdisciplinary and inter-discursive classification.

The third zone, that of potentiality, operates at level minus one or lower. It works together with the atomizing force and means that the broken concrete atoms have a potential to be built up to higher levels of abstraction, as when the teacher begins the lesson with concrete examples that can be related to an abstract concept. According to Breier (2004b), the zone of potentiality means that the personal localized knowledge can be selected and developed into personal general knowledge. This personal general knowledge can further be developed into impersonal general knowledge. In other words, the zone of potentiality means that there is the possibility to select from this concrete knowledge and explain abstract knowledge.

The last zone, the zone of probability, works together with emergence at a higher level. It works upwards, showing the possibility of the formation of new concepts of a higher order (the emergence of new impersonal general concepts). The following is a summary of the forces and zones that act on the subject.

Four Zones impact on knowledge hierarchy:

Zone of exclusivity

- Horizontal re-contextualization that works together with self-preservation, operating at level 0 = prevents expansion

Zone of inclusivity

- Horizontal re-contextualization movement that works together with accommodation

Zone of potentiality

- Vertical downwards re-contextualization that operates below level 0
- Elements at this level provide building blocks that will make level 0 possible through selection from these elements
- It works together with atomizing

Zone of probability

- Vertical upwards re-contextualization that operate above level 0
- It works together with emergence, i.e. level 1 and above (higher level)
- It filters fundamental units to their more significant integrations (Hugo, 2005)

Figure 2: Intentional form of nested knowledge hierarchy

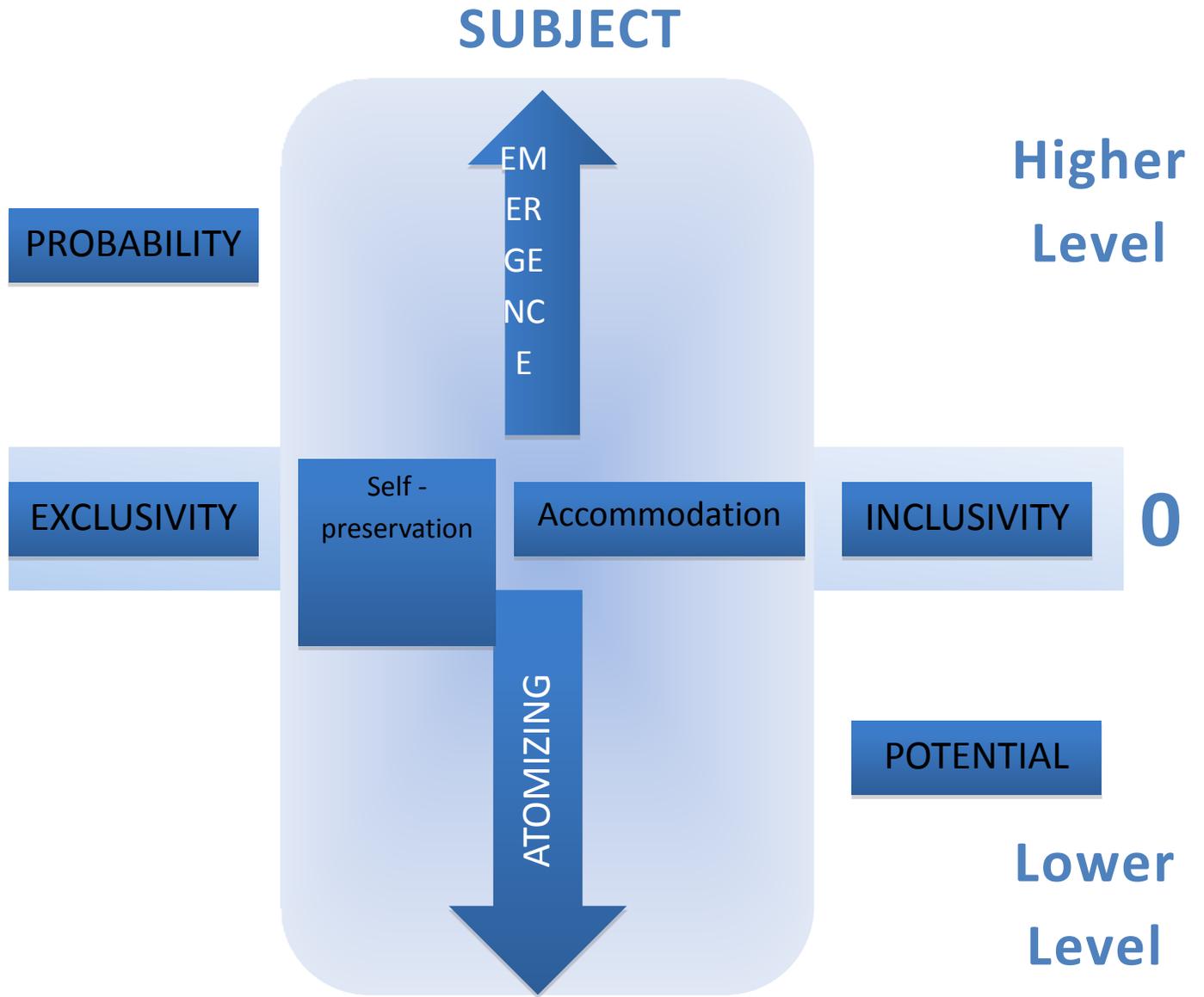


Figure 2 is a diagrammatical representation of the forces and zones that act on the subject. It represents the relationship between the teacher's knowledge and understanding of the subject content, the teaching method, the curriculum statements and the assessment policy as per the CAPS. If the teacher has a poor content and conceptual knowledge of the subject being taught, he/she might remain with the learners in the potential zone. Research has shown that this was the case in many South African classrooms when C2005 and OBE were introduced. Teaching became ritualistic instead of being intentional. Now that the CAPS document is specific, the teacher might move up to zero level and operate in the zone of inclusivity or exclusivity, depending on the teacher's interpretation of the curriculum document. Bantwini (2010:83) calls teachers' interpretation of the new curriculum reform a 'map' that teachers use during the implementation journey.

For effective teaching and learning, it is important for a teacher to play around with these forces, zones, classification and framing, like a musical instrument, in order to ensure that the learners learn for understanding and the goals of the curriculum reform are achieved. This can only be realised if teachers are well grounded in their subject discipline and they know how to transmit that conceptual knowledge to learners, that is, pedagogical knowledge and skills. A practical example is when teaching learners a new section, starting by giving learners an overview of the topic. Thereafter, the teacher moves down to the zone of potentiality, where concepts are atomised and the learners are allowed to use the community code (F-). Elements are selected that can be used as building blocks (f+) (emergence to the zone of probability). While moving up and down with the learners from potentiality (atomizing) to probability (emergence), the teacher takes cognisance of the horizontal re-contextualization, the zone of exclusivity (self-preservation), where correct subject terminology is used, and the zone of inclusivity (accommodation), where similarities and adaptations are highlighted to clarify the subject content. The horizontal movement will depend on the nature of the discipline being taught. Some disciplines are vertically structured, while others are horizontally structured. In vertically structured disciplines, self-preservation is stronger than in horizontally structured disciplines.

Framing (F++, F+, F-) and classification (C++, C+,C-) should be ‘played’ together with the zones and forces, like a musical instrument, to ensure that learners are able to answer the what, how and why questions in their different subjects.

All these concepts give an internal language of description that can describe theoretically what is happening inside the classroom. These concepts were chosen because they are all related and useful in describing what is happening in this study. Generally, classification focuses on the strengths of the boundaries between different agencies, contexts or discourses. In this study, classification focuses on the strength of the boundaries between Life Sciences, Business Studies, Engineering Graphics and Design and other subjects (inter-disciplinary), the strengths between different topics within Life Sciences, Business Studies and Engineering Graphics and Design (intra-disciplinary) and the strengths of boundaries between the community code (everyday language or knowledge) and the school code (subject content or concepts). In other words, an elaborate orientation obtained from schools (inter-discursive).

Framing focuses on the relationship between the teacher and the learners in the classroom and on the relationship between the teacher and the curriculum designers through the policy documents. The concern is with who controls what. Hierarchy theory enables the researcher to not only break down the lessons into their classification and framing parts, but to also look for the way in which knowledge is built up and organized within each lesson. However, the main part of this thesis looks at classification and framing rules, with hierarchy theory offering a possible future development for lesson analysis. In another study the very same data (observed lessons) could be analysed, but focusing specifically on knowledge hierarchy.

2.2. CONCLUSION

Curriculum reforms in South Africa seem to revolve around power and control and those who have it in the education system. The powerful dictate how educators and learners should relate within the classroom. Therefore, the two concepts of Bernstein’s, classification and framing, were used as the conceptual framework for this study. These two concepts are closely linked to the curriculum reforms that are taking place in South Africa as shown in Table 1 in this chapter.

CHAPTER THREE

LITERATURE REVIEW AND POLICY ANALYSIS

3.1. INTRODUCTION

The literature related to this study is reviewed in this section. Curriculum studies and policy implementation studies form the main literature reviewed. Analysis of data collected from the comparative analysis of the NCS and the CAPs policy documents for the three subjects under study is also discussed here. This chapter explains why the literature reviewed is necessary for the study, besides pointing out what has been studied and the gaps that were experienced.

The curriculum, in this study, is viewed as everything that learners learn through their school experience, that is, the written (policy) and unwritten (practice) and the explicit and implicit curriculum (Alexi et al., 1989; Adler et al., 2009). The curriculum is understood as including all activities (formal and informal) designed for the holistic development, which includes the cognitive, emotional, social and physical development, of a learner. This means that here curriculum is viewed in two ways, either as a planned, prescribed, official, formal, blueprint; or as an intended curriculum as practiced, actual, lived or enacted (Hoadley & Jansen, 2009:45). According to Jansen (2001) and Chisholm (2005:194), curriculum studies can focus on the curriculum as policy, showing the power struggle between opposing groups, each group promoting its own ideologies. Alternatively, curriculum studies can focus on the curriculum as knowledge, looking at how knowledge is constructed and what roles schools should play in teaching and learning. This study considers both of these focuses, because of the concepts chosen for analysis purposes.

3.2. BACKGROUND OF THE STUDY

In South Africa, intensive research has been conducted around curriculum change since the country became democratic in 1994. A number of researchers have tried to describe and critique the different curriculum reforms that have been designed in South Africa since then (Jansen, 1998,

1999, 2001; Rogan & Grayson, 2003; Harley & Wedekind, 2004; Chisholm, 2005 in Bantwini, 2010; Hoadley, 2006; Parker, 2004; Hoadley, Hoadley et al., 2009; Deacon, Osman & Buchler, 2010; Shay, 2011; Arbrie, 2010; Luckett, 2009; Moll, 2009). Despite all the arguments and concerns raised by these researchers, curriculum reforms continue to be formulated in South Africa (Christie, 2008). The first curriculum reform after 1994 was introduced by Professor Sibusiso Bhengu, the first Minister of Education in democratic South Africa. The curriculum reform was a response to the white paper on education and training (1995) that called for an education reform that would address the imbalances of the past (Muller & Taylor, 2000). Curriculum 2005 (C2005), driven by Outcomes Based Education (OBE), was launched in 1997 in the General Education and Training (GET) band, that is, grades R–9 (Bantwini, 2010:84). The original plan was to incrementally introduce OBE to GET and the Further Education and Training phase (FET) by 2005, thus the name C2005.

When C2005 was phased in to the GET band, processes of ‘cleansing’ the FET curriculum had already started in 1996 (Jansen, 1998). Cleansing, in this context, means the removal of all racially offensive content, pictures and language from the national curriculum and ensuring that all provincial schools follow the same curriculum documents. This cleansing did not change the structure of the original content driven curriculum. The resultant curriculum in the FET phase, the Interim Core Syllabus (ICS), remained strongly classified. Subjects maintained their discipline identity, as different subject content integration had not been implemented yet. Topics to be taught were divided into higher grade and standard grade. Teachers had to start using OBE as a teaching approach, which created a mismatch between the curriculum and the delivery mode. According to Fiske and Ladd (2004), OBE is defined as:

An instructional method in which curriculum planners define the general knowledge, skills and values learners should acquire... It differs from the traditional instruction where curriculum planners define specific kinds of knowledge and skills that need to be transferred from teachers to learners. (Bantwini, 2010:84)

The white paper called for radical changes in the South African curriculum to ensure that it reflects the democratic status of the country. As a result, the new C2005 was based on OBE principles,

namely, social justice, equity, human rights and democracy, which are closely aligned with the South African Constitution (DoE, 1995). Teachers in the FET phase tried to implement this call before a democratically aligned curriculum was in place. As a result, teaching became procedural rather than principled (Chamane, 2006).

The findings of the studies in curriculum implementation done nationally were similar. Earlier studies found that change itself was a challenge because it was not managed effectively. It needed to be managed because educators resisted the radical change brought about by C2005. A number of the experienced educators exited the system because they could not handle the “massive changes in education” (Jansen, 2008:3). Exacerbating the situation was the lack of monitoring and support by the SMT in the implementation of the new curriculum, coupled with insufficient or ineffective in-service training or workshops for teachers. In the later studies, lack of training and insufficient suitable resources are the major stumbling blocks to curriculum implementation. This study found similar challenges regarding implementation. Though there are many studies of curriculum implementation, none of them has used Bernstein’s concepts of classification and framing as a lens to view policy as practice. This study gives a fresh view to policy implementation studies and highlights the important omission by the DBE to emphasize that the CAPS is a new curriculum, different from the NCS. This omission raises a question as to whether the challenges experienced in the South African curriculum really emanate from its implementation or from something else.

Some countries, like Indonesia, when faced by curriculum problems, resorted to a school based curriculum. Schools were given autonomy to develop their own curriculum taking their social, cultural and financial needs into consideration (Mulyasa, 2006). Another example is in Uganda, when a ‘thematic’ curriculum was introduced, and the curriculum implementation challenges were similar to those experienced in South Africa. The main problem was that the Ugandan classroom structural realities did not match the new curriculum initiative. As a result, the well-intentioned policy was never translated into classroom reality, thus achieving unintended outcomes and resources, time and energy invested in the new curriculum were wasted (Rogan & Grayson, 2003).

3.3. CONCEPTUALISATION OF THE STUDY

Using Bernstein's concepts of classification and framing, as explained in the theoretical framework in Chapter Two, Outcomes Based Education can be described as an instructional method that has weak classification and framing. Based on the description of OBE by Fiske and Ladd (2004 in Bantwini, 2010:84) in the above section of this chapter, teachers and/or learners are given freedom to choose values, skills and knowledge that they think are worth learning. When Curriculum 2005 was first introduced, it was seen as a policy used to promote the ideologies of the ruling party (Chisholm, 2005:80). The assumption was that since the curriculum had been used to divide South African people during the Apartheid era, similarly, it could be used to unite South Africa (Harley & Wedekind, 2004). Seemingly, considerations about how knowledge is constructed and what are the main roles of schools in teaching and learning were not important at that time (Jansen, 2001a in Chisholm, 2005:194). The C2005 curriculum was radically different from the Christian National Education (CNE) curriculum, used during Apartheid, in terms of design, terminology, content and teaching methods and although there were reservations by some people regarding quality, of "the design, standard, depth and content of the new curriculum" (Jansen, 1998:328), in 1998 it was introduced (DBE, 2009:12; Bantwini, 2010). The DBE Task team stated that, "The new reform was well advertised and enthusiastically received, as it promised a better life for all" (DBE, 2009:12).

In this new curriculum, teachers became educators and facilitators, meaning that they were no longer simply transmitters of disciplinary knowledge to learners. Teaching and learning became learner-centred in terms of the selection of subject content, sequencing and pacing. Learners were given more power to decide on what went on in the classroom. The community code became overvalued at the expense of the school code, as teachers were now amplifiers of the community code instead of interjecting it to introduce learners to the school code. Arguments by Bantwini signify a shift from strong framing, which was supported by the CNE, to weak framing, promoted by C2005. Classification also became weak when the boundaries between the community code and the school code were blurred. Ensor (2004), argues that this so called 'learner-centred' and 'relevant' curriculum disadvantages learners, because it tries to eradicate differences between academic and everyday knowledge and practice, thus denying learners access to context-

independent concepts and principles. Assessment became criterion referenced, continuous and learner-centred, based on the principle that all learners can achieve, if given enough time. Therefore, the assessment time frame became flexible because learners were assessed individually over an extended period to ensure that they all eventually achieved the minimum competences for progression purposes.

The term subject was changed to 'learning area', a change from strong classification to weak classification, as boundaries between disciplines were broken down to allow for the integration of different subjects. Adler, Pournara and Graven (2000) argue that overemphasis on integration can inhibit the induction of learners to disciplinary knowledge. Different disciplines lost their unique identities (Bernstein, 1996:6; Bernstein, 1999; Graven, 2002; Hoadley, 2005:17) and it is likely that this was the birth of the confusion that most South African schools are experiencing at present. When curriculum planners are not specific about the kind of knowledge learners should learn, problems are bound to appear, as was the case with C2005 when it was initially implemented.

This observation by no means suggests that during the traditional approach, teachers did not make free choices regarding what they actually taught in their classrooms. Bantwini, (2010:84) argues that teachers have their own will and therefore it is a mistake to think that they will simply do everything as they are told. Bearing that in mind, it is better to have a clearly specified curriculum that can serve as a guide to channel teachers' choices and interpretations. Clearly, a specified curriculum could also improve learners' chances of accessing context-independent/school code disciplinary knowledge (abstract disciplinary knowledge) instead of context-dependent/community code knowledge.

When OBE and C2005 were introduced, classification and framing became so weak that the entire teaching and learning became implicit. Evaluation rules became implicit because no set of correct answers was made available, making it very difficult for learners to even recognize the legitimate text, that is, knowing what the correct answers are or what is expected of them in each subject, let alone producing it, that is, being able to answer correctly (realization rule). In this approach there were no wrong answers and learners were allowed to express their own views and understanding. The detrimental effects of this notion became obvious when learners performed badly in the

mathematics and literacy tests that have been conducted by the Trends in International Mathematics and Science study (TIMSS) since 1995 (HSRC, 2011). This poor performance has not changed much, although there are claims that South African learners are improving. Research has shown that “South Africa still ranks at lower end of the scale 44th out of 45 countries” in mathematics and science study (HSRC, 2011). Fortunately, or, it can be said, unfortunately, within two years of C2005’s implementation, problems became so obvious that they could no longer be ignored. In the year 2000, the then Minister of Education, Professor Kader Asmal, appointed a review committee led by Professor Linda Chisholm, “to investigate criticisms and make recommendations” (DBE, 2009:12). That was the beginning of a series of curriculum reviews in South African education.

The committee reviewed C2005 and made its recommendations. These were that the curriculum design and terminology should be simplified, learning areas in the intermediate phase reduced, the assessment requirement clarified, content specified, good textbooks reintroduced and teacher training regarding implementation be done properly (DBE, 2009:12-13). The Department of Education announced the recommendations of the committee, as quoted in Chapter One (DoE, 2000 in Bantwini, 2010:85). Based on the DBE announcement, one might assume that the review committee and the Department of Education had the same understanding regarding the changes that needed to be effected on C2005. Contradictions started when the DoE launched the Revised National Curriculum Statements (RNCS) in the year 2002. The message sent out was that this was not a new curriculum, but a simplified version of C2005 to facilitate its implementation (DBE, 2009:13-14). Moll (2009:40) agrees with the task team, stating that, “the RNCS is thus a revision of C2005 not seen as a new curriculum... It keeps intact the principles, purposes and thrust of C2005 and affirms the commitment to OBE” (Bantwini, 2010:85). The RNCS document indirectly specified the content to be taught through learning outcomes and assessment standards. This indirect specification of content meant that the document was not ‘user friendly’, as educators did not know what to do.

Most educators believed that the RNCS was merely more work overload with a large amount of paperwork, and stated that, “They overload us with administration work” (Bantwini 2010:86). This caused much confusion because the document had to be interpreted to make it easily applicable in

the working context. Unfortunately, it was interpreted differently by the different stakeholders. New documents were developed at different levels of the education system, most of them contradicting the original document (DBE, 2009:14). Confusion continued, as the GET teachers tried to use the RNCS for teaching while still using C2005 guidelines for assessment, because no assessment policy was developed for the RNCS. Some teachers pretended to be implementing the RNCS, while in actual fact they were still using C2005 (Bantwini, 2010:87). This confusion meant that teachers were no longer confident in what they were doing, especially those who were more experienced. They knew that the traditional curriculum in which they were trained was no longer acceptable, but they were not familiar with OBE-C2005 and now they were expected to implement RNCS. Research states that some schools went to the extent of buying lesson plans that were aligned to the RNCS. Unfortunately, these bought lesson plans were never used in the classroom, but were kept for the departmental official to see and to assume that the school was implementing RNCS.

The design of the National Curriculum Statement for the FET followed the guidelines that were used for the RNCS. Since it was developed years after the C2005 was revised, its design was much clearer than that of the RNCS. Certain of the same professionals that developed the NCS also developed the supporting policy documents (DBE, 2009:14). The NCS was a move away from the ICS, a curriculum that had been quite prescriptive in terms of content to be taught. The main challenge for the team was ensuring that the curriculum was outcomes based (following a competence model of teaching), while at the same time indirectly specifying the content to be taught (a performance model). This contradiction created a lot of confusion for some teachers, especially regarding assessment, due to the fact that assessment in a competency model focuses on what the learner knows and can do (weak classification and framing), while in a performance model assessment reveals learner's inabilities and ignorance because it specifies content and specialized skills that learners need to master (Parker, 2004:60-61). In the performance model, evaluation rules are explicit and the legitimate text is known by both the teacher and the learner, making it easy for assessments to reveal a lack of legitimate knowledge or skills. In the competence model, evaluation rules are implicit, since content and skills are negotiable, making the legitimate text unknown (Hoadley, 2006:15).

When the NCS was introduced, teachers were given exemplar question papers and memorandums for different grade 12 subjects. These exemplar papers confused some teachers because they did not know what they were supposed to teach because different textbooks were used, the content of which differed greatly. Therefore, examiners were requested to provide a list of textbooks used for setting the exemplar papers so that learners could be taught using the same textbooks (as experienced personally as a grade 12 teacher in 2008 when the first grade 12 NCS final examinations were written). This problem was caused because the NCS did not clearly specify the content to be taught and only specified the learning outcomes for each subject and assessment standards to be achieved at each grade. In 2005, educators were given a catalogue, listing a wide variety of approved textbooks per subject. They had to choose one book to be used in the school from grades 10 to 12, but choices were not informed because they did not know the content of those books and some of those approved books did not have much subject content. Problems were only identified after the release of NSC exemplar question papers later in the year 2008.

The main problem with the South African curriculum reform after 1994 seems to have been that it was used to satisfy both social and political needs without considering knowledge construction and the functions of schools in their own right. The NCS tried to combine two opposite curriculum models into one curriculum. This became a challenge because the two curriculum models, the competence model (supported by the OBE approach) defining general knowledge, skills and values to be acquired (weak classification and framing) and the performance model (supported by the traditional approach) defining specific kinds of knowledge and skills that need to be transferred from teachers to learners (strong classification and framing), are opposites in terms of their focus. Therefore, it became problematic to teach and assess learners using models that are based on opposing principles. In this model, teaching and learning are weakly framed and classified because teachers are given freedom regarding selection, sequence and pace; and assessment is strongly framed and classified because the grade 12 summative assessment is externally set, marked, moderated and standardized. The legitimate text was explicitly specified in the memorandum and external marking had to strictly adhere to it for standardization purposes.

After the first grade 12 final examinations in 2008, most teachers realized the subject content gaps caused by a lack of specificity in the NCS. To narrow down learners' subject knowledge gaps,

teachers ended up using ICS higher grade documents as a guide for their teaching. Learners were given lots of notes from old textbooks to supplement NCS textbooks. This became evident during subject cluster meetings held at the beginning of each school term from the second term on, where grade 12 teachers from different schools within a cluster met to share their experiences and moderate one another's term work and learners' portfolios (experienced personally as a grades 8 to 12 teacher from 1988 to 2010). Research shows that there was a lack of content specificity in the NCS. This is supported by the report of the 2009 task team that reviewed the NCS. The report offered a five-year plan for improving curriculum implementation divided into three phases (two 18 month phases and one 2 year phase). The first phase (18 months) was dedicated to clarifying and specifying what teachers should teach (DBE, 2009:16). The report suggested that classification and framing should be strengthened.

Bantwini (2010:83) argues that, "teachers are key to the success of curriculum reform". Parker and Adler (2005) share this same sentiment with Bantwini. The successful implementation of any new curriculum reform depends on the meanings that teachers attach to the new curriculum reform. Bantwini argues that these meanings become the guiding principles for the teachers' practice when implementing the new curriculum. The problems arise when teachers' meanings are in contrast with "the vision and goals of the new curriculum" (Bantwini, 2010:83). Naidoo and Parker (2005) agree with Bantwini in their research project, where teachers' perspectives on the new curriculum (RNCS) and the common task assessments (CTAs) for grade 9 were found to be contradictory to the new expectations. This blocked learners' access to the subject content because teachers did not teach what was expected; instead they assisted learners in answering CTAs. Bantwini, in his research article, highlighted a number of challenges that might inform the formulation of meanings that teachers attach to a new curriculum. These challenges could be contextual such as the lack of both human and material resources, for example, shortages of suitably qualified teachers and good textbooks.

To minimize these issues, he argued that new curriculum reform should be implemented concurrently with changes in all other areas that can impact negatively on its success (Bantwini, 2010:83). Proper connected planning needs to be done prior to new curriculum implementation. The Task Team agreed with Bantwini, saying that, "the implementation of any curriculum is,

however, dependent on the teachers who will implement it” (DBE, 2009:15). This highlights the importance of involving teachers throughout the process of the curriculum review, and to avoid confusion, of sticking to the recommendations made. Naidoo and Parker (2005:64), in their argument about teachers’ identities, state that these need to change so that their perspectives are aligned with the expectations of the new curriculum. To achieve this, teachers need to be involved in the whole process of curriculum review.

A number of studies exploring the difficulties associated with the new curriculum reform implementation have been conducted in South Africa (Jansen, 1998; Jansen, 2002; Rogan & Grayson, 2003; Chisholm, 2005 in Bantwini, 2010:83). They all reached similar conclusions regarding these difficulties. Jansen (1998 in Bantwini, 2010:83) argues that the lack of connected policies and planning results in non-implementation. Concurring with Jansen and Bantwini, by providing evidence that a lack of coordinated planning results in non-implementation, is the grade 10 Catch-up Plan that was issued by the Department of Basic Education (DBE) in July 2012. As schools were expected to implement the National Curriculum Statement-Curriculum and Assessment Policy Statement (as CAPS is sometimes called by DBE official documents) in grade 10 in the year 2012, some schools could not cover the content of school terms one and two by the end of the second term. This was due to the lack of CAPS aligned textbooks and other teaching and learning support materials in certain schools, especially in Limpopo. It was public knowledge that textbooks were not delivered to some schools in Limpopo, as this matter was discussed on national Television in May 2012. In the document titled “*Grade 10 Catch-up Plan*”, compiled by the DBE in consultation with teachers and subject specialists (Curriculum Branch: Catch-up Plan for Grade 10, 2012:43), the Department of Basic Education argued that the failure to cover the first and second terms’ work in some schools was largely caused by the “teachers’ own content gaps” and not the “lack of CAPS compliant textbooks as these topics are contained in the NCS (grades 10-12) textbooks” (DBE, 2012).

In this plan, the DBE highlighted similarities and differences between the NCS and the CAPS documents regarding the subject content that needed to be taught in grade 10 during the first two terms of the year 2012. This comparison was done in order to encourage teachers and persuade them to use NCS textbooks to teach the CAPS content. This catch-up plan document alone was an

indication that there were challenges or difficulties regarding the CAPS implementation caused by a shortage of CAPS aligned textbooks and/or, as the DBE claims, teacher's knowledge gaps. If CAPS aligned textbooks were sufficient, there would not have been a need to produce an official document just to show how NCS textbooks can be used to teach the CAPS. One might also argue that if NCS textbooks were still relevant in teaching the CAPS, then there would not be a need to produce new textbooks that are CAPS aligned.

These arguments regarding the suitability of NCS textbooks for the CAPS could result in confusion among some teachers who might think that the two curriculum statements are the same. Yet they are not, since they are designed differently in terms of focus. While the NCS had been designed to look like a competence model, the CAPS is designed as a performance model, because content, teaching methods and assessment tasks and time frames are explicitly specified in the document.

Complicating things further is the name that has been given to the new curriculum documents, that is, National Curriculum Statement Grade R-12 - Curriculum and Assessment Policy Statement (NCS-CAPS). This is confusing, it would have been better if the DBE had used only the name Curriculum and Assessment Policy Statement (CAPS), as was suggested by the task team (DBE, 2009:7). The DBE, seemingly, did not want to change from the original ideologies of C2005. When C2005 was reviewed and RNCS introduced, the message sent out was that RNCS is not a new curriculum (DBE, 2009:14). The NCS for FET was designed following the same guideline as for the RNCS. Now, the NCS has been reviewed and the same message is still being sent out that the CAPS is not a new curriculum, but a repackaging of the RNCS and NCS to facilitate implementation (DBE, 2012:1). If this is the case, then the South African school curriculum has not changed since C2005 was introduced; yet a lot has changed (Johnson, 2009:51). Interestingly, the minister of basic education said, "OBE is dead and buried" on national television during a breakfast show programme on SABC 2 on the 8 January, 2014.

The argument between teachers and the DBE regarding non-implementation confirmed the claims made by Jansen in 1998, that non-implementation is due to the lack of connected policy planning. Bantwini suggested that, "new curriculum reforms must be implemented concurrently with other changes in order for them to have a significant and long-lasting effect" (Bantwini, 2010:83).

Seemingly, the DBE was aware that some teachers had knowledge gaps that made it difficult for them to implement the CAPS, yet there was no mention of any plans to help those teachers bridge their knowledge gaps. The second problem was that the CAPS implementation went ahead even though plans to supply CAPS aligned textbooks were not yet finalized.

The fact that the DBE blamed teachers' knowledge gaps for the non-implementation of the CAPS indicated that the DBE was aware of the differences between the CAPS and NCS. Knowledge gaps were never mentioned previously as a reason for difficulties in implementing NCS. Therefore, the DBE should have highlighted these differences. Instead, in the grade 10 Catch-up Plan document, the DBE stated that the CAPS "does not replace the RNCS Grade R – 9 and NCS Grade 10 – 12... The RNCS and NCS were combined to form the National Curriculum Statement Grade R – 12" (CAPS) (DBE, 2012:1). This statement by the DBE is repeated in the CAPS documents for each subject in the foreword section of each document, where the CAPS is introduced as a repackaged NCS. Interestingly enough, under the background and overview in the CAPS documents, the above statement is followed by another clear statement:

The National Curriculum Statements Grade R – 12 (another name for the CAPS) accordingly replaces the Subject Statements (NCS), Learning Programme Guidelines (LPG) and Subject Assessment Guidelines (SAG) with the

- CAPS for all approved subjects listed in this document;
- National policy pertaining to the programme and promotion requirements of the NCS Grade R – 12 and
- National Protocol for Assessment Grades R – 12. (DBE, 2011b:iv)

Contradictory statements were made within the same document and they are open to confusion amongst teachers, where some might continue to use the NCS or the RNCS because the Department of Basic Education has said the CAPS does not replace the RNCS and NCS, but it is simply a combination of the two documents.

The introduction of the CAPS as a single document per subject was aimed at resolving confusion caused by too many contradictory documents that were used with the NCS and the RNCS. Some

of those documents were compiled by different people at different levels of the Department of Education and this resulted in numerous interpretations of the curriculum policy document (DBE, 2009:7-8). Unfortunately, the new policy document, the CAPS, came with contradictory statements, thus defeating its own purpose. Perhaps the two contradictory statements were deliberately made to disguise the fact that the curriculum statements were indeed changing, to protect teachers from “change fatigue”, as stated by the DBE minister in her statement on 6 July 2010 (Motshekga, 2011).

The observation that the DBE perhaps deliberately sent ambiguous statements is supported by the fact that the new curriculum statements cover pages carrying the name National Curriculum Statement (NCS) at the top of the page, and below that are written the words Curriculum and Assessment Policy Statement. These two titles of the new curriculum document are the cause of the confusion because they make the two curriculum documents (NCS-CAPS and NCS) seem one and the same, yet there are major differences regarding their design and focus, as detailed below.

3.4. POLICY ANALYSIS

In this section, the NCS documents for grades 10 to 12 that were introduced in 2006, replacing the ICS, as explained in the previous chapter, are analysed and compared to the CAPS documents for grades 10 to 12. The CAPS were introduced in 2012 to grade 10 in the FET band and the foundation phase in the GET band. They were to be incrementally implemented until they replaced NCS completely in 2014. The NCS was first introduced as a radically different curriculum from that of the Apartheid era. It had to be aligned with the values of the new democratic South Africa, as was stated by the DBE minister in the foreword section of the CAPS (DBE, 2011c). After the first grade 12 NCS examinations, challenges regarding NCS implementation continued. Thus, a task team was appointed in 2009 to review it and came up with the new document called the CAPS, to be incrementally implemented from 2012 to 2014 in all the grades, replacing both the RNCS (grades R–9) and the NCS (grades 10–12).

The analysis of the policy documents is given for NCS grades 10 to 12 and the CAPS grades 10 to 12 documents in the three subjects under study, namely, Business Studies, Life Sciences and

Engineering Graphics and Design. The documents are compared first in terms of their physical appearance and thereafter sentences are coded in terms of classification and framing. The coding is influenced by Morais and Neves' 2001 study of curriculum reform (Hoadley, 2006:22). Sentences are coded as strongly classified if the subject knowledge is well insulated from other subjects and everyday knowledge. Classification is said to be weak if the sentences allow for the use of knowledge from other subjects or everyday knowledge within a particular subject. Framing, as explained in Chapter Two, refers to control, that is, who makes decisions in terms of selection, organization and pacing of knowledge taught and learnt in the classroom. If the teacher makes all decisions, framing is considered to be very strong and if learners decide on what to do, how to do it and when to do it, then framing is considered to be weak. The focus of the analysis is on coding the sentences that have something to do with framing or classification. Other sentences are ignored. The Life Sciences NCS grades 10 to 12 and the CAPS grades 10 to 12 documents are analysed first.

3.5. LIFE SCIENCES

The Life Sciences NCS grades 10 to 12 documents, in their physical appearance, (DoE, 2003b) consist of four chapters in sixty-six pages, excluding the first ten pages with the table of contents and acronyms. Chapter One is an introduction to the NCS, which in eight pages describes the principles and design features of the National Curriculum Statement Grade 10–12; the envisaged learner and the envisaged teacher, and then provides the learning programme guidelines. The envisaged learner and teacher is generally stated and not subject specific (weak classification). Indirectly, this implies that anyone who is qualified as a teacher can teach any subject, because Chapter One is the same for all NCS documents. Chapter Two, in five pages, introduces the subject by describing the definition, purpose, scope, career links and learning outcomes of the subject. Chapter Three is eighteen pages long, containing the learning outcomes and assessment standards with examples (assessment criteria) that are arranged in such a way that they show the intended progression in Life Sciences from grades 10 to 12. The last nine pages of Chapter Three consist of an explanation of the content and contexts of the subject. The proposed content and context to be taught and learnt is listed in the form of four knowledge areas, namely, tissues, cells and molecular studies; structures and control of processes in basic life systems; environmental studies; and

diversity, change and continuity. These content areas are then linked with the three learning outcomes. There is no grade content differentiation for knowledge area one and learning outcome one.

Chapter Four takes the next twenty pages, explaining assessment. The chapter begins with the reasons for assessment, then moves on to types of assessment, what assessment should be and do, methods of assessment, methods of collecting assessment evidence, recording and reporting, subject competence descriptions, promotions, what report cards should look like, and assessment of learners who experience barriers to learning. Finally, competence descriptions with codes and scales for achievements are provided for each grade and are arranged in an order that demonstrates progression from grades 10 to 12. The last three pages of the document are dedicated to a glossary of terms used in the document. The word policy is never used in the NCS document, suggesting that nothing in the document is mandatory; everything is negotiable for enforcing social justice and human rights. This makes the whole document weakly framed and classified.

The NCS structure is organized around learning outcomes (LOs). These arose from critical and developmental outcomes that were inspired by the South African constitution and were democratically developed (DoE, 2003b: 2). There are three learning outcomes for all the FET grades and they are the same for all three grades. Each learning outcome has three assessment standards that are the same for all three grades. The standards are followed by examples that can help the teacher know when the learner has achieved that particular assessment standard per grade. In this study these examples are called assessment criteria and they differ from grade to grade in showing progression. To illustrate this, an example is made by taking learning outcome number one, assessment standard one and seeing how the assessment criteria differ from grade to grade. The learning outcome is given as ‘scientific inquiry and problem solving skills’. This means that “the learner is able to confidently explore and investigate phenomena relevant to Life Sciences by using inquiry, problem solving, critical thinking and other skills” (DoE, 2003b:16). The three assessment standards, “identifying and questioning phenomena and planning an investigation; conducting an investigation by collecting and manipulating data; analysing, synthesizing, evaluating data and communicating findings” are the same for all three grades, but the assessment criteria differ for all grades in the level of complexity of knowledge. For grades 10, 11 and 12 the

assessment standards and their assessment criteria as taken verbatim from the document are shown below:

Grade 10 learners must be able to

“Identify and question phenomena and plan an investigation”

- Identify and question phenomena.
- Plan an investigation using instructions.
- Consider implications of investigative procedures in a safe environment.

“Conduct an investigation by collecting and manipulating data”

- Systematically and accurately collect data using selected instruments and/or techniques and following instructions.
- Display and summarize the data collected.

“Analyse, synthesize, evaluate data and communicate findings”

- Analyse, synthesize, evaluate data and communicate findings.

Grade 11 learners must be able to

“Identify and question phenomena and plan an investigation”

- Identify phenomena involving one variable to be tested.
- Design simple tests to measure the effects of this variable to be tested.
- Identify advantages and limitations of experimental design.

“Conduct an investigation by collecting and manipulating data”

- Systematically and accurately collect data using selected instruments and/or techniques.
- Select a type of display that communicates the data effectively.

“Analyse, synthesize, evaluate data and communicate findings”

- Compare data and construct meaning to explain findings.
- Draw conclusions and recognize inconsistencies in the data.
- Assess the value of the experimental process and communicate findings.

Grade 12 learners must be able to

“Identify and question phenomena and plan an investigation”

- Generate and question hypotheses based on identified phenomena for situations involving more than one variable.
- Design tests and/or surveys to investigate these variables.
- Evaluate the experimental design.

“Conduct an investigation by collecting and manipulating data”

- Compare instruments and techniques to improve the accuracy and reliability of data collection.
- Manipulate data in the investigation to reveal patterns.
- Identify irregular observations and measurements.
- Allow for irregular observations and measurements when displaying data.

“Analyse, synthesize, evaluate data and communicate findings”

- Critically analyse, reflect on and evaluate the findings.
- Explain patterns in the data in terms of knowledge.
- Provide conclusions that show awareness of uncertainty in data.
- Suggest specific changes that would improve the techniques used. (DoE, 2003b:16-23)

This learning outcome and its assessment standards and assessment criteria are taken directly from the Department of Education’s NCS Life Sciences Grade 10–12 (DoE, 2003b). The example clearly shows how the curriculum statements intend to make the learners’ achievement of learning outcomes develop in complexity as the learners ascend the skills hierarchy. The problem here is that it is assumed that the teacher will know what to teach and how to teach it to ensure that learners are able to achieve these assessment standards. Subject content is not specified, but subject teachers are indirectly instructed on what to do. For example, the first assessment criterion is to identify and question phenomena; attainment is evident when a learner observes that some pot plants are growing poorly and questions whether they are lacking mineral salts. This assessment standard indirectly instructs the teacher to conduct experiments where the growth of pot plants, cared for differently, is monitored, measured and recorded for a specific period, at the teacher’s discretion. The teacher’s experience and qualifications could play a significant role, yet it is only implicit in the document.

These learning outcomes are coded as strongly framed (F+) externally, that is, between the teacher and the curriculum designer, and weakly framed (F-) internally between the teacher and the learner, although the teacher's role is implicit. The document does not specify any content to be learnt; it only states what the learner should be able to do by the end of a particular grade. The framing relationship between the teacher and curriculum designer is strong when one considers the implications of the assessment standards, although terms used in the document suggest that teachers can choose what to include or exclude in the lesson. Framing relationships between the teacher and the learners are weak, because statements focus on what the learners should be able to do, implying that learners control classroom activities. All framing statements seem to be learner-centred, although learners do not actually freely choose what to do. The curriculum statements indirectly instruct teachers to create learning environments that enable learners to achieve learning outcomes. Framing relationships are the same for all three learning outcomes.

In comparison with the NCS, the CAPS document consists of eighty-two pages, compared to NCS's sixty-six pages, excluding the first four pages that are generic to all the CAPS documents (DBE, 2011a). The document is divided into four sections, whereas the NCS has four chapters. Section one consists of the background, overview, general aims of the South African curriculum and the time allocation for each grade. The CAPS aims and principals are set out as follows:

The National Curriculum Statement Grades R-12 gives expression to the knowledge, skills and values worth learning in South African schools. The National Curriculum Statement Grades R-12 serves the purposes of: equipping learners irrespective of their socio-economic background, race, gender, physical ability or intellectual ability, with knowledge, skills and values necessary for their self-fulfillment and meaningful participation in society as citizens of a free country; providing access to higher education; facilitating the transition of learners from education institutions to work place and providing employers with sufficient profile of learners' competences. The National Curriculum Statement Grades R-12 is based on the following principles: Social transformation: ensuring that the educational imbalances of the past are redressed, and that equal educational opportunities are provided for all sections of the population; Active and critical learning: encouraging an active and critical approach to learning, than rote and

uncritical learning of given truths; High knowledge and high skills: the minimum standards of knowledge and skills to be achieved at each grade are specified and set high, achievable standards in all subjects; Progression: content and context of each grade shows progression from simple to complex; Human rights, inclusivity, environmental justice and human rights as defined in the Constitution of the Republic of South Africa. (DBE, 2011a:4-5)

These general aims of the CAPS are similar to the principles listed in the NCS. The striking difference is that in the CAPS these principles are listed as general aims and some principles are left out or modified. Instead of OBE, the CAPS says learning should be active and critical to avoid rote learning of given truths without questioning. Principle articulation and portability and integration and applied competences are left out completely. The CAPS appears to recognize the uniqueness of different disciplines regarding their specific knowledge and the skills that must be learnt; and realizes that qualification in one specific area does not necessarily equate to qualification in another equivalent area. The CAPS strengthen the boundaries between disciplines, thus all school subjects are to be called subjects from grade R–12 because learning areas are done away with in the CAPS.

As a curriculum, the CAPS aims to produce learners that can identify and solve problems and make decisions using creative thinking; work effectively with others in a team; organize and manage themselves and their activities responsibly and effectively; collect, analyse, organize and critically evaluate information; communicate effectively using visual, symbolic and or language skills in various modes; use science and technology effectively and critically, showing responsibility towards the environment and the health of others; and demonstrate an understanding of the world as a set of related systems by recognizing that problem solving contexts do not exist in isolation. Inclusivity is again stated as the general aim of the CAPS, and that it should become the central part of the organization, planning and teaching at each school. This can only happen if all teachers have a sound understanding of how to recognize and address barriers to learning and how to plan for diversity. The key to inclusivity is ensuring that all stakeholders in the schooling community work together in identifying and addressing barriers to learning (DBE, 2011a:3).

The above attributes of a successful learner, according to the CAPS, were listed in the NCS as the critical and developmental outcomes on which the learning outcomes of each and every subject were based (DoE, 2003b:2). The NCS and CAPS consider inclusivity differently. The NCS considered inclusivity superficially, that is, as enforcing social justice by ensuring that no one is excluded by having minimum requirements for all learners and the development of appropriate learning programmes and assessment instruments (DoE, 2003b:4). In the CAPS inclusivity is viewed as a central part of organization, planning and teaching in every school. All teachers need to know how to identify and address barriers to learning and all stakeholders in the schooling community should work together to deal with them (DBE, 2011a:3).

Section two introduces the subject, explaining Life Sciences, as a scientific study and as a school subject. The Life Sciences curriculum is organized into four knowledge strands, highlighting concepts and content that show progression from grades 10 to 12, namely, life at the molecular, cellular and tissue level; life processes in plants and animals; environmental studies; and diversity, change and continuity. Content to be taught under each strand per grade is explicitly specified. This curriculum organization differs from that of NCS in that the latter lists four knowledge areas (as they are called in NCS) under learning outcome two without specifying the content to be covered at each grade and no content or knowledge area is listed under LO one and three. Furthermore, the CAPS state that teachers of Life Sciences must be qualified to teach the subject and know how to use the equipment listed as the required teaching resources (DBE, 2011a:19). Also explained in the details is the purpose of studying Life Sciences and the subject specific aims, the need for teachers to develop learners' language skills in reading and writing in English, as it is the language of teaching and learning, and time allocation per grade that makes provision for examinations and any other school disruptions.

Section three deals with subject content per knowledge strand, grade and term. Content for each grade is divided into different topics that must be covered during a specific week of a specific term, indicating the hours allocated. Details of content to be covered under each topic are given together with required resources and investigations that must be included. Assessment tasks to be done by each grade at the end of each term are specified. Section four is a detailed report on assessment, stating why it is necessary and how it should be done per grade, giving a detailed

breakdown of the weighting for each assessment task. This section further provides a detailed account of weighting for cognitive levels to be used when assessing content, specifying useful verbs to frame questions for each cognitive level. The number and duration of examination question papers per grade is given with a detailed breakdown of topics to be included in each exam paper, indicating mark allocation per topic and the time it should have taken to teach each topic. Moderation of assessment, its purpose and the levels at which it should be done is fully described.

The Life Sciences CAPS is strongly classified because it enforces the use of the subject's specialized language (subject's terminology) throughout the document. All framing statements are strong because teachers and learners are not given any choices when it comes to content selection, sequencing and pacing. The policy clearly specifies who must do what, when, how and what resources to use. It even states that Life Sciences teachers must be qualified to teach the subject, be familiar with equipment and know how it is used.

3.6. BUSINESS STUDIES

The NCS Business Studies document consists of seventy-six pages and is divided into four chapters (DoE, 2003c). The first ten pages are taken up with the cover page, copyright information, table of contents and glossary. Chapter One takes the first eight pages to introduce NCS and is the same for all NCS documents. Chapter Two introduces the subject in three pages by defining it, its purpose, scope and educational and career links. The four BS learning outcomes, which are the same for grade 10 to 12, are outlined. A brief description of what each LO deals with is given, although it does not specify the content which should be covered in each grade. Chapter Three outlines, in twenty pages, the LO's assessment standards per grade and the content and context. Chapter Four takes the next twenty-one pages to explain assessment, generally stating the method and purpose. The chapter starts with the reasons for assessing, then moves on to types of assessment, what assessment should be done, the methods of assessment, the methods of collecting assessment evidence, recording and reporting, subject competence descriptions, promotions, what report cards should look like, the assessment of learners who experience barriers to learning, and also provides the competence descriptions with codes and scales for achievements for each grade arranged in an order that demonstrates progression from grades 10 to 12.

While the NCS lists the four core features (Business Environment; Business Ventures; Business Roles; Business Operations) of Business Studies, which are later listed as learning outcomes 1 to 4 (DoE, 2003c), the CAPS lists them as the four main topics with corresponding topics and their weighting in the BS curriculum (DBE, 2011b). These main topics are equally weighted, although they do not have the same number of subtopics. In the NCS, topics to be taught are not specified. Teachers need to deduce information about topics to teach from the learning outcomes (LO) and assessment standards (AS). Time frames are also not given to guide teachers' decisions about when to start and finish each topic. The word policy is not used in the NCS document, suggesting that nothing in the document is mandatory and everything is negotiable, the purpose being to enforce social justice and human rights. This makes the whole document weakly framed and classified.

The CAPS document for Business Studies consists of fifty-eight pages, including the cover page and foreword by the Minister of Basic Education, Angie Motshekga. The content is divided into four sections. Section one consists of the introduction to the CAPS and the background, overview, and general aims of the South African curriculum, including the time allocation for each phase: foundation phase, intermediate phase, senior phase and FET. Section two contains the introduction to Business Studies (BS), a description of it and its purpose, the time allocation for BS in the curriculum and the requirements for offering it as a subject, listing all the resources the teacher must have and that each learner must have. Section three consists of the overview of topics and the annual teaching plan. These topics and the annual teaching plan are further divided into topics per grade and per term. Each grade is given a summary of the annual teaching plan followed by a detailed teaching plan per term, where each topic is accompanied by specified content for that particular grade, suggesting time frames in weeks and the resources to be used.

Section four deals with assessment in BS, specifying content to be assessed daily, using informal assessments. Then the number and nature of formal assessment tasks is specified, including mark allocation per term. There is a programme of assessment for grades 10 to 12 where all formal assessment tasks per grade and term are weighted for year mark purposes. The total year mark counts for 25% of the final reported mark; final examinations count for 75%. Recommended forms of formal assessment tasks are listed and briefly explained. Guidelines regarding the setting of all examination papers, that is, midyear, trials and end of the year examinations are clearly shown. A

detailed structure of the exam paper is given, specifying the number of sections in question papers, the type and number of questions per section and the mark allocations. Percentages of cognitive levels to be used in the examination question paper are specified as: 30% knowledge and comprehension (levels 1 and 2), 50% application and analysis (levels 3 and 4) and 20% synthesis and evaluation (levels 5 and 6). Content assessed must be grade specific and grade 12 is the only grade that writes trial examinations. Recording, reporting and moderation of assessment is explained clearly so that teachers know what is expected of them. Grades 10 to 11 are given a total of seven internally assessed tasks, while grade 12 is given seven internally assessed and moderated tasks, plus one externally assessed and moderated final examination. All classification and framing statements in the CAPS document are strong because it clearly specifies what needs to be done.

3.7. ENGINEERING GRAPHICS AND DESIGN

The Engineering Graphics and Design NCS document is divided into four chapters (DoE, 2003d), exactly the same as the NCS documents described above. The first eighteen pages are the same, the only difference being the name of the subject for each document. This document consists of eighty-eight pages, the first ten pages being taken up by the cover page, table of contents and the list of acronyms, with Chapter One taking up eight pages. Chapter Two consists of four pages where the definition, purpose and scope are briefly outlined. EGD is defined as a subject that

Integrates cognitive and manipulation skills that are used to design and communicate graphically. The subject combines lines and symbols to render services and design processes and systems that contribute to economic growth and enhanced quality of life. (DoE, 2003d:9)

The first sentence of the definition is appropriate, as at that time (2003) the subject was viewed as a way of integrating knowledge and skills. However, the second sentence is ambiguous and seems to be a political statement. One can infer from this EGD definition that it was largely informed by the South African constitution and OBE principles. This claim is supported by the stated purpose of the subject, which it is meant to “give learners the opportunity to appreciate the interaction between people’s values, attitudes, society, environment, human rights and technology” (DoE,

2003d:9). Although the NCS was introduced as a hybrid curriculum, combining the competence curriculum model and the performance model, the competence model dominates in this document.

It is intriguing to note that this definition (second sentence) changed completely within six years, after which the CAPS was introduced. In the CAPS document EGD is introduced as a subject that

Teaches internationally acknowledged principles that have both academic and technical applications. The emphasis in EGD is on teaching specific basic knowledge and various drawing techniques and skills so that the EGD learners will be able to interpret and produce drawings within the context of Mechanical Technology, Civil Technology and Electrical Technology. (DBE, 2011c:8)

While the NCS is a competence curriculum, the CAPS is clearly a performance curriculum. Inferences can be made straight from the subject's introduction that it is content driven, because learners are taught specific knowledge, techniques and skills to enable them to interpret and produce drawings in different contexts.

Chapter Three consists of twenty-six pages, outlining the four EGD LOs and ASs that are the same for all three FET grades. Differences are depicted in the assessment criteria, showing progression from one grade to the next. All framing statements are coded as weak, because the focus is on what the learner should be able to do; the teacher's role is implicit. Chapter Four takes up the remaining forty pages, describing assessment in detail and then, towards the end of the chapter, subject competence descriptions are given per LO and grade. This chapter is concluded by a glossary list.

The CAPS Document for EGD consists of fifty-eight pages, including the cover page. All CAPS documents are structured the same way, that is, they consist of four sections and they all contain the same information from the first page after the cover page until the end of section one. Section two begins by introducing EGD as a subject that teaches internationally acknowledged principles that can be applied both academically and technically (DBE, 2011c:8). Fourteen non-negotiable main topics for EGD are listed, followed by six specific aims of EGD. These aims are to teach learners graphic drawing as a basic means of communication in the technological world; to teach

basic content and concepts within the context of mechanical, civil and electrical technology; to introduce learners to various instruments and free hand drawing techniques and skills; to teach learners how to solve technological problems through graphical drawings; and to teach learners how to use the design process and computer aided drawing as a drawing method.

The minimum classroom requirements for offering EGD as a subject are listed, specifying all resources and equipment along with their sizes that the teacher and learners must have. Finally, in this section, career opportunities for which EGD provides fundamental knowledge and drawing skills are listed. What stands out from this section is the fact that schools offering EGD must have enough space, electricity, suitable storage space and computers to implement computer aided drawing (CAD) (DBE, 2011c:18-10). Section three contains the overview of topics per term and the annual teaching plan. Here, the subject content is divided into examinable content per grade and a practical assessment task (PAT). Each topic per grade is given a minimum and a maximum time frame to finalize everything, including all course drawings and assessment tasks. The annual teaching plan is divided into four terms and it states explicitly the content to be taught under each topic and specifies the assessment tasks per term with the weighting for each task. The practical assessment task (PAT) is allocated time towards the end of each term. Framing is very strong in terms of selection, sequencing and pacing, however, teachers are allowed to alter sequence and pace, but those alterations must be approved by an EGD subject advisor to ensure that all topics and their prescribed content are present in the altered teaching plan (DBE, 2011c:14).

Section four consists of twenty pages of detailed assessment plans for EGD. The first assessment is introduced “as [a] continuous planned process of identifying, gathering and interpreting information about the performance of learners, using various forms of assessment” (DBE, 2011c:32). A distinction between formal and informal assessment in EGD is made. Informal assessment (assessment for learning) is described as daily assessment that is done through observations, class interaction or practical demonstrations to monitor learners’ progress in learning. Formal assessment (assessment of learning) is defined as a systematic way of evaluating learners’ progress in a grade for certification purposes. It is implemented through projects, tests, examinations, practical tasks, oral presentations or demonstrations that are marked and formally recorded for progression purposes.

All formally assessed tasks are moderated for quality assurance and to maintain standards. The number and type of compulsory formal assessment tasks per term and grade are clearly stated together with their weighting. For example, in grade 10: two tests, twelve coarse drawings, mid-year examination, one PAT (which is the only project to be given) and final examination. These are minimum formal assessment requirements. The two tests, twelve coarse drawings and mid-year examination contribute 25% of the final mark. The PAT that is done over three terms is 25% and the final examination counts 50%. The cognitive level weighting for these formal tasks is given as 30% lower order, 40% middle order and 30% higher order questions (DBE, 2011c). Towards the end of this section, marking rubrics for all formal assessment tasks per grade are attached as appendices. All framing statements in the EGD-CAPS document are strongly framed.

3.8. CONCLUSION

Although a number of studies have been conducted critiquing curriculum reforms in South Africa since it became a democratic country, curriculum reforms are still taking place. Implementation of these curriculum reforms continues to be the main challenge. The reasons for these challenges seem to revolve around the lack of integrated planning where all possible perceived challenges are addressed simultaneously. There are challenges such as the development and provision of all required resources, correct advocacy of the new curriculum reform and continued professional development for teachers. The CAPS were introduced as repackaged RNCS and NCS into one document, yet they are totally different from these two curriculum statements. The official announcement of the CAPS was that the RNCS and the NCS were combined into a single document per subject. This is not the case, as each subject has two documents, namely, the CAPS for grades R to 9 and the CAPS for grades 10 to 12.

CHAPTER FOUR

RESEARCH DESIGN AND METHODOLOGY

4.1. INTRODUCTION

This research design and methodology section contains the full description of the research methods and techniques that were used to collect and analyse data. This study follows a qualitative approach (Thomson, 2011), although questionnaires that are mainly used as a quantitative approach form part of data collection instruments. The function of these questionnaires does not qualify this study to be classified as one using mixed methods. These questionnaires collected data only from a few learners for triangulation purposes. According to Creswell (2009) and Creswell et al. (2007), a study can claim to follow a mixed methods approach when a researcher has made informed decisions regarding “timing, weight and approach to mixing” (Fritschi, 2008:49-51) the data collection and analysis. Timing refers to the use of quantitative data as informing the collection of qualitative data. This means that quantitative data collection must be done prior to qualitative data collection in order to shape the instrument to be used for observations and interviews. Weight refers to the priority placed on either qualitative or quantitative data. Lastly, the approach to mixing refers to how qualitative and quantitative data will be integrated. In this study, this is not the case; therefore, it does not follow a mixed methods approach.

4.2. DESIGN OF THE STUDY

This study is located within the social sciences and operates within an interpretative paradigm, as explained in Chapter One under research design and methodology (section 1.6). The study is designed as a case study, where observations and interviews were used as the main instruments for data collection. Observed educators were interviewed soon after they taught five consecutive lessons. In *Teachers of English to Speakers of Other Languages (TESOL)*, a case can be a person, school, classroom or programme (Faltis, 1997; Johnson, 1992; Nunan, 1992 in TESOL). Case studies can be qualitative or quantitative, providing concrete illustration of the findings. A case study can consist of one or up to four cases, but not more, so as to facilitate a detailed analysis that

is contextualized (Gall et al, 1996; Johnson, 1992; Stake, 1995 in TESOL). Spring (1997) argues that case studies are good at clarifying complex issues and they can strengthen what is known through other research. This study attempts to confirm Spring's arguments about case studies.

4.3. POPULATION OF THE STUDY

Different schools from UMgungundlovu district in KwaZulu-Natal were chosen. The choice of schools depended on the school subjects offered to grade 10 learners. The following three subjects were studied: Life Sciences, Business Studies and Engineering Graphics and Design. A maximum of four schools were used to facilitate a more holistic approach to research instead of focusing on a general picture, as some scientists are guilty of doing (Yin, 2014:5-6; Mills et al., 2010; Creswell, 2009). From each school, three teachers, one per subject under study, and three classes each doing one of the subjects, were identified. Information-oriented sampling was used instead of random selection based on representativeness (Thomas, 2011). The reason for using purposive sampling is that all participants need to be directly involved in one of the subjects being studied.

Schools were chosen for convenience reasons such as schools offering the three subjects and those that were easily accessible in terms of their location. This enabled the researcher to spend a maximum of two weeks between two schools, observing each of the three subjects for five consecutive lessons. Had schools offering all three subjects not been available in the district, then more schools would have been used to ensure that four different teachers per subject were observed, that is, a total of twelve teachers. Grade 10 was chosen, with the aim of capturing the initial implementation of the CAPS, because it was introduced to grade 10 in 2012. Three case studies were conducted in each of the four different schools. One case in this research study meant an intensive analysis of data collected from a classroom observation of a teacher teaching one of the selected subjects to one class for five consecutive lessons, questionnaire responses completed by ten learners and an interview with the teacher.

4.4. DATA COLLECTION METHODS

The study was conducted during a time when schools were using two different curriculum statements in the FET band in different grades. In this context, a teacher teaching grades 10 to 12 was forced to understand and implement both curriculum documents. Therefore, both the CAPS and NCS curriculum documents for the three subjects under study were compared and analysed before data was collected. Document comparison and analysis is based on framing. All statements in the document that reflect framing were coded as either weak or strong, with F- for weak framing and F+ to indicate strong framing. These codes give an indication of whether the curriculum statement is strongly framed or not, that is, once the F+ codes are added up and compared to the sum of F- codes. This was done to enable the researcher to be well informed about policy so that meaningful comparison between policy and practice could be made at a later stage of the research.

Data was collected mainly through the observation of the three teachers per school, using audiotape, each of them teaching one of the subjects under study to one grade 10 class for five consecutive lessons. These consecutive lessons were observed and recorded to capture the continuity of practice. These observations were guided by an observation schedule embracing the objectives of the research questions, ensuring that the latter were answered by the end of the study. Once the observations were done, teachers were interviewed using an interview schedule for the same reason stated earlier. Ten randomly selected learners from the observed class per subject and school were requested to complete a questionnaire. Random selection, in this case, means that the researcher copied a class register, then cut out the names of learners and put them into a bowl to be drawn in class. No specific criteria were used to choose learners. These questionnaires provided information on how learners view their subjects (recognition rule) and whether they know and understand what is expected of them (evaluation rules).

Three subject advisors for these three subjects were interviewed and audiotaped, using an interview schedule. Structured interview schedules were used, although additional follow up questions were asked depending on the need. Wherever possible, they were observed during their subject specific CAPS workshops to understand their interpretations of the CAPS and their expectations from teachers. Observing subject advisors conducting workshops helped to ascertain

their understanding of the CAPS and the messages they conveyed to teachers. This data was compared with data collected during lesson observations, interviews and questionnaires for triangulation purposes and to see if a correlation exists between policy and practice. All the research instruments are attached as appendices.

Triangulation is the crosschecking of information from different sources to see if there is a correlation (Johnson, 1997). As the information is drawn from different sources, data triangulation was done in order to promote validity. Johnson describes three types of validity: descriptive, interpretive and theoretical. Maxwell (1992, in Thomson, 2011:78) came up with five categories of validity: descriptive, interpretive, theoretical, generalizability and evaluative validity. Generalizable validity is not considered in this study because the aim is not generalization, due to its design and sample size.

Descriptive validity means that the researcher must ensure that the report given is a true reflection of what was said or done by the participants. Maxwell (1992), Walsh (2003) and Glaser and Strauss (1967), in Thomson (2011), concur with Johnson (1997) regarding the question of validity. They argue that descriptive validity is the foundation for all other forms of validity; without its accuracy nothing else matters (Thomson, 2011). Interpretive validity means that the researcher shows a high degree of understanding and accuracy in reporting the viewpoints, thoughts, intentions and experiences of participants. The researcher needs to make accurate inferences regarding the participants' mannerisms that is, whether the participant shows anger, frustration or happiness during interview sessions or when responding to specific questions (Thomson, 2011). Reporting sessions were held with the participants once the data transcription was completed to ensure descriptive and interpretive validity.

Theoretical validity is the degree to which the theoretical framework is used to analyse data (Johnson, 1997). Maxwell (1992:50, in Thomson, 2011) argues that theoretical validity is more than description and interpretation of collected data. It clearly embraces the theory used in a study and checks the validity of a researcher's choice of concepts and the context of a study. Data collected should match theories or concepts used in a study (Thomson, 2011:79). A researcher needs to explicitly explain how data is collected and analysed. Auerbach and Silverstein (2003)

call it transparency and Walsh (2003, in Thomson, 2011:80) calls it dependability. This study takes these validity requirements into consideration.

4.5. RESEARCH QUESTION AND SUBQUESTIONS

This study is an empirical investigation that attempts to learn from teachers' classroom practice regarding the implementation of the CAPS, focusing on the framing and classification relationships (in practice) and comparing this to policy (Adler & Reed, 2000b). The main question and sub-questions were outlined in detail in Chapter One.

4.6. DATA ANALYSIS

Data collected was analysed and interpreted using theories and concepts that provided the language of description (Harley & Parker, 1999 in Graven, 2002:22-28). The first analysis was done on curriculum statements, as explained in the data collection methods. Lesson observations focused mainly on framing and classification. Framing focuses on the discursive and hierarchical rules, that is, checking who controls selection, sequencing and pacing of the subject content dealt with during the lesson and whether the rules of evaluation of learners' performance are made explicit or implicit. Hierarchical rules check the extent to which the teacher controls interaction between learners and the extent to which the social relations between the teacher and the learners is formal or informal.

Classification focuses on the relation between different discourses, different topics within discourses and the school code and community code. The first classificatory relationship to be analysed was inter-disciplinary classification, that is, checking if the different subjects under study were treated as singular (strong inter-disciplinary classification) or integrated (weak inter-disciplinary classification) in terms of subject content. To check inter-disciplinary classification, observations were made to see if the educator or the learners use terminology from other subjects, or not, during a lesson.

The second classificatory relationship used to analyse data was inter-discursive classification, as explained in Chapter Two. It was used to check the extent to which the community code is used during the lesson. The third classificatory relationship used to analyse data was intra-disciplinary classification, which checked how different topics within the subject were ordered. Here, different topics taught during observed lessons were checked against the policy document to see if they were scheduled for that time of the year as well as to see if there were any links between those topics. Links between topics, or lack thereof, suggested the knowledge structure of the subject as a discipline. Bernstein (1996) argued that some disciplines are vertically structured, which means that subject knowledge builds up as layers. In those subjects the order in which topics are taught is very important to facilitate understanding. Other subjects are horizontally structured, in which case the order of topics taught does not matter. The last classificatory relationship to be analysed was the strength of the demarcation between spaces used by educators and learners.

The observation schedule or template contained the name of the school, the subject and the lesson number and lesson topic. Below these headings, a table was drawn containing the subheadings framing and classification. Under framing, discursive rules (selection, sequencing and pacing) and hierarchical rules were listed to check how the relationships between the educator and the learners and among learners were negotiated and controlled. A column indicating a choice between the teacher and learners was inserted into this framing table. The researcher ticked under learner or teacher to indicate who controlled what during lesson observation. After a tick, a narrative of the proceedings was written to support the claim made. Under classification, the four categories of classification explained in the above paragraph were listed. Here, examples of statements made by the educator or learners, signifying each category of classification, were written under the heading educator or learner within the comparison table of each category. All observation instruments were audited, analysed and similar codes added up, so as to make proper inferences.

Questionnaire analysis was based on the transcripts, where different learners' responses to each question per subject were collated and then proper inferences made. A similar process was followed when analysing educators' responses to interview questions according to their subjects. In other words, the transcript contains a question and the responses to that question from all teachers of a specific subject. Subject advisors' responses were analysed individually, since the

study involves one subject advisor per subject. Their responses were compared to those of the teacher and learners involved in their subject.

4.7. TRUSTWORTHINESS OF DATA GENERATED

There is a lot of debate regarding the use of the case study as a research method, the main argument being that the study could lack validity because it relies mainly on concrete knowledge as opposed to theoretical knowledge (Flyvbjerg, 2004). Flyvbjerg (2004:422) argued that “conventional wisdom” states that case studies cannot be used for generalizations because they are too context specific, therefore they do not contribute to scientific study and have no scientific value (Dorgan & Pelassy, 1990:121; Diamond, 1996:6 in Flyvbjerg, 2004:420). A detailed report on this ‘conventional wisdom’, which Flyvbjerg calls misunderstandings about case study research, was given in Chapter One (section 1.6) with arguments to dispute them.

Much depends on the type of case study and a carefully chosen and conducted single case study can be used for generalization within a specific context. The research context needs to be well controlled to exclude all other possible factors that might impact on the findings. Extensive research has been conducted around classroom practice both nationally and internationally. Most use case study as the research methodology. Findings from these studies are generalizable because most of them are similar. Examples of such studies are those of Bantwini (2010), Hoadley and Jansen (2009), Parker (2004) and Bernstein (1996). All these researchers used case studies as their research methodology and one can generalize from these individual cases.

In the light of the arguments for and against case studies captured in Chapter One (section 1.6), it can be concluded that although this study does not qualify for generalization, a reasonable inference can be made with regard to the CAPS implementation in South African schools, as the attributes are similar to those researched by others. Danzin and Lincon (2000), Glaser and Strauss (1967), Seale, 2003, Strauss and Corbin (1998) and also Walsh (2003), in Thomson (2011:80), all concur with Seale et al. (2004) when arguing that qualitative research such as case study can be considered as valid, provided all the requirements for a valid qualitative research are met.

4.8. ETHICAL CONSIDERATIONS FOR THE INVESTIGATION

Permission to conduct this research was requested from the district manager, the school principals, subject advisors, subject teachers, parents and learners soon after obtaining the ethical clearance certificate from the university's ethics committee. The ethics clearance certificate was attached to the letter that was sent to UMgungundlovu District seeking permission to conduct research in the schools. This was done for ethical purposes, as research cannot be conducted without the knowledge and permission of all participants. As soon as permission was obtained, all participants signed informed consent forms and data collection began, followed by analysis and finally report writing.

A copy of the letter sent to the district's research office requesting permission to conduct research in different schools was given to all participants together with their informed consent forms. Attached to the school principals' letters was a letter from the district office granting permission. This was done for ethical reasons to show all participants that the study was indeed authentic and that all required procedures were followed. The research instruments are attached as appendices together with the letter requesting permission and the consent forms signed by all participants.

4.9. CONCLUSION

The study is designed as a case study, where observations and interviews were used as the main instruments for data collection. Observed educators were interviewed immediately after teaching five consecutive lessons. Although this study is not designed for generalization, inferences can be made about other schools in the district, since twelve educators from four different schools were observed and interviewed.

CHAPTER FIVE

DATA PRESENTATION

5.1. INTRODUCTION

The processing of data generated through lesson observations, interviews and questionnaires is presented in this section. The transcripts generated from this data give a description of what happened during lesson observations, interviews and questionnaires. Data generated through the NCS and the CAPS documents was processed, analysed and interpreted in Chapter Three. The chapter following the data presentation presents the analysis and interpretation of this processed data. The theories and concepts applied to make sense of the data constructed for this research study are outlined in Chapter Two. Data processing has been done in such a way that the transcripts are a true reflection of what actually happened during data construction for validity purposes, as explained in Chapters One and Four. Analysis and interpretation of data mainly follow Johnson's three categories of validity, although Maxwell's similar understanding of validity is also used. These categories are outlined in Chapter One, section 1.6, and in Chapter Four, section 4.4.

5.2. CODING OF DATA

Data was constructed from four different schools, using three educators per school, each teaching one of the three subjects under study, making a total of twelve educators, three subject advisors (one subject advisor per subject responsible for all four schools) and one hundred and twenty learners (thirty learners per school) who responded to the questionnaire, as explained in the details in Chapter Four. The four schools in this study are coded as school A, B, C and D. The three subjects are coded as shown in the following example: School A, Life Sciences represented as ALS; Business Studies represented as ABS and Engineering Graphics and Design represented as AEGD. The same procedure is followed for schools B, C and D. The educators are represented by their school and the subject they taught. To differentiate the educators' names from those of the subjects, numbers 1 to 3 are used to represent the subject taught. The number 1 represents all LS educators and the letters A to D preceding the number link the educator to his/her school, therefore,

2 = all BS educators and 3 = all EGD educators. This means that LS educators are named as A1, B1, C1 and D1, BS educators are named as A2, B2, C2 and D2 and EGD educators are named as A3, B3, C3 and D3, the letter representing the school and the number representing the subject. The same numbers 1 to 3 without preceding letters are used to represent curriculum documents for each subject for both NCS and CAPS in the intext citation. The dates 2003 and 2011 differentiate the two curriculum documents respectively.

Subject advisors are coded according to their subject numbers, like the educators, but with words instead of figures. Therefore, the subject advisor for LS is referred to as One, BS as Two and EGD as Three. In the teaching context, when learners responded in chorus during a lesson, they were called by their specific subject (for example: ALS learners). When they responded as an individual, they were called learner 1, 2 and so on, depending on the school and subject to which they belonged. Consequently, learners named learner 1, learner 2 and learner 3 belonged to school A; learner 4, up to learner 23 belonged to school B; learner 24 up to learner 49 belonged to school C and learner 50 to learner 80 belonged to school D.

Learners who responded to questionnaires are coded with numbers 1 to 10, because ten learners per subject in each school were requested to complete the questionnaires. To maintain the anonymity of participants, the questionnaires did not have any space for learners' names. When questionnaire responses were collected they were numbered 1 to 10, if all the questionnaires were collected. If less than ten questionnaires were collected they were numbered 1 to the highest number collected. These numbers were preceded with a unique letter to identify the school and the subject. In school A, letters E, F and G were used for LS, BS and EGD learners respectively. The same procedure was followed for schools B to D. Table 4 below clearly shows the coding of all the participants. This table should be read from left to right. Subject advisors were the same for all four schools, therefore their codes are written under the first school only to avoid repetition.

Table 4: Coding of participants

School	Subject	Subject code	Educator's code	Individual learner's code	Group of learners' code	Questionnaire respondents' code	Subject advisors' code
A	LS	ALS	A1	Learner 1	ALS learners	E1-E7	One
	BS	ABS	A2	Learners 2-3	ABS learners	F1-F10	Two
	EGD	AEGD	A3		AEGD learners	G1-G10	Three
B	LS	BLS	B1	Learners 4-8	BLS learners	H1-H9	
	BS	BBS	B2	Learners 9-23	BBS learners	I1-I10	
	EGD	BEGD	B3		BEGD learners	J1-J8	
C	LS	CLS	C1	Learners 24-42	CLS learners	K1-K9	
	BS	CBS	C2	Learners 43-46	CBS learners	L1-L10	
	EGD	CEGD	C3	Learners 47-49	CEGD learners	M1-M10	
D	LS	DLS	D1	Learners 50-73	DLS learners	N1-N9	
	BS	DBS	D2	Learners 74-80	DBS learners	O1-O10	
	EGD	DEGD	D3		DEGD learners	P1-P10	

All lines of the lesson transcripts were chronologically named as a number for the statement and the name of the participant. For example, the first statement made by the LS educator in school A was named as line 1. A1. The same procedure as in LS was followed for both BS and EGD in all four schools.

The four schools are situated within a ten-kilometre radius of each other. In school A, all educators stayed in their classrooms and learners came to them. The LS and EGD learners in this school were taught in specialized rooms. The LS laboratory was originally well designed, but unfortunately the room had been badly vandalized and hardly looked like a laboratory. The same sad situation was true for EGD, so it was taught in a room that was originally designed for dressmaking, because the EGD room could no longer be used due to vandalism. In schools B, C and D learners stayed in their classrooms and educators went to them. Only the LS and EGD learners in schools B and C moved out of their classroom when attending specialized subjects. In school B these rooms were slightly bigger than the normal sized classroom, without any specialized resources. In school C the LS room was designed like a laboratory with big white tables and minimum resources. The EGD room was a normal sized classroom with specialized single desks for drawing. In school D all lessons were taught in normal sized classrooms.

Data from schools A, B and C was constructed during the third term in weeks 5, 6 and 7. In school D the subject advisors data was constructed during weeks 8 and 9 of the first term the following year. School C was visited for two weeks before the commencement of the third term's tests and trial examinations for grade 12. The researcher therefore only managed to observe three consecutive lessons per subject. A detailed account of how data was collected is described in the research methodology chapter (Chapter Four).

There should be sixty lesson transcripts, that is, twenty lesson transcripts per subject, but due to some activities in some schools, certain educators (A1, A2, A3, C2, C3, D2 and D3) were not observed for five consecutive lessons. A detailed description for all constructed data is given in sections 5.5.1 to 5.7.3 below. The data constructed from the twelve educators' interviews is presented in five categories where only the findings were captured. The interview schedules are attached as appendices. The same procedure was followed for the three subject advisors'

interviews and the three questionnaire transcripts and learners' responses per question were collated for each subject. All names used in this study are fictitious to protect the identity of all participants.

5.3. FRAMING AND CLASSIFICATION

In Chapter Six, lessons are analysed using the two Bernstein concepts of framing and classification, as explained in Chapter Two. Framing focuses on the discursive rules, determining who, the educator or the learners, makes choices in the classroom (who is in control) in terms of selection, sequencing and pacing of the subject content. Hierarchical rules focus on the relationship between the educator and the learners and the relationships amongst learners themselves to determine whether these relationships are formal or informal and who controls them.

Regarding framing, all three of the subject advisors stated that all educators are expected to follow the CAPS document. Educators themselves claimed to follow the CAPS document or the departmental guidelines designed from the CAPS document, but the reality of practice did not match their claims. The topics covered in school A for the three subjects were not the same as those covered in school B, although these schools were observed during the same weeks.

Classification, as explained in Chapter Two, focuses on the language used for the subject content in a lesson. Analysis focuses on the inter-disciplinary classification, the inter-discursive classification and intra-disciplinary classification. Classification in these categories can be weak or strong. Weak inter-disciplinary classification means that, during the lesson, any terminology from other subjects is regarded by the educator as a legitimate text. Contrary to weak classification, strong inter-disciplinary classification means that the educator insisted on the use of the correct subject terminology during the lesson. In this case, the educator might substitute words used by learners with the correct term, as happened in BLS where educator B1 in line 27 of the lesson transcript said, "In LS we call sweating perspiration". Normally, when inter-disciplinary classification is strong, inter-discursive classification is strong as well. The educator does not allow the use of general knowledge, known as the community code, in class. The community code is not regarded as the legitimate text in the classroom. The language the educator uses for teaching and what he/she accepts as a legitimate text from learners during the lessons and assessments would

determine whether the inter-discursive code is strong or weak. The consecutive lessons were observed to check the intra-disciplinary classification, as explained in Chapters Two and Four. Where topics were linked, that is, each lesson building on the previous lesson, intra-disciplinary classification was strong. It has been said that intra-disciplinary classification is weak when topics do not link and each lesson is a complete unit on its own, as occurred in ALS. In this case the sequence of the lessons did not matter that much because topics were separated and they did not depend on each other. In BLS, CLS and DLS intra-disciplinary classification was strong because the consecutive lessons were linked.

The demarcation of the physical spaces used by the educator and the learners can be strongly or weakly classified, as explained in Chapter Two, in the last paragraph before Table 1. When demarcation is clearly defined between the teacher's space and the learners' space, then classification is strong. The educator might remain in his/her space in front of the classroom while learners remain at their desks throughout the lesson, as was observed during ALS, ABS, BBS, BEGD, CBS, DBS and DEGD lessons. Communication between the teacher and the learners would normally be formal where each person knew his/her position in the relationship, as was observed in all the above subjects, but unfortunately this was not the case in ALS.

In ALS, although the educator maintained his/her space, the relationship with the learners was very casual. Learners were able to talk among themselves while the lesson was in progress. In BEGD and DEGD only the educators were able to move within the learners' space, with the learners remaining at their desks. Where demarcations of spaces were weakly classified, the teacher and the learners equally shared the space, as happened during AEGD, BLS, CLS, CEGD and DLS. In the aforementioned subjects, learners were allowed or encouraged to come up to the chalkboard and write answers or paste something, and likewise, the educator freely moved around the classroom between learners' desks.

5.4. CURRICULUM DOCUMENT ANALYSIS

In analysing the NCS and CAPS documents, as detailed in Chapter Three, sections 3.4 to 3.7, it is apparent that the two documents are structured differently. While the NCS is competency based, focusing on what learners know and are able to do, the CAPS is performance based (see Chapter Three, sections 3.4 to 3.7). When South Africa became a democracy, the curriculum was radically changed, as discussed in Chapter One. The CAPS is similar to this earlier curriculum that was content based, although CAPS values active learner participation through collaborative learning and continuous assessment. Subject content is also explicitly specified grade by grade and projects and practical assessment tasks contribute towards the continuous assessment mark per term. The last week of each term is allocated for the term's formal assessment tasks in each subject.

The NCS does not explicitly specify the content to be taught per subject and grade. Thus, the demarcations between the school code and the everyday code becomes blurred due to the fact that indigenous knowledge is valued equally with school knowledge (school code means the specialized language or discipline terminology) (Taylor et al., 2003). Bernstein (1975) calls it an elaborated code, while Holland (1981) refers to it as a code that develops context-independent meanings. The community code is the opposite of the school code in the sense that it is restricted because it is context-dependent. This does not mean that the community code is inferior to the school code, but they are used for different purposes, as Bernstein stated. While the community code emphasizes the common-sense knowledge of everyday life, the school code “reveals differences from, rather than commonality... it means that your educational identity and specific skills are clearly marked and bounded” (Bernstein, 1975: 81).

During the NCS, educators had to plan lessons that were context based, so that learners could identify with what they were learning in schools. Knowledge learnt at school had to be concrete and practical instead of being abstract and theoretical (Hoadley & Jansen, 2009:173). After 1994 power and control over the curriculum was removed from curriculum designers in order to change it from being a blueprint curriculum that prescribed to educators the teaching and assessment content schedules and methods to a curriculum that was learner-centred allowing for democratic

decision-making. Power and control was given to learners in the classroom because they decided the subject content, sequencing and pacing (Hoadley & Jansen, 2009:174).

This arrangement soon proved to be a disaster because the country was not ready in terms of both human and material resources. The majority of schools were overcrowded and the majority of educators were unqualified, under-qualified or not suitably qualified for the subjects that they were teaching (Harley & Wedekind, 2004; Sayed & Jansen, 2001; Hoadley & Jansen, 2009). The department of higher education stated that, “teachers have poor content and conceptual knowledge” (DHET, 2011:8). Plainly put, this meant that South Africa did not have enough subject specialists who were adequately prepared to facilitate learning, as envisaged by the NCS. This resulted in major implementation challenges, a problem that still seems to persist because the teachers’ content gap was counted as one of the contributing factors to the comparatively low matric pass rate in 2014 (Motshekga, 2015).

Currently, curriculum reviews seem to be going back to a blueprint curriculum that is content led and designed by experts rather than the stakeholders, as noted by Hoadley and Jansen (2009:173). The curriculum policies, specifically the CAPS, specify the content to be taught within stipulated time frames and how it should be assessed (DBE, 2011c:4). Power and control is given back to the curriculum designers who are experts in their subject discipline. This is in line with Bernstein’s classification values and Hoadley’s interpretation of them. The CAPS are therefore strongly classified because educators are told what to teach, when and how to teach and assess, that is, they follow the curriculum statements as they are without interpreting them.

5.5. DATA GENERATED THROUGH LESSON OBSERVATION

Data constructed through lesson observation was collated per subject and presented under the following five categories: lesson context and duration; lesson planning; topics covered; educators versus learners’ activities; and teaching strategies predominantly used. Life Sciences data from all four schools was processed first under each category, followed by BS and, lastly, EGD. Verbatim lesson transcripts are not included in this chapter, but safely kept for verification purposes and for inclusion in the discussion of the findings.

5.5.1 Lesson context and lesson duration

The LS and EGD in schools A, B and C were taught in the classrooms that were supposed to be the LS or EGD laboratories., These classrooms were slightly bigger than the normal sized classroom, but unfortunately they did not have the required resources such as chemicals, glass beakers and burners for LS or cupboards for both LS and EGD. In school D all lessons were taught in normal classrooms, as explained. The LS educators in all four schools could not conduct the practical lessons and they relied on outside help. Lessons in BS in all four schools were taught in normal sized classrooms. In schools A, B and C desks were arranged in groups of three to accommodate six to nine learners per group. In school D desks were arranged in rows facing the chalkboard and learners sat in pairs for all lessons.

The EGD rooms in the four schools were varied. In school A the room was bigger than a normal classroom with eight white, long, low desks that were fixed to the ground and arranged in rows, four desks on either side of the room. There were cupboards along the side and the back walls. In the front of the classroom, in front of the chalkboard, there was a higher desk for the educator. This room was originally designed for dressmaking, but was used for EGD. In school B, the EGD room was bigger than the normal classroom (a double classroom) with single desks arranged in rows that were far apart. The room looked like an examination venue. A store-room/office was located just inside the room, next to the door, where all EGD learners' boards and files were stored, as everything was kept at school and learners did not take their EGD bags home. In school C, EGD was taught in a normal sized classroom with specialized desks with raised tops to facilitate drawing. Although there were chairs in this classroom, learners stood throughout the lessons. There was no particular order in the arrangement of desks, which were scattered around the classroom. When learners entered the room, they moved the desks and stood wherever they felt comfortable. In school D, EGD was taught in a normal classroom with desks traditionally arranged in rows facing the chalkboard.

Lessons in school A were 55 minutes long, 45 minutes long in school B and one hour (60 minutes) long in schools C and D. Educator A1 used less than 25% of the fifty-five minutes, therefore more than 75% of the ALS time was wasted. Educators B1, C1 and D1 used the allocated times

effectively. In ALS, learners relied on notes given by the educator and textbooks were not in evidence. In BLS, learners were given handouts that were photocopied from textbooks and study guides. In CLS and DLS, learners shared textbooks.

In ABS, CBS and DBS, learners shared textbooks and BBS learners relied on photocopied handouts from a textbook. The researcher did not see any EGD textbooks and saw only photocopied activity handouts in BEGD. In AEGD, educator A3 wrote activity instructions on the chalkboard, while in CEGD and DEGD educator C3 and educator D3 gave verbal instructions as they demonstrated what learners were expected to draw. Educator C3 used a laptop and a projector to demonstrate, while educator D3 drew on the chalkboard to demonstrate different steps to be followed and drawn by the learners.

In the use and management of time, a similar pattern was observed in different schools in both BS and EGD. Even though there were similarities, the actual activities within different classrooms differed greatly. While educators A2, A3 and B3 did not say much in their classes, educators B1, B2, C1, C2, C3, D1, D2 and D3 did a lot of talking, although their teaching strategies were different.

It became apparent that the four schools were not located that far apart, despite the fact that they belonged to the same district and were serviced by the same subject advisors, and yet, activities within these schools differed greatly. Firstly, lesson duration differed, yet the CAPS documents specify time allocation per subject and grade, guidelines which these schools are supposed to follow. Secondly, furniture arrangements differed from school to school and subject to subject, even within the same school, as in schools A, B and C. Finally, the presence and the use of textbooks differed from school to school, as explained above. The national DBE official, when interviewed after the Limpopo textbooks saga (see Chapter Three, the last paragraph on page 64), insisted that each learner should have a textbook for each subject right from the beginning of each year, and then each school should come up with a strategy to collect all textbooks at the end of each year. However, schools appear to have different strategies, as explained above. It was not clarified whether schools have a shortage of textbooks or if they are trying to safeguard the textbooks they have by sharing or making copies.

5.5.2. Lesson planning

Educators' files were not perused, therefore, no evidence of written lesson plans was seen across all the subjects in the four schools. Educator's preparedness, or lack thereof, for each lesson could only be inferred from the way the lesson was conducted. Comparatively, the LS educators, with the exception of educator A1, seemed to be better prepared than the BS educators. In EGD it was difficult to tell, because not much teaching took place. Even though educator C3 and educator D3 seemed better prepared than educator A3 and B3, they did not teach any theory behind the drawings learners were expected to draw. Additionally, learners were not told when or where a particular drawing could be used.

All three of the subject advisors stated that when they visited schools, they checked the educator's files against learners' workbooks to see if the educator was up to date. It was puzzling how this crosschecking was done, because the researcher did not see any educator recording what was done or dating the work schedule.

5.5.3. Topics covered (selection, sequence and pace)

The following topics were covered in ALS: Photosynthesis, Deforestation, and Human nutrition. Selection, sequencing and pacing of these topics was not clear until A1 explained during his interview that all his choices were informed by the test that was due the following week. It was disturbing to note that these topics, according to the CAPS, belonged to the grade 11 syllabus and not the grade 10 one. The ALS learners were therefore taught topics that were not part of their syllabus and the CAPS recommendations were totally ignored.

In BLS the following topics were covered: Transport system in mammals (human), Effects of exercise in heartbeat rate, Lymphatic system, Cardiovascular diseases, Environmental studies and South African biomes. All these topics belonged to the grade 10 term three syllabus, according to the CAPS, but the weeks in which they were covered did not match the CAPS. The topic Transport system should have been done during the first three weeks of the third term, but educator B1 revised them in week five. Educator B1 explained that this topic had been taught during the first four weeks of the third term by a student educator doing teaching practice. Educator B1 claimed

that the revision was done to fill in gaps that might have been left by the student educator. Therefore, educator B1 was indeed following the CAPS but had deviated from the work schedule and re-taught a topic to satisfy the identified learners' needs.

In the CLS the topic Environmental studies: biosphere to ecosystem, which corresponded with what the CAPS specified for weeks four to nine, was covered. Therefore, educator C1 was indeed following the CAPS as claimed during their interview.

School D was visited during the first term of the following year. In DLS the topic Chemistry of life: molecules for life, which also corresponded with the CAPS specifications for the first term in grade 10, was covered, but the week numbers did not match. School D was visited during the weeks eight and nine of the first term, but the work being covered had been allocated for the first three weeks of the term, according to the CAPS. Therefore, educator D1 did not follow the work schedule, but claimed to be following the CAPS during the interview.

The LS subject advisor (One) emphasized that educators are expected to follow the CAPS and claimed that all LS educators are given a work schedule combined with the annual assessment plan, indicating the topic for the week, the planned date, the completion date and informal and formal assessment tasks to be given per term. This work schedule and annual assessment plan is designed to make the educators' work easier. Educators are expected to enter the completion date against each topic, tick the informal tasks given and date the formal assessment tasks done.

If all educators used the schedule and the assessment plan provided by the subject advisor, then all schools should cover the same topic during a specific week. Unfortunately, this was not the case in the schools that were observed, the worst scenario being in school A. Three LS educators (B1, C1 and D3) tried to follow the CAPS, while educator A1 did not know anything about the CAPS and thus did not follow it. To avoid such incidents, schools should notify subject advisors when there are changes in their subject educators. Perhaps the subject advisors could help the new educator to ensure that learners are taught the correct content for their grade each term.

In ABS, a topic called Business plan was covered during week five of the third term. According to the CAPS, this topic was supposed to be done during weeks seven, eight and nine of the third term. Perhaps that educator (A2) was two weeks ahead, or, was not working according to the CAPS, an assumption that was confirmed by educator A2 during the interview. This educator claimed to be following his/her own plan because of not understanding the CAPS. Educator A2 argued that curriculum changes were confusing, causing educators to lose their confidence and further argued that educators were not given enough time to adjust to new curriculum changes. Compounding the problem was the fact that schools rotated educators on a three-year cycle to ensure that all subject educators get a chance to teach grades 10, 11 and 12. As a result, educator A2 did not attend the grade 10 CAPS workshops when they were conducted, because at that time this educator was not teaching grade 10. Information gaps like this could be prevented if all educators teaching a particular subject could attend the CAPS workshops, irrespective of what grades they are teaching at that time.

In BBS the topics Contracts and Presentation of business information were covered and corresponded with work scheduled for weeks five and six, according to the CAPS. Therefore educator B2 was following the CAPS document.

In CBS, the topic Contracts was being covered when school C was visited during week seven, but in accordance with the CAPS, was supposed to be done during week five. It is possible that educator C2 was two weeks behind the work schedule, or, was not following the CAPS, as claimed.

In DBS, the topic Market environments and elements of microenvironments, which was scheduled for week four in term one, according to the CAPS, had been done. School D was visited during term one in week eight. This could mean that educator D2 was four weeks behind the schedule, or that he was not following the CAPS document.

In AEGD, educator A3 covered the topic True shapes, namely, right-regular prisms, when school A was visited during weeks five and six. According to the CAPS, this was term three's work for weeks one to three. This could mean that educator A3 was four weeks behind schedule, or was not following the CAPS document.

In BEGD, topics were not mentioned because the learners were busy with a number of drawing activities. According to the CAPS, the topic Descriptive geometry should have been done in weeks four and five and Civil drawings in weeks six to eight, which educator B3 had not taught yet. School B was visited during week five and six, therefore, educator B3 was not following the CAPS.

In CEGD, educator C3 covered Perspective drawing: one point perspective drawing of castings, dwellings and civil structures. This educator listed all the drawings they had done since the beginning of the year to remind the learners and covered the work for weeks eight to ten, according to the CAPS, which could mean that he was a week ahead of schedule, or was not following the CAPS.

In DEGD, educator D3 covered the topic Inscribed circle and ascribed circle, where learners were taught step by step how to draw these circles. According to the CAPS, these circles were part of the Geometrical construction topic, which was the main topic for weeks six to ten in term one. Thus, educator D3 was indeed following the CAPS document, although the main topic Geometrical construction was never mentioned during the observed lessons.

In considering the topics that were covered by the educators during data construction, it became apparent that not all educators followed the CAPS, but they all concurred that they were following the CAPS. Lesson observation showed that educators A1, A2, A3, B2, B3, C2, C3 and D2 were not following the CAPS.

5.5.4. Educator versus learner activities (framing relationships)

In the ALS class, educator A1 did most of the talking, dictating notes or explaining notes as he/she wrote them on the chalkboard. Learners were mainly taking down notes, complaining about illegible writing on the board, inaudible words or different topics done within a double period. Most of the time during the lesson, learners were talking among themselves. The relationship between educator A1 and learners was informal, almost casual. Learners kept talking to each other during the lessons and this educator was not concerned about this at all. Handwritten notes from an exercise book or a piece of paper were mainly used for teaching and learning.

During BLS, relationships were formal and educator B1 was in control for the duration of the lesson. Learners were only allowed to talk when answering questions and educator B1 would substitute their words with the correct LS terminology. When learners came in late, they had to stand in front of the class until they were given permission to sit down. The educator controlled the relationship between the learners, because during group work learners were told where to sit and what to discuss. Learners were expected to be quiet while doing individual tasks, and when caught talking they were reprimanded. Photocopied handouts and charts were mainly used for teaching and learning in this class.

In CLS relationships were formal, but rather more relaxed when compared to BLS. Learners were actively involved in their learning and educator C1 gave them more opportunities to be active both inside and outside the classroom. Textbooks, dictionaries and charts were extensively used in this class. Learners did all the required reading and educator C1 only explained and filled in the gaps in the learners' answers. Similar to educator B1, educator C1 also emphasized the use of the correct LS terminology.

The relationships in DLS were relaxed to the extent of being informal, but not in the same way as in ALS, where relationships were casual. In DLS learners were actively involved and they did a lot of talking within the subject context. Educator D1 used a number of practical examples, which were later linked with the subject content where correct terminology was used. No specific textbook was used in class and notes were generated from class discussions, educator D1 writing the correct terms on the board.

In ABS the relationships were formal, with learners expected to take instructions from the educator. Learners were told what to do, how and when to do it. They shared textbooks that were distributed during the lesson and collected at the end of the lesson. This differed from CBS and DBS, where shared textbooks were issued at the beginning of the year and collected after the final examinations. In BBS, learners were issued with handouts photocopied from a book. In all the BS classrooms, the relationships were formal and learners referred to their educators as sir or madam and educators referred to individual learners by name or to the class as grade 10 C.

In schools A and C in EGD, relationships were not formal and learners were allowed to move around. However, in school B relationships were very formal and the classroom was arranged like an examination venue where learners were expected to sit and work quietly on their own. In school D relationships were not as formal as those in school B, but learners were either very shy or afraid to talk in class and they whispered their answers in chorus. It was not established why these learners behaved in this way. Educator D3 was relaxed and projected his/her voice well when explaining while demonstrating what needed to be done.

Overall, educators seemed to dominate classroom activities in terms of selection, sequence and pace. Generally, educators talked more than learners in all subjects and schools, making the lessons teacher-centred. In EGD, although learners were busy drawing, they were not actively involved cognitively, and were merely following the educator's instructions. In BEGD, learners worked independently, but they were not allowed to share ideas, knowledge and skills. The BEGD lessons resembled examinations, with the educator moving around like an invigilator.

5.5.5. Teaching and learning strategies predominantly used in the classroom

The classroom strategy of Educator A1 during ALS was mainly the chalk and talk teaching method. He either wrote and explained the notes or dictated and explained the notes from an exercise book or a piece of paper. Teaching and learning was teacher-centred, with learners not contributing anything towards their learning. Educator B1, by comparison, employed a variety of teaching strategies during his lessons. He normally started the lessons with direct instruction or questions and answers. This would be followed by pair work, small group work and, lastly, class discussion and research. This educator led most class discussions, insisting on the use of correct LS terminology. Learners were actively involved in their learning, but under controlled conditions. Both educators C1 and D1 used collaborative learning most of the time. They used direct instruction, mainly to fill the gaps or tell learners what to do, when and how. Therefore, in BLS, CLS and DLS, both teacher-centred and learner-centred teaching and learning were used interchangeably, while in ALS learning was teacher-centred.

In ABS, teaching and learning was learner-centred because learners did most of the work. For example, although learners learnt collaboratively, each learner was expected to come up with their own business plan for their unique business venture. Educators B2 and C2 used similar teaching strategies, where learners or the educator read from a book or handout, after which the educator explained what was read in the vernacular instead of English (the official language of learning and teaching or LoLT). The difference between these two educators was that B2 gave her learners activities to do, first in pairs and thereafter individually. These activities were marked in class where the educator worked out solutions together with the whole class. In contrast, educator C2 asked learners to read from the textbook and then she explained what was read in the vernacular throughout the observed lessons. Educator D2 differed from the other three BS educators in that he only used the question and answer method. If learners were unable to answer a question, this educator answered his own question by explaining the term with examples. The DBS lessons seemed like revision lessons because learners were asked to define a number of BS concepts.

In EGD, educators A3, C3 and D3 taught their learners by step by step demonstrations of the drawings they were expected to draw. There was no theory behind what needed to be drawn, only the concepts used when the names of the drawings were being explained. Learners learnt through drawing tasks in all EGD lessons. They all responded in chorus, saying yes miss/sir or no miss/sir. Educator B3 did not even demonstrate or explain drawing tasks, but merely walked around the classroom checking what the learners were drawing.

Considering the teaching and learning strategies that were predominantly used in all four schools, collaborative learning seemed to work better than direct instruction. Learners seemed to enjoy their lessons more when they were expected to discuss in small groups, conduct individual research and share ideas in class. In ALS, where a chalk and talk strategy was used, not much learning took place. Learners were disengaged and uninterested in their learning and as a result they kept talking among themselves throughout the lessons.

Educator's qualifications and teaching experience seemed to impact greatly on how lessons were conducted, especially in LS. The unqualified and inexperienced educator (A1) really struggled and ALS learners were greatly disadvantaged, as explained earlier in this chapter. The qualified and

experienced educators (B1, C1 and D1) conducted their lessons well and learners seemed to enjoy collaborative learning. Even though these three educators, B1, C1 and D1, used similar teaching and learning strategies, their initial qualification had a clear impact. They had been LS specialists from the beginning of their tertiary education. In their lessons they emphasized the school code more than the community code, as explained in Chapter Two. Only educator D1 had not specialized in LS during his/her initial teacher training and, as a result the community code dominated during the DLS lessons. Fortunately, he/she introduced and emphasized the correct LS terminology afterwards.

In BS, educators mainly used the question and answer method, especially educator D2. Educator A2 also used question and answer, but this method was combined with research and small group work. Educators B2 and C2 assumed the role of being an interpreter, especially educator C1, with whom learners were asked to read from the textbook and which was then interpreted in the vernacular. Educator B2 included other strategies such as group work and class discussion.

In EGD, demonstration was the main method used by educators, especially educators C3 and D3. Educator A3 used demonstration minimally, and reverted to individualized teaching. Educator B3 did not use any clear teaching strategy, except moving around like an invigilator.

5.6. DATA GENERATED THROUGH INTERVIEWS

Four educators per subject were interviewed. These educators were named according to their schools and subjects. Educators from school A were named educator A1, A2 and A3 when their subjects were discussed and the same coding was applied for educators from schools B, C and D. The number 1 stands for LS, 2 for BS and 3 for EGD, as explained above.

5.6.1. Life Sciences educators

Biographic profile

When educators were asked why they became educators, two out of four (B1 and D1) said they were compelled by their parents to become educators. Therefore, fifty per cent of the Life Sciences

educators who participated in this study did not want to be educators. The remaining two (A1 and C1) stated that they loved teaching. Unfortunately, one of them (A1) was still studying, but their reasons for choosing teaching were slightly similar in that educator C1 wanted to impart knowledge to learners and help them to develop so that they would be successful in life, while educator A1 wanted to make a difference in another person's life. Detailed responses to interview questions are attached as appendices for all three subjects.

Qualifications

When the educators were asked where and when they did their teacher training, their responses varied widely. Educator A1 was unqualified and still doing his second year of B Ed through distance learning. Educators B1 and C1 were initially qualified as subject specialists, though educator C1 had a degree and educator B1 had a diploma. Educator D1 was initially qualified as a primary school educator with a diploma, but she obtained a teaching post in a secondary school as a LS educator. Then, realizing that she needed to improve her qualifications to match her post, she enrolled for an Advance Certificate in Education (ACE), specializing in Life Sciences. Therefore, it can be said that seventy-five per cent of these Life Sciences educators were subject specialists.

Being a Life Sciences teacher

Teaching experience of Life Sciences educators in their current schools ranged from one month to twenty-four years. The same pattern was observed regarding their total experience in teaching the subject to grade 10 learners; it ranged from three years to twenty-nine years. When teachers were asked if they were currently teaching any other subjects, seventy-five per cent of LS educators also taught other subjects such as life orientation, English, mathematics and natural sciences. Qualified and experienced educators seemed to have no problems in integrating LS and other related subjects. Seventy-five per cent of LS educators chose to teach the subject because they specialized in it and they enjoyed teaching it because of its practical component (in the sense of being applicable to learners' daily lives). Others were propelled into teaching this subject because of their experiences in learning it. A passion for teaching LS came from different sources. Educator

D1 wanted to correct the mistakes that were committed by her own teachers while learning LS; educator C1 wanted to pass on the pleasures of learning this special subject.

The main concern for all LS educators was the lack of resources in their schools for the practical lessons. Out of the four schools that participated in the study, two (A and C) had classrooms that looked like a LS laboratory, but in school C resources were limited. In school A, the laboratory was badly vandalized and electrical wires in plug points were left hanging out and shelves were broken. In school B, LS was taught in a double sized ordinary classroom and in school D, LS was taught in a normal sized classroom. No practical lessons were conducted in any of the four schools, due to lack of resources.

Only creative and dedicated educators (from schools B, C and D) organized for people from the Programme for Technological Careers (PROTECH) to come and show learners how practical lessons are done. PROTECH tutors brought their own resources to demonstrate practical lessons to learners and gave them tasks to do. Marks from these practical tasks were recorded as the practical mark. In school A, grade 10 LS learners did not do practical lessons and the educator did not say anything about practical marks.

Selection, sequencing, pacing and assessment

When educators were questioned about their selection, sequencing, pacing and assessment of the content taught during lesson observations, all qualified educators (B1, C1 and D1) agreed that their learners did not have a choice in what to learn, when to learn and how to learn. They all claimed to be following guidelines from the Department of Basic Education taken from the CAPS document. According to the three educators, the guidelines specify the number and type of formal and informal assessment tasks that need to be done each term. They felt that it is important for learners to be told what to expect during assessment and to be given feedback after assessment. The unqualified educator (A1) did not follow any departmental guidelines and only taught towards the test. This was understandable because he/she had only been at this school for a month, therefore his/her selection of content was a response to the assessment demands.

When it came to marking assessment tasks, educators (B1, C1 and D1) agreed that they needed to mark according to the memorandum, though they might not penalize learners for wrong spelling or grammatical mistakes. However, learners were expected to use the correct terminology when writing assessments. This expectation was firmly emphasized in grade 10 to ensure that learners are used to this by the time they reach grade 12. Educators agreed that to be good at Life Sciences one needs to love and be committed to the subject, be willing to consistently work hard and to read broadly. They said LS is a demanding subject with a lot of work and it has its own language that must be mastered before excelling in the subject. Educator A1 could not comment much on this question because he/she had taught at the school for only a month.

Curriculum change

When educators were asked to explain their understanding of the recent curriculum changes in the LS curriculum, their responses varied greatly. Educator D1 claimed to understand everything about the CAPS because she had attended a two-day workshop. According to her, this workshop was conducted by an excellent, well-prepared subject advisor, who gave them all the relevant documents and explained all the requirements for the CAPS. She recognized that there is new terminology and that some topics are re-arranged. Educators B1 and C1 concurred her on this point. Educator A1 did not have much information regarding the CAPS and stated that the NCS is simple, but some topics had been added in the CAPS. Educator C1 argued that change could be difficult at times, because it is not easily accepted in life generally. She further argued that change needs to be understood and it is developmental. The noticeable major changes were in the assessment task and educator B1 agreed with this point. Educator B1 further explained that formal summative assessment had changed from two examination papers to three, the third paper being the practical assessment task. Regarding content, educator B1 concurred with the other educators (C1 and D1), saying that it was just a mere shifting around of topics, but differed from C1 and D1 in stating that those topics had not only shifted within a grade, but from grade to grade. This did not make any sense to him because learners were expected to do the same subjects throughout the FET phase. Therefore, for him, it did not matter whether the topics were taught to grades 10, 11 or 12 learners. Educator B1 thought that the introduction of the practical assessment task was a good thing, but only under ideal situations. He explained further:

If we look at our schools we have challenges regarding facilities. Whoever planned this (CAPS) did not first address problems/challenges regarding facilities/resources in schools. Many schools do not have electricity or resourced LS laboratories to conduct practical work. There are a number of no fee schools and when we look at the norms and standards allocations given by the Department of Education, they are ridiculous. How can an educator do his best under such trying conditions? Educators try to improvise here and there but they cannot always keep on improvising. Educators lose focus and pace in the classroom while trying to find this and that.

When educators were asked what the differences were between the NCS and CAPS, again their views differed. Educator A1 said he was not aware of any changes because he did not attend any CAPS workshops. Educator D1 said there were not so many changes, but rather a re-arrangement of topics; educators still taught and assessed learners. Educator B1 said he had not yet grasped what the difference was between the NCS and CAPS, but emphasized that assessment had changed. Grade 10 learners were now expected to do practical assessment, which was not the case previously. Educators B1 and C1 agreed that the major difference was in the assessment tasks.

In answering the question on the purpose of the curriculum change, educators' responses were varied. Educator D1 thought it was to improve the curriculum, arguing that the re-arrangement of topics, especially in grade 12, was helpful because critical topics were taught early in the year while learners were still eager to learn. It also gave educators a chance to partner with relevant institutions like clinics to obtain suitable resources while they still had time. Educator A1 thought that perhaps the DBE was trying to improve something, but he was not sure what. The difference educator A1 noticed in the NCS curriculum was the drop in pass requirements. It had been reduced to 30%, which to him/her did not make sense. Educator A1 hoped that the DBE would not decrease pass requirements further, because he/she believed that the lower pass percentages discouraged learners. Educator C1 thought the purpose was to develop South African learners, because the DBE had perhaps seen a gap in learners' knowledge and further argued that perhaps they (DBE) wanted to ensure that learners were equipped in the same way, irrespective of their background.

Educator B1 stated:

Frankly, other than political, I do not know (a long pause)... in one or two words it is a drawback because the playing field has not been levelled yet. Had they created a fertile ground for it...they should have invested time and said at this time we want to introduce this and made sure that everything is ready for implementation. Learners need to be given proper practical work in order to get a fair chance in life. This problem has been going on for too long.

Educator C1 said:

Well, at this time we live in a period of change. These changes have taught us to adapt to change within a very short space of time. NATED 550 to OBE and the rest, but then again in some sectors there is a feeling that the period given to change is too short and a new change is introduced, which make educators not embrace it and become skeptical.

Educator B1 further argued:

Why change now while still adapting to the previous change. The training of educators, I won't say that it is a fair amount of time given to workshop educators. If it takes three to four years to train an educator, but these workshops takes a day. These things have negative effect on educators especially those who were not dedicated tended to be demotivated.

Educators were asked how the new curriculum reform had impacted on their current teaching and assessing practice. Educators B1 and C1 noted that it had had a positive impact because educators were kept on their toes. Educators now needed to prepare well, check different books and collect all suitable resources before going to class. Educator A1 stated that the majority of what was found (content) in grade 12 was now found in grades 10 and 11. He/she further argued that perhaps the DBE wanted to make grade 12 easier, since it reduced the grade 12 workload. Educator D1 said nothing much had changed. Agreeing with educator D1, educator B1 said he did not think that there were major changes, saying it was a change that one could live with, though there were challenges.

The LS educators knew the importance of being a subject specialist. Educators B1 and C1 were initially qualified as LS specialists. Educator D1 saw the need to improve his/her qualification soon after his/her appointment as a LS educator to match his/her position. He/she then studied and obtained a qualification in LS. Educator A1 was still studying towards a qualification, specializing in LS. All LS educators, except educator A1, were experienced in teaching LS and they saw their subject as unique. For this reason, learners were expected to know and use the correct subject terminology all the times. Regarding curriculum change from the NCS to the CAPS, LS educators did not understand the purpose of the change, but they all (except educator A1) claimed to be using the CAPS in their teaching. Therefore, it was understood that decisions regarding content selection, sequencing and pacing were regulated by the CAPS.

5.6.2. Business Studies educators

Biographic profile

When four Business Studies educators were asked why they had decided to teach, one of them, B2 laughed and said she had actually wanted to do something else, but because of a financial crisis at home she had decided to choose teaching as a stepping stone until her problems were resolved. Educators A2, C2 and D2 had wanted to be educators, although their reasons were varied. Two of them (C2 and D2) chose teaching because they like interacting and communicating with other people. Educator A2 said he wanted to make a change in learners because he believed that “it was important for people to have knowledge and knowledge does not come from anywhere, it comes from books”. He further argued that books cannot interpret themselves and they need a “special someone” who can teach and assist learners to make them better people.

Qualifications

Out of the four BS educators that were interviewed, educators A2, B2 and C2 had a four-year degree, specializing in commercial subjects, but not necessarily BS as a school subject. Educator D2 had initially qualified with a primary school diploma. He/she later upgraded the qualification

with a Further Diploma in Education, specializing in business economics, after he/she was appointed as a BS educator in his/her current school.

Being a Business Studies educator

Teaching experience of the four BS educators in this study ranged from four to twenty-five years specializing in teaching BS. Educators A2, B2 and C2, except D2, also taught other subjects within their learning area such as accounting and economics and management sciences (EMS) to grades 8 and 9. All three educators (A2, B2 and C2) were teaching BS because they had done business management (BM) as one of their major subjects at a university. Unfortunately, they all felt that studying BM did not prepare them well for teaching BS, because the two subjects, BM and BS, did not focus on the same aspects.

Educators A2, B2 and C2 concurred that when they began teaching in schools, they had to study BS. They read BS learner books because BS was totally different from what they had learnt in BM. Furthermore, their experience in learning the subject at university level differed greatly with what they were expected to teach at school level. Educator D2 did not share their experience because he/she had not specialized in BS during his/her initial training as an educator, but only specialized later. He/she claimed that the experience in learning the subject had been a pleasant one because his/her economics high school background served as a foundation for studying BS at university level.

Apparently, all four educators (A2 to D2) enjoyed teaching BS because of its applicability to learners' lives. They all claimed that their learners in grade 10 could start to participate in the business world. Learners of BS could open their own informal businesses and start implementing the business principles they were learning. All BS educators viewed their subject as challenging because it entailed a lot of work and some sections were too long and boring. They argued that the CAPS had moved some topics from upper grades down to grade 10. Educator D2 complained that educators were also expected to give learners a lot of assessment tasks, for which learners needed to use correct BS terminology instead of their own understanding. All BS educators seemed to feel that they were expected to do more work than before.

They believed that BS linked well with subjects like accounting and economics and differed mostly from LS. All BS educators hoped that their capable learners would pursue careers in the EMS area and those learners who were not academically strong could become successful business people. Educators were already encouraging learners to get involved in the business sector and earn some form of income.

Selection, sequencing, pacing and assessment

Educators B2, C2 and D2 agreed that the SB CAPS document informed their selection, sequencing, pacing and assessment of the content taught during lesson observation. Educator A2 claimed to follow his/her own plan, because there were no external examination papers in grade 10, therefore he/she taught “whatever”. The fact that educators’ practice in the classroom was guided by policy meant that learners had no choice in what to learn in class and when, nor on how assessment was done. Learners could only ask questions for clarity, and then the learning pace could be slightly altered to cater for their needs. Educators could even re-teach a particular section if learners showed confusion or misunderstanding. Otherwise, educators claimed to be doing everything in the classroom according to policy (CAPS).

According to educators B2, C2 and D2, what made a learner “good” at BS was being able to relate content learnt in class to real life situations. Educator A2 said “a good learner needs to believe in him/herself; be interested in business; be a good listener and a creative thinker”. Among the educators it was believed that learners found BS easy, especially those who love the subject. “Lazy” learners found it difficult because they did not learn their work in preparation for the assessment. This was evident in greatly fluctuating assessment marks. Overall, all four educators saw BS as an average subject in terms of the level of difficulty. It required learners to work consistently and be passionate about business.

Educators’ planned assessment tasks for the work covered during lesson observations differed greatly, although observations of educators A2, B2 and C2 took place towards the end of the third term. Educator B2 planned to do revision work and train learners how to answer essay questions, because they seem to have a problem with those questions. Thereafter, his/her learners were going

to write a class test and a control test in September. Educator A2 planned to mark the business plan that the learners wrote during the lesson observation. The use of a rubric was intended to check that learners covered all the important aspects of a business plan. Educator C2 said the section covered would be assessed in the trial examination and educator D2 claimed to give learners written or oral tests every Friday.

Regarding assessment, all educators claimed that their learners were made aware of what would be assessed, and how and when it would be done to ensure they were well prepared for their assessments. The differences were on how learners' were prepared. Educators B2 and C2 said they openly told their learners which topics were going to be assessed in a test. Educators A2 and D2 said they indirectly informed their learners what would be assessed in a test. Educator A2 said he gave his learners the marking rubric, but some learners did not realize its importance and so never looked at it. Educator D2 said he normally told his learners that some of the questions asked in class would appear in the test. His argument was that this practice would keep learners attentive throughout the lessons.

When it came to marking assessment tasks, educators' views were somewhat contradictory. Educators A2 and D2 claimed to accept general knowledge as correct, as long as it was related to the topic assessed. Educators B2 and C2 opposed this notion, arguing that learners were expected to use the correct terminology when writing external examinations in grade 12. Consequently, penalizing general knowledge in grade 10 could train learners and be advantageous in their preparation for writing the grade 12 examinations.

Curriculum change

Educators A2 to D2 understood the changes that had happened in the BS curriculum as the mere shifting of topics from grade 11 to grade 10, thus increasing the workload for grade 10. Educators did not notice any difference between the CAPS and the NCS except that the CAPS had increased the workload for grade 10. Educator D2 noted that the CAPS had detailed guidelines that require educators to do a lot of work within a short time.

When educators were asked about the purpose of curriculum change, educators A2, B2 and C2 did not know why the curriculum had been changed. Educator B2 said, “maybe they (DBE) are trying to get a better one”. Educator A2 felt very bad about the curriculum change, arguing that it was confusing and claiming that he/she was beginning to understand the NCS and now was lost and did not know what he/she was doing. He/she complained that the workshops organized by the DBE were conducted late, after educators had made a lot of mistakes, saying, “we are just trying out... we are lost”. Educator D2 seemed to be confident in knowing the purpose of the curriculum change by stating:

Initially when we attended CAPS workshop we were told that the information in the NCS was not enough. It was not helping learners to get employment... a research was conducted that showed that learners lack relevant information. So now they are removing what is not needed and adding what is important.

When all BS educators were asked how the new curriculum reform had impacted on their current teaching and assessment practice, their responses were varied. Educators B2 and C2 said they still taught and assessed in the same way, while educators A2 and D2 were very frustrated. Educator D2 complained about the length of the syllabus and number of assessment tasks that had to be done:

The syllabus is now too long. You have to assess learners while continuing with the schedule, which is frustrating.

Educator A2 stated:

It (CAPS) caused a lot of confusion and I have lost confidence in myself as a teacher. There was no clear explanation about this... I do not understand this change... I am confused.

All BS educators were subject specialists, as explained earlier. They all complained about additional work they were expected to do since the CAPS had been introduced. This confirmed the point raised by the BS subject advisor (Two), that some educators think that the CAPS brought more work; he claimed this is not true. Subject advisor Two argued that the CAPS

appeared to have more content, simply because the topics were detailed and included subtopics in bullet form. This argument raises questions about educators' qualifications and how they can be subject specialists and yet be unable to realize that topics in the CAPS were not increased, but given more detail by the addition of subtopics.

5.6.3. Engineering Graphics and Design educators

Biographic profile

EGD educators A3, B3 and D3 chose this profession simply because their role models were educators. Educator C3 stated that he was very passionate about learners and wanted to pass on knowledge to them because he felt that "things had not been well" when he was a learner because of the system. He therefore wanted to make a change and contribute to other people's success.

Qualifications

All four EGD educators were qualified as subject specialists, although three of them (B3, C3 and D3) had done a secondary teacher's diploma specializing in technical drawing (TD). Educator A3 had done a B Ed degree specializing in EGD. All EGD educators claimed to have enjoyed their time of study except for the strike actions that were rife during that time.

Being an EGD educator

The EGD educators' teaching experience ranged from three to twenty-one years. All of them were teaching other subjects as well, such as technology to grades 8 and 9 and mathematical literacy and mathematics to grade 10. Educator A3 was teaching arts and culture to grade 9 because that was the only available post when he/she was appointed at school A. All EGD educators were subject specialists and they were the only EGD educators in their schools. Educators B3 and C3 became EGD specialists because they loved drawing, while educators A3 and D3 specialized in the subject because they could not enroll in other courses at tertiary institutions as they had been

full. Educators A3, C3 and D3 did not study EGD/TD at school level, but only started learning EGD at college or university.

When educators were asked about their experiences of learning EGD at school and at college or university, educators A3, C3 and D3 said they had experienced difficulties in learning the subject at a tertiary level because they did not have any EGD background. Even educator B3, who went to an industrial sector during his/her high school years, experienced similar difficulties because the expectations and the pass requirements at college were not the same as those at high school.

All four educators enjoyed teaching the subject because of its practical nature. They did not need to talk a lot in class and instead, demonstrated step by step as learners did the drawing activities expected of them. The challenges experienced in teaching EGD were the lack of resources. Most learners came from poor families and were unable to afford drawing instruments, which are expensive. This disadvantaged learners greatly because they needed to practice continuously, both at school and at home, but they were unable to do so.

The educators regarded EGD as unique. It was manageable, but some learners found it quite challenging to the extent of dropping out informally (according to educator A3). Educators A3, B3, C3 and D3 claimed that EGD was totally different from LS and BS, because there were no notes to be learnt and learners only did drawings, although learners need some Mathematical knowledge to understand the calculations expected of them.

Educators A3, B3, C3 and D3 hoped that their learners learnt skills that would enable them to get jobs, should their parents be unable to send them to tertiary institutions. Learners could become builders, carpenters or further their studies by doing Civil Engineering or Architecture.

Selection, sequencing, pacing and assessment

Four EGD educators were asked why they chose the sections that they taught during lesson observations. They all claimed to have followed the work schedule/pace setter that guided them on the duration of work content. Educator C3 claimed that this schedule came from the department

and it was taken from the CAPS document, but refined to make it easy for educators to follow. Therefore, learners did not have a choice on what to do during a lesson, but could only ask questions for clarity, as the educators were not allowed to divert from the syllabus. The fast learners were given more work and activities to do or were asked to assist others.

In answering the question on qualities or skills that generally were needed for a person or learner to be good at EGD, educators all agreed that a person should not be “lazy”, that they needed to be observant, able to visualize and to draw accurately. Learners who had these qualities found the subject easy and they were able to score high marks. Educators claimed that in EGD it was very easy to score in the range of zero if you misinterpreted the question or 100% if you understood the question and worked accurately. Educator D3 claimed that boys performed better than girls because they were used to drawing.

It appeared that educators used their own discretion when it came to assessing the work covered during lesson observation. Educator D3 decided that she would give learners an assignment with drawings and stated:

Depending on the work schedule, between topics there are course drawings that must be done after each topic. These course drawings are assessed using a memo or rubric. Sometimes peer assessment is done in class; thereafter I give them a test that covers everything.

Educator C3 said he intended giving learners a worksheet to see if they were “capturing concepts”. Educator A3 said she would “give them a test because policy requires that they write a test”.

Apparently, learners were told what to expect during each assessment task, because they were given assessment criteria prior to writing a test to ensure that they knew what was expected. This was done because general knowledge in EGD was not allowed. Learners were expected to follow the rules and to use the correct instruments; otherwise their drawings would be wrong. Educator C3 said negative marking was applied when marking EGD. Educator A3 said, “Some learners might draw a left side view instead of a right side view, then as an educator you will have to mark it but penalize them for not following the correct instructions.”

It was disturbing to observe qualified educators doing different things during lessons and planning to assess learners differently; yet, they all claimed to be following the same work schedule or policy. According to policy (CAPS), educators are told what to teach and how and when to assess. Educators were obviously not doing everything according to policy, but they claimed to be following the policy without any deviations. This could be an indication that EGD educators do not really understand CAPS, or, that they are interpreting it differently from one another.

Curriculum change

When all EGD educators were asked how they understood the changes that had happened in the EGD curriculum recently, educator B3 responded as follows:

In EGD there are not many changes except repackaging of topics. NCS was disjointed... you will find that topics that are needed for PAT are only done in September, yet PAT has to be finished earlier. CAPS have arranged topics correctly.

Educator A3 concurred, saying, “nothing much has changed” and then said there were no changes in EGD. Educator D3, like educator A3, contradicted his/her own response, stating that there were no changes and then within the same sentence stated that topics had been reshuffled. Educator C3 gave the following response:

The syllabus changed from ICS up to now. ICS was very challenging because it contained a lot of content. Learners were allowed to choose between standard grade and higher grade, so as a teacher you had to teach them everything in details. NCS removed some of the content but now CAPS is bringing it back, but not in the same way as ICS. CAPS are more specific in terms of requirements, though it has taken the style of NCS.

Educator C3 further explained the differences between the NCS and CAPS by stating that the NCS had broad topics, but time was limited. The CAPS had re-introduced topics that were removed during the ICS to NCS curriculum change, but topics in the CAPS were now refined and there were examination guidelines that gave a breakdown of topics to be assessed.

Interestingly, educators seemed to notice the differences between the CAPS and NCS when they were answering the question on the purpose of the curriculum change. Only educator A3 remained consistent and said she did know the purpose because nothing had changed; even NCS books were still used. The other three educators, B3, C3 and D3, had different views regarding the purpose of curriculum change e.g. educator B3 gave this positive response:

Curriculum needs to change in order to meet the needs of the society as well as to ensure that the curriculum is relevant. I think for the EGD they wanted to add more information for our learners. We must change as time changes. I think the curriculum change is helping us not to focus on outdated information, but to focus on what is important currently.

When educators were asked how the new curriculum reform had impacted on their current teaching and assessment practice, educators A3, B3 and D3 said there were no changes in their practice; they still taught and assessed in the same way. Educator C3 said there were no changes because negative marking was still used for assessment tasks. Educators still look for mistakes and tick them when marking, and those ticks were tallied to find the learner's score. Contradictory to the view that there were no changes in practice, educator C3 felt the CAPS had impacted greatly on his practice, stating:

Experience does not work anymore. Educators need to thoroughly plan and consult many books before going to class to teach. Lifelong learning must be done to ensure that educators understand the requirements of the new curriculum.

5.6.4. Subject advisors

Biographic profile

All subject advisors started off as teachers, specializing in their subjects and later applying for promotional posts when those positions were advertised. Therefore, being a subject advisor was a promotional position for all three of them. Subject advisors are named as: One for LS, Two for BS and Three for EGD, as explained under coding.

Qualifications

Subject advisor Two and Three were initially qualified with a secondary teacher's diploma, while subject advisor One had a university degree. All the subject advisors had specialized in their subjects and they agreed that subject educators should be subject specialists who are well grounded in their subject content, dedicated, passionate and able to perform their duties. Subject advisors agreed that educators, including themselves as subject advisors, should continue upgrading to cope with the constant changes in education.

Being a subject advisor

Being a subject advisor entails visiting schools to monitor the progress of educators as per the year work schedule or annual teaching plan (ATP). Educators are expected to follow the work schedule as it is in terms of teaching content and assessment tasks. They are further expected to attend cluster meetings where cluster coordinators sign and date all their mark sheets. All the subject advisors concurred that, when visiting schools, they crosschecked the educator's file and learners' work against the work schedule. Dates on all those documents had to correspond; if the educator was behind, a catch-up plan was recommended.

Early each year, orientation workshops are organized where educators are given all the documentation to use during the year such as work schedules, mark sheets, policies and dates for cluster meetings. Subject advisors, however, jointly raised a concern that these orientation workshops were not being timeously held yearly. Subject advisor One claimed that in 2012 educators were given intensive CAPS workshops to highlight differences between the CAPS and the NCS. They were given the CAPS documents and told that they were expected to follow the policy document.

Selection, sequencing, pacing and assessment

During the CAPS workshops in 2012, educators were asked to compare the two curriculum documents for the NCS and CAPS in order to see the differences to ensure that educators

understood the requirements of the new curriculum, thereby avoiding under teaching or over teaching. It was noted that these mistakes were usually committed by experienced educators, who would see the topic and simply start teaching without checking the depth of content to be taught.

Subject advisor One further stated that where new content was identified, the required resources were identified and obtained to help the educators. Educators were told to follow the CAPS document when teaching and not the textbook, because these might have content gaps. Subject advisor One also emphasized that some textbooks were not well balanced in terms of content requirements as per the CAPS document. In LS and EGD some of the content that was removed from ICS to NCS had now been brought back. Educators needed to be aware of all the CAPS requirements, therefore, all subject advisors concurred that following the CAPS document was imperative for successful curriculum implementation. All the subject advisors claimed that they encouraged coverage of the whole syllabus to eliminate learners' knowledge gaps during final examinations.

Subject advisor Two explained that educators were now subject specialists because they understood content. The only challenge is with assessment: "70% of them were good at both teaching and assessing, but 30% of them could teach but they were not assessing learners correctly". Subject advisor Two pointed out that when learners sometimes passed throughout the year, but failed at the end of the year, this could be due to the fact that assessment tasks given during the year were not in line with the required assessment strategies. Furthermore, subject advisor Two explained that educators were not asking questions correctly, that is, they did not consider all cognitive levels.

During BS workshops, subject advisor Two claimed to emphasize proper assessment strategies, saying that educators were grouped and asked to set formal assessment tasks such as a tests where all cognitive levels were considered, and then elaborated, saying:

Policy says formal tests should be out of 100 marks meaning it should contain all cognitive levels and it should be divided into three sections, namely, Section A that assesses

memorization and understanding; Section B that assesses application where learners are given case studies; and Section C where learners are given essays.

Curriculum change

In LS the curriculum changes were understood as a way of balancing content and the practical component of the subject. Subject advisor One claimed that the NCS provided less content and more application (36% content and 64% application). To correct this problem, in 2008 the LS curriculum was reviewed and the New Content Framework (NCF) was introduced in January 2009. Subject advisor One stated:

The NCF contained 60.5% content and 39.5% application; therefore the CAPS were a second revision for LS since the NCS was introduced. The CAPS seemed to be content driven, with a certain percentage of application, that is, 70% content and 30% application. The NCF overemphasized subject content, adding a lot of new content; as a result, the CAPS removed some content.

Subject advisor Two argued that the CAPS were better than the NCS because it contained less jargon. The CAPS were seen as precise, as they gave topics and all subtopics in bullet form. Educators were told exactly what to teach. Subject advisor Two was of the opinion that educators seemed to think that the CAPS had more content than the NCS, and yet that was not the case. Subject advisor Two further argued that the NCS gave broad topics without breaking them down into subtopics, thus making it look as if it was shorter. Subject advisor Three concurred with this, saying the CAPS reinforced some NCS sections and gave them depth in terms of content. Subject advisor Three said the EGD topics in the NCS and CAPS were the same, but the CAPS had more content.

Regarding the purposes of curriculum change, subject advisor One believed that the initial changes from ICS to NCS and later to the NCF had been necessary. This subject advisor argued that ICS was content driven without any application, while the NCS introduced more application than content. As a result, the NCF was introduced to bring back content that was implicit in the NCS.

Subject advisor One suggested that subsequent curriculum changes (CAPS) were mainly politically driven. The reasons for her argument were that the NCS had learning outcomes (LOs), whereas in the CAPS the learning outcomes were built into the content and were called specific aims. In the old biology curriculum the syllabus contained both content and practical aspects in the form of experiments. The only aspect that the NCS came up with was this learning outcome scheme: LO 1 = content; LO 2 = practical and LO 3 = application of content to everyday life. The NCS emphasized application more than content, with a ratio of 36% content and 64% application to daily life; then the CAPS turned that ratio around, with 70% content and 30% application.

Subject advisor Two believed that the purpose of curriculum change was to assist the country achieve the critical outcomes (COs) and developmental outcomes (DOs) that were introduced with OBE and elaborated on this view:

You can see that we are trying to realize them from OBE... it was not enough... NCS still is not enough thus CAPS now, we are trying to realize those COs and DOs. We want our learners to exit grade 12 having achieved all those COs and DOs. We need to review curriculum every five years to add or subtract if there is a lot [If the content is more than necessary].

When subject advisor Three was asked about the purpose of the curriculum change, his/her view was that curriculum change was made to ensure that all South African learners received the same good quality education. This subject advisor further explained that although changes are politically driven, the intention behind this is to have the best curriculum, one that will improve the knowledge base of South African learners.

The three subject advisors (One, Two and Three) were asked how the current curriculum reform has impacted on their daily duties. Their responses differed. Firstly, subject advisor One claimed that the current curriculum change did not have much of an impact and daily duties were more or less the same; any curriculum required monitoring. When subject advisors visit schools, the aim is always to monitor curriculum implementation to ensure that educators are using the curriculum correctly. Subject advisor One stated that subject advisors for all subjects (including the non-participants of this study) were trained for five days on CAPS implementation and they (subject

advisors) had planned to workshop educators for three days, but unfortunately their plans were disturbed by civil servant strikes. Subject advisor One further argued that due to time constraints educators ended up having a one-day workshop. The problem was that educators did not want to attend workshops over holidays. This made it very difficult for subject advisors (including non-participants of this study), because time was pressured.

Secondly, on the issue of the impact of curriculum reform on duties, subject advisor Two said there was a lot of work to be done. Subject advisors for different subjects needed to meet now and again, provincially as well as at district level, to discuss issues. This subject advisor emphasized that all subject advisors needed to write material to support educators with their teaching loads, but complained that while they were writing this material or the documents, other subdirectorates, such as the examinations section, discouraged them from setting exemplar question papers for educators. Instead, the exams section asked them to workshop educators so that they could set those papers themselves. Subject advisor Two thought it was better to bring exemplars and hand them out to assist educators. Subject advisor Two further stated that the support material was very important, but the problem was timing, suggesting that workshops should be done a year before so that the year could be started well. At the time of the interview (March), subject advisor Two complained that the support materials were still in printing, and yet term one was almost over. Thus, educators would only receive support material in term two, but those documents contained assessment tasks for each term and therefore assumed that educators would use term one's tasks for revision. Subject advisor Two explained that educators were expected to use the ATP that was from the CAPS document, but they should also only use the CAPS document. It was further suggested that it was not advisable for educators to use the CAPS only, without the ATP, because the CAPS were not a 100% correct, now and again there were errata. At that time (towards the end of March), new BS errata had just arrived. This meant that subject advisor Two had to distribute it to 160 schools in the district. This was a difficult exercise for him/her to reach all educators in time.

The third response from subject advisor Three concerning the impact of reforms was a complaint about the amount of travelling he/she had to do to ensure that all educators in the district were given the same information regarding the CAPS. There were a number of documents that were

given to educators during workshops so that all educators used the same mark sheets to record their marks, thus ensuring that everyone had the required number of tasks per term and year.

5.7 DATA GENERATED THROUGH QUESTIONNAIRES

5.7.1. Life Sciences

Forty questionnaires were distributed to LS learners in the four schools under study. Due to time constraints (as learners were fed lunch during break time), it became difficult for the researcher to administer questionnaires, therefore, these were given to educators to administer during their lessons. Ten learners per subject in each school were requested to respond. Coding was done after the questionnaires were collected from the schools. In school A the respondents were coded E1 to E7; in school B they were named H1 to H9; in school C they were named K1 to K9 and in school D they were named N1 to N9. In LS, thirty-four responses were collected from the four schools, that is, nine respondents from each of the three schools B, C and D. In school A, only seven responses were collected. Data generated through these questionnaires was collated and reported in two categories, namely, the reasons for choosing LS and being a LS learner. The same pattern was followed for BS and EGD, as detailed in Table 1.

Reasons for choosing LS

Out of the thirty-four learners who responded, thirty-three chose LS because they wanted to know how their bodies functioned and they wanted to learn more about nature and human sciences. One learner (H7) said educators chose it for him because he was very good at memorizing notes and sketches. Ten learners (H3, H5, H9, K4, K6; K7, K9, N3, N4 and N7) chose the subject for academic purposes such as furthering their studies in the health sciences field at university. One learner (H3) said he chose LS because he wanted to be a journalist. The other twenty-two learners did not give any particular reasons for doing LS.

Being a LS learner

Twenty out of thirty-four LS learners viewed it as a difficult subject, mainly because of its unique terminology. Learners H6, H8, K4 and K5 used the term ‘bombastic words’ to describe how difficult the subject was to understand. The other fourteen learners viewed LS as a challenging subject, but not that difficult. Thirty learners (E1 to E3; H1 to H9; K1 to K9; and N1 to N9) said they were able to study the subject only because it was interesting and they therefore loved it. All learners concluded that in order to do well in this subject they needed more time to study and work hard. All LS learners from schools B and C classified LS as a unique subject where learners were not allowed to use general knowledge when answering questions. They said LS was science, thus it was different from other subjects. Five learners (E1 to E5) said LS was similar to geography in certain topics. These five learners thought that knowledge from geography could be used when answering LS questions. They further argued that even knowledge from home could be used when answering questions in a test about their bodies.

Learners’ responses varied regarding their knowledge of topics to be learnt beforehand. Twenty-four learners (E1 to E7; H1 to H9; N1 to N8) said they did not know anything prior to the lessons and only heard of topics as they were taught them. Seven learners (E1 to E7) said they expected certain topics to take longer to finish, but that was not the case. These learners complained that the educator gave them topics they did not know. Five learners (E1 to E5) said they did not know the topics because it was their first year in LS and they were doing different topics each time. Nine learners (K1 to K9) said they knew the topics beforehand, because their teacher had given them the whole syllabus at the beginning of the year and they knew all the topics for each term. Two learners (N8 and N9) said they knew the topics because they were repeating the grade and they claimed to have good memories or recall.

Regarding assessments, sixteen learners (E1 to E7; N1 to N9) knew what to expect in a test because their educators gave them a list of the content to be assessed. Learners N1 to N7 said they were taught what they were going to write in a test. This meant that some educators told them what to study for the test and educator A1 taught them what they were going to write in the test. Eighteen learners (H1 to H9 and K1 to K9), who were not told by their educators, knew because they were

tested regularly and each test was based on the work covered during the previous three weeks. These learners were looking at the patterns of assessment.

Nine learners (N1 to N9) said that in order to excel in a test one needed to love the subject. Eighteen learners (H1 to H9 and K1 to K9) said it was important to read daily and with understanding and seven learners (N1 to N7) thought that one must be a good listener with a long concentration span. After their assessment, two learners (H4 and H7) said they did not know why they scored the marks they got and simply rated LS as very difficult. The remaining thirty-two learners gave a variety of reasons for the scores they got. These ranged from listening attentively in class (E1 to E7; H1,2,3,5,6,8 to H9); studying very hard and attending extra lessons (N1 to N9); watching learning channels; and understanding what has been taught (K1 to K9). The fifteen learners (E4 to E7; H5 to H6; K4 to K6; and N6 to N8) who failed their tests gave the reason as not learning enough, even though they knew what to learn for the test. Two learners (H5 and H6) that failed promised to perform better next time, because they believed that they had potential to excel, but needed to work very hard.

5.7.2. Business Studies

Forty questionnaires were distributed to learners of Business Studies and all of them were returned. Learners were coded as per Table 1 above. Data generated through these questionnaires was also collated and reported in two categories, as explained in the section on LS above.

Reasons for choosing BS

The majority of BS learners (learners F1 to F10; L1 to L10; and O1 to O10) chose this subject because they wanted to become business people and be self-employed and to create employment opportunities for others. Out of the ten learners remaining, five (learners I1,3,4 and 6 to I7) chose BS because they believed that after passing grade 12 they would get a job, as they already knew the roles and responsibilities of employees. The remaining five learners (learners I2, 5, and 8 to I10) chose BS because they planned future studies and careers in the business sector.

Being a BS learner

All forty BS learners did not see their subject as difficult, because it was similar to other subjects, especially accounting and economics, and was also similar to their daily lives. They therefore believed that they could use knowledge from other subjects or general knowledge to answer questions in BS tests or during class.

Thirty learners (F1 to F10; I1 to I10; L7 to L10; and O1 to O6) said they knew the topics that they were going to learn beforehand, because they were given notes. Six learners (L1 to L3) knew the topics because their older siblings were doing BS in other grades and three of them (L4 to L6) were themselves repeating the grade. These learners said they used a textbook because it better explained information. The remaining four learners (O7 to O10) said they did not know the topics because they were busy with assessment tasks and had heard about the topics in class for the first time. Three of these four learners (O8 to O10) said they did not even know that those topics were part of their subject, because they were doing BS for the first time.

When it came to testing, thirty-seven learners said they knew what to expect in a test, because they were only tested on what they had been taught and their educators told them what to expect in a test. Three learners (O8 to O10) said they did not know what to expect because they sometimes studied one area and another came up in the test. They complained that even when a test was based on a particular module, it was difficult for them to know what to expect because modules consist of many topics. Four learners (F1 to F4) complained that some questions were not straightforward and their class was always a topic ahead of other classes.

Almost all BS learners (38 learners F1 to F10; I1 to I10; L1 to L10; and O1 to O8) viewed their subject as easy, mainly because they claimed that it required general knowledge most of the time. Learners commented further that their educators gave them notes which were clearly explained in class, therefore, it was very easy to score high marks if you read your notes well. Another reason for BS being perceived as easy was its similarity to other subjects. Two learners (O9 to O10) claimed that in BS they learnt about things they already knew, except that they were often not aware that those topics were part of the subject.

All learners thought that to do well in BS one needed to be business minded, creative and love the subject. Thirty-eight learners (F1 to F10; I1 to I10; L1 to L8; and O1 to O10) knew why they scored the marks they did for their last test. Out of the thirty-eight, eighteen learners (learners F1 to F10 and O1 to O8) did not do well, their reasons ranging from not reading their notes, misunderstanding questions, to not knowing the facts that were required by some questions. Fifteen (F 4 to F10; I7 to I9; and L1 to L2) learners who scored high marks credited their success to their hard work in reading the notes and answering all the questions. The last two learners (L9 to L10) said BS was too difficult for them.

5.7.3. Engineering Graphics and Design

Forty questionnaires were distributed to EGD learners. Thirty-eight responses were collected (G1 to G10; J1 to J8; M1 to M10; and P1 to P10). Data generated from these questionnaires was reported in two categories, as explained above.

Reasons for choosing EGD

Fifteen learners (G7 to G9; M1 to M10; and P3 to P4) chose EGD because they were interested in technical careers such as artisans, civil engineers, architects or mechanical engineers; thus EGD was a pre-requisite for their future career. Twenty learners (M1 to M10 and P1 to P10) believed that EGD could open more doors for them even if they were unable to further their studies at university. Those twenty learners hoped that after finishing grade 12 they could learn skills at an FET college and thereafter be employable as builders or designers of houses. Three learners (M4 to M6) loved drawing and were happy to do what they liked and then be rewarded with marks at the end of the year.

Being an EGD learner

All thirty-eight EGD learners saw their subject as unique because it mainly dealt with drawing. Unlike other subjects, in EGD they used special instruments when doing their class activities, tests and examinations. Twenty learners (M1 to M10 and P1 to P10) felt that their subject was time consuming because of the drawing and erasing they had to do when given a task or class activity.

Ten learners (M1 to M10) thought that there were some similarities between EGD, mathematics and physical sciences, due to the accuracy and calculations that were required in these subjects.

When responding to the question regarding the use of general knowledge to answer questions in class or in a test, all thirty-eight learners felt that they could not use general knowledge. Their subject required them to follow the rules and use EGD terminology all the time. Additionally, they needed to use specialized instruments to draw correctly, not just any pencil or ruler.

Learners were asked if they knew what to expect in a test or examination. Twenty-eight learners (J1 to J8; M1 to M10; and P1 to P10) said they did, because their educators told them beforehand. Ten learners (G1 to G10) said they did not always know what to expect in a test because sometimes they were tested on things they had never learnt; at other times they were taught things that were never tested. Unfortunately, all thirty-eight learners did not know what to expect during their daily lessons, because work schedules were not made available to them. Nor, did learners know what they were supposed to learn each term.

Of the thirty-eight learners (G6 to G10), seven viewed EGD as a difficult subject and said that for anyone to excel, he/she should be good at line work. One also needed to be a good listener, a hard worker, neat, accurate and a good time manager. Being good at mathematics was viewed as an added advantage. Three learners (M4 to M6) viewed EGD as an easy subject because they love drawing.

When learners were asked whether they knew why they scored the marks they did for their assessment task, all thirty-eight learners attributed their success or failure to their hard work or lack thereof. None of them mentioned anything about the feedback that is supposed to be given after each assessment task to ensure that they are made aware of what is expected and so, correct any thinking errors.

5.8. CONCLUSION

All twelve educators and three subject advisors did not know the reasons for the curriculum change from the NCS to CAPS. They all speculated, which might mean that these changes were not communicated well to those (educators) who were expected to implement it. Learners were also not informed about their work schedule and therefore would not be able to tell whether they were learning the correct subject content for their grade. In light of this, the quality of communication within the DBE institutions needs to be revisited to ensure that all the stakeholders receive relevant information in good time.

CHAPTER SIX

INTERPRETATION OF DATA

6.1. INTRODUCTION

This section consists of the analysis and interpretation of the data generated from the NCS and CAPS document analysis, lesson observations, interviews and questionnaires. Both the CAPS and NCS curriculum documents for the three subjects under study were compared and analysed before data was collected, as explained in Chapter Four. Framing was the main concept used for comparison. All statements in the documents that reflected framing were coded as either weak or strong (with F- for weak framing and F+ to indicate strong framing). Lesson observations were guided by a schedule that embraced the objectives of the research questions; these were mainly classificatory relationships. Twelve educators and three subject advisors were interviewed. One hundred and twenty learners (ten learners per subject from each of the four schools) were requested to respond to the questionnaires. These learners were randomly selected, as detailed in Chapter Four. Questionnaires were mainly used to gather information regarding learners' recognition rules and evaluation rules, as explained in Chapter Two. They were also used for triangulation purposes (see section 1.6 in Chapter One) for the data collected through interviews from educators and subject advisors. All the research instruments are attached as appendices.

6.2. CURRICULUM DOCUMENT ANALYSIS AND INTERPRETATION

When analysing the NCS and CAPS documents, it became apparent that the two documents are structured differently. The NCS is competency based because the focus is on what learners know and are able to do and it therefore appeared to be weakly framed between educators and learners, because learners seem to have more control in the classroom than the educator. The learning outcomes (LOs) and the assessment standards (ASs) focus on what the learners should be able to do grade by grade through assessment criteria (AC), while the educator's role in the classroom is implicit. The NCS makes a lot of assumptions regarding educators. As a result, educators' roles are implicitly implied in the LOs and ASs. These assumptions are explicitly specified in the NCS

documents in Chapter One under the subheading, ‘The kind of teacher that is envisaged’. In the document, it is assumed that educators are qualified, competent, dedicated and caring, and therefore can be relied upon to know what to do in class (DoE, 2003b:5). The NCS is therefore strongly framed between the educators and curriculum designers, because educators are expected to teach specific content (which is not explicitly specified) to ensure that LOs and ASs are achieved. Unfortunately, the reality in most South African schools did not, at the time of its implementation, match or meet curriculum assumptions and was thus challenging. Most South African educators were unable to identify the implied content to be taught.

As a remedy to that situation, the CAPS was incrementally introduced to the foundation phase and grade 10 in 2012, to be completed in 2014 (see Chapter One for details). The CAPS manifests as the total opposite of the NCS, as is outlined in Chapter Three. While the NCS is competency based, the CAPS is performance based (refer to Chapter Two for details). For example, in Life Sciences the NCS focuses more on application (64%) than on content (36%), whereas the CAPS flips that scenario to 70% content and 30% application (subject advisor One, 2014). In the NCS Business Studies the four core features of the subject are listed as LOs 1 to 4. In the CAPS, the very same four features are listed as the main topics with corresponding content. The main differences between the NCS and CAPS in BS are the names used for its core features and the fact that the CAPS also lists the corresponding content. In Engineering and Graphic Design, the NCS has four LOs for EGD learners in grades 10 to 12. For Engineering and Graphic Design, the CAPS lists fourteen main topics for grades 10 to 12. It further specifies examinable content grade by grade.

In section one of the CAPS document, under the heading ‘General aims of the South African Curriculum’, it states that the CAPS expresses “the knowledge, skills and values worth learning in South African schools” (DBE, 2011a:4). This focus differs from the NCS in that it aims at laying the foundation for the achievement of the South African constitutional goals, mainly social justice (DoE, 2003a). The NCS focuses more on affirming learners in order to build their confidence, thus enabling them to participate in the democratic South Africa. In other words, the disciplinary knowledge combination is not that important, as long as learners are able to function well in society. The CAPS expresses specifically the knowledge to be learnt, and is therefore seen as content driven and performance based because learners have to learn specific content. The CAPS

assessment tasks have to be varied and continuous so that knowledge gaps can be identified. The opposite is true for the NCS, where assessment is done for affirmation purposes, that is, to see what the learner knows instead of what he/she does not know.

In the CAPS, educators are explicitly told what, how and when to teach and assess learners. Again, the assumption here is that educators are subject specialists; therefore they should know the subject content and be able to teach it. Unfortunately, this study revealed that this assumption is not correct, because 25% of the LS educators who participated are unqualified (did not know the content) and they were unable to teach the prescribed content. The sample of BS educators mainly read from the books and explained what was written in vernacular languages. In EGD, 50% of the educators simply monitored what the learners were drawing, while the other 50% demonstrated how a particular drawing was constructed step by step without any theoretical background.

The CAPS seems to go back to the blueprint kind of curriculum (performance model), explicitly specifying the content to be taught within stipulated time frames and how it should be assessed (DBE, 2011a:4). However, the CAPS does have similar features to the old curriculum, which were explained, by Hoadley and Jansen (2009:173), as that it is content led and designed by experts rather than all stakeholders. Subjects from grade R to grade 12 are called subjects rather than learning areas. Power and control appears to be back in the hands of the subject discipline expert curriculum designers. Educators are told what to teach, when, and how to teach and assess, that is, if they follow the curriculum statement as is, without interpreting it. To use Bernstein's concepts, the CAPS are strongly classified and framed.

6.3. LESSON ANALYSIS AND INTERPRETATION

Lessons were analysed and interpreted, using the two Bernstein concepts of framing and classification, as explained in Chapter Two. Framing focused on the discursive rules determining who, between the educator and the learners, made choices in the classroom in terms of the selection, sequencing and pacing of the subject content. This was judged by the number of statements made by either group in the classroom. Hierarchical rules focused on the relationship between the educator and the learners and the relationships amongst learners to determine whether

they were formal or informal and who controlled them. This was inferred through the interaction and how furniture was arranged in the classroom. Tables 5 and 6 below were used to analyse the framing relationships and interpretations.

Table 5: Framing relationships: Discursive rules and hierarchical rules

Subject	Observed lessons (total number)	Total number of statements	Statements made by educator	Statements by Coded learners	Statements by Grouped learners	Furniture arrangement in the classroom	Who formed groups	Individual work	Group work
ALS	3	19	13	0	6	grouped tables	learners	0 (note writing)	0
BLS	5	39	29	5	5	rows; grouped	educator	class activities and homework/research	presentations/ research
CLS	5	89	51	20	18	rows; grouped	learners	class activities; homework/research	presentations/ research
DLS	5	160	105	30	25	rows; grouped	learners	homework	class activities and presentations
ABS	1	18	10	4	4	grouped	unknown	business plan	homework

BBS	5	68	40	15	13	grouped	unknown	homework	class work
CBS	1	11	6	3	2	grouped	unknown	0	0
DBS	1	14	7	7	0	rows	unknown	0	0
AEGD	3	14	8	0	6	rows	fixed tables	drawing	0
BEGD	5	20	12	0	8	rows	unknown	drawing	0
CEGD	3	36	22	6	8	scattered	learners	drawing	0
DEGD	2	46	33	0	13	rows	unknown	drawing	0
Total (LS)	18	307	198	56	54				
BS	8	111	63	29	19				
EGD	13	116	75	6	35				

Table 6: Framing relationships: Comparison between educators and learners

Subject	AI	B1	C1	D1	Total	Coded learners (all 4 schools)	Grouped learners (all 4 schools)	Total	Total number of statements (all 4 schools)
LS	13	29	51	105	198	55	54	109	307
%					64			36	100
Subject	A2	B2	C2	D2					
BS	10	40	6	7	63	29	19	48	111
%					57			43	100
Subject	A3	B3	C3	D3					
EGD	8	12	22	33	75	6	35	41	116
%					63			37	100

6.4. ANALYSIS AND INTERPRETATION OF FRAMING RELATIONSHIPS

6.4.1. Life Sciences

Discursive rules and hierarchical rules: Selection, sequencing and pacing

In analysing the framing relationships between educators and learners in the three subjects, Tables 5 and 6 were used. Table 5 represents detailed framing relationships between educators and learners in each subject per school. Table 6 gives a summary of these relationships in the three subjects under study. Firstly, the analysis and interpretation focused on Table 5, which gives a qualitative explanation of what happened in each and every observed classroom. Thereafter, the analysis focused on Table 6, which quantitatively summarizes what happened in each subject.

In ALS, three lessons were observed and a total of nineteen statements were made. Out of these statements, thirteen were made by educator A1 and six statements by learners. Based on the

number of statements made by educator A1, as opposed to those made by learners, it can be said that the framing relationships were strong internally. Educator A1 made all the decisions regarding selection, sequence and pace. Learners did not have any say regarding what to learn, when and for how long. As a norm, when framing relationships are strong, a large amount of subject content should be transmitted from the educator (transmitter) to the learners (acquirers). Unfortunately, this did not happen in the ALS classroom because a lot of time was wasted on non-pedagogical noise.

The educator used the community code more than the school code, making classification very weak. There were no clearly demarcated boundaries between break time and learning time, because learners continued with their conversations from tea break right through the lesson. No boundaries between the school and community code were even implied. The ALS learners seemed to struggle with the recognition rule, because they did not know what they were doing. In line 18 of the lesson transcript, ALS learners showed confusion, because two totally different topics were taught within a double period. Considering this scenario, it was impossible for them to achieve the realization rule. The pedagogic practice was invisible to both educator A1 and the ALS learners because the external framing relationships were very weak. The educator's (A1) practice was not guided by any policy document, even though he/she was supposed to be following the CAPS. Possibly, educator A1 did know the legitimate text for the content taught, but this is unlikely, as the educator struggled to pronounce or spell the concepts he was dictating to the learners for their notes. Even the learning context was implicit to everyone within the classroom.

The six statements that were made by the ALS learners were a group effort, because not a single learner in this class spoke as an individual. These statements were mainly complaints such as '*akubonakali*', '*what?*' or '*no*'. The ALS learners did not make any subject content related comment or statement. This made it difficult to ascertain whether any learning was taking place in that classroom. The only subject related activity that took place in ALS was the copying down of notes from the chalkboard or from the educator's dictation, which itself was also not clear. Educator A1 did not actually teach the subject content during the thirteen statements made. The educator (A1) dictated or wrote down specific concepts that were going to be included in a test the following week, or retaliated when learners complained about illegibility or inaudibility. As a

result, the ALS lessons did not flow well and there was no specific order in the selection, sequence and pace. Learners complained about this lack of structure in the class procedures. The educator (A1) ignored these complaints and continued as if nothing was amiss. These learners seemed bored and frustrated, but did not do or say anything to address their frustrations. They resorted to talking among themselves about whatever was of interest to them. Learners also responded as a group during the lesson, therefore they were not coded. Only one learner was coded as learner 1 because the educator called this learner to follow when the educator rushed out of the classroom. Considering the context in which ALS learners were learning, it was difficult to analyse the hierarchy ('sacred order or rule') (Hugo, 2005) in ALS and impossible to identify the kind of hierarchy at work in that classroom.

In BLS, five lessons were observed and thirty-nine statements were made between the educator and the learners. These statements excluded the long explanations that were given by educator B1, in-between the statements and those made by the learners during group presentations. Out of the thirty-nine statements, twenty-nine were made by the educator and ten made by the learners. Out of the ten, five were made by the BLS learners as a group when they were greeting their educator. Only five learners answered questions as individuals. Therefore, teaching and learning in the BLS classroom was teacher-centred and the educator (B1) controlled selection, sequence and pace, similarly to educator A1. The differences between these educators concerned the substance of what they selected, sequenced and paced. Framing relationships in ALS and BLS were similarly strong, but the actual activities within these classrooms differed greatly.

In BLS learners were interested and actively involved in a number of educational class activities compared to ALS learners. Since framing relationships were strong, all these activities were controlled by the educator; learners were not given any chance to do as they wished. The BLS learners were taught a lot of BLS content in a specifically structured manner, as opposed to what happened in ALS. A lot of revision work was done because educator B1 identified knowledge gaps in the learners in the section that had been taught by a student educator. Learners did a number of writing activities that were marked in class. The educator did this by teaching and revising the topic covered in the task. Educator B1 used different charts to explain different concepts as they

were mentioned during the marking of revision activities. Educator B1 ensured that learners did exactly as they were told by constantly checking their exercise books as they continued working.

In CLS, a similar pattern as in BLS regarding framing relationships was observed. Five lessons were observed and eighty-nine statements were made, excluding the long explanations by the educator and learners' group presentations. Educator C1 made fifty-one out of the eighty-nine statements, leaving thirty-eight statements by learners. Out of these learners' statements, twenty were made by individual learners and eighteen were made by CLS learners as a group. Framing relationships in CLS were strong, but there was more dialogue between the educator and the learners compared to ALS and BLS lessons. As with the BLS learners, CLS learners were very interested and actively involved in their learning. A number of educational activities took place in this classroom and a variety of teaching media were used effectively, both inside and outside the classroom. Teaching media used included, but was not limited to, textbooks, dictionaries, charts, TV channels and Internet searches. A large amount of LS content was transmitted using a variety of teaching methods.

Some common features between educators B1 and C1 were that both seemed comfortable in their roles as educators, they were subject specialists right from their initial qualifications and were experienced in teaching LS, and they seemed to understand the forces in LS as a hierarchy, as explained in Chapter Two. These educators were thus able to move within the hierarchy as if they were playing a musical instrument perfectly. They created opportunities within their lessons that allowed their learners to actively participate in class activities and learn collaboratively. As a result, BLS and CLS learners seemed highly motivated to learn during these lessons. These learners were fortunate because their schools (B and C) had computers with Internet access and they were able to search for extra information, especially when they were learning about different biomes. Sadly, ALS learners were badly disadvantaged, because their school (school A) was terribly vandalized and they did not have a qualified educator. There was no evidence that textbooks were available in ALS because they were not seen or used.

In DLS, five lessons were observed and one hundred and sixty statements were made. Similarly to BLS and CLS, these statements exclude long explanations and group presentations. Of the total number of statements, 105 were made by the educator (D1) and fifty-five were made by learners.

Again, in DLS framing relationships were strong and educator D1 controlled what happened in this class. In DLS the relationships between the educator and the learners were slightly more relaxed compared to BLS. Notably, DLS individual learners made more statements (30) compared to the three other classes ALS (0), BLS (5) and CLS (20). The DLS learners also spoke more as a group (25 statements) compared to other learners in LS lessons. Therefore, DLS learners were actively involved in their learning both individually and as a group. Although DLS learners were not exposed to modern teaching media, educator D1 improvised with what was available to make LS lessons interesting.

Compared to educators B1 and C1, educator D1 used more community code during the lessons when giving examples. Most learning was drawn from learners' experience. As a result, learners participated confidently because they could relate to what was going on in the classroom. Fortunately, those life experiences were drawn back to the LS content to ensure that learners knew the correct subject terminology. Even though educator D1 did not move as comfortably as educators B1 and C1 within the intentional forms of nested hierarchy (Diagram 1 in Chapter Two), he/she moved the learners from the zone of potentiality to the zones of exclusivity and inclusivity. However, the zone of probability was not explored to a satisfactory extent. Accommodation in the zone of inclusivity was quite evident in the DLS class. Life Sciences was highly integrated with Life Orientation (LO) in DLS compared to BLS and CLS. Perhaps the section of work that was taught in DLS was a contributing factor to the pedagogic practice or teaching methods used.

Educator A1 made all the decisions regarding the discursive rules. Learners had no choice regarding the selection, sequencing and pacing of the content learnt during the lessons that were observed. They did, however, try to influence selection and pacing when they complained in line 18, but the educator A1 ignored their complaints. Although educators B1, C1 and D1 made choices regarding selection, sequencing and pacing, learners were able to slightly influence what was learnt, through questioning. These educators listened to learners' concerns and addressed them immediately. Framing, regarding the discursive rules, was strong in all four schools throughout the observation period.

Hierarchical Rules in LS

The relationship between the educator and the learners in school ALS was informal; the educator communicated with learners in a casual way and learners responded accordingly. For example, when the educator was writing on the board, learners shouted ‘*akubonakali*’ (illegible). The educator responded casually by saying that all science educators wrote badly and that was the end of the discussion. The ALS learners talked to one another throughout the lessons and the educator (A1) was not bothered by this at all. Although the educator remained at his desk or in front of the classroom during the lesson and learners remained at their desks, suggesting that the relationship was formal, this was not the case; relationships in this classroom were informal. According to Bernstein (1999), a formal relationship is maintained when the educator controls the interaction between himself/herself and learners and also the relationships among learners. In this class learners were free to do as they wished within their space and the educator had no control over them. This did not mean that the learners were unruly. It was more a case of the educator (A1) not trying to control the classroom activities or set any rules. Framing in terms of the hierarchical rules was weak in this class.

Contradictory to the ALS lessons, in BLS the relationship between the educator and the learners was formal. Educator B1 controlled all the activities in the classroom, even the interaction among learners. This was a typical example of what Bernstein described as a formal relationship. The one with more power in a hierarchical relationship automatically controls how relations are maintained. Therefore, framing relationships in terms of the hierarchical rules were strong in this class. In the CLS relationships were formal, but the hierarchical power was not as evident as it was in BLS. It is possible that the educators’ gender played a role in this difference. Learners could have felt more at ease when interacting with a female educator than with a male educator. This assumption was not verified, but another study could be done to investigate this further, because a similar pattern was observed in DLS.

In DLS, relationships were less formal than in BLS and CLS, but not as casual as those in ALS. The DLS learners were allowed to make some choices in the classroom such as forming groups and collecting material from the front of the classroom for their group work. This was the opposite

of what happened in BLS, where educator B1 grouped learners and told each group where to sit in the classroom. Learners easily communicated with educator D1 and were even able to ask personal questions, for example, in line 304, where learner 73 asks a question about the educator's diabetic mother. Educator D1 integrated LS with LO very well by exploiting every opportunity to give health education. While the topic was on nutrition, challenges caused by teenage pregnancy were highlighted and learners were encouraged to abstain from sexual activity until they were old enough.

6.4.2. Business studies

Discursive rules and hierarchical rules: Selection, sequencing and pacing

In ABS, only one lesson was observed because educator A2 had other commitments. During this observed lesson, eighteen statements were made, of which ten were made by the educator. The ABS learners made eight statements, four by individual learners and four as a group. Framing relationships in this class were strong and educator A2 controlled all the activities that went on, as learners had no choice and did as they were told. In these observed lessons, ABS learners were busy with their business plan that was due by the end of the week. They were working in groups, with each learner being requested to come up with his/her own business venture and to write a business plan. Educator A2 distributed ten books to be shared, which meant that each group of four to six learners used one book.

In BBS, five lessons were observed and sixty-eight statements were made. Out of these statements, forty were made by the educator, fifteen by individual learners and thirteen by BBS learners as a group. Framing relationships were strong, as educator B2 made all the decisions regarding selection, sequence and pace. There was one lesson that was spent on disciplining the learners, because they had not finished their homework. The educator (B2) had planned to mark the homework activities during that lesson, but since the work had not been done, educator B2 verbally reprimanded learners. After the reprimand, learners were encouraged to believe in themselves and work harder. The educator encouraged learners that they could put their BS knowledge into practice by starting their informal businesses at school. Lastly, the educator explained the

homework activities that were supposed to have been done, giving learners a chance to finish their work in class.

BBS learners worked only from photocopied handouts distributed by the educator for each lesson. The main activities in this class were reading from the handout and interpreting, doing activities at the end of each section and marking it as a group, with the educator writing solutions on the board. At the end of the fifth lesson, learners were given the structure of a test paper to be written in two weeks. The educator (B2) explained that the structure was similar to a grade 12 final examination paper. Learners were taught how to answer essay questions, because the educator believed that these were challenging for most learners. To this end, the learners were coached so that they could score better marks during the test. Despite the fact that framing relationships were strong between this educator and the learners, they were weak between the educator and the curriculum document. The educator did not do everything according to the document, although this claim was made during the interview.

In CBS, one lesson was observed and eleven statements were made, excluding the long explanations by the educator (C2). The educator made six statements and the learners made three statements individually and two as a group. Based on the number of statements made by the educator (C2), framing relationships were strong, with educator dominating the classroom activities. Learners were asked to read from the textbook and what they were reading was interpreted in vernacular. Sometimes learners had not even finished reading before the educator interpreted. The CBS learners passively sat in class and listened to the educator talking and giving examples. Learners seemed bored in this class, but remained quiet during the lesson, leading to the inference that they were waiting for the lesson to end.

In DBS, one lesson was observed and fourteen statements were made, excluding the long explanations by educator D2. Interestingly, in this educator made seven statements and individual learners made seven statements as well. The DBS learners never spoke as a group because educator D2 used the question and answer method throughout the lesson. The whole week's work was covered in one lesson because not much content was taught. Educator D2 asked learners for definitions of concepts. When learners were unable to define a concept, the educator gave the

answer with a few examples. Although there was an even distribution of statements, framing relationships were strong. Educator D2 made all the decisions regarding what happened in the classroom.

Comparing the four BS educators, the common factor among them was that none of them taught content in detail. The main teaching style was to mention the concepts that fall under a particular topic. Seemingly, in BS, learners are encouraged to do rote learning. Learners only needed to remember in order to answer a question and therefore needed to learn all the concepts taught ‘by heart’ in order to do well in the subject. This notion was confirmed by their responses in the questionnaire.

Hierarchical Rules in BS

Hierarchical rules throughout the BS classes were formal. Learners referred to educators as sir/madam. Educators referred to the learners as grade 10 A or B, depending on the number of grade 10 classes in the school. Learners in ABS, BBS and CBS sat in groups and those groups were used for all group work except in CBS, where learners did not interact or do any group work. In ABS and BBS, educators A2 and B2 controlled learners’ interactions within groups, although it was not clear how those groups were formed. In DBS, learners sat in pairs and no work was given to them during the lesson. Therefore there was no interaction between learners and the interaction between the educator and the learners was formal.

In ABS, not much happened because the educator asked learners to continue with their business plans after a short session of questions and answers. Learners were then told what to do and how, so that they could submit on the due date. The ABS learners worked quietly on their given task until the end of the lesson. In BBS, learners worked in pairs, writing activities that were later written as an individual homework task. The following day those tasks were marked by the class as a group, led by the educator who wrote the solutions on the chalkboard. In CBS and DBS, learners were not given any work to do individually, either in pairs or groups, both in class and at home. Yet, educator D2 complained about the large number of informal assessment tasks that

needed to be done each term. Generally, the CBS and DBS learners sat quietly in class for the whole lesson, except for a few learners that read or answered questions.

6.4.3. Engineering Graphics and Design

Discursive rules and hierarchical rules: Selection, sequencing and pacing

In AEGD, three lessons were observed and fourteen statements were made, eight of which were made by educator A3, and six made by AEGD learners as a group. Framing relationships in terms of selection was strong, because educator A3 made the choices and told learners what to do. Framing relationships regarding sequencing and pacing were weak, because learners worked according to their own pace and as a result, educator A3 did a lot of individual teaching. This exercise further slowed down the pace because learners, instead of working, were talking among themselves while waiting for the educator to come around and explain the work. Effective learning did not happen because the class consisted of forty learners, making it difficult for educator A3 to reach each and every learner in one lesson. At the beginning of each lesson educator A3 quietly explained the different steps that were required for a particular drawing. The actual drawing was already drawn on the board by the time learners entered the classroom. Educator A3 explained the different steps from the completed drawing; as a result, learners requested individual assistance. The eight statements allocated to the educator were not all spoken words, but were a combination of what the educator did or said. There was minimal dialogue between educator A3 and AEGD learners, yet the classroom was very noisy.

In BEGD, five lessons were observed and twenty statements were made. Similar to AEGD, these statements consisted of what was said or done by either the educator or the learners. Out of the twenty statements, twelve were made by educator B3 and eight by BEGD learners as a group. In BEGD, learners sat at single desks in rows and there was absolute silence, mirroring an examination session. Educator B3 did not explain anything to learners or write or draw anything on the chalkboard. The BEGD learners only spoke when greeting the educator at the beginning of each lesson or said yes or no. Educator B3 only spoke when greeting the learners and when telling them to hurry up for being too slow, as the drawings were due by the end of that week. Framing

relationships were strong in terms of selection, because educator B3 gave the learners work to do, but sequencing and pacing was weak. Learners worked according to their own pace, causing educator B3 to complain during lesson three that some learners were behind the work pace and still doing activity one out of six activities. There was no dialogue between educator B3 and the BEGD learners.

In CEGD, three lessons were observed and thirty-six statements were made. Educator C3 made twenty-two statements and learners made six statements individually and eight statements as a group. In this class the educator demonstrated the different steps to be drawn, using a laptop and data projector. Learners manually drew each step as demonstrated and educator C3 moved around the classroom checking learners' work. The CEGD learners concentrated on their work throughout the lesson only speaking when they were asking or answering a question. Framing relationships in this classroom were strong because the educator controlled selection, sequence and pace. Educator C3 ensured that all the learners were drawing a particular step at the same time, so that they all moved together as he/she demonstrated. Apart from the class activities that were done during the lesson, no homework was given. The CEGD learners were fortunate because they were enabled the chance to draw using a computer. These were the only EGD learners who used a computer for drawing. In the other three schools neither the educator nor the learners used a computer.

In DEGD, two lessons were observed and forty-six statements were made. Educator D3 made thirty-three statements and DEGD learners made thirteen statements as a group. As in the AEGD and BEGD classes, not a single learner spoke as an individual. The thirteen statements consisted of only yes and no answers, apart from the greetings. There was no interaction between the learners and educator D3 controlled everything in this class. Framing relationships were therefore strong, with educator D3 first demonstrating the whole drawing step by step, thereafter giving learners a chance to draw. The educator then moved around checking if learners were drawing correctly, assisting whenever needed. Learners sat passively in pairs at double desks that were arranged in rows facing the chalkboard. There was no interaction between them and they only whispered their answers when responding to the educator's questions.

Hierarchical rules in EGD

In AEGD, the social relations between the learners were not formal. Learners were able to talk to one another about their own things while the lesson was in progress. Educator A3 did not control the interaction between learners and they were able to move around to other learners, sharing their drawing instruments without any interference from the educator. The framing relationships, in terms of hierarchical rules, were weak in AEGD. Contradictory to this scenario, in BEGD relationships were very formal. Educator B3 did not allow any interaction between learners, who were not allowed even to share their drawing instruments let alone assist each other during drawing. Therefore, framing relationships in this class were strong regarding hierarchical rules. The same formal relationships were observed in CEGD and DEGD, although educators C3 and D3 did not explicitly tell their learners how to behave in class.

Table 6 above represents the comparison of the average statements that were made by educators and learners in each subject. In LS the average educator's control was 64% compared to 36% for learners' activity; in BS it was 57% against 43%; and in EGD it was 63% against 37%. The conclusion here was that educators dominated classroom activity in all three subjects and schools. Therefore, framing relationships were strong and teaching and learning tilted more towards teacher-centred rather than learner-centred learning, which is typical of a content driven curriculum.

6.5. ANALYSIS AND INTERPRETATION OF CLASSIFICATION RELATIONSHIPS

Classification focused on the language used for the subject content taught in a class. Analysis focused on the inter-disciplinary classification, inter-discursive classification and intra-disciplinary classification. The classification in these categories could be weak or strong. An example of weak inter-disciplinary classification would mean that during a lesson, disciplinary terms from another subject are regarded as legitimate text by the educator. Contrary to weak classification, strong inter-disciplinary classification would mean that the educator insisted on the use of the correct subject terminology during a lesson. The consecutive lessons were observed to check the nature of the intra-disciplinary classification. To analyse and interpret classificatory

relationships, Table 7 below was used to evaluate and interpret statements made by educators in class. Statements made by learners in all the subjects were ignored, because educators made decisions on what was considered to be legitimate text.

Table 7: Classificatory relationships

Number of lessons observed	Subject	Number of statements	Statements made by the educator	Inter-disciplinary	Inter-discursive	Intra-disciplinary	Classification status
3	ALS	19	13	0	10-	3-	Weak
5	BLS	39	29	15+	9-	5+	strong
5	CLS	89	51	35+	10-	6+	strong
5	DLS	160	105	20+; 40-	35-	10+	weak
18		307	198	70+; 40-	67-	21+; 3-	weak
1	ABS	18	10	2+	8-		weak
5	BBS	68	40	10+; 12-	13-	5-	weak
1	CBS	11	6		6-		weak
1	DBS	14	7	7+	0	0	strong
8		111	63	19+; 12-	27-	5-	weak
3	AEGD	14	8	2+	6-	0	weak
5	BEGD	20	12	0	12-	0	weak
3	CEGD	36	22	12+	7-	3+	strong
2	DEGD	46	33	16+	17-	0	weak
13		116	75	30+	42-	3+	weak

Inter-disciplinary classification

Inter-disciplinary classification refers to the boundaries between different subjects. In the case of LS, for example, it refers to the boundaries between LS and other subjects. Inter-disciplinary classification would be strong where one subject did not allow the use of another subject's terminology. In other words, integration of different subjects would not be allowed in a strong inter-disciplinary classification. Inter-disciplinary classification is weak when the subject is integrated with other subjects. In the table above, numbers recorded under inter-disciplinary classification represent all the statements made by the educator during the lessons that were linked to the topic under discussion. All these statements are indicated with a minus sign after the number. That means that inter-disciplinary classification was weak. The classification status in the last column reflects the sum of the number that is bigger than the others; for example, if there are two numbers, 2- and 4+, the classification status will be strong because number 4+ is bigger than number 2-. Classification status would have been weak if 4 had a negative sign next to it. Both inter-disciplinary and intra-disciplinary classifications focus on the school code.

Inter-discursive

Inter-discursive classification refers to the boundaries between the school code and the community code, as explained in Chapter Two. If the educator uses everyday knowledge to teach the subject and allows learners to answer with general knowledge, then inter-discursive classification is weak. Therefore, all the statements made from everyday knowledge were recorded under this subheading and the numbers were followed by a minus sign to indicate weak classification. In the column, the number 0 means that the community code was not used in that class, hence, strong inter-discursive classification.

Intra-disciplinary

Intra-disciplinary classification refers to the relationship between topics within the subject. If topics within the subject were linked in such a way that a particular topic had to be taught prior to another, then intra-disciplinary classification was strong. If topics were independent of one

another, then intra-disciplinary classification was weak. Therefore, all statements that linked the topic under discussion with other topics within the subject done previously, or, one still to be dealt with, were recorded here. The numbers here are followed by a plus sign to indicate strong classification if topics were linked. A minus sign after the number is used to indicate that those statements were not linked and different topics were taught.

6.5.1. Life Sciences

In ALS, classification was weak because educator A1 did not make any clear boundaries between LS and other subjects, the community code and school code, break time and class time. The teacher-learner boundaries were strong in ALS because the educator remained in front of the class and the learners remained at their desks. Only one learner went to the front to write notes after the educator left the classroom. Classification in BLS was strong because educator B1 made sure that learners knew the difference between lesson time and break time. As soon as the BLS learners entered the classroom they knew that their behavior had to change. Learners stopped talking and waited for the educator to speak. Those learners who were late for class knew that they were expected to stand in front of the class until they were told what to do. Therefore, framing, classification and hierarchy were strong. Everybody in these relationships knew his/her position and responsibilities.

The hierarchy at work in BLS was the nested intentional hierarchy, as explained in Chapter Two. At the beginning of the first lesson, educator B1 asked questions that allowed learners to use their experience to answer them. This is shown in line 23, when educator B1 asked the BLS learners, “What will happen to you if you were to run from the classroom down to the robots and back?” Learners 4, 5 and 6 answered respectively, “I will sweat”; “I will be out of breath”; and “my heart will beat very fast” respectively. As soon as the learners answered, educator B1 used their answers, but substituted the community code with the school code to link their answers with the topic. Educator B1 said, “Good, exercise does affect our heart rate. We perspire and we might be out of breath depending on our fitness level.” Educator B1 insisted on the use of the correct LS terminology at all times. The pedagogic practice in BLS was clearly visible to everyone within the classroom walls.

It was therefore easy to analyse the BLS lessons, using the intentional forms of nested knowledge hierarchy. In the above example, Educator B1 started the first lesson by asking questions that allowed the subject to be atomized, that is, he/she began by operating in the zone of potentiality. The educator then chose the relevant atoms from the learner's answers that were useful for the topic at hand. Learners' answers were translated from the community code to the school code in an attempt to preserve (self-preservation) LS as a unique discipline. The community code, or terms from other subjects, were systematically excluded, that is, the educator moved up from the zone of potentiality to the zone of exclusivity. Educator B1 moved up to the zone of probability when he linked the answers with new knowledge through emergence from the zone of potentiality to the zone of probability from line 28 onwards. Although classification and framing were strong in BLS, learners were actively involved in their learning and they seemed to be interested in the lessons. The relations between the spaces were weak because the BLS learners and educator B1 shared their spaces.

Similar patterns as were observed in CLS and DLS. Educators C1 and D1 made clear distinctions between break time and class time. Teacher-learner boundaries were weak in both CLS and DLS, where educators and learners shared their spaces. There were differences between CLS and DLS when it came to inter-disciplinary and inter-discursive classification. In CLS the boundaries were strong because educator C1 insisted on the use of correct LS terminology. Whereas, educator D1 encouraged the use of the community code and she integrated LS and other subjects, especially LO. Therefore, inter-disciplinary and inter-discursive classification was weak in DLS. Intra-disciplinary classification was strong in both CLS and DLS because the sections covered were linked in the lessons observed. Each lesson built on the previous one. As in BLS, lessons in CLS and DLS were easily analysed using the intentional forms of nested knowledge hierarchy. The only difference between BLS, CLS and DLS, regarding this analysis, was that educator D1 did not move that much towards the probability zone. The reasons could be that most of the time was spent in the inclusivity zone and only later in the lesson a move towards the exclusivity zone was made.

Based on the numbers in Table 7 above, the classificatory relationships within LS lessons were varied. In ALS, out of the thirteen statements made by educator A1, ten were recorded as weak inter-discursive classification. This means that educator A1 mainly used the community code

during the lesson. The other three statements were recorded under intra-disciplinary classification, meaning that only three statements consisted of the school code. These statements were classified as weak; therefore topics covered during the ALS lessons were unrelated and disjointed, giving ALS a weak classification status. In BLS, twenty school code focused statements were made. These statements were classified as strong inter-disciplinary (15) and strong intra-disciplinary (5). This means that BLS lessons were focused on LS as a discipline. Only nine statements used the community code, thus giving BLS a strong classification status. The same pattern was noted in CLS and DLS, but DLS ended with a weak classification status because integration and the community code were also used extensively. The excessive use of the community code in ALS and DLS resulted in LS having an average weak classification status. This made it difficult to judge the classificatory relationships in LS, because BLS and CLS depicted LS as a subject with strong classification. Considering all the other factors in the ALS and DLS analysis, LS can be judged as a strongly classified subject.

6.5.2. Business Studies

In BS, hierarchical analysis was difficult because all the BS educators did not explain any BS concepts, apart from defining them. Therefore, the hierarchical movements within BS as a discipline were non-nested, thus, topics covered were not arranged in any particular order. This could account for BS educators from schools A and B teaching different topics within the same week.

When analysing Table 3 above, BS, as a discipline, had a weak classification status in all schools (ABS; BBS and CBS) except school D. In DBS, in all seven statements that were made by educator D2, learners were asked to define different BS concepts. However, the strong classification status in DBS does not mean that BS was insulated from other subjects or the community code, because no teaching took place in this class. Business Studies can therefore be judged as a subject with weak classification

6.5.3. Engineering and Graphics Design

Similar to BS, it was difficult to analyse EGD hierarchically because concepts were not explained. Learners were either working on their own (BEGD) or being shown how to draw a particular drawing step by step. Hierarchical complexity within this subject could not be seen or inferred, and like BS, could be labelled as non-nested hierarchical. Considering the Table 3 analysis of EGD in AEGD, BEGD and DEGD, it was classified as weak. Only CEGD had a strong classification status, because educator C3 taught learners both manual and computer-assisted drawing. On average, EGD can be judged as a subject with weak classification.

6.6. ANALYSIS AND INTERPRETATION OF EDUCATOR INTERVIEWS

6.6.1. LS educators

Life Sciences educators believed that their subject was strongly framed and classified. During their interviews, educators B1, C1 and D1 claimed that the selection, sequencing and pacing of the subject content was dictated by the year planner taken from the CAPS. They all agreed that learners had no choice but to learn what is on the syllabus. This means that even educators themselves did not have choices concerning the discursive rules. Based on the three educators' (B1, C1 and D1) comments, LS was viewed as a strongly framed subject. Educator A1 did not know much about the CAPS or LS as a subject, therefore his/her contributions were ignored in this analysis.

Life Sciences was seen as a unique subject with specialized terminology, therefore teaching and assessment had to emphasize the use of correct terminology, making the inter-disciplinary and inter-discursive classifications of LS strong. The educators did not seem to be concerned about whether intra-disciplinary classification was weak or strong. This was deduced from their comments regarding changes in the curriculum from the NCS to CAPS, where educators argued that it was a mere shifting or reshuffling of topics. Educator D1 noted the advantage of reshuffling the LS topics, especially for grade 12, but that comment was not significantly useful for this study. Interestingly enough, all three LS educators seemed to automatically consider the sequence of their lessons. The intra-disciplinary classification in BLS, CLS and DLS was strong, yet educators B1,

C1 and D1 did not comment about this fact. This means that LS intra-disciplinary classification was strong right from the curriculum design, therefore LS educators noticed this strong classification as a given. Educators' qualifications and experience played a major role in how they conducted their lessons. Although all three educators (B1, C1 and D1) perceived LS as a strongly classified subject, educator D1 weakened the boundaries between LS and other subjects through excessive integration. In DLS classification status was weak because educator D1 used the community code almost equally with the school code compared to educators B1 and C1. Qualifications played a major role in this regard, proving the LS educators' claim that to do well in LS as an educator or learner, one needed to be a lifelong learner, while being well grounded in this subject.

6.6.2. BS educators

Interviews with the BS educators revealed that they were all initially qualified to teach BS, except for educator D2 who had a different initial qualification. All four BS educators believed that their subject is not strongly classified because it is similar to all other commercial subjects. Therefore, learners are allowed to use terminology from those commercial subjects as a legitimate text in BS. Educators A2 and D2 argued that even general knowledge (community code) is acceptable. Business Studies educators thus saw inter-disciplinary and inter-discursive classification as weak. Even the intra-disciplinary classification was viewed as weak, because educator A2 said he had chosen to teach the business plan because it was part of the third term's work. As a result of this weak classification, BS educators (A2 and B2) taught different topics even though they were observed during the same week.

Contradictory to the educators' interview responses regarding the classification value of BS, BS educators claimed that their subject is strongly framed because learners have no choice in what to learn. They further argued that they (educators B2, C2 and D2) followed the CAPS when deciding the content and timing of teaching a particular topic. The exception to this was educator A2, who claimed to follow his/her own plan but, similar to BBS, CBS and DBS, ABS learners still have no choice in what to learn. Educators A2 and D2 complained about the increased workload and the shifting of topics from grade 11 down to grade 10. Educator D2 also complained about the large

number of assessment tasks BS educators were expected to give learners. This could account for educator D2 using the question and answer method to teach; he/she claimed that learners knew that some questions used in class were going to come up in the test. Educator D2 also believed that questioning learners would keep them attentive during the lesson.

Even though educators A2, B2 and C2 were observed towards the end of the third term, their respective assessment plans for the end of the term differed greatly; yet, they claimed to be following the same document. This weakened framing in BS, especially the relationship between the educators and the curriculum designers. These educators appeared to understand the CAPS as strongly framed, between themselves and the learners, but not between themselves and the CAPS document. This can be taken to mean that BS educators were preaching what they did not practice. In reality, BS educators each have a different understanding of the curriculum. While educator A2 saw the CAPS as a source of confusion, educators B2 and C2 did not know why the curriculum had been changed. Educator B2 even said, “Maybe they (DBE) are trying to get a better one”. This confirms educator A2’s claim that the CAPS are there to confuse educators. Educator D2 claimed to know why the curriculum was changed, even claiming that research was conducted that revealed that BS learners were not getting employment because what they were learning was irrelevant. Therefore, the CAPS were introduced to remove what is not needed and to add what is important. These arguments from BS educators revealed that they did not have the same understanding about the CAPS and some level of confusion was indeed detected.

6.6.3. EGD educators

Engineering and Graphics Design educators were initially qualified as subject specialists. They viewed their subject as unique, and used a specialized terminology. Learners are not allowed to use any general knowledge or knowledge from other subjects. Therefore, EGD was viewed as a strongly framed and classified subject in whom learners have to use exclusively specialized stationary and other resources specially designed for EGD.

It was notable that although all four EGD educators (A3, B3, C3 and D3) were qualified as subject specialists, three of them (educators A3, C3 and D3) had not learnt this subject at school level. Again, two of them (educators A3 and D3) ended up specializing in this subject because they could

not enroll in any other degree specialization at college or university. It was of slight concern to note that 75% of EGD educators did not have any subject background and that 50% of them specialized in EGD because it was the only option for them. In the EGD observed lessons, this scenario impacted negatively because not much teaching and learning took place, the worst scenario being BEGD, even though educator B3 had learnt this subject at high school level. This implies that learning the subject at school level does not necessarily improve the knowledge base in educators. Intensive interventions seem to be urgently required in this subject to capacitate educators so that EGD learners might benefit more from learning this subject.

Although EGD was viewed as a strongly classified subject by EGD educators, lesson analysis gave it a weak classification status. Although EGD was supposed to have a strong inter-disciplinary classification, instead, the community code was frequently used in AEGD, BEGD and DEGD lessons. These educators claimed that EGD was strongly framed because learners have no choice on what they learn. They further claimed that they were following the work schedule taken from the CAPS in choosing what and when to teach. Contradictory to this claim, lesson observations revealed that educators were not following the CAPS. Educators A3 and B3 were observed teaching different things during the same week. Even their planned end of term assessment tasks differed; yet, the CAPS clearly specify which tasks should be done each term.

Regarding assessment, EGD was strongly framed and classified because, in the words of educators, learners can easily score a zero if they do not follow the rules. A score of a 100 % is equally possible in an EGD assessment. Educator C3 stated that negative marking is used in assessing EGD tasks. This means that all EGD learners, when submitting a task, start off with a 100%, this percentage being reduced by the number of mistakes identified from the drawing. In other words, EGD educators look for what is missing rather than what is present, which is typical of a performance curriculum. Therefore, EGD should be strongly framed and classified.

6.7. ANALYSIS AND INTERPRETATION OF SUBJECT ADVISOR INTERVIEWS

6.7.1. LS subject advisor

Subject advisor One was initially qualified as a Life Sciences subject specialist with a degree and was therefore well grounded in the subject. This subject advisor viewed LS as a unique subject that requires constant reading because of its complicated terminology. To be good at this subject a person needs to be a hard worker and to love the subject. According to this view, an LS educator should be qualified not only as an educator, but as a subject specialist.

Regarding framing and classification of LS, subject advisor One viewed this subject as strongly classified, as educators are expected to follow the work schedule given to them together with the annual assessment plan. When monitoring curriculum implementation, the subject advisor claimed that educators' files are checked to ascertain that they are up to date. If not, a plan has to be devised to ensure that the whole syllabus is covered each year before final examinations.

Subject advisor One viewed the curriculum change from the NCS to CAPS as mainly politically driven, because the mistakes that were made when NCS was initially designed had been corrected in the NCF, as explained in Chapter Five. The CAPS simply reinforces the NCF, therefore educators merely need to follow the CAPS, as they are given the annual plan together with assessment tasks for each term. Subject advisor One also emphasized that educators need to read the CAPS thoroughly to ensure that their teaching meets all the requirements, thus avoiding over or under teaching certain topics.

6.7.2. BS subject advisor

The Business Studies subject advisor Two was also initially qualified as a BS subject specialist from a college of education. He/she believed that all the BS educators in the district are subject specialists because they are well grounded in the subject content. This subject advisor stressed the importance of continuous reading to keep abreast with legislation, because acts passed in parliament impact on the subject content. Therefore, to remain current every educator needs to

read constantly. The only concern subject advisor Two had, was with the way educators assess learners, claiming that some are not assessing all the cognitive levels during the year, resulting in learners performing badly at the end of the year, even though they did well in the continuous assessment. Guiding educators on how to set tests and examination papers became an issue between subject advisor Two and the examinations section, as explained in Chapter Five. Subject advisor Two also insisted that educators should follow the annual teaching plan (ATP) designed from the CAPS document, as did subject advisor One. Subject advisor Two argued that sticking to the ATP would ensure that learners cover all the content allocated to their grade, thus avoiding knowledge gaps. Also emphasized is the importance of following the ATP because the BS CAPS are not a hundred per cent correct; errata had recently (March 2014) been sent from the DBE. Therefore, it is in BS educators' interests to follow the ATP instead of the CAPS document. Subject advisor Two seemed to believe that BS classification is weak, implying that the subject content should change according to what happens in parliament, and suggesting that BS is not well insulated from outside influences because its boundaries are weak and accommodating.

6.7.3. EGD subject advisor

The Engineering and Graphics Design subject advisor Three, similar to the LS and BS subject advisors, was initially qualified as an EGD subject specialist from a college of education. Like the other subject advisors, this interviewee believed that educators should follow the CAPS unquestioningly. Subject advisor Three emphasized the importance of this to ensure that all South African learners are doing the same thing simultaneously for quality assurance purposes.

Subject advisor Three claimed that when visiting schools, educators' files are crosschecked against the work schedule and learners' workbooks to ensure that they are up to date. Where there are problems, the required assistance is given to ensure that the syllabus is finished on time. Distributing the same information and the required documents to all EGD educators is imperative for subject advisor Three. Nothing much was said about the subject content; procedures seemed to be viewed as the most important aspects in EGD.

6.8. ANALYSIS AND INTERPRETATION OF GRADE 10 LEARNER QUESTIONNAIRES

6.8.1. LS learners

Generally, Life Sciences learners viewed their subject as challenging because of its unique terminology. They believed that in order to perform well in LS one needed to love the subject and consistently work hard. The reason they gave for wanting to learn LS was to understand nature and human sciences so that they could pursue careers in the health sciences field at university. These learners confirmed that they had no choice when it came to subject content selection, sequence and pace. In addition, they were only informed about assessment in order to learn for their tests. They said that in LS general knowledge is not accepted as correct, because the use of the correct terminology is expected. These learners therefore confirmed that LS was strongly classified and framed.

6.8.2. BS learners

The majority of Business Studies learners stated they chose this subject because it was not difficult and they wanted their own businesses. Others wanted to be employed soon after finishing grade 12, because they said they knew an employee's role. Very few learners wanted to further their studies in the economics and management science fields. They viewed BS as a subject with a lot of work (lots of notes), which needed to be known 'by heart'. This, in their view, was because the subject is closely linked to other commercial subjects. It was sometimes confusing for learners, when writing a test, to differentiate between BS and economics' subject content. Business Studies was seen as an average subject, because, as well as linking with learners' daily life, it linked with other subjects. This view suggests that BS is a subject with weak classification and framing.

6.8.3. EGD learners

Learners chose Engineering and Graphics Design because they wanted to work in technical fields. They saw their subject as unique because there are no notes for them to read and all they need to do is drawing. Learners viewed EGD as difficult, especially if one was not good at line work.

Educators expect them to draw a perfect drawing; otherwise they are given a zero. To perform well in EGD, learners said they needed to be a good listener and be neat and accurate when drawing. Good time management was also seen as an important attribute because drawing is time consuming. Learners' comments confirmed that EGD was seen as a strongly framed and classified subject.

6.9. CONCLUSION

Data analysis and interpretation showed that schools in KwaZulu-Natal still lack essential resources such as textbooks, libraries and laboratories. As a result, practical lessons are not done, despite the fact that the policy document requires them to be done, especially in LS. It became apparent that EGD instruments are very expensive; therefore some EGD learners find it impossible to buy them. The solution would be for schools to buy these instruments and keep them in the EGD room, since each school has only one EGD educator. Learners from grades 10 to 12 could share the same instruments.

CHAPTER SEVEN

RESEARCH FINDINGS, RECOMMENDATIONS AND CONCLUSION

7.1. INTRODUCTION

This section consists of the research findings from this study that are compared to those of the other similar studies. Before presenting findings obtained from lesson observations and interviews, findings from policy document analysis are outlined. Table 8 below captures the findings from different policy implementation studies, including this one, to question what is consistent, different and new. Following this table is a paragraph that gives the explanation for the differences and new aspects found from this study. The recommendations are based on all the observations made during school visits that impacted on curriculum implementation, though some observations do not directly address the research questions of this study. Lastly, the concluding comments are given and they outline possible further research in policy design and implementation.

7.2. RESEARCH FINDINGS

7.2.1. NCS and CAPS document analysis

When the curriculum documents of the NCS and CAPS were analysed, it became clear that they are not designed in the same way. It is, therefore, a mistake to believe that the CAPS is designed to simplify the implementation of the NCS. The original plan of the DBE minister, when appointing the team of experts to review the NCS was to identify implementation challenges and come up with a set of recommendations that will improve NCS implementation (DBE, 2009:5). Unfortunately, the task team did not “develop a set of recommendations to improve the implementation of the NCS” (DBE, 2009:5). Instead the team came up with a new policy document to be gradually phased in from 2012 to 2014. The NCS and the CAPS are two different policies. While the NCS is competence based, that is, designed using a competence curriculum model that allows learners to learn at their own pace and for assessments to ascertain learners’ knowledge and

capabilities, the CAPS is designed from a performance model, that is, it specifies explicitly the content to be taught, when it should be taught and how and when it should be assessed. In other words, the CAPS do not allow learners to learn at their own pace. Specific targets are pre-set for all learners in a particular grade and subject. These pre-set targets do not cater for learners with special needs; it only caters for the elite. The CAPS is teacher-centred, compared to the NCS that was designed to be learner-centred to promote the state's agenda of social justice. Educators are therefore expected to teach specified content within specified times. Even the assessment tasks to be given daily (informal assessment tasks) or at the end of each term (formal assessment tasks) are specified.

The CAPS are therefore strongly framed and classified compared to NCS in terms of selection, sequence and pace. Subject content to be learned by all South African learners is chosen and ordered by experts and it needs to be learned within a specified period and be assessed with a particular method. This does not suit the majority of learners from poor communities who do not have the required resources, textbooks and suitable stationary for learning.

It is unfortunate that the DBE did not highlight these major differences to educators when the CAPS were introduced. Instead the DBE made contradictory statements when they said that the CAPS, “**(do not replace)** NCS but give clear guidelines as to what content should be taught in a particular year and subject” (DBE, 2013). The DBE even used the words “National Curriculum Statements Grades R-12” when referring to the CAPS to reinforce the point that it was not replacing the NCS. This statement means that the CAPS is simply a repackaging of the NCS, RNCS, Learning Programme Guidelines (LPG) and Subject Assessment Guidelines (SAG) into one curriculum document. Later in the CAPS documents, the DBE stated that the CAPS is

a single comprehensive Curriculum and Assessment Policy document that was developed for each subject **to replace** Subject Statements (NCS); Learning Programme Guidelines (LPG) and Subject Assessment Guidelines (SAG) in Grades *R-12* (DBE, 2011a:3).

These statements are confusing and misleading to educators, because the first statement implies that the NCS and CAPS are the same and second statement implies that they are not. The

differences between them that have been outlined in the first paragraph under document analysis indicate that the NCS and CAPS are indeed two very different policies. While the framing and classification of the NCS is not explicitly indicated, the CAPS are clearly strongly framed and classified, stating that all school subjects from grade R to 12 should be called subjects, compared to the the NCS where subjects are called learning areas in the GET band. The other important observation, regarding the above quotation, is that CAPS is not a single document for grades R to 12. The document analysis in this study was done on CAPS for grades 10 to 12 per subject which means that there are different policy documents for the GET and the FET bands, which is similar to the NCS.

7.2.2. Main findings

Table 8: Comparison of findings from different policy implementation studies

Consistent findings	Different findings	New findings
New curriculum reforms are implemented hastily without proper training of educators	Lack of information regarding curriculum change Subject advisors, educators and learners did not know why CAPS replaced NCS	Curriculum problems are not correctly identified resulting in interventions that do not solve the problems instead making them worse
Lack of suitable resources to implement new curriculum Textbook shortages and the use of unsuitable learning materials	Educators (mainly BS) believe that the CAPS curriculum is too wide with too many assessment tasks needing to be given each term; they feel that the amount of work required does not match allocated time	Contradictory messages are sent out to the public by the DBE through the policy documents as outlined in section 7.2.1

<p>Educators complain that they are overloaded</p> <p>They are expected to teach and assess large classes within a short time making it difficult for educators to implement the policy correctly</p>	<p>An EGD educator complained that the class is too big and hinders the teaching and learning progress</p> <p>It is impossible for the educator to attend to individual learners during a lesson</p>	<p>Poor communication within the DBE sections or directorates</p> <p>Lack of co-operation between directorates within the DBE</p> <p>Important documents are not printed on time</p>
<p>Underperformance of learners in the national and international assessment especially in English and mathematics</p>	<p>Educators felt that it was not wise for the schools to buy enough textbooks for all learners because the curriculum might change and new books will be needed</p>	<p>Lack of information regarding CAPS resulting in educators not implementing CAPS</p> <p>BS educators do not use the policy documents to guide their practice, they follow textbooks (learner guides) page by page</p>
<p>New curriculum causes confusion and stress</p> <p>Educators end up doubting their abilities to teach</p>	<p>Schools do not have enough textbooks</p> <p>Learners are given handouts or they copy notes from the chalkboard</p>	<p>Lack of co-ordinated planning regarding new curriculum implementation</p> <p>Subject advisors do not have set times to conduct workshops resulting in some educators missing all CAPS workshops</p>
<p>Curriculum reforms do not achieve the desired results for which they were designed, instead they re-inforce and promote the negative effects</p>	<p>LS practical lessons are not done due to lack of resources</p> <p>Schools do not have resourced/equipped LS laboratories</p>	<p>CAPS: a new curriculum policy that differs from C2005, RNCS and NCS.</p>

they were meant to correct (Johnson, 2009:6).		DBE need to announce this to the public so that educators can implement it accordingly
Educators resist curriculum change	CAPS implementation without adequate educator workshops confused educators causing them to doubt their abilities	No suitable times for workshops Educators do not want attend workshops over weekends or school holidays

7.2.3. Discussion on research findings and the possible causes

When comparing the research findings of the studies that were done since South Africa became a democracy in 1994, nothing much has changed regarding curriculum implementation challenges. Challenges that were experienced in 1998 when C2005 and OBE were introduced still exist sixteen years later. Policy as a plan still differs from policy in action, though educators claim to implement policy as is. The CAPS, as policy, is strongly framed and classified. Subject content as well as resources to be used is clearly specified. Group work is no longer emphasized because the assessment tasks that count for marks (formal assessments) are individualized. Contradictory to policy, educators are not teaching all the content specified by the CAPS at stipulated times and educators are promoting groupwork by giving learners group assignments, group presentations and recording that as formal assessment.

The difference between the previous curriculum reforms and the CAPS is that when OBE and C2005 were introduced to the public it was as a new approach and a radically changed curriculum that would promote social justice. The curriculum changed from a performance based curriculum to a competence based curriculum as outlined in Chapter Two (Table 1) and in Chapter Three. This was encapsulated in the OBE principles that were closely aligned to the new South African constitution. The problem arose when the subsequent curriculum reforms were introduced. They were introduced as strategies to improve implementation. In fact, the RNCS for the GET band was announced as a plan for strengthening and streamlining C2005 to facilitate implementation. This

meant that the RNCS was not a new curriculum, but a simplified version of C2005. The NCS for the FET band followed the same design as the RNCS. When the CAPS were introduced, the same message was sent out that it is not a new policy, but a repackaging of the RNCS and the NCS into a single comprehensive document to improve NCS implementation, as detailed in Chapter Three. The CAPS should have been introduced as the new curriculum reform designed to correct mistakes that happened during the designing process of the NCS. This fact was omitted by DBE; instead, an impression that the CAPS were the same as the NCS was created. Jansen (2008:1) argues that the people with political power will never admit that they have made a mistake. The same scenario is observed here, when a new curriculum (CAPS) is not introduced properly as a new curriculum.

Educators in this study are not following the CAPS because they do not understand why the NCS was changed to the CAPS. They also felt that they were not given sufficient time for training or workshops. Subject advisors concurred with educators regarding the lack of time for workshops. They further argued that educators do not want to attend workshops over school holidays or weekends. The lack of suitable time for workshops is not the only problem in the DBE, as there is a lack of co-operation within the sub-directorates. Subject advisors complained that teaching and learning materials are not printed on time. The common assessment tasks that were supposed to be written during the first term were still waiting for printing a week before the end of the first term. Subject advisor Two concluded that those assessment tasks would only be distributed during the second term and therefore would be used for revision instead of assessing the first term's work.

To address the problems outlined above, the DBE could plan such that educators open a week before learners at the beginning of each year. If this is included in the school's calendar, educators cannot claim that they are still on holiday. Subject advisors would have enough time to conduct workshops before schools are opened. All systems within the DBE should be co-ordinated such that all curriculum documents are ready for distribution during this workshop week. Furthermore, a common venue for all educators in a specific district could be organized for workshops. This would enable subject advisors to meet all their educators at the same time. When a new curriculum is introduced, a video could be watched where the curriculum designer explains the changes effected on the curriculum and the assumptions made regarding the envisaged schools, classrooms,

educators and learners. Suggestions regarding provisions for successful curriculum implementation could be made.

Curriculum designers (the state and discipline experts) should make their intentions clear to all stakeholders, especially authors of school textbooks and subject advisors. This openly shared information could result in authors including all concepts to be taught per grade in their books, especially because educators find it easier to follow textbooks when teaching. Though teaching by reading from one textbook should not be happening, educators are doing it. They supposed to use the curriculum document and a variety of textbooks when planning their lessons. Educators' clear understanding of the new curriculum and its impact on their subjects and practice could result in correct curriculum implementation, thus ensuring that the curriculum achieves its intended outcomes.

Authors of school textbooks should ensure that their books cover the content as required by the policy document. They should list all concepts in the order in which they are supposed to be taught and learned per term in the front pages of each learner guide/textbook. This would ensure that learners are aware of their curriculum. When learners know their curriculum they can tell when they are ahead or behind the work schedule and make it difficult for educators to omit or teach the wrong content, as happened in BEGD and ALS in this study. Learners will also know what they need to learn, should they need to catch up any missed lessons or want to read ahead. To address the shortage of textbooks, which is a consistent problem in South African schools, e-books could be used in conjunction with the DBE introducing the use of tablets and smart boards in schools.

7.2.4. Lesson observations

During lessons observations it was discovered that educators (A1, A2, A3, B2, B3, C2, C3 and D2) did not follow the CAPS document in their teaching. Although it clearly specifies what should be taught week by week each term, educators were not teaching according to those specifications. They covered the work that should have been done within a specific term, but the weeks did not correspond to the CAPS schedule. Educators were either one or two weeks ahead (like educators C3 and A2 respectively) or two to four weeks behind the CAPS schedule (like educators B1, C2,

D1, D2 and A3 respectively). Educators A1 and B3 could not be categorized as either ahead or behind, because they were not following the CAPS document. Educator A1 taught grade 11 topics to Grade 10 learners and educator B3 did not teach at all. The BEGD learners were busy with drawing activities for the whole week and the CAPS document does not make such provisions. Therefore, these two educators were definitely not following the CAPS document. Educators B2, C1 and D3 followed the CAPS document's week by week specification.

The strong framing and classification of the CAPS was misunderstood or ignored by nine educators, as listed above. Only three educators (B2, C1 and D3) interpreted the CAPS correctly and taught what is expected during specific weeks. Interestingly, one educator per subject under study followed the CAPS, making it difficult to identify the reasons for following or not following the CAPS document. Obviously, all educators knew that the CAPS is the new policy to be implemented, yet most educators ignored or disregarded what is required by the policy. Therefore, the majority of educators saw the CAPS as weakly framed and classified externally, but strongly framed and classified internally. This argument is based on the fact that educators did not give learners any freedom to choose what to learn, yet they (educators) made their own choices regarding what to teach and when and how to assess learners, disregarding the CAPS.

It was discovered that some educators were not teaching properly in their lessons, either because they were struggling in their subjects or they were too idle to do a proper job. As a result, learners were silently suffering in some of the lessons because management within the school was unaware of the problem. Educators continued teaching within the classroom walls without anyone noticing. This could account for why educator B3 was able to not teach learners for a whole week without any external interference. Similarly, educator A1 taught grade 10 learners a grade 11 syllabus without anyone in the school management team noticing. Educator C2 read and interpreted the textbook page by page and educator D2 covered a week's work within one lesson through the question and answer method without it being a problem. Research could be conducted to investigate the role played by SMTs in curriculum implementation, especially when a new curriculum is being introduced.

Different schools were observed during the same week, but what was taught in the same subjects differed. These differences are concerning, because learners were expected to write tests that

covered the whole term's work at the end of each term. As explained above, some educators (B1, C2, D1, D2 and A3) were up to four out of ten weeks behind the schedule. This situation was problematic because it was very difficult or impossible to remedy. Furthermore, educators A1 and B3 either taught the wrong topics, or did not teach anything. This means that the majority of learners in this study were disadvantaged because they were not capacitated to sit for common assessments confidently. Further investigation is required, from the top management of the DBE subject advisors and SMTs, down to educators in schools, to identify the causes of these problems.

This research study revealed that educators, especially the Business Studies educators, relied heavily on textbooks when teaching. Educators read from the learners' books and explained what was read, using IsiZulu; this was the main method used for teaching and learning, especially in schools C and D. Educator C2 asked the learners what the last page for their previous lesson was, and then carried on from where they had left off. This practice meant that learners were going to learn only the content covered in that particular textbook, thus, missing out on some content that should have been covered had the CAPS document been considered. This argument is made because it is unusual to find a single textbook that satisfies all the requirements of any given curriculum statement. This practice of teaching from a textbook was strongly discouraged by subject advisor One, who argued that textbooks could have knowledge gaps, making it essential for educators to use a variety of textbooks; an author can get emphasize one or two topics and ignore others.

Based on the above argument, subject advisor One's recommendations were to plan from the CAPS document and refer to different books to ensure that the required breadth and depth of content is covered. Unfortunately, educators were not using the CAPS work schedule or ATP as a guide for their lesson planning or teaching, judging from the fact that topics taught during lesson observations did not match those scheduled for that particular week in the CAPS or ATP. Learners did not know what they were supposed to learn, which means that they were not given year planners where topics and assessment tasks per term are listed. As a result, educators could teach what they chose and left out whatever they did not like, without learners' even knowing this was the case. This could be the reason why ALS and BEGD learners did not complain when they were not taught what they were supposed to learn during the observed lessons. Compounding the

problems for the learners is the lack of access to textbooks. Learners in ALS, BLS, BBS, DLS, DBS and all EGD lessons did not use textbooks. In ABS, CBS and CLS, textbooks were shared, which might have been due to textbook shortages, apparently a continuous problem in South Africa.

7.2.5. Interviews

When educators and subject advisors were interviewed regarding the curriculum change from the NSC to CAPS, both educators and subject advisors did not know the reason for the change to the CAPS. The contradictory statements made by the DBE caused confusion for some educators. In school A, educator A1 stated that he knew nothing about the CAPS, yet was entrusted with grade 10 learners. Educator A2 said he did not see any difference in the curriculum, except that the CAPS caused much confusion, and explained further that the CAPS had caused him a loss of confidence as an educator, that as of that time (August 2013), his teaching was trial and error. The major complaint was that the CAPS workshops were done too late and only after educators had made major mistakes. A suggestion by educator A2 was to plan curriculum changes correctly so that educators were given enough time to adjust to the reform. Educator A3 saw no difference between the CAPS and the NCS because he/she was still using the same NCS textbooks.

School B educators had similar views as educators from school A. Educator B1 concurred with educator A2 in saying that the CAPS implementation was ill planned and further argued that the “playing field should have been levelled” before any curriculum change was implemented. This argument was based on the fact that South African schools were diverse and differently resourced in both human and non-human resources. According to this educator, disparities should have been addressed before the CAPS were implemented. Educator B2 worked according to the CAPS, although he/she did not know why the NCS had been changed to the CAPS. When asked about the purpose of the change, Educator B2 said, “Maybe DBE was trying to get a better curriculum”. Educator B3 stated that, “the NCS was disjointed” and that was why the CAPS were introduced. The irony is that this educator did not even follow the CAPS, as explained above under lesson observations, but still seemed to think that it was better than the NCS.

In school C, educator C1 did not know the reason for the curriculum change, but taught according to the CAPS document, ensuring that framing and classification of LS remained strong. However, he/she stated that assessment marking was not done too rigidly. Educator C2 did not know the reasons for the curriculum change either, did not follow the CAPS and was two weeks behind in the teaching schedule. Educator C3 seemed to know the difference between the NCS and CAPS, but did not follow it, being a week ahead in the schedule, which the researcher feels was not a problem, provided everything was done. Educator C3 also argued that EGD was a strongly classified subject because negative marking was used for assessment tasks. He/she said that in EGD, when learners submit an assessment, the more ticks the drawing gets the lower the score a learner will get. Bernstein argued that assessments in performance based curricula look for the missing information rather than for what is known (deficiency rather than presence), whereas competence based curricula assess learners to find out what they know and are able to do in order to affirm them and boost their confidence.

Two educators from school D seemed to know why the curriculum was changed to the CAPS. Educator D1 claimed that he/she knew everything about the CAPS because he/she had been thoroughly trained by a well-informed and prepared subject advisor. However, this educator did not follow the CAPS document and was three to four weeks behind the schedule. He/she did not understand the strong classification of LS because the community code was used more and LS was integrated with other subjects. Educator D2 seemed to understand the purpose of the curriculum change. He/she argued that NCS had not given learners enough relevant information, resulting in their not getting employment after finishing basic education. This implied that the CAPS were introduced to remove irrelevant information and add relevance. Despite this argument, this educator did not follow the CAPS or teach learners enough relevant content. He/she was four weeks behind because week four's work was covered during week eight. The whole week's work was covered in one lesson. Educator D3 worked according to the CAPS, but did not know why the curriculum had changed.

It became apparent that some educators had not attended the grade 10 CAPS workshops. The reason for their non-attendance was that they were not teaching grade 10 at the time. In 2012, these educators were still using the NCS to teach grade 11 and in 2013 they were teaching grade 12 NCS and grade 10 CAPS. This meant that these educators had missed out on all the CAPS workshops.

As a result, they continued with what they knew (NCS), but because they knew that they were not supposed to use NCS, they lost confidence in their ability to teach, as educator A2 stated. Another factor contributing to the lack of quality learning was that when educators were on leave, sick or otherwise, schools failed to get a proper replacement on time. In ALS the replacement educator was unqualified and did not know anything about the CAPS, badly disadvantaging ALS learners.

Subject advisors, as stated above, did not know the purpose of the curriculum change, and yet were given the responsibility of training educators. A similar situation existed when OBE was introduced in 1997, as explained in Chapter One. Subject advisors, during a workshop that the researcher attended in 1997, openly stated that they did not know what ‘animal’ OBE was, but nonetheless, it had to be implemented. The same scenario was observed regarding the CAPS, where subject advisors did not know why it had been introduced, and yet educators were expected to implement it. Subject advisor One concurred with educator B1 in suspecting the curriculum was changed for political reasons, while subject advisor Three and educators B2, C1, C2 and D3 speculated that the DBE was trying to find a better curriculum for South African learners.

Subject advisor Two argued that the curriculum was changed because it was “not enough”, that is, the DBE was trying to fulfill the critical and developmental outcomes designed when C2005 and OBE were introduced. Therefore, OBE (C2005) was changed to the NCS, argued subject advisor Two, who further stated “because it was not enough; now the NCS was being changed to the CAPS because the NCS was still not enough”. Subject advisor Three complained mainly about the amount of travelling they (subject advisors) had to do to ensure that all educators in the province were given the same information and documents to use when implementing the CAPS.

The above arguments by educators and subject advisors revealed that educators did not know why the CAPS were introduced. Educators A1, A2, A3, B2, B3, C2, D1 and D3 could not even identify the difference between the NCS and the CAPS. Educator D1 said there was no difference because educators were still teaching and assessing the learners. In contrast, educators B1, C1, C3 and D2 seemed to notice the difference, but were not sure why the NCS was changed. Educators A3, B2 and D2 felt that the CAPS was just a reshuffling of topics from the NCS. A communication breakdown among the DBE officials seemed to be the major challenge to the implementation of

any new curriculum reform. Subject advisors One and Two complained about the lack of suitable time to ‘workshop’ educators. This could account for the different understanding of the CAPS among educators. They were each doing things differently, even though they claimed to be following the CAPS.

This scenario is similar to what Bantwini found in the Eastern Cape when RNCS was introduced. There, Eastern Cape educators continued with C2005, while claiming to be using RNCS. In some schools they went to the extent of buying RNCS lesson plans and kept them in files in the front office. These were shown to the subject advisors and the DBE officials when they visited schools to make them believe that RNCS was being implemented. In this current study, educator A3 argued that there were no differences between the CAPS and the NCS, because they (educators in this school) were still using NCS textbooks while teaching the CAPS. Educators’ misunderstandings, or lack of correct information about the CAPS, appeared to lead to its non-implementation. This defeated the whole purpose of the change from the NCS to the CAPS; learners continued to be taught less content.

7.2.6. Questionnaires

Learners in all subjects revealed they did not know the topics taught before the lesson. This means that they were not aware of what they were expected to learn each term. Although they did not know the topics to be learnt in each lesson, they all said their educators told them what to expect in assessment tasks. Seemingly, learners were not given formative feedback after each assessment task because they did not know exactly why they scored the marks they got for tests.

7.3. RECOMMENDATIONS

The findings from document analysis revealed that the CAPS is specific, strongly framed and classified compared to the NCS that was not specific regarding content to be taught in each grade. Lesson observations showed that nine out of twelve observed educators were not following the CAPS in their teaching. It was discovered through the interviews with educators and subject

advisors that they did not know why the NCS was changed to the CAPS. The DBE needs to make the intention of the curriculum more explicit to everyone, especially subject advisors, educators and authors of textbooks. If curriculum intentions are clear, then authors can ensure that their textbooks capture the ‘soul’ of each subject, that is, each textbook will include all the required content per grade. This would help in closing any knowledge gaps that the educators or learners may have, especially since some educators rely on textbooks for their teaching.

Additionally, to improve the quality of teaching and learning in South African schools, curriculum designers, subject advisors, educators and authors of school textbooks should be specialists in their field or discipline. It is therefore highly advisable that all school subjects be taught by subject specialists who only need a workshop on curriculum implementation and not on subject training. It is of paramount importance that when educators are on leave, that replacements are provided without delays. Preferably, these should be subject specialists to ensure that learners are not disadvantaged. Heads of departments (HoDs) should work closely with the replacement educator to ensure that they are brought up to speed with all current policies guiding the teaching. All this would ensure that learners learn what is appropriate in each subject at school, and that the transmission of the school code is ‘guaranteed’, thus avoiding the practice that occurred in ALS, as explained earlier. This requires that experts rather than all stakeholders be responsible for curriculum designing and textbook reviewing. Although the above statement could be construed as politically incorrect, since it calls for the exclusion of some individuals (non-specialists), it is imperative for the benefit of all South African learners.

Those subject specialists should be encouraged with incentives to be lifelong learners, especially with regard to their subject area. Salaries that are based on minimum qualifications, that is matric plus three or four years of tertiary education (M+3 or M+4), might discourage some educators from improving their qualifications, especially in the subjects that they are teaching. The DBE should value education and encourage research among educators through incentives. Subject advisors, supported by the DBE, should hold annual symposiums during June or December holidays, where subject specialists from schools and higher learning institutions present papers. Peer reviewed papers should be circulated within the DBE subdirectorates for motivational purposes.

Research has shown that the majority of South African educators are not specialists in the subjects they are currently teaching (CDE, 2015). Therefore the provision of useful textbooks, as explained in the fourth paragraph in this section, could result in the improvement of the quality of education for all, even when the subject educator is not a subject specialist. Reducing the scope for educators' selection of subject content could inversely affect selection mistakes. This implies that in future the DBE will have to plan well-coordinated programmes when changing the curriculum. As part of the programme, the DBE will have to ensure that subject advisors are thoroughly trained and informed about the new curriculum reform. Their thorough understanding of the reform might translate into the planning of proper workshops for educators. In schools, principals should ensure that all educators attend workshops for their continued professional development, most importantly when a new curriculum is being introduced. In this study, two teachers claimed that they did not attend any CAPS workshops, and as a result they were not sure of what they were doing. They lacked self-confidence and this was observable in their practice in the classroom. The researcher believes that when educators understand the purpose of curriculum change, they are most likely to be sympathetic to its intentions and implement it correctly.

Furthermore, it is imperative that every learner in school has a textbook for each and every subject to facilitate learning. Subject advisors could be tasked to ensure that all learners under their care have relevant textbooks, meaning that textbooks are thoroughly screened by subject specialists against the curriculum document currently used as policy.

Considering the challenges regarding the time for conducting workshops, as raised by the subject advisors and educators, the use of technology such as e-learning could minimize the problems mentioned earlier in this section. There is a government policy on e-learning, which should facilitate workshops for both educators and learners. To address these problems further, workshops for educators could be made available online. They could be broken down into a series of small sections and uploaded on the DBE website for educators. Access to these online workshops could be via cellular phones. Educators could thus be 'taught' by an expert on how to tackle specific topics in their subjects.

In addition, the use of e-books could solve the problem of textbook shortages or late delivery, because once books are uploaded, they would be available on time. This solution would work best once the roll out of free Internet access has been completed. E-tutors could be provided for support to ensure that quality education is accessible to all South Africans. The use of e-books might compel educators to plan their lessons before teaching, thus minimizing the tendency for educators to read from learner guides when teaching, as was observed during this study.

To ensure that learners are well informed regarding topics to be learnt each term, it is recommended that subject (discipline) specialists write out study guides that are less than ten pages long, where they outline concepts that form the core of each school subject. These concepts could be listed in the order in which they are supposed to be taught as per curriculum statement with a brief explanation for each concept. Then a diagram that shows the links or relationship between those different concepts and time frames should be included. These documents could then be circulated to ensure that learners have access to these guides. This is suggested because learners seem not have access to curriculum documents, resulting in a lack of knowledge and awareness of what they are supposed to learn in the schedule or how and when they are supposed to be assessed. Informing learners this way could empower them to take charge of their own learning. Dedicated learners could start learning concepts ahead so that they can fruitfully participate in a lesson when these are taught in class.

These study guides could be attached to learner guides (textbooks currently used in schools) that teachers seem to rely heavily on for their teaching. Attaching them to these books will cut down on the costs of producing a separate document. In addition, having these guidelines in textbooks could ensure that learners are taught everything they need to learn because the curriculum requirements are in front of them whenever they open their textbooks. Educators are encouraged to give learners detailed feedback after each assessment task to ensure that learners know what is expected of them, meaning that educators should provide learners with legitimate text to facilitate the achievement of the recognition and realization rules. Educators should reveal the subject content to learners, because what is not revealed might never be discovered.

Regarding non-teaching or teaching of wrong content that was observed in BEGD and ALS respectively, it is advisable that principals or the SMT members be visible to ensure that meaningful learning and teaching occurs daily in every classroom within a school. They should visit classes from time to time to see and hear what is happening inside each classroom. Principals or the SMTs could move around the school at the beginning of each session (in the morning and after each break) to ensure that all learners are in class and being attended to. This recommendation might be basic, but it is imperative in certain schools where class time and break time are often the same. In these schools, learners run around the school throughout the day, making noise that disturbs other learners and educators. This situation compromises the whole ethos of the school and raises questions about the credibility of the teaching and learning within that particular school.

Another suggestion that could help the principal and the SMT identify problem areas sooner is the use of anonymous suggestion or comment boxes. These could enable learners to voice their concerns without any fear of victimization. At first, learners might use them as a means of raising minor or irrelevant issues, but in the long run, they could become a source of important information for quality assurance. A dedicated team could be appointed, consisting of all stakeholders within a school, to compile monthly reports from the information obtained from the comment box. The team could consist of representatives from the school management team (SMT), the representative council of learners (RCL), the school governing body (SGB) and members from support departments.

7.4. CONCLUSION

This study has shown that the CAPS is strongly classified and framed compared to the NCS, although this was not emphasized when the DBE introduced it to all South Africans. Subject advisors and educators did not know why the NCS was changed to the CAPS. Some educators did not even know the differences between the two documents because they were not highlighted when the policy was introduced and the intentions of the new policy were not made explicit to all. This omission has resulted in serious repercussions for the CAPS implementation. Educators felt that the curriculum implementation was rushed and they were not given enough time to understand the CAPS beforehand. One educator in the study (A2) confessed that he/she was confused and no

longer had confidence in teaching. The study has revealed that nine out of twelve educators observed are not implementing the CAPS correctly, although they claimed to be exclusively following the CAPS. There is a need for further research in the management of new curriculum implementation within a school. What is the role of the SMT in the implementation of new curriculum reform?

7.5. IMPLICATIONS FOR HIGHER EDUCATION INSTITUTIONS

Higher education institutions offering teacher training should work collaboratively with the DBE to ensure that they offer relevant qualifications for both the initial stage and continued professional development for all educators. Educators should be given enough opportunity to develop professionally while they study for their initial qualification. These young educators should be well grounded in the content of their subject specialization and pedagogy. This study has discovered that young educators struggle with pedagogics, especially the ones with a university degree. If possible, the strategies that are used by colleges of education should be incorporated at universities, so that the initial teacher qualification equips student educators with both content and pedagogy.

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APPENDICES

APPENDIX 1: EDUCATORS INTERVIEW TRANSCRIPTS

All interviews were transcribed verbatim as participants responded to a list of questions asked by the researcher.

Life Sciences

Educator A1

Biographic profile

Why did you decide to become a teacher?

I wanted to make a difference in another child's life.

Where and when did you do your teacher training? Did you enjoy this time?

I am still doing it. I am with UNISA doing B Ed. It is challenging but nice. I am doing my second year now.

Being a Life Sciences teacher

How long have you been teaching at this school?

Eh... a month.

How long have you been teaching LS?

Yo... (laughing) ever since I was in grade 12 around 3 to 4 years.

Do you teach any other subject?

Yes, English.

Why did you choose to teach LS in particular?

It is an interesting subject with a lot of work and very challenging. I want to make it simpler for learners. It was very complicated for me when I was at high school.

What was your experience of learning LS at school and at college/university?

Life Sciences basically form part of life. Basically about how you respond to life than just theory and practical... it is relevant to my life.

What do you enjoy most about teaching LS?

The history... the systems of your body.

What do you dislike about teaching LS?

Nothing.

Which subject(s) at school do you think LS is most similar to? Which subject(s) is LS most different to? Why do you say this?

That will be physical science and life orientation that is similar. I do not think there is any subject that is different from LS. There is an interaction with all subjects. Maybe languages are different.

What do you aim to achieve when you teach LS? What do you hope that your learners will get out of learning LS?

Ha... I really hope that I produce future doctors and nurses of tomorrow because there are so many diseases out there.

Why did you teach the topics that you taught over the past five days? In terms of selection, sequence and pace?

The thing is... I was working on a very tight schedule to cover everything that will be on the September examination. I had to choose all the topics that were covered on the paper. I was teaching for the test. Normally they give you the schedule that shows you all the topics that must be covered each term. The HOD gave me one.

Do your learners have a choice on what to learn during your lessons?

No, not necessarily; they do not have that power otherwise they will choose the easy stuff.

What skills/qualities do you think make a person “good” at LS?

Listening, studying and asking.

Do you think learners see your subject as a “difficult” or an “easy” subject? Why do you think this is the case?

Some say it is easy; others think it is difficult. It depends on the topic.

How are you going to assess the subject content covered over the past five days? Why?

Well, I have something like a table, so they will write a test.

Do your learners know what is expected of them when they are assessed? (Do learners know the legitimate text?)

Yes, I believe that as a teacher I need to communicate with them so that they are aware what to expect. I give them a scope.

When marking assessment tasks, do you accept or mark as correct the general knowledge from other learners or knowledge from other subjects? Why?

Ham... I always advise them to write LS terminology. The thing is, terminology is very difficult. When I set a paper, 30% comes from general knowledge.

Curriculum change

How do you understand the changes that have happened in the LS curriculum recently?

Well, I do not have much information on CAPS, but NCS was simple, but some topics have been added.

What are the differences between NCS and CAPS?

I am not sure of any differences because I did not attend any CAPS workshops.

What do you think are the purposes of the curriculum change?

Maybe they are trying to improve something, but I am not sure. The difference I notice with new curriculums is in the pass percentages. They have been reduced to 30%, which does not make sense. I hope they do not decrease it further because it discourages learners.

As you teach grade 10, how have the new curriculum reforms impacted on your current teaching and assessing practice?

The majority of what is in grade 10 now was found in grade 11 and 12. Maybe they want to make grade 12 easier now. They are reducing grade 12 work.

Educator B1

Biographic profile

Why did you decide to become a teacher?

Well, er... to be honest, teaching was not my first choice, but er... but due to financial situation at home, coming from a family of teachers, parents decided I should also do teaching. At home we went to the same boarding school; obviously, I went to the same college of education. My choice was to be a lawyer, but during those days parents had more say in career choices.

Where and when did you do your teacher training? Did you enjoy this time?

I trained at Indumiso College of Education from 1981 to 1984 and I enjoyed this time, it was fun.

Being a Life Sciences teacher

How long have you been teaching at this school?

I have been here since 1989. It's now about twenty-four years.

How long have you been teaching Life Sciences?

I have taught Life Sciences for twenty-nine years.

Do you teach any other subject?

No.

Why did you choose to teach LS in particular?

I think I had a keen interest in this subject from high school... it was called biology at that time. If you are interested in a subject you end up doing well.

What was your experience of learning LS at school and at college/university?

Well, I knew going to LS... it is unlike any other subject because it is a scientific subject, so I knew that it was going to be challenging, because it has its own scientific language... one has to work a bit extra, firstly, to grasp the language and to cope with competition. When we were at school teaching methods were different and assessment methods were different. We used to write one 3 hours paper. It was a do or die. One had to work very hard in order to cope in LS if you want

to carry on with LS. Even at college, passing requirements were higher so you had to show that you have mastered the content in order to pass.

What do you enjoy most about teaching LS?

Well, anything or any subject where you know that you have mastered its content gives you that confidence. The most enjoyable part is when you see a learner that was struggling doing well and loving your subject towards the end. As much as it is difficult... but the love for the subject drives you to work harder and I believe that is where I came from. If I could do the same for my learners it is satisfying.

What do you dislike about teaching LS?

Well, eh... one is when a learner comes with a negative attitude towards the subject, and two is when there are too many changes in the methodology, which somehow makes you skeptical about right. When curriculum changes make no sense like shifting sections from one grade to another grade, I mean, there is no need to move topics around. A LS learner will eventually do those topics. These changes cause problems like shortage of textbooks because no person of a sound mind can buy books knowing very well that those books are going to change within a short space of time.

Which subject(s) at school do you think LS is most similar to? Which subject(s) is LS most different to? Why do you say this?

LS links with consumer studies, physical science, mathematics, tourism, geography; it integrate with other subjects. It differs from business studies, economics, accounting and maybe history, though there is a bit of history within LS.

What do you aim to achieve when you teach LS? What do you hope that your learners will get out of learning LS?

To see my learners choosing careers that requires LS.

Why did you teach the topics that you taught over the past five days? In terms of selection, sequence and pace.

Work plan is pre-determined so that all schools do the same topics at the same time in order to pace teachers, because at the end of each term there are common tasks and in the common test the content must be uniform. The department subject advisors took initiative to draw a work schedule that guide teachers that by this time you should have covered this and by that time you should have covered that, so that teachers teach a specific content for that term. You just put dates to indicate what you have covered.

Do your learners have a choice on what to learn during your lessons?

If the work schedule says today we must do a specific topic, for instance, gaseous exchange, learners must do that. Not unless we have covered that section. Then, if we have some spare time we can do some enrichment, which normally... looking at the time frames, it does not always allow us to do that.

What skills/qualities do you think make a person “good” at LS?

Nothing beats one to be dedicated in your work. Know where you want to go, not just working to get paid at the end of each month. You want to see more learners, if you are a teacher, taking LS a step further and choosing careers that require LS.

Do you think learners see your subject as a “difficult” or an “easy” subject? Why do you think this is the case?

Yes, most learners think LS is difficult because it has its own language. But some find it interesting because it links with real life, though it is difficult, due to its scientific language.

How are you going to assess the subject content covered over the past five days? Why?

Once we have covered a section/chapter we write a test. Then, having assessed their level of understanding, then, if maybe based on their performance, remedial work could be given. But then there are those tasks that are called formal tasks, those are a must and there are test that are done just to check progress.

Do your learners know what is expected of them when they are assessed? (Do learners know the legitimate text?)

Normally, learners know the content that will be assessed by the formal test, but in class test that are done at the end of each section just to check their progress, they know that we have to cover everything that was in that chapter to discourage spotting.

When marking assessment tasks, do you accept or mark as correct the general knowledge from other learners or knowledge from other subjects? Why?

When we assess or compile a test, you need a memo to guide you regarding possible answers. Some questions allow learners to give their opinions or suggestions, and then learners can give their own answers that are not word for word from that section. Then you mark it correct if it makes sense, but then there are those sections where learners need to only use scientific concepts. Then, there are no deviations.

Curriculum change

How do you understand the changes that have happened in the LS curriculum recently?

The major changes that are noticeable are in the assessment tasks. When it comes to content, it is just a mere shifting of topics from grade to grade. That is not making sense to me, but then maybe it is trying to address issues of assessment tasks. There is an introduction of practical... more emphasis is on practical. We used to have two examination papers, but now there are three papers, the third paper being practical. Practical is good under ideal situations. If we look at our schools we have challenges regarding facilities. Whoever planned this did not first address problems/challenges regarding facilities/resources in schools. Many schools do not have electricity or resourced LS laboratories to conduct practical work. There are a number of no fee schools and when we look at the norms and standards, allocations given by the department are ridiculous. How do you the do your best under such conditions? We try to improvise here and there, but you can't always keep on improvising. We lose focus and pace in the classroom while trying to find this and that.

What are the differences between NCS and CAPS?

The major difference is in the assessment. As far as the content is concerned, it is just a mere shifting of topics from one grade to another, which does not make sense to me.

What do you think are the purposes of the curriculum change?

Frankly, other than political, I do not know (a long pause). In one or two words, it is a drawback because the playing field has not been levelled yet. Had they created a fertile ground for it, they should have invested time and said at this time we want to introduce this and made sure that everything is ready for implementation. Learners need to be given proper practical work in order to get a fair chance in life. This problem has been going on for too long. Well, at this time, we live in a period of change. These changes have taught us to adapt to change within a very short space of time. NATED 550 – OBE and the rest, but then again in some sectors there is a feeling that the period given to change is too short and a new change is introduced, which make educators not embrace it and become skeptical. Why change now while still adapting to the previous change? The training of teachers... I won't say that it is a fair amount of time given to workshop teachers.

If it takes three to four years to train a teacher, but these workshops takes a day. These things have negative effect on teachers. Those who are not dedicated tend to be de-motivated.

As you teach grade 10, how have the new curriculum reforms impacted on your current teaching and assessing practice?

I would not say there is a major change. It's a change that one can live with, but then with all the challenges that I have explained.

Educator C1

Biographic profile

Why did you decide to become a teacher?

Eh... I became a teacher because I enjoy imparting knowledge to young people, developing them, making a change in their lives, making sure that I contribute towards their future success.

Where and when did you do your teacher training? Did you enjoy this time?

I started my level 1 to 4 B Ed at the University of Zululand. During my fourth year I got an opportunity to go to Camber State University in a student exchange programme where I actually extended my knowledge to become a teacher.

Being a Life Sciences teacher

How long have you been teaching at this school?

Eight years.

How long have you been teaching LS?

Eight years.

Do you teach any other subject?

Yes, mathematics and natural sciences to grades 8 and 9.

Why did you choose to teach LS in particular?

Heee... That's a difficult one. Ok, I loved LS since my high school years. I really enjoyed LS and the fact that it talks about the things I can relate to, things that I can communicate very well with my learners while learning about myself as well.

What was your experience of learning LS at school and at college/university?

It was quite interesting... The fact that you get to understand things that are not common knowledge to general public, learning about micro-organisms and learning about life in general.

What do you enjoy most about teaching LS?

Getting to understand the relationship between living and non-living organisms. Getting to understand life processes that are taking place while we are living. It is fascinating to discover such powerful knowledge.

What do you dislike about teaching LS?

Well, at high school level it is quite challenging at times to teach learners. When you talk of unicellular organisms, things that are not common, it becomes very difficult for learners to understand things about animals they have never seen or heard of. It is difficult to make learners imagine these things or explain them.

Which subject(s) at school do you think LS is most similar to? Which subject(s) is LS most different to? Why do you say this?

Geography is similar. History is different, though there is a little bit of history in LS

.

What do you aim to achieve when you teach LS? What do you hope that your learners will get out of learning LS?

Get to understand the environment and know what is happening to their bodies. I want them to choose related careers.

Why did you teach the topics that you taught over the past five days? In terms of selection, sequence and pace.

We have a work programme that is pre-designed by the department. You do not have a choice. Maybe the pace might not go according to the work programme, depending on the topics and learners' understanding.

Do your learners have a choice on what to learn during your lessons?

No, they have to learn the prescribed content. Sometimes learners can drive you with their questions to different topics.

What skills/qualities do you think make a person "good" at LS?

I think the love of nature and science, being open minded. You need to develop daily. You need to keep on being informed with current information. I watch geography channels on TV and learn more.

Do you think learners see your subject as a "difficult" or an "easy" subject? Why do you think this is the case?

They say it is easy. They follow in class. It is interesting to interact in class, but when they write a test they do not do well because LS requires them to use the correct concepts. You do not get marks for generalizing.

How are you going to assess the subject content covered over the past five days? Why?

Orally, when interacting in class. They get informal and formal assessment, but during a lesson you can have a short test.

Do your learners know what is expected of them when they are assessed? (Do learners know the legitimate text?)

Yes.

When marking assessment tasks, do you accept or mark as correct the general knowledge from other learners or knowledge from other subjects? Why?

Well, I am not rigid. I am very flexible. As long as it is relevant content, as some of them are involved in the PROTECH programme. PROTECH is a programme offered by another organization that assist learners in mathematics, science subjects and life orientation. Learners can use the information learnt from that programme.

Curriculum change

How do you understand the changes that have happened in the LS curriculum recently?

Change can be difficult at times. It is not easily accepted in life generally. You need to understand that change is there to develop you

.

What are the differences between NCS and CAPS?

I have not yet grasped what it is, but assessment has changed. Learners are now expected to do practical.

What do you think are the purposes of the curriculum change?

I think it is to develop our learners. Maybe they have seen a gap in learners' knowledge. Maybe they want to ensure that learners are equipped the same way, irrespective of their background.

As you teach grade 10, how have the new curriculum reforms impacted on your current teaching and assessing practice?

Nothing much has changed.

Educator D1

Biographic profile

Why did you decide to become a teacher?

I did not decide. My mother decided for me. I wanted to be a nurse, but my mother said no I should be a teacher because I like talking to people and helping them solve their problems.

I did my training at Madedeni College of Education in 1987 to 1989. I did not specialize in LS at college, because I did a primary teachers diploma, then I specialized later. I realized that there was a difference between college and university, so I went to UNISA and did BA. Later on I went to UKZN and did ACE, specializing in LS.

Being a Life Sciences teacher

How long have you been teaching at this school?

Three years.

How long have you been teaching LS?

Twenty-two years.

Do you teach any other subject?

Yes, life orientation because it is slightly related to LS.

Why did you choose to teach LS in particular?

When I was still in grade 12 my biology teacher did not know the subject, as a result I failed biology. When I started working, the school I worked in had a problem with biology, so I wanted to see what the problem was in order to turn the tables around. I wanted to do what my teacher could not do for us

.

What was your experience of learning LS at school and at college/university?

At school my biology teacher was very incompetent. He failed me. He used to take us out and show us the green leaves and ask us, can you see chlorophyll? This is chlorophyll. He was absent most of the time. When he comes back he will give us sweets. Learning biology was quite frustrating for me. This is the reason why I want to turn thing around and help my learners do well

.

What do you enjoy most about teaching LS?

I enjoy the practical side of it. I tell my learners that wherever you go LS is around. I live LS, walk LS and talk LS all the time.

What do you dislike about teaching LS?

Nothing, I just dislike learners who do not participate in class. I like learners who ask questions.

Which subject(s) at school do you think LS is most similar to? Which subject(s) is LS most different to? Why do you say this?

Life orientation, natural sciences and most subjects are overlapping. A few subjects are not necessarily different, but there might be a slight link, like history and geography. I think EGD and BS are different.

What do you aim to achieve when you teach LS? What do you hope that your learners will get out of learning LS?

I wish I could get more outstanding results from my learners. At the moment I am getting one or two A symbols and a number of B symbols in grade 12. I also want my learners to understand their bodies in order to live a better life, even if they do not follow careers that require LS. I want them to be able to explain what is happening in their bodies. When they are sick they should be able to tell the doctor what is wrong.

Why did you teach the topics that you taught over the past five days? In terms of selection, sequencing and pacing?

I was following the syllabus, but when it is closer to examinations time, I check with my learners if there are any problematic areas. Otherwise, I follow the pace maker designed by the department.

Do your learners have a choice on what to learn during your lessons?

Learners can ask me questions, or they can start the lesson by sharing their experiences. Otherwise we follow the schedule.

What skills/qualities do you think make a person “good” at LS?

A person must be open-minded, learn on a daily basis by listening to other people and reading.

Do you think learners see your subject as a “difficult” or an “easy” subject? Why do you think this is the case?

It is easy because I sell my subject very well. I live LS. I bring leftovers as my lunch to teach my learners the importance of eating healthy food. Lunch does not have to be fancy or expensive. Pap and beans is good enough.

How are you going to assess the subject content covered over the past five days? Why?

I will use control tests mainly because of the work schedule that tells us how to assess each term. I have a three weekly test that I have designed for myself to assess learners on the content covered every three weeks.

Do your learners know what is expected of them when they are assessed? (Do learners know the legitimate text?)

I think they know because the preparations are done continuously. Class works, home works and previous examination papers are used so that learners know what is expected during assessment so that they do not panic.

When marking assessment tasks, do you accept or mark as correct the general knowledge from other learners or knowledge from other subjects? Why?

I look at the context for source based questions. If it is correct, I mark it correct. Generally, I want them to write the correct terms. It will not help them if I mark their general knowledge correct, because at the end of the year they will be marked wrong and fail after passing for the whole year. So I need to groom them. I tell them to even improve their English as well in order to understand questions.

Curriculum change

How do you understand the changes that have happened in the LS curriculum recently?

I understand everything. Our subject advisor took us for a two-day workshop. She was excellent, well prepared and she gave us all relevant documents. There are new terms and some topics have been rearranged. Our subject advisor made sure that we understood all the requirements of CAPS .

What are the differences between NCS and CAPS?

There are not so much changes, except rearrangement of topics. We are still teaching and assessing learners.

What do you think are the purposes of the curriculum change?

I think it is to improve the curriculum. Rearranging topics, especially in grade 12 has been helpful because critical topics are taught early in the year while learners are still eager to learn. It also give teachers a chance to partner with relevant institutions like clinics to obtain suitable resources while you still time.

As you teach grade 10, how have the new curriculum reforms impacted on your current teaching and assessing practice?

It has a positive impact. Teachers are kept on their toes. Teachers need to prepare well, check different books and collect all suitable resources before going to class.

Business Studies

Educator A2

Biographic profile

Why did you decide to become a teacher?

To make change in learners and it is important for people to have knowledge and knowledge does not come from anywhere. It comes from books and books cannot interpret themselves. They need a special someone who can teach and assist learners to make them better people.

Where and when did you do your teacher training? Did you enjoy this time?

I studied at DUT in 2004 to 2007 and I enjoyed that time.

Being a Business Studies teacher

How long have you been teaching at this school?

This is my seventh year.

How long have you been teaching BS?

The same number of years, because I started working in this school, but maybe three to four years teaching grade 10 because we rotate every three years.

Do you teach any other subject?

Yes, I teach EMS to grade 8 and 9.

Why did you choose to teach BS in particular?

Ha... Because South Africa is controlled by business, so I saw this subject as the most important, according to my point of view.

What was your experience of learning BS at school and at college/university?

Iya... at the university we learn something else. When we come to schools we are expected to apply something new, which is challenging for us. We need to start afresh and learn because what we learnt and what we are expected to teach is different. What we learnt at university does not apply to a school context.

What do you enjoy most about teaching BS?

It is an understandable subject and it gives learners a chance to open their own businesses. Some of them are already selling sweets because it opens their minds so they do not suffer when they leave school.

What do you dislike about teaching BS?

It has challenging questions for learners. Teaching it demands a lot of work because it integrates with many subjects.

Which subject(s) at school do you think BS is most similar to? Which subject(s) is BS most different to? Why do you say this?

Life orientation is similar and isiZulu is different.

What do you aim to achieve when you teach BS? What do you hope that your learners will get out of learning BS?

In fact, is to believe in themselves...that they can become employers.

Why did you teach the topics that you taught over the past five days? In terms of selection, sequencing and pacing.

If fact, I did not choose these topics. It was its time, its term according to my plan. I use my own plan because we do not have an external paper, so we teach whatever.

Do your learners have a choice on what to learn during your lessons?

No, they cannot choose.

What skills/qualities do you think make a person “good” at BS?

I think it is to believe in yourself that you can be an employer. You can create something new.

Do you think learners see your subject as a “difficult” or an “easy” subject? Why do you think this is the case?

It is seen as an average subject because learners do not fail this subject. It is not complicated and it is not easy.

How are you going to assess the subject content covered over the past five days? Why?

I am going to mark the business plan using a rubric to check if learners are covering the important aspects of business plan.

Do your learners know what is expected of them when they are assessed? (Do learners know the legitimate text?)

Yes they know. Ok, although it is difficult to make them aware, but I give them a rubric or tell them what is important, though others do not look at it.

When marking assessment tasks, do you accept or mark as correct the general knowledge from other learners or knowledge from other subjects? Why?

I check if general knowledge is in line with the question. If it is in line I mark it correct. I also check for integration from other subjects and give marks for that.

Curriculum change

How do you understand the changes that have happened in the BS curriculum recently?

CAPS came with more work, like business functions, especially for grade 10. It requires more details.

What are the differences between NCS and CAPS?

No differences. CAPS only increased the quantity of work. CAPS added more topics and more details. Ayi... too much work!

What do you think are the purposes of the curriculum change?

I do not understand why the curriculum is changing. I was beginning to understand NCS, but now I do not know the focus of CAPS. I do not understand CAPS. We do not even have any question papers. Even the department is confused. They have never set any CAPS examination paper. We are still assessing using the NCS style, thinking that it is the correct method. We are just trying out. We are lost. CAPS documents came late and we attended CAPS workshops late in the year in April and May. We do not go to workshops in January. We start by making mistakes.

As you teach grade 10, how have the new curriculum reforms impacted on your current teaching and assessing practices?

It caused a lot of confusion and I have lost confidence in myself as a teacher. There was no clear explanation about this. I do not understand this change. I am confused.

Educator B2

Biographic profile

Why did you decide to become a teacher?

(Laughing) I wanted to do something else, but because of financial crisis at home I decided to go for teaching as a stepping stone because I had problems.

Where and when did you do your teacher training? Did you enjoy this time?

I did my training at DUT, doing B Ed for four years and it was very nice because we were gaining a lot.

Being a business studies teacher

How long have you been teaching at this school?

This is my fourth year because I started in January 2010.

How long have you been teaching Business Studies?

The same time because I started teaching in this school.

Do you teach any other subject?

Yes, EMS and accounting.

Why did you choose to teach BS in particular?

Hah... It's part of my majors, so the school was looking for a BS teacher. That is how I was appointed.

What was your experience of learning BS at school and at college/university?

(Clearing the throat) The things that I have experienced, what I am noticing is that the things we did at university differ from what we are expected to teach at school now. So we face challenges teaching the subject.

What do you enjoy most about teaching BS?

I enjoy the fact that it does have practical examples that most learners come across in their lives and it is a subject that is very simple and straightforward to the learners. So they can relate to every situation that is happening in their lives.

What do you dislike about teaching BS?

The fact that it does not necessarily need your own opinion; most of the time in a test or examination they are looking for the facts and it is difficult for the learners to bring back the exact facts rather than their own views. When they write a test they need to bring back the exact BS facts. Some learners confuse what they learnt in economics and write that, but that does not work in BS.

Which subject(s) at school do you think BS is most similar to? Which subject(s) is BS most different to? Why do you say this?

Tourism, because some learners who are doing tourism are given a project that require them to write a business plan, which is done in BS. It is also similar to economics and accounting. It is different to LS maybe, though I'm not sure what is done in LS.

What do you aim to achieve when you teach BS? What do you hope that your learners will get out of learning BS?

I hope that some of them will end up using the knowledge and skills to start their own businesses because not all of them will have a chance to go to universities. Right now, some of them have started selling sweets. They will become self-employed or employers when they have opened their businesses. Some of them will work in big companies. They knows what is expected of them as employees or managers of the future.

Why did you teach the topics that you taught over the past five days? In terms of selection, sequencing and pacing?

Normally we are guided by the work schedule. So what I taught was the part that I had to teach, it was term three's work.

Do your learners have a choice on what to learn during your lessons?

No, not exactly. But if they come with some questions then I attend to those questions. Everything is done according to the document, but then if I realize that they have a problem with a particular section, then I go back and revise.

What skills/qualities do you think make a person "good" at BS?

Huh... Listening skills, creative thinking, always participate in questions and answering skills

Do you think learners see your subject as a "difficult" or an "easy" subject? Why do you think this is the case?

Some find it difficult but it's easy for some learners. But as a teacher you can sometimes see that the learner did not study, so when they fail they say it's difficult, but when you are marking you can see that the learner did not study.

How are you going to assess the subject content covered over the past five days? Why?

Normally, as I am done with term three's work, now we are going to revise and I will drill them in essay writing because that is where they are encountering problems. Then they will write tests and class work. We have class test and school test. That is the one they will write like an examination in September. Class tests are just given to test what you want to test. These tests must be similar to school test, consisting of essay and all cognitive levels. Then we record class tests as informal assessments.

Do your learners know what is expected of them when they are assessed? (Do learners know the legitimate text?)

Yes, normally I give them scope of what is needed, the structure and duration. Everything is open.

When marking assessment tasks, do you accept or mark as correct the general knowledge from other learners or knowledge from other subjects? Why?

Sometimes we need to mark it correct if it relate to the topic, if they have their own views. We do use a memorandum as a guide. Even at the marking centre they say you do not need to stick to the memorandum as long as it is related to the topic.

Curriculum change

How do you understand the changes that have happened in the BS curriculum recently?

Some of the things were not done in grade 10. They were done in grade 11, but now they are done in grade 10 because of CAPS. A lot of acts and contracts are now done in grade 10. There were ten business functions; now they are eighteen.

What are the differences between NCS and CAPS?

Mmm, I think it does not have that big change in terms of the subject that I'm teaching now, I have not noticed any changes. I have noticed in CAPS that it has a lot of guidelines.

What do you think are the purposes of the curriculum change?

I don't know. Maybe they are trying to get a better one.

As you teach grade 10, how have the new curriculum reforms impacted on your current teaching and assessing practices?

Not exactly, assessment is the same... teaching, there are no changes. I still use the same teaching methods.

Educator C2

Biographic profile

Why did you decide to become a teacher?

(Laughing) It was something I wanted to be. I like teaching and I also like to communicate with people.

Where and when did you do your teacher training? Did you enjoy this time?

I trained at DUT in 2006 to 2009 specializing in accounting, business management and computer. I enjoyed this time.

Being a Business Studies teacher

How long have you been teaching at this school?

I started working in 2010, so this is my fourth year.

How long have you been teaching BS?

Three years.

Do you teach any other subject?

Yes, I teach accounting, EMS to grades 8 and 9 and computer literacy.

Why did you choose to teach BS in particular?

Actually, BS was not my favorite subject. I like teaching accounting more than BS. When I came to this school, there was a space for a BS teacher, so I employed as a BS teacher.

What was your experience of learning BS at school and at college/university?

At university it was challenging because at school I did business economics and at university I had to do Business Management, which was a bit challenging for me. In the school area, it was challenging when I started working because I was not sure how to set question papers. BS is not that difficult, but it needs an open-minded person who likes to read. I now enjoy teaching BS.

What do you enjoy most about teaching BS?

(A deep sigh) I enjoy teaching a chapter on business ventures because you can give practical examples to learners... examples like Generations (TV soapy), where Senzo is the MD and other people have share but they do not own the business. Examples like that help learners understand the subject because they love these TV soapy, it is good to link them with their school subjects.

What do you dislike about teaching BS?

There is a chapter... Oh, the first module that you have to do when teaching BS to grade 10 learners. You need to teach them how to write essays. Learners complain and say it is too difficult because they have not done it before. It is compulsory for them because every test must have an essay question. The other thing is that this chapter on environments is too long so learners get bored and you, as a teacher, end up getting bored too.

Which subject(s) at school do you think BS is most similar to? Which subject(s) is BS most different to? Why do you say this?

Similar subjects are accounting, because in accounting they do forms of ownership; and economics, because in economics they do business sectors. It differs from geography maybe...

What do you aim to achieve when you teach BS? What do you hope that your learners will get out of learning BS?

I think they can start their informal businesses that will grow into formal businesses where they will become employers. They can start by getting information from SETA on how to get funding or to form co-operatives so that they can become self-employed. It is just that I am lazy. I need to go to SETA and get this information for them so that they can start now helping their parents.

Why did you teach the topics that you taught over the past five days? In terms of selection, sequencing and pacing?

I am following the syllabus that is the CAPS document.

Do your learners have a choice on what to learn during your lessons?

No, they do not have a choice.

What skills/qualities do you think make a person “good” at BS?

I may say that it is a person who has knowledge of business, interest in business because BS is a subject that must be applied.

Do you think learners see your subject as a “difficult” or an “easy” subject? Why do you think this is the case?

It is not difficult or easy, but learners are lazy to learn. You sometimes find a learner getting 80% in one test, but 40% in the next test. It is not difficult at all; they just need to apply their knowledge. Most learners do not know how to answer source based questions like case studies, even if they know the content. When they start grade 10 we need to teach them how to approach or answer a source based question. Learners do not understand source based questions. They want questions like: Give five qualities of an entrepreneur, instead of identifying them from a case study, so they become confused.

How are you going to assess the subject content covered over the past five days? Why?

As we are going to write trials now, we are going to write for 100 marks, both essay and short questions as per CAPS document.

Do your learners know what is expected of them when they are assessed? (Do learners know the legitimate text?)

Yes, they know.

When marking assessment tasks, do you accept or mark as correct the general knowledge from other learners or knowledge from other subjects? Why?

It depends, because sometimes this thing of marking general knowledge... they like sometimes write something too general, so I start penalizing them from grade 10. I tell them that we need facts, the concepts, not that they must take it from the book as is, but they must read.

Curriculum change

How do you understand the changes that have happened in the BS curriculum recently?

It is not difficult, it is easy to adapt to change that is taking place. In CAPS the work that we were doing in grade 11 is now done in grade 10.

What are the differences between NCS and CAPS?

CAPS do not have LOs and AS, but there is no change. All topics are still there. In fact, they have added some topics.

What do you think are the purposes of the curriculum change?

Mm... I do not know the reasons, because there is nothing new in CAPS except the addition of work. Maybe they want learners to learn more; there is a lot of work. Maybe they are trying to reduce the topics from grade 12.

As you teach grade 10, how have the new curriculum reforms impacted on your current teaching and assessing practice?

There is no change. I am still assessing the same way because the BS question paper is supposed to have three sections. Section A, short questions; Section B, source based questions and Section C, essays.

Educator D2

Biographic profile

Why did you decide to become a teacher?

I decided to be a teacher because I am a person that likes mixing with other people, especially learners.

Where and when did you do your teacher training? Did you enjoy this time?

I trained at Indumiso College of Education in 1984 to 1986. I enjoyed this time, but there was a problem when I was doing my second year. There were too many strikes... students complaining about food. This disturbed us badly. I did not specialize in BS, though that is what I wanted. I registered late and there were no spaces in business economics and IsiZulu stream. I ended up doing a Primary Teachers Diploma. When I was employed here, I had to study through RAU University, specializing in BS.

Being a Business Studies teacher

How long have you been teaching at this school?

I have been here for twenty-five years.

How long have you been teaching BS?

Twenty-five years.

Do you teach any other subject?

No.

Why did you choose to teach BS in particular?

I am a person that likes owning a business, so this is a gateway towards owning my business.

What was your experience of learning BS at school and at college/university?

At school I enjoyed it very much because my teacher was very good. He introduced us to economics because economics is an umbrella for BS and accounting. When I studied at RAU I felt like a person who studied economics, because I was able to understand everything that we were learning.

What do you enjoy most about teaching BS?

I enjoy teaching BS because my learners love the subject and I feel like their favourite teacher because learners are excited when I am coming. This is due to the fact that BS is closely associated to their lives. When you are watching TV or reading a newspaper, BS helps you to interpret what is said.

What do you dislike about teaching BS?

BS is a very detailed subject. As a teacher you need extra time. There is a lot of marking because you need to give learners tasks all the time in order for them to do well. It has a lot of work and assessments. As it is right now, we will not have any holidays.

Which subject(s) at school do you think BS is most similar to? Which subject(s) is BS most different to? Why do you say this?

It is related to accounting and economics, but different to LS.

What do you aim to achieve when you teach BS? What do you hope that your learners will get out of learning BS?

Let me start with general knowledge. I want my learners to understand life, know different currencies for different countries and their impact on the Rand. They must be able to interpret the information when they read newspapers. I want my learners to further their studies by doing B Com. because that is what I wanted to do.

Why did you teach the topics that you taught over the past five days? In terms of selection, sequencing and pacing?

We follow a schedule that comes from the national department so that there is commonality amongst all schools in South Africa. When we conduct tests, we write common tests. The schedule is taken from CAPS, which is a national document. Teachers can teach using CAPS because the schedule is in the CAPS document.

Do your learners have a choice on what to learn during your lessons?

No, they cannot because we follow the programme.

What skills/qualities do you think make a person “good” at BS?

He or she must be able to relate what we do in class with real life or general situation.

Do you think learners see your subject as a “difficult” or an “easy” subject? Why do you think this is the case?

Easy because they love the subject

How are you going to assess the subject content covered over the past five days? Why?

Like I have said, I give them tests for the work covered. Sometimes, I give them oral assessment, but I give them time to prepare. Class tests are conducted every Friday.

Do your learners know what is expected of them when they are assessed? (Do learners know the legitimate text?)

I always tell them during teaching that some of the questions used in class will appear in the test so that learners are attentive all the time.

When marking assessment tasks, do you accept or mark as correct the general knowledge from other learners or knowledge from other subjects? Why?

Yes, BS is about understanding what is happening in the economy in general. Since I allow them to use general knowledge in class, there is no way that I can mark them wrong in a test.

Curriculum change

How do you understand the changes that have happened in the BS curriculum recently?

Maybe in other subjects there are changes, but in BS there are not many changes. What they did was to move topics from grade 12 to grade 11. Grade 10 is still the same.

What are the differences between NCS and CAPS?

CAPS is detailed; it requires us to do a lot of things within a short space of time. The syllabus is too long; we will not have any holidays. Grade 12 topics are introduced in grade 10, yet they are done in detail at grade 12.

What do you think are the purposes of the curriculum change?

Initially, when we attended CAPS workshop we were told that the information in the NCS was not enough. It was not helping learners to get employment. A research was conducted that showed that learners lack relevant information. So now they are removing what is not needed and adding what is important.

As you teach grade 10, how have the new curriculum reforms impacted on your current teaching and assessing practice?

The syllabus is now too long. You have to assess learners while continuing with the schedule, which is frustrating. There is too much work within a short time. Learners cannot pass without assessment, so you need to teach and assess at the same time.

Engineering Graphics and Design

Educator A3

Biographic profile

Why did you decide to become a teacher?

I chose to be a teacher because teachers were my role models. As I grew up, I wanted to be a teacher from a young age.

Where and when did you do your teacher training? Did you enjoy this time?

I trained at DUT from 2007 to 2010 specializing in technical subjects. I enjoyed this time.

Being an Engineering Graphics and Design teacher

How long have you been teaching at this school?

Three years.

How long have you been teaching EGD?

Two years.

Do you teach any other subject?

Yes, I teach arts and culture, because I was employed as a filler teacher because the school did not have an arts and culture teacher.

Why did you choose to teach EGD in particular?

When I came to university, there were three streams to choose from, namely, economics and management sciences (EMS), natural science (NS) and technology (TECH). I could not do EMS because I did not have commercial subjects in my grade 12 certificate. I could not do NS either because I did not have mathematics. So I decided to do tech because I had physical science. I specialized in technology, entrepreneurship and EGD.

What was your experience of learning EGD at school and at college/university?

I did not do EGD at school. I only started at university level. As a result, I did not do well in my first year, so I had to repeat EGD 101 and I excelled the second time round. EGD has helped me to understand and interpret drawings without any given information.

What do you enjoy most about teaching EGD?

You do not talk too much; you just sit with your learners in groups drawing and you move around, though some learners are slow.

What do you dislike about teaching EGD?

Eh... here at school some of our grade 10 learners do not like EGD, though they are registered for it. Others do like EGD, but they do not have the correct instruments used in EGD, because these instruments are expensive and some parents cannot afford to buy them. This makes teaching and learning very difficult.

Which subject(s) at school do you think EGD is most similar to? Which subject(s) is EGD most different to? Why do you say this?

EGD is unique. We draw a lot and make house plans. It is totally different from other subjects.

What do you aim to achieve when you teach EGD? What do you hope that your learners will get out of learning EGD?

I want them to do careers like architecture and civil engineering.

Why did you teach the topics that you taught over the past five days? In terms of selection, sequencing and pacing.

I follow CAPS policy document.

Do your learners have a choice on what to learn during your lessons?

No, they do not have a choice, but those who are fast learners are given more work or asked to assist others.

What skills/qualities do you think make a person “good” at EGD?

Time management, accuracy and line work.

Do you think learners see your subject as a “difficult” or an “easy” subject? Why do you think this is the case?

Some of them see it as a very difficult subject, to the extent that some want to drop it; but they cannot, so some are no longer attending classes. Others say it is easy and they enjoy doing it.

How are you going to assess the subject content covered over the past five days? Why?

I will give them a test because policy requires that they write a test.

Do your learners know what is expected of them when they are assessed? (Do learners know the legitimate text?)

Yes, they know the criteria because I give them. Everybody draws and they know what is expected of them.

When marking assessment tasks, do you accept or mark as correct the general knowledge from other learners or knowledge from other subjects? Why?

No, there is no general knowledge in EGD. Some learners might draw a left side view instead of a right side view, then, as a teacher, you will have to mark it but penalize them for not following instructions.

Curriculum change

How do you understand the changes that have happened in the EGD curriculum recently?

There are no changes. We are still using the NCS textbooks. I cannot see any difference. What is different, are the topics that have been reshuffled.

What are the differences between NCS and CAPS?

CAPS is the same as NCS.

What do you think are the purposes of the curriculum change?

I do not know, because there are no changes; we are still using old books.

As you teach grade 10, how have the new curriculum reforms impacted on your current teaching and assessing practices?

No changes; we are still doing the same things.

Educator B3

Biographic profile

Why did you decide to become a teacher?

(Laughing) The reason is that as I grew up there were teachers who inspired me, who were my role models I wanted to be like them.

Where and when did you do your teacher training? Did you enjoy this time?

I trained at Indumiso College of Education in 1989 to 1991 specializing in technical drawing. I enjoyed this time, though it was a challenging time due to strike actions.

Being an Engineering Graphics and Design teacher

How long have you been teaching at this school?

I have been in this school for six years.

How long have you been teaching EGD?

Twenty-one years.

Do you teach any other subject?

Yes, mathematical literacy and technology.

Why did you choose to teach EGD in particular?

Eh... When I was a learner we used to go to industrial place where we did technical drawing. I developed love for the subject since that time.

What was your experience of learning EGD at school and at college/university?

At school it was nice and easy, but at college things changed and it became very difficult. Compounding my problems were the strike actions, because whatever we were supposed to learn during the strike week was left out. Our lecturers told us that we must learn it on our own and moved on with their plan as it is. This created some knowledge gaps for me, making the module very difficult.

What do you enjoy most about teaching EGD?

Teaching learners this interesting subject because EGD is about real life, everything we use starts with EGD. Chairs, desks and instruments were first drawn by an EGD person before they were made.

What do you dislike about teaching EGD?

I do not have anything I dislike about teaching EGD. It is just that there are challenges when you teach EGD. Learners come to class with wrong stationary or some do not have the correct instruments.

Which subject(s) at school do you think EGD is most similar to? Which subject(s) is EGD most different to? Why do you say this?

Eh... Though they are not similar, there are overlapping topics between mathematics and EGD, especially formula for calculating area and perimeter. I think Life Sciences is different.

What do you aim to achieve when you teach EGD? What do you hope that your learners will get out of learning EGD?

I want my learners to be able to work independently once they are taught how to draw a particular drawing. I want my learners to be able to interpret questions and be able to apply their knowledge. I hope some of them will become engineers.

Why did you teach the topics that you taught over the past five days? In terms of selection, sequencing and pacing?

Well, I follow the work schedule that guides us on what to do for how long. The schedule comes from the department but it is taken from the CAPS document. It is refined to make it easy for us to follow.

Do your learners have a choice on what to learn during your lessons?

Unfortunately no, we have to follow the work schedule.

What skills/qualities do you think make a person “good” at EGD?

A person must be observant, have an analytical mind and an insight. He or she must be able to have mental pictures before actually drawing them.

Do you think learners see your subject as a “difficult” or an “easy” subject? Why do you think this is the case?

It depends, there are those who find it difficult due to a large workload who finds it difficult to cope but for the majority of learners it is easy. The results are good, showing that learners are coping well.

How are you going to assess the subject content covered over the past five days? Why?

Depending on the work schedule, between topics there are course drawings that must be done after each topic. These course drawings are assessed using a memo or rubric. Sometimes peer assessment is done in class; thereafter I give them a test that covers everything.

Do your learners know what is expected of them when they are assessed? (Do learners know the legitimate text?)

Yes, because when we start a topic I tell them what will be assessed in each topic?

When marking assessment tasks, do you accept or mark as correct the general knowledge from other learners or knowledge from other subjects? Why?

Yes, if a learner uses mathematical methods to solve an EGD problem, I mark it correct. But when drawing they need to follow the rules and use correct instruments, otherwise their drawings become wrong.

Curriculum change

How do you understand the changes that have happened in the EGD curriculum recently?

Nothing much no changes in EGD

What are the differences between NCS and CAPS?

They are the same, except for re-shuffling of topics.

What do you think are the purposes of the curriculum change?

I think for the EGD they want to add more information for our learners.

As you teach grade 10, how have the new curriculum reforms impacted on your current teaching and assessing practice?

As I have been saying that there is not much change. It is still the same, except the changes in the arrangement of topics.

Educator C3

Biographic profile

Why did you decide to become a teacher?

Firstly, I was very passionate about learners. I would like to pass on knowledge to learners and I felt that while I was a learner there were things that were not well because of the system. The system changed during our time, a new system was introduced, followed by another system. I wanted to make a change, to contribute to other people's success.

Where and when did you do your teacher training? Did you enjoy this time?

I trained at Indumiso College of Education from 1996 to 2000 specializing on technical drawing and metalwork.

Being an engineering graphics and design teacher

How long have you been teaching at this school?

Thirteen years.

How long have you been teaching EGD?

Thirteen years.

Do you teach any other subject?

Yes, technology.

Why did you choose to teach EGD in particular?

It is the subject that I liked. I grew up enjoying drawing; that is why I went to FET to develop my skill.

What was your experience of learning EGD at school and at college/university?

In drawing you do not need to study like reading books. It goes with a skill, not so much theory. It is a skills based subject.

What do you enjoy most about teaching EGD?

It is more real life. It talks about more relevant things... to current technology.

What do you dislike about teaching EGD?

Learners do not improvise; they do not bring the correct equipment to class. It could be because parents do not have money, but others are irresponsible. You find that they do have instruments at

the beginning of the year, but end up having nothing during the year. Others, because they know that these instruments are expensive, keep theirs at home, steal others during the year and only bring their instruments for tests and examination. This makes teaching very difficult. Learners need their instruments all the time.

Which subject(s) at school do you think EGD is most similar to? Which subject(s) is EGD most different to? Why do you say this?

Physical science and mathematics, because of calculations, you need to know dimensions and scale. Sometimes you need to use a scientific eye. EGD is an umbrella subject; all other learning areas can be integrated.

What do you aim to achieve when you teach EGD? What do you hope that your learners will get out of learning EGD?

Knowledge about things around them... They must understand their environment.

Why did you teach the topics that you taught over the past five days? In terms of selection, sequence and pace?

Because of pace setter according to the programme from the department. I follow the document.

Do your learners have a choice on what to learn during your lessons?

No, I am the one leading. Not unless they have questions that might make me deviate from the topic while answering them and then go back to the programme.

What skills/qualities do you think make a person “good” at EGD?

A person must be good at visualizing... see things in their imagination. Secondly, you need to be hands-on be able to apply things to practical situations.

Do you think learners see your subject as a “difficult” or an “easy” subject? Why do you think this is the case?

It depends. Some see it as a difficult subject, especially those who cannot visualize. So those who are able to visualize find it easy.

How are you going to assess the subject content covered over the past five days? Why?

I will give them a worksheet to see if they are capturing concepts.

Do your learners know what is expected of them when they are assessed? (Do learners know the legitimate text?)

Yes, they know because I tell them what is expected from each drawing

When marking assessment tasks, do you accept or mark as correct the general knowledge from other learners or knowledge from other subjects? Why?

No, they need to follow the rules because EGD is international. If they use their general knowledge the drawing will be wrong, because other people will not be able to interpret in the same way.

Curriculum change

How do you understand the changes that have happened in the EGD curriculum recently?

The syllabus changed from ICS up to now. ICS was very challenging because it contained a lot of content. Learners were allowed to choose between standard grade and higher grade, so as a teacher you had to teach them everything in detail. NCS removed some of the content, but now CAPS is bringing it back but not in the same way as ICS. CAPS are more specific in terms of requirements, though it has taken the style of NCS.

What are the differences between NCS and CAPS?

The difference is not much. Except the reintroduction of other topics that were removed during the NCS, it is similar.

What do you think are the purposes of the curriculum change?

We must change as time changes. I think the curriculum change is helping us not to focus on outdated information, but to focus on what is important currently.

As you teach grade 10, how have the new curriculum reforms impacted on your current teaching and assessing practices?

There are not many changes. The way of teaching and assessing is still the same. We are still using negative marking. When marking the drawing we look for wrong markings and tick those mistakes, depending on the criteria given. Learners know prior to the assessment the criteria, so they know exactly what is expected.

Educator D3

Biographic profile

Why did you decide to become a teacher?

Hm... It's because at home everybody is a teacher and my role model is my elder brother.

Where and when did you do your teacher training? Did you enjoy this time?

I trained at Indumiso in 1996 to 1998 specializing in technical drawing, which is now known as EGD and I enjoyed this time.

Being an engineering graphics and design teacher

How long have you been teaching at this school?

Thirteen years.

How long have you been teaching EGD?

Thirteen years.

Do you teach any other subject?

Yes, mathematics, mathematical Literacy and technology.

Why did you choose to teach EGD in particular?

It is because I specialized in it. It was a package from college that when you specialize in mathematics you must add EGD, which was called technical drawing at that time.

What was your experience of learning EGD at school and at college/university?

I did not do EGD at school. I only started at college and it was very difficult for me.

What do you enjoy most about teaching EGD?

It is a subject that is very practical, so it is easy for my learners to pass. I get a 100% pass rate every year.

What do you dislike about teaching EGD?

In this school the community is very poor. Some learners do not have instruments because they are expensive... parents cannot afford. The school is also unable to provide these instruments, yet learners need to continuously practice both at school and home.

Which subject(s) at school do you think EGD is most similar to? Which subject(s) is EGD most different to? Why do you say this?

EGD is similar to mathematics because there are calculations and formulas are the same. It differs from history and LS.

What do you aim to achieve when you teach EGD? What do you hope that your learners will get out of learning EGD?

Learners learn skills that can enable them to get jobs if parents are unable to send them to tertiary institutions. They can become builders, carpenters or engineers. EGD learners can further their studies by doing civil engineering.

Why did you teach the topics that you taught over the past five days? In terms of selection, sequencing and pacing?

I am following the syllabus.

Do your learners have a choice on what to learn during your lessons?

Yes, they can come up with questions, but we do not divert from the syllabus.

What skills/qualities do you think make a person “good” at EGD?

They must not be lazy and they need to love the subject.

Do you think learners see your subject as a “difficult” or an “easy” subject? Why do you think this is the case?

They see it as an easy subject, especially for the boys because they are used to drawing

.

How are you going to assess the subject content covered over the past five days? Why?

I am going to give them an assignment with drawings.

Do your learners know what is expected of them when they are assessed? (Do learners know the legitimate text?)

Yes, because each assessment task is given with assessment criteria.

When marking assessment tasks, do you accept or mark as correct the general knowledge from other learners or knowledge from other subjects? Why?

No general knowledge is allowed.

Curriculum change

How do you understand the changes that have happened in the EGD curriculum recently?

Ah... Fortunately for EGD, there are not many changes except repackaging of topics. NCS was disjointed. You will find that topics that are needed for PAT are only done in September, yet PAT has to be finished earlier. CAPS has arranged topics correctly.

What are the differences between NCS and CAPS?

Eh... Other challenges with the NCS was the new content that was introduced. Topics were too broad, yet time was limited. CAPS tried to refine topics. There are examination guidelines, giving the breakdown of topics to be covered.

What do you think are the purposes of the curriculum change?

Curriculum needs to change in order to meet the needs of the society as well as to ensure that the curriculum is relevant.

As you teach grade 10, how have the new curriculum reforms impacted on your current teaching and assessing practice?

The need to plan and consult a number of books before teaching... Experience does not work anymore; one needs to keep on reading to make sure that you understand what is required.

APPENDIX 2: INTERVIEW SCHEDULE FOR SUBJECT ADVISORS

Subject advisor One

Biographic profile

Why did you decide to become a subject advisor for LS?

Biology was my specialization. I wanted to share my expertise with other teachers and this was a promotional post.

Where, when and for how long did you do your teacher training? Did you specialize in LS?

I studied BSc at Fort Hare from 1980 to 1984 specializing in biology and I did my teaching diploma for one year specializing in botany and zoology

Did you teach LS at a school? Which grades and for how long?

Yes, I taught biology to grades 10 to 12 and general science to grades 8 and 9 for eight years.

What skills/qualities make a person “good” at LS? If you were to choose educators to teach LS, what criteria would you use? Why?

The teacher must be qualified to teach the subject, be a subject specialist, that is, know your content, be a hard worker, be dedicated, competent and passionate about the subject. Check a track record, if it is an experienced teacher, to see his or her enthusiasm and the quality of results produced over the years, especially grade 12.

What do you normally do or say when visiting teachers at schools?

Usually, I monitor the progress of the teacher as per year planner/work schedule for the year to see if the teacher is following this schedule and to check if the teacher is up to date. If the teacher is behind, extra lessons are recommended to catch up. I also check learners' work, that is, daily assessments or informal assessments, not notes. We discourage note taking because it is a passive exercise and sometimes teachers give notes to a learner who then writes them on the board for other learners. This is problematic because mistakes could happen and remain undetected for a long time. If time permits, I also check the quality of tasks given to see if cognitive levels are covered and that the tasks are in line with final examinations requirements.

How do you understand the changes that have happened in the LS curriculum recently? That is, how does NCS compare to CAPS?

Changes in Life Sciences happened between the NCS and the CAPS to address situation where the NCS provided less content and more application (36% content and 64% application). NCS for LS only was reviewed and the New Content Framework (NCF) was introduced in January 2009 to correct this problem. The NCF contained 60.5% content and 39.5% application, so the CAPS are a second revision since the NCS was introduced. They are reinforcing application (just polishing up)... only a few added content. The CAPS are content driven with a certain percentage of application, that is, 70% content and 30% application. The NCF overemphasized subject content, adding a lot of new content. As a result, the CAPS removed some content.

During subject specific CAPS workshops, what do you emphasize or impress upon teachers to ensure that your subject is effectively and efficiently taught?

The emphasis is on new content. Teachers are asked to compare the old (NCS) with the new (CAPS) to see the difference, identify what is new, that is, what has been added and what has been taken out. This is done to avoid mistakes committed by teachers, especially the experienced teachers who used to teach biology. They might simply see the topic that is similar to biology and start teaching without checking the requirements for that topic (specifics as per curriculum document to avoid overteaching because biology syllabus required more depth in terms of content as compared to the NCS or the CAPS. When new content is identified, required resources need to

be identified and obtained to help teachers understand new content. Teachers must follow the curriculum document, not the text book, because authors might get excited over one topic and write a lot of information and fall short on other topics. Books are sometimes not balanced or they do not meet the requirements of the CAPS document. There are few changes in the CAPS from the NCS content. Some content that was removed from the NCS has been brought back in the CAPS. There are exam guidelines that give the specifics, that is, depth of content so that teachers do not go beyond, especially for an average learner, but for gifted learners, teachers can go an extra mile.

What do you think are the purposes of the curriculum change?

What are the purposes? (laughing) Political, I think. Yes, the initial change from the Nated 550 to the ICS and the NCS was necessary because ICS was content driven without any application part. Subsequent changes are mainly political. I don't understand the need for the change. The NCS had LOs. Now in the CAPS, LOs are built in the content. In the CAPS document LOs are now called specific aims. In the old biology curriculum the syllabus contained both content and practical aspects in the form of experiments. The NCS came with LOs 1 = content, LO 2 = practical and LO 3 = application of content to everyday life, which is the only aspect that came with NCS. The NCS emphasized application more than content, with a ratio of 36% content and 64% application to daily lives. The CAPS turned that ratio around with 70% content and 30% application.

As a subject advisor for teachers in the FET phase, how have the current curriculum reforms impacted on your daily duties?

Daily duties are more or less the same. When I go to schools, the aim is to monitor curriculum implementation, to ensure that teachers are using the correct curriculum correctly. These changes do not have much of an impact because any curriculum change requires monitoring. We were trained for five days on CAPS implementation and we planned to workshop teachers for three days but we were disturbed by strikes. We ended up having a one-day workshop for teachers due to time constraints. The problem is that teachers do not want to attend workshops over holidays. This makes it difficult for us because we are under pressure for time.

Subject advisor Two

Biographic profile

Why did you decide to become a subject advisor for BS?

I wanted to grow in the subject. I thought I had all the experience in the world, since I had fifteen years of service, prior to becoming a subject advisor, teaching the subject and I know a lot of content. The changes of curriculum... I was involved in the changes because I was once a master trainer, so I wanted to do this practically now, advising other educators and supporting them.

Where, when and for how long did you do your teacher training? Did you specialize in BS?

I did a Secondary Teacher's Diploma (STD) at Maluti College in the Eastern Cape majoring in business economics for three years.

Did you teach BS at a school? Which grades and for how long?

Yes, I taught grades 10 and 12 for fifteen years. It was called business economics until it was changed to BS in the new curriculum.

What skills/qualities make a person "good" at BS? If you were to choose educators to teach BS, what criteria would you use? Why?

Eh... Besides being qualified in the subject, one needs to be fond of reading because BS is a current subject. It talks about economic changes, about Acts, and so now you should know what is happening in the economy. You need to know changes in the Acts and policies related to labor, like the skills development act, basic conditions of employment act to keep abreast if there are any changes. You need to know them if you are a BS teacher. You should be a good listener. You should know your content; it's very important for you to know content, so that you can help others understand and how to relate or integrate it with other commercial subjects like accounting and economics. It is a good combination if one is acquainted to those subjects. Teachers need to be

qualified to teach the subject. I will check if a person is upgrading himself or herself in the subject because we need to add new information to what we learnt at school.

What do you normally do or say when visiting teachers at schools?

Firstly, I check their annual teaching plan (ATP). We used to call it year planner or work schedule that we normally give to teachers during orientation workshops at the beginning of each year. These ATPs are used for each grade in the FET phase. They consist of dates and content that teachers must teach during that time. Teachers simply date the ATP, indicating the date they started teaching that content and the date they finished. ATP helps in monitoring the teacher's pace. ATP tells you what is being taught and assessed. There are examples of assessment tasks; the teacher must just indicate which ones were used. ATP can tell you whether the teacher is going to class or not. The teachers file contains lesson preparations that must have dates that correspond with those indicated on the ATP.

How do you understand the changes that have happened in the BS curriculum recently? That is, how does NCS compare to CAPS?

Hey! CAPS is better than NCS. I am telling you... less terminology like learning outcomes and assessment strategies. CAPS is precise, it gives you topics and all subtopics; it tells you exactly what to teach; it tells you straight. If teachers say they missed something, they will be lying because CAPS tells you everything that needs to be taught. It also gives examples or examination guideline, which is telling you what the learner should demonstrate, to show what has been achieved. People think that CAPS has more content than NCS. This is not the case. NCS used to give a broad topic without breaking it down to subtopics. That is why it looked as if there was less content. CAPS gives you topics and subtopics in bullet form, so people think that there is more content.

During subject specific CAPS workshops, what do you emphasise or impress upon teachers to ensure that your subject is effectively and efficiently taught?

Most of my educators are now content specialists... I am telling you. What I emphasize on is assessment. Seventy per cent of them are good at both teaching and assessing learners. Thirty per cent of them can teach but they are not assessing learners correctly. You find that a learner is passing throughout the year, but fail at the end of the year because the assessment tasks given during the year are not in line with the required assessment strategies. Teachers are not asking questions correctly. I now emphasize on proper assessment strategies. I give teachers everything... Bloom's Taxonomy... and I have to group them. We are busy with assessment... how to draw an assessment that is formal. Policy says formal test should be out of a 100 marks, meaning, it should contain all cognitive levels and it should be divided into three sections, namely, Section A that assesses memorization and understanding; Section B that assesses application, where learners are given case studies; and Section C, where learners are given essays. In order to achieve our target of 95% pass rate this year in grade 12, we need to emphasize the correct way of assessing to ensure that there are no problems anymore.

What do you think are the purposes of the curriculum change?

Curriculum change assists us because, if you go back to the critical outcomes and developmental outcomes that were introduced when OBE started, you can see that we are trying to realize them from OBE. It was not enough. NCS is still not enough, thus CAPS. Now, we are trying to realize those COs and DOs. We want our learners to exit grade 12, having achieved all those COs and DOs. We need to review curriculum every five years to add or subtract if there is a lot.

As a subject advisor for teachers in the FET phase, how have the current curriculum reforms impacted on your daily duties?

It is a lot of work to be done. We need to meet now and again provincially and as a district to discuss issues. We need to write materials to support educators. Even when we are writing these materials or documents it is funny, because some educators are on par with the content. Whilst you are doing all that, other sister subdirectorates like the examinations department says we should not give teachers question paper exemplars. They want us to go to the workshops and ask educators to set these papers themselves, but we think it is better to come with exemplars and assist with the

exemplar to show them. There are those things you cannot run away from, but we need this support material for them to be done and the problem is time. We do not get time to have workshops a year before so that we can start the year well. Right now, these materials are still in printing, yet term one is now ending. We will only come with support material in term two. These documents contain assessment tasks for each term. The problem is that they come late. Teachers will use term one's tasks for revision because it is about to end. Teachers are using ATP that is made from the CAPS document. Teachers can use CAPS document only, but what we do not like is that CAPS documents are not one hundred per cent correct; now and again there are errata. A new erratum has just come, which means that I have to give it to teachers when visiting their schools. The problem is that I have 160 schools in this district and I am alone, which makes it very difficult for me to see all the teachers in time. What I normally do, is to go to their cluster meeting and give them the errata. So it means that even next year teachers will be given this CAPS document and errata if the new documents are not printed yet. This is the reason why we come up with other documents, like ATP and assessment tasks, that are the same for all South African schools.

Subject advisor Three

Biographic profile

Why did you decide to become a subject advisor for EGD?

It was a better post and I wanted to help teachers in schools because I was a lecturer for EGD at a college of education.

Where, when and for how long did you do your teacher training? Did you specialize in EGD?

I trained at Indumiso College of Education for three years in 1993 to 1995 and I specialized in EGD and civil technology.

Did you teach EGD at a school? Which grades and for how long?

No, I did not teach in any school. I only taught first year students at a teacher training college for six years from 1996 to 2001.

What skills/qualities make a person “good” at EGD? If you were to choose educators to teach EGD, what criteria would you use? Why?

To be good at EGD, a person must be good at visualizing abstract objects or imagining invisible things, before making them visible. If I were to choose teachers, I would call each one to an interview that is divided into two sessions: A lesson presentation, covering important EGD concepts and a short test to evaluate their visualizing skills.

What do you normally do or say when visiting teachers at schools?

Check the teacher’s file in the teacher’s presence to see pace and compare that with learners’ workbooks and CAPS document to check if the teacher is up to date with his or her work. Check mark sheets for cluster coordinator’s signature to see if the teacher attends moderation meetings and sign those mark sheets. Discuss any other issues or problems the teacher might have regarding the subject. Offer assistance where necessary.

How do you understand the changes that have happened in the EGD curriculum recently? That is, how does NCS compare to CAPS?

CAPS reinforces some NCS section, and then depth in terms of content. Topics are the same, but with more content.

During subject specific CAPS workshops, what do you emphasise or impress upon teachers to ensure that your subject is effectively and efficiently taught?

Stress the coverage of the curriculum. Instruct teachers to follow the CAPS document to avoid knowledge gaps in learners. Teachers are encouraged to teach the whole syllabus and avoid spotting or teaching for examinations.

What do you think are the purposes of the curriculum change?

I think curriculum change is done to make sure that all South African learners receive the same good quality education. Changes are done in order to have the best curriculum, though politically, but it can improve the knowledge base of learners.

As a subject advisor for teachers in the FET phase, how have the current curriculum reforms impacted on your daily duties?

It has come with a lot of travelling, conducting workshops to make sure that all teachers have the same information regarding CAPS. Documents are given to teachers during workshops so that all teachers use the same mark sheets to record their marks, thus ensuring that everyone has the required number of tasks per term and year.

APPENDIX 3: PERMISSION APPLICATION LETTER

2 GREATHEAD ROAD

BISLEY

PIETERMARITZBURG

3201

24 April 2012

DEAR SIR/MADAM (Chief Education Specialist, Research Office)

APPLICATION FOR PERMISSION: TO CONDUCT RESEARCH AT SELECTED SCHOOLS IN UMGUNGUNDLOVU DISTRICT.

My name is Thabile Carol Chamane, presently employed as a lecturer at Durban University of Technology, School Of Education, at INDUMISO Campus. I am registered with UNISA for a Doctor of Education degree, focusing on Curriculum Studies. My supervisor is Professor M.W. Maila (Manager of the Teaching Practice Unit in the College of Education, UNISA). The title of my thesis is: *“Investigating the Implementation of the Grade 10 Curriculum and Assessment Statement: A Case Study at Selected Schools in UMGUNGUNDLOVU”*.

I am requesting your permission to conduct research at four selected schools in UMGUNGUNDLOVU district that offer the three subjects under study (Life Sciences, Business Studies and Engineering and Graphics Design). The purpose of this study is to see how teachers implement the CAPS for these subjects at grade 10 level since this curriculum was introduced in 2012.

I would like to observe and audio tape one teacher per subject in each school, teaching one class for five consecutive lessons. Thereafter, teachers will be interviewed and learners requested to fill in a short questionnaire. I would also like to interview the relevant Subject Advisors and also attend their CAPS workshops whenever possible. I would prefer to use schools where all three subjects are offered so that I can be in one school for a week to minimize travelling expenses, but I am flexible if this is not possible.

Participants will be requested to sign an informed consent form, after giving them all the details about the study. Their names or identities will remain anonymous and they will participate on a voluntary basis, as there will be no remuneration for participation. Participants will not be subjected to any discomfort and they are allowed to withdraw from the study if they feel uncomfortable to participate.

Participation in this study simply means: **Teachers and learners** - allowing the researcher to be in their classroom observing and audio recording the lesson. Thereafter, be requested to be interviewed (teachers) or respond to a short questionnaire (learners): **Subject advisors** - observed and audio taped during CAPS workshops and interviewed afterwards. The recording will be done purely to help the researcher analyse data and serve as evidence that data was collected, in case my supervisor or the research ethics committee wants to see evidence.

Member checking sessions will be arranged once data is analysed to ensure that the researcher captured everything accurately. Once the study is completed, a summary of the findings will be made available to the participants.

My contact details are as follows: Cell phone number: 0833195000; work number: 033 845 9040; email address: chamanen@dut.ac.za or I can be contacted via the post using my residential address above.

Please sign the attached consent form to confirm that you agree to participate in this study and that you are aware that you will not be paid for your participation.

Yours sincerely

.....

Thabile Carol Chamane

APPENDIX 4: CONSENT FORMS FOR PRINCIPALS, TEACHERS AND SUBJECT ADVISORS

Dear Principal,

Could you please read the attached letter that was sent to the chief educational specialist (Research Office) and sign the attached consent form if you allow me to conduct research in your school.

Consent form for the Principal

Ithe Principal of.....School give permission to Thabile Carol Chamane, a Doctoral student at UNISA, to conduct research in my School. I understand what my participation entails and that I will not be paid for participating.

Signed

at.....date.....

Signature.....

Consent form for the subject teacher/subject advisor

Dear subject teacher/subject advisor,

Could you please read the attached letter that was sent to the chief educational specialist (Research Office) and your principal? Please sign the attached consent form if you allow me to conduct research in your classroom while you are teaching or conducting a workshop (subject advisor) and to interview you concerning the CAPS for your subject specialization.

Consent form (teacher/subject advisor)

I....., agree to participate in the research study conducted by Thabile Carol Chamane, a Doctoral student at UNISA. I understand what my participation entails and that I will not be paid for participating.

Signed

at.....date.....

Signature.....

APPENDIX 5: CONSENT FORMS FOR PARENTS

Dear parent,

Could you please grant your child permission to participate in the research that will be conducted during their Life Sciences, Business Studies or Engineering Graphics Design lesson for five consecutive days? The attached letter explains everything about this research. Please co-sign the assent form.

Informed consent form for parents

I.....parent/guardian
of.....grade 10, give permission for my child to participate
in the study conducted by Thabile Carol Chamane, a Doctoral student at UNISA. I understand
what my participation entails and that I will not be paid for participating.

Signed

at.....date.....

Signature.....

APPENDIX 6: ASSENT FORMS FOR LEARNERS

Dear learner,

Could you please read the attached letter that was sent to the chief educational specialist (research office), your principal, and your subject teachers? Please sign the attached assent form if you allow me to conduct research in your classroom while you are learning.

Assent form

I....., grade 10 learner at.....school, agree to participate in the research study conducted by Thabile Carol Chamane, a Doctoral student at UNISA. I understand that my voluntary participation entails being observed and audio taped while learning in class and requested to fill in a short questionnaire afterwards, and that I will not be paid for my participation.

Signed at.....date.....

Signature.....

APPENDIX 7: RESEARCH INSTRUMENTS

Questionnaire

(A total of 120 learners from four schools will respond to this questionnaire. That is, 30 learners per school = 10 learners per subject. Schools will be classified as School A, School B and School C for analysis purposes.

Questionnaire for grade 10 learners:

Instructions to learners:

This questionnaire will be answered by ten randomly selected learners involved in this study per subject and school.

Learners must base their responses on **one subject only**, that is, the subject **that was observed in their presence**, e.g. Life Sciences, Business Studies or Engineering Graphics and Design.

Choose your subject and write its name in the space provided.

Name of the subject

Why have you chosen to take Life Sciences (LS), Engineering Graphics and Design (EGD) or Business studies (BS) (**underline one subject only**) as a subject in Grade 10?

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Choose the one answer and circle it from the choices in brackets that best describe your subject and briefly explain why you chose that answer in the spaces provided.

My subject is (unique/similar) when compared to other subjects that I am doing this year because

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I (can/cannot) use knowledge from home or other subjects when answering questions in class or during a test in my subject because.....

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.....

(I knew/did not know) beforehand the topics that we did for the past five days, their order and time we needed to finish them.

Reasons.....

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(I know/do not know) what to expect in a test because

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My subject (LS, BS, EGD) (**underline one subject only**) is very (difficult/easy) to understand and do well in it because

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.....

What skills/qualities do you think makes a person “good” at (**your subject**) Life Sciences, EGD or Business Studies?

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.....

Which subject(s) at school do you think (Life Sciences, EGD or Business Studies) (**underline your subject only and compare it to other subjects that you are doing**) are most similar and or most different to your subject? Why do you say this?

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Do you know why you got full marks/no marks or some marks for this test? Explain.

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Interview schedule for subject teachers

(A total of 12 teachers from the four schools involved in the study will be interviewed. That is, one teacher per subject and three teachers per school.

Biographic profile

Why did you decide to become a teacher?

Where and when did you do your teacher training? Did you enjoy this time?

Did you specialize in LS/BS/EGD? If not, what is your field of specialization?

Being a life sciences teacher/business studies teacher or engineering graphics and design teacher

How long have you been teaching at this school?

How long have you been teaching Life Sciences/Business Studies or EGD?

Do you teach any other subject?

Why did you choose to teach LS/BS or EGD in particular?

What was your experience of learning LS/BS or EGD at school and at college/university?

What do you enjoy most about teaching LS/BS or EGD?

What do you dislike about teaching LS/BS or EGD?

Which subject(s) at school do you think LS/BS or EGD is most similar to? Which subject(s) is LS/BS or EGD most different to? Why do you say this?

What do you aim to do when you teach LS/BS or EGD? What do you hope that your learners will get out of learning LS/BS or EGD?

Why did you teach the topics that you taught over the past five days? In terms of selection, sequencing and pacing.

Do your learners have a choice on what to learn during your lessons?

What skills/qualities do you think make a person “good” at LS/BS or EGD?

Do you think learners see your subject as a “difficult” or an “easy” subject? Why do you think this is the case?

How are you going to assess the subject content covered over the past five days? Why?

Do your learners know what is expected of them when they are assessed? (Do learners know the legitimate text?)

When marking assessment tasks, do you accept or mark as correct the general knowledge from learners or knowledge from other subjects? Why?

Curriculum change

How do you understand the changes that have happened in the L/BS/EGD curriculum recently?

What are the differences between NCS and CAPS?

What do you think are the purposes of the curriculum change?

As you teach grade 10, how have the new curriculum reforms impacted on your current teaching and assessing practices?

Interview schedule for subject advisors

(A total of three subject advisors will be interviewed, that is, one subject advisor per subject)

Why did you decide to become a subject advisor for LS/BS/EGD?

Where, when and for how long did you do your teacher training? Did you specialize in LS/BS/EGD?

Did you teach LS/BS/EGD at a school? Which grades and for how long?

What skills/qualities make a person “good” at LS/BS/EGD? If you were to choose educators to teach LS/BS/EGD, what criteria would you use? Why?

What do you normally do or say to teachers when visiting schools?

How do you understand the changes that have happened in the LS/BS/EGD curriculum recently?
That is, how does NCS compare to CAPS?

During subject specific CAPS workshops, what do you emphasise or impress upon teachers to ensure that your subject is effectively and efficiently taught?

What do you think are the purposes of the curriculum change?

As a subject advisor for teachers in the FET phase, how have the current curriculum reforms impacted on your daily duties?

Lesson observation schedule/template

Name of the school

Subject

Lesson number.....

LessonTopic

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FRAMING

Discursive rules: selection

Teacher

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SEQUENCING

Teacher

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Learner

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PACING

Teacher

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HIERARCHICAL RULES

Teacher and learners

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Learners and learners

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CLASSIFICATORY RELATIONSHIPS WITHIN THE CLASSROOM

INTER- DISCIPLINARY CLASSIFICATION			
Strong classification		Weak classification	
Teacher	Learner	Teacher	Learner

INTER-DISCURSIVE CLASSIFICATION			
School code		Community code	
Teacher	Learner	Teacher	Learner

INTRA-DISCIPLINARY CLASSIFICATION	
Linked to previous topics taught	No link to previous topics taught

DEMARCATIION OF SPACES USED BY THE TEACHER AND THE LEARNERS	
Teachers Space	Learners Space

APPENDIX 8: DATA GENERATED THROUGH LESSON OBSERVATION

Life Sciences

ALS

LESSONS ONE

All lessons in this school are fifty five minutes long. This lesson started fifteen minutes late.

A1: “Sagcinaphi nani?” (Where did we end?) Photosynthesis. “Angithi?” (Photosynthesis. right?)

Learners in chorus: “Yebo” (yes)

A1: (Wrote the topic Photosynthesis on the chalkboard and some notes from his exercise book) “Siyabhala angithi?” (We are writing. Right?) “maniqeda nanka ama activities enisazowenza” (showing them a number of activities they will need to do as soon as they are done taking down the notes)

A1: “Ngizonichazela nibe nibhala” (I will explain while you are writing)

Learners: (In chorus) “No”

A1: “Engani niyayibuka iGeneration nibe nikhuluma”. (I know that you are able to watch Generation while you talking)

Learners (protesting): “Sisuke sikhuluma singabhali” (we are able to watch while we are talking not writing)

Learners: (complaining) akubonali (it is illegible, we need a microscope)

A1: Bonke othisha beScience babhala kabi (all Science teachers have bad handwriting)

What the researcher observed was that learners were talking amongst themselves about their own things as they took down the notes, often asking each other about the words they could not figure out. Twenty five minutes went by while the teacher was still writing notes on the board and

learners copying them. Another teacher came in and privately spoke to the teacher for +_ 2 minutes then left. The teacher finished off the notes and started to explain them in IsiZulu.

The researcher observed that in this lesson the teacher spent about 15 minutes talking / teaching the learners. Learners on the other hand spent more than 40 minutes talking amongst themselves. The level of the noise was too high both inside and outside the classroom as some learners were standing outside classrooms. (Maybe some teachers were absent and learners were left unattended, as a result they were standing outside their classrooms talking, this was not verified). Seemingly in this school, class time and break time were almost the same in terms of the levels of noise and movement of learners outside classrooms during the time that the researcher was in the school.

BLS

LESSON ONE

Lessons in this school are forty five minutes long. This lesson seemed to be a continuation from the previous lesson on the control of the heartbeat. The time allocated for this lesson was used profitably.

B1: Good morning learners.

Learners: Good morning teacher.

B1: We are still continuing with our topic: Transport Systems in Mammals (Human).

B1: What will happen to you if you were to run from the classroom down to the robots and back?

Learner 4: I will sweat a lot.

Learner 5: I will be out of breath.

Learner 6: My heart will beat very fast.

B1: Good, exercise does affect our heartbeat rate. We perspire and we might be out of breath after running depending on our level of fitness.

B1: Let us look at the effects of exercise on the heartbeat. Turn to page 2.36 of your handout on transport systems in mammals.

The teacher explained notes on this handout, asking them questions and encouraging them to use the correct terminology when answering questions by substituting learners' words with the correct

term. Example during exercise, more respiration occurs in the muscles to release more energy for muscle contraction therefore more carbon dioxide is released into the blood. The receptors in the neck arteries (carotid arteries) detect the increase in carbon dioxide in the blood and send an impulse to the pacemaker in the heart so that the heart can pump deoxygenated blood faster to the lungs to release excess carbon dioxide. As the blood passes through the lungs it releases carbon dioxide that is exhaled and absorbs oxygen that is inhaled during breathing so oxygenated blood will also reach the muscles faster. This raised heart rate will cause shortness of breath and perspiration.

B1: Now that you understand what happens when you exercise, let us look at what is happening in our blood capillaries between tissues.

The teacher explained (using a chart) how lymph is formed in the intercellular spaces. This lesson was very interesting and informative. Towards the end of the lesson the teacher gave learners homework.

B1: For your homework, go to page 2.48 of your handouts and do question six as your activity on the lymphatic system.

Business Studies

CBS

LESSON ONE

C 2: Good morning

Learners: Good morning teachers

C 2: Siqqibele kupage ntoni last week? (Where did we end last week? What was the last page?)

Learners: Sasesiqale amacontracts (we started contracts)

C 2: Ok now I remember we only dealt with the definition of contracts. Give me one book and start reading from the beginning of contracts.

Learner 44: There are a number of contracts that are relevant and have legal implications in different business contexts.

C 2: Yes, kunamacontracts ahlukeneyo (there are different types of contracts) depending on the type of the business and these contracts zinelegal (there are legal) implications zisemthethweni (there are legal). Njengalokhu ngiapha esikolweni ngisayine icontract edifferent form umsebenzi wasepick and pay (as I work here at this school I have signed a different contract from the one signed by Pick and Pay worker). That is what they mean when they say contracts have their legal implications in different business context. Qhubeka sana (go on my child)

Learner 45: A contract is defined as a binding legal agreement between two parties.

C 2: Yebo kuba usayna (yes if you sign a contract) icontract you are legally bound by that agreement. Ubambekile ileso sivumelwano osisayineleyo (you are bound by the agreement you have signed). As I am married I am bound by my marriage contract to my husband. Anginakwenza nje nantoni engiyithandayo (I cannot do as I wish) without his consent. Go on.

Learner 46: There are different types of contracts...

C 2: Yes kunezinhlombo ezahlukeneyo zezicontracts (there are different types of contracts) like employment contract ebingithetha ngayo lapha ekuqaleni (I was talking about earlier). We get insurance like umasigcwabane (funeral cover), lease agreement ukubolekisa ngempahla yakho (leasing your goods/property), hire purchase uma sithengifurniture (when we buy furniture on hire purchase) and rental ukuhlalisa umntu enzinakho (allow someone to rent a room in your house).

This style of teaching and learning continued until the end of the lesson. During the second and the third lesson the teacher continued with her teaching style. Learners were reading from their books and the teacher interpreted in IsiZulu/ Xhosa what the learners were reading. They were using a Business Studies book called Fast Track Business Studies Revised for CAPS Grade 10 learner's book. This book seem to be arranged according to the CAPS documents in terms of content to be learnt per term, but it does not divide the content according to weeks as the document specifies. Seemingly these learners will read this book from cover to cover and hopefully they will cover the depth as well as it is specified in the CAPS document.

Engineering Graphics and Design

DEGD

LESSON ONE

D 3: We are now constructing an inscribed circle.

D 3: An inscribed circle is a circle which appears inside a triangle.

D 3: So this circle will touch all the sides of the triangle.

D 3: How many sides does the triangle have?

Learners in unison: 3 sides

D 3: It has got three (3) sides.

D 3: Which means the inside circle will touch the three sides, inside part, all the sides of the triangle without overlapping and without leaving the space inside the circle and the triangle.

D 3: So the first step, you are going to draw a triangle of any size and then you are going to do the construction.

D 3: How are we going to do the construction? You are going to bisect each angle of a triangle. Siyakhumbula ukubisecta? (Do we still remember how to bisect?)

Learners in a whisper: Yes

D 3: We are going to bisect each angle of a triangle, which means you are going to open up your compass, at the same position, you cannot change the size.

D 3: So you are going to start by the first angle, you scribe and then you stand your compass point must stand on the other side, you scribe on the inside, scribe and then where your scribes meet, you are going to put a small dot.

D 3: (demonstrating) a small dot. We are finished with the first angle.

D 3: Then we are going to come to the next angle. On the next angle you are going to bisect this angle (demonstrating) bisect the angle.

D 3: Put your compass point here, (demonstrating on the board) then you scribe, on the other side and then you scribe, without changing the size of compass. Without moving the size of your compass and then you are finished with the second angle, you go to the third angle, you do the same.

D 3: You scribe, with the same distance, then you stand then you scribe on the inside then you scribe on the other side.

D 3: Can you see that there is this dot where the scribes meet for the third angle and the dot for the second angle and the dot for the...

Learners with teacher: first angle.

D 3: Right! And then I am going to take my set square or are you going to take your ruler and draw the lines to join this point and that point. Can you see that?

Learners: Yes

D 3: You are going to join this point and that point.

D 3: (demonstrating) I am joining the points! Can you see?

Learners: Yes

D 3: Right. (Demonstrating) As well as on this side I'm going to join this point and that point. Can you see that?

Learners: Yes

D 3: Right. I'm joining this point and that point. Right can you see that my lines met at the centre of the triangle? Of the triangle!

Learners (in an uncertain whisper): Yes

D 3: And then the last one. I'm joining this point and that point. They all meet at the same centre of the...

Learners and teacher: triangle.

D 3: Uyawabona (can you see them?) Then I'm taking my compass. Then I'm using these interceptions as the centre of the circle.

D 3: I'm using these interceptions as the centre of the circle. Then I'm putting my compass point at the center and then you must mark open your compass and mark where your circle will touch the side of the triangle. That side, that side, this side (pointing at the three sides). Uyayibona (can you see it?)

Learners: yes

D 3: It mustn't go overlap it mustn't go beyond the triangle.

The teacher explained and demonstrated all the steps needed to construct the inscribed circle. After demonstration learners were instructed to construct their own drawing. Learners listened attentively throughout the lesson while the teacher was demonstrating. The problems aroused when they were instructed to draw on their own. A number of them did not have the correct instruments, so they were sharing the drawing instruments. This caused a lot of delay especially because when the learners were drawing, they used the eraser as much as they were drawing. So this activity continued until the end of the lesson.

APPENDIX 9: ETHICAL CLEARANCE CERTIFICATE



Research Ethics Clearance Certificate

This is to certify that the application for ethical clearance submitted by

TC Chamane [3491845]

for a D Ed study entitled

*Investigating the implementation of grade 10 Curriculum and
Assessment statement: a case study at selected schools in
uMgungundlovu*

has met the ethical requirements as specified by the University of South Africa
College of Education Research Ethics Committee. This certificate is valid for two
years from the date of issue.

A handwritten signature in black ink, appearing to read "CS le Roux".

Prof CS le Roux
CEDU REC (Chairperson)
lrouxcs@unisa.ac.za

20 June 2013

Reference number: 2013 JUNE/3491845/CSLR

APPENDIX 10: PERMISSION LETTER TO CONDUCT RESEARCH AT KZN DBE INSTITUTIONS



education

Department:
Education
PROVINCE OF KWAZULU-NATAL

Enquiries: Sibusiso Alwar

Tel: 033 341 8610

Ref.:2/4/8/440

Mrs Thabile Carol Chamane
2 Greathead Road
Bisley
PIETERMARITZBURG
3201

Dear Mrs Chamane

PERMISSION TO CONDUCT RESEARCH IN THE KZN DoE INSTITUTIONS

Your application to conduct a pilot and research entitled: **Investigating the Implementation of Grade 10 Curriculum Assessment Statement: a Case Study at Selected Schools in uMgungundlovu District**, in the KwaZulu-Natal Department of Education Institutions has been approved. The conditions of the approval are as follows:

1. The researcher will make all the arrangements concerning the research and interviews.
2. The researcher must ensure that Educator and learning programmes are not interrupted.
3. Interviews are not conducted during the time of writing examinations in schools.
4. Learners, Educators, Schools and Institutions are not identifiable in any way from the results of the research.
5. A copy of this letter is submitted to District Managers, Principals and Heads of Institutions where the intended research and interviews are to be conducted.
6. The period of investigation is limited to the period from 01 July 2013 to 31 July 2015.
7. Your research and interviews will be limited to the schools you have proposed and approved by the Head of Department. Please note that Principals, Educators, Departmental Officials and Learners are under no obligation to participate or assist you in your investigation.
8. Should you wish to extend the period of your survey at the school(s), please contact Mr. Alwar at the contact numbers below.
9. Upon completion of the research, a brief summary of the findings, recommendations or a full report / dissertation / thesis must be submitted to the research office of the Department. Please address it to The Director-Resources Planning, Private Bag X9137, Pietermaritzburg, 3200.
10. Please note that your research and interviews will be limited to the following school in the KwaZulu Natal Department of Education:


Nkosinathi S.P. Sishi, PhD
Head of Department: Education
09 July 2013

KWAZULU-NATAL DEPARTMENT OF EDUCATION

POSTAL: Private Bag X 9137, Pietermaritzburg, 3200, KwaZulu-Natal, Republic of South Africa
PHYSICAL: Office G25, 188 Pietermaritz Street, Pietermaritzburg, 3201. Tel. 033 3418610 Fax : 033 341 8612
EMAIL ADDRESS: sibusiso.alwar@kzndoe.gov.za; CALL CENTRE: 0860 596 363;
WEBSITE: www.kzneducation.gov.za

...dedicated to service and performance
beyond the call of duty