

**THEORETICAL PERSPECTIVES IN ACCOUNTING
TEXTBOOKS: THE CASE OF LESOTHO AND SOUTH
AFRICA**

BY

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ABSTRACT

This is a study about the representation of theoretical perspectives in accounting textbooks used in the last phase of senior secondary education in Lesotho and South Africa. The study examined the use of language in the construction of meaning. The systemic functional linguistics transitivity model was, therefore, used to analyse the selected text from the sampled textbooks. In addition, the social semiotic approach was applied in analysis of the accounting schematics.

The findings show that representation of processes is dominated by material and relational processes and that material processes represent economic activities undertaken in business and professional accounting processes. Material processes are mostly realised in agentless passive voice. Consequently, the medium dominates representation. In a few cases, generic agents in the form of institutions, institutional structures, professionals and professional bodies are represented.

The participants of the relational clauses are realised in long complex nominal phrases involving embedded finite and non-finite clauses. In addition, some of the participants are realised by nominalisation and nominal groups formed through grammatical metaphors. These grammatical structures are used to build technical terms and theories in the field.

The findings also show that the grammatical metaphors and nominalisation are used to construct nominal groups to which values can be attached. Since financial accounting focuses on the financial aspect of the economic transactions, the nominalised processes allow for formation of entities that can be quantified. The quantified entities related to each other in terms of cause effect relationships. The relationships in turn are functional in building taxonomic relations, which were found to be commonly represented in the accounting schematics.

Based on the above findings the study concludes that, although functional, the grammatical structures realise meaning in generalising, abstract and complex terms. The dominant passive and the relational clauses indicate that the accounting phenomenon is represented from the perspective of the entities and the accounting processes.

The implications of the findings are that decisions on teacher education programmes and school curriculum policies must take into account the nature and structure of the subject matters as constituted in disciplines of knowledge and as represented in the programmatic curriculum, namely, the textbooks.

DECLARATION

I declare that

- (i) The research reported in this dissertation, except where otherwise indicated, is my original work.
- (ii) This dissertation has not been submitted for any degree or examination at any other university.
- (iii) This dissertation does not contain other persons' data, pictures, graphs or other information, unless specifically acknowledged as being sourced from other persons.
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Student: _____

Supervisor: _____

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ABBREVIATIONS

CAPS Curriculum and Assessment Policy Statement

GAAP Generally Accepted Accounting Principles

IFRS International Financial Reporting Standards

IGCSE International General Certificate of Secondary Education

LGCSE Lesotho General Certificate of Secondary Education

NCDC National Curriculum Development Centre

SFL Systemic Functional Linguistics

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CHAPTER 1: BACKGROUND AND INTRODUCTION TO THE STUDY

This study is about the portrayal of theoretical perspectives in accounting textbooks. The study establishes the significance of theoretical perspectives in using a pedagogy that aims at developing students' forms of disciplinary literacy while at the same time emphasising a critique of the school curriculum knowledge (Moje, 2007). Development of the forms of disciplinary literacy is an approach to teaching and learning that aims at helping students to develop the literacy requirements of a subject. When used in conjunction with a discipline's processes of research, the forms of disciplinary literacy enable access to and critical evaluation of knowledge, its value and production (Moje, 2007). Other scholars identify a concomitant relation between learning a language and development of theoretical perspectives in the process of learning (Bowers, 1987, Kincheloe, 2008). Since both access to knowledge and the development of theoretical perspectives emanate from the development of the various forms of disciplinary literacy, it is the subtlety of the relation of dependence of the former on the latter which led to my interest in studying theoretical perspectives in accounting textbooks.

In this introductory chapter, the statement of the problem, research questions and background to the statement of the problem are presented. Since the case in this study is defined by the textbooks, the chapter also covers the context of the case, which includes the structure of the school curriculum and the curriculum perspective that provides a basis for the organisation of school curriculum. The rationale that identifies the reasons for the study is also explained. A brief outline of the method employed for the generation and analysis of data is also presented. The chapter ends with an overview of the chapters that make up the thesis. The section that follows presents the background to the statement of the problem.

1.1 Background to the Statement of the Problem

This section presents a background to the statement of the problem. The background includes the nature and structure of school content knowledge. The structure of the knowledge involves views on the nature of specialised knowledge, particularly knowledge drawn from disciplines of knowledge. Debates on the nature of school content knowledge, that is drawn from disciplines of knowledge and re-contextualisation for purposes of teaching are also covered.

1.1.1 Specialised knowledge forms.

Knowledge economies of the 21st century are characterised by advanced technology and by information that grows exponentially (Slabbert, De Kock & Hattingh, 2009). Coping with the demands of the era requires the effective utilization of information (ibid.). According to Gardner (2007) the utilitarian value of information depends on the extent to which information can be read, analysed, evaluated and synthesised for application in concrete situations. As Moje (2007) observes, most of this information is of a specialised knowledge type and is in written text.

It follows from Moje's (2007) assertion above that accessing specialised knowledge requires the ability to decode the written text, thereby acquiring the specialised forms of knowledge. The author proposes the reading of subjects' school texts as the primary means through which students gain access to specialised knowledge (ibid.). However, it is argued that students find the texts difficult and, therefore, lack interest and motivation to engage in reading the text (Moje, 2008). According to Martin (2007) it is the structure of specialised knowledge texts that creates challenges for students. The author indicates that the grammatical pattern of language used in specialised knowledge is different from that of the language used in everyday knowledge (ibid.). This means that students experience problems because the grammar of their language, which develops from everyday interactions, differs from that of the school text.

The challenge for education is, therefore, not only to teach specialised knowledge, as it is the case with the current curriculum, but also to provide students with an opportunity to develop proficiency in language that encodes specialised knowledge. It is for these reasons

that literacy theorists advocate the development of disciplinary literacy skills, which, as Martin (2012) asserts, provide scaffolding for learning the subject matter of the school curriculum. Theorists insist on the development of literacy skills alongside the study of the subject matter of the school curriculum.

1.1.2 Re-contextualising Disciplinary Forms of Knowledge.

In an argument for a social justice subject matter instruction, Moje (2007) identifies the development of disciplinary literacy as a form of socially just/social justice pedagogy. While emphasising the development of the forms of disciplinary literacy Moje (2007) also identifies a discipline's ways of knowing as an equally important category of skills which are to be developed alongside the literacies. Inclusion of the syntactic structure of a discipline places the instructional model proposed by Moje (2007) within a curriculum perspective that focuses on academic rationalism.

Elaborating on social justice pedagogy, Moje (2007) indicates that proficiency in specialised language together with a way of thinking within a discipline introduces students to ways of producing knowledge. Such pedagogy, as Moje (2007) attests, equips students with skills to effectively study at higher education level, while also developing skills to critique knowledge. Accordingly, when they reach adulthood, the students may participate as informed citizens in civic conversations, as is expected in a democratic society (Moje, 2007).

While proponents of disciplinary literacy skills argue for the importance of a discipline way of knowing in the school curriculum (Moje, 2007), theorists in the sociology of education draw a disparity between the content of school curricula and that of academic disciplines (Muller, 2009). Critics of the school curriculum, in particular, argue that reconstructing discipline knowledge for the purpose of teaching and learning results in a different form of knowledge to that of the discipline from which the school curriculum draws its content.

Rogers (1997) describes the outcome of the reconstruction, mentioned above, as fragmented factual statements, which are treated as truths instead of propositions whose warranty for truth is contingent upon further research. As such, the knowledge reflects neither the features of a discipline from which it has been drawn nor that of the world or reality that

it depicts. That factual knowledge is fragmented, as identified by critics of the school curriculum, implies that it is not only the grammar of students' language, but also the structure of the knowledge, that makes students disinterested. Devoid of the animating features which bring life to a discipline, factual fragmented knowledge leaves the teacher and the students with no option except for passive learning of the discipline's propositions (Rogers, 1997, Gardner, 2007). Gardner (2007) elaborates that even if the students pass and obtain high grades in the subjects the facts are soon forgotten and have no lasting impact on the life of the students.

1.2 Context: School Curriculum

This study seeks to investigate the representation of meaning in selected accounting textbooks. This is why the selected accounting textbooks constitute the unit of analysis for the study. Textbooks portray the content knowledge of a subject. Normally the latter is presented in an outline of a school programme of study. The programme of study is depicted, especially in centralised education systems, as a curriculum in the syllabuses of the various subject. An investigation of the representation of meaning in textbooks, therefore, involves a study of the programmatic curriculum.

For purposes of this study *curriculum* is referred to in general terms as, a programme of study prepared for students (McKernan, 2008). The programme includes, among other key components, objectives, content, teaching and learning activities and assessment. Of these elements, Rogers (1997) identifies content as the core of any curriculum. As portraits of a subject content, textbooks, therefore, constitute enactment of this key aspect of the programmatic curriculum (Deng & Luke, 2008). Accordingly, the context of the case is defined by the structure of school curriculum and by the nature and history of school content knowledge. In this section, discussion of the context of the programmatic curriculum begins with the structure of the school curriculum as it exists in the two selected countries.

1.2.1 Accounting school curriculum in Lesotho and South African.

As already noted, school curriculum is organised around subject specialisations, which Deng and Luke (2008) observe to be categorised in universities into disciplines of

natural sciences, social sciences and humanities. The translation of the categories into subjects is illustrated in the structures of the last phase of secondary education curriculum in the two countries selected for this study. A brief outline of the curriculum structure of each country is presented below.

In South Africa the curriculum for Grades 10, 11, and 12 as reflected in the National Curriculum Statement is organised according to the fields of study. The fields cover mathematics and science, human and social sciences, business, commerce and management, arts and culture, engineering and technology, agricultural science and languages. Each of these categories has a cluster of related subjects offered in school as separate and independent units of study. Financial accounting is classified under the cluster of business subjects (DoE, 2011).

The structure of the curriculum illustrates different kinds of subjects and pertinent fields of study. A similar structure exists in Lesotho with a difference in terminology. Whereas South Africa refers to 'fields of study', Lesotho adopts the terminology of 'learning area'.

In Lesotho the curriculum is organised around learning areas, highlighting the area of life pertinent to the subjects identified in subsequent slots. In addition, the emphasis is on the development of curriculum core competencies identified through the stipulated learning areas. The categories of learning areas are linguistic and literary, numerical and mathematical, personal, spiritual and social, scientific and technological as well as creativity and entrepreneurial. Accounting is listed together with a cluster of subjects under this last learning area (MoET, 2009).

The two curricula illustrate how knowledge of school curriculum is divided into different subjects that are presented and taught to students as distinct areas of study. The presentation of knowledge as discrete fields of study presents, as Rogers (1997) comments, a different view of reality from that of students, since students experience life as a whole. Nevertheless, the organisation of the school curriculum has pedagogical implications, which are discussed below.

1.2.2 Organisation of school curriculum: Pedagogical implications.

Since the subjects are considered to be different, they are taught and examined separately. The teaching and learning of the subjects is undertaken within an organised schedule of school activities. The schedule involves the organisation of a school day into time tabled periods of 40 to 45 minutes each (MoET, 2009, DoE, 2011). The subjects are allocated slots or periods in the timetable. They are taught, one at a time, to a group of students defined by their education level (ibid.). Furthermore, each subject is taught exclusively by a teacher knowledgeable in the area of specialisation in question. This means that teachers responsible for the teaching and learning in any given school have specialised in one or two subjects offered in the school.

The temporal arrangement of the teaching and learning also means that only so much of the subject matter in any given area of specialisation can be dealt with within the prescribed time frame. As Rogers (1997) observes, it is only the right amount of content fit for the duration of the allocated time period that is delivered within the allocated time frame. This means that the subject matter within an area of specialisation is divided into sections to be given to students piecemeal. The segmentation presupposes a sequential and logical organisation of the subject matter such that it can be presented in a linear sequence to students (Rogers, 1997). Progressive accumulation of the neat bits of information gradually builds up into a complex system of interrelated concepts which make up knowledge of a subject. Examples of the organisation of the topics in syllabuses of the two countries are presented below.

Lesotho GCSE accounting syllabus. Lesotho is a member of the Cambridge Overseas Examination Syndicate. As such, it offers Cambridge examination syllabuses at senior secondary level. Prior to 2013 the country was offering O'level certificates, but has since changed to International General Certificate of Secondary Education (IGCSE), which is also in the process of being localised (MoET, 2012). Accounting represents one of the subjects which has been localised. The process of localisation means that the syllabus is set and evaluated in Lesotho. Thus, the syllabus for accounting is designated, the Lesotho General Certificate of Secondary Education (LGCSE), Accounting (0187). A brief outline of the organisation of the subject matter of the 2015 LGCSE accounting syllabus is given below (see Appendix B).

The LGCSE accounting syllabus is presented as a list of topics and sub-topics. For example, the opening title of the syllabus reads “Syllabus content” and is divided into sections. Each section has a list of topics and sub-topics illustrating the subject matter to be covered under the section according to the outlined topics. For example, one section outlines three topics as 8.7.1 Financial relationships, 8.7.2 Users of accounting information and 8.7.3 Accounting principles and policies under the section title as, 8.7 Analysis and interpretation. Each of these topics has a list of sub-topics beneath it (ECOL, 2015, p. 10).

The list implies separate independent units of the subject matter that are to be taught and learned, each on its own. For example, Accounting principles and policies imply teaching and learning of the principles on their own, whereas thorough knowledge of the principles requires the application of the principles in the preparation of the financial statements. Preparation of the financial statements is presented in another section as an independent topic. Under the section describing a detailed account of the syllabus content, a section on ‘Principles of financial statements’ specifies: “calculate gross profit and profit for the year based on accounting principles ... (ECOL, 2015, p. 7).” The segmentation of the subject matter into discrete units together with the linear sequence overshadows the interrelationship between the topics. Although undermined by the segmentation, the interrelationship is, however, important in that it is such aspects, which render the subject, a unified meaningful whole.

The interrelationship between the listed topics, alluded to above, is implied in the stated expectations expressed in the form of aims of the syllabus. For example a section on limited liability companies with sub-sections on income statements, statements of financial position and limited liability companies shows a range of aims, with cognitive abilities varying from those requiring students to recognise and define concepts to those that require an understanding of concepts, calculation of items and preparation of various accounting statements. The topics are listed with aims that describe what is expected of students (for details see Appendix A1). For example, under the topic, ‘Statements of financial position’ there are two objectives stated as:

- recognise and define non-current assets (fixed assets), intangible assets, current assets, current liabilities, non-current liabilities, working capital, capital employed and capital owned
- comment on the inter-relationship of statements of financial position items (ECOL, 2015, p. 13 - 14).

The first objective presents the concepts to be defined as discrete items. The content of the second objective, however, indicates that the items are related. The verbs calculate, understand and recognise are stated in order to identify what is expected of students, and point to the interrelationship between the topics. For example, the first item under 8.5.1, ‘Calculate the gross profit and profit for the year based on accounting principles, for a specified period’ demonstrates application of the principles, hence the importance of the interrelationship among items that make up gross profit. Sequencing of the syllabus in section 8.5.2 with ‘recognise and define’ followed by ‘comment on the inter-relationship’ also implies learning that proceeds through the acquisition of linearly arranged subject matter divided into small units to be taken each at a time. Such organisation of the subject matter has implications for the instructional material developed to address the requirement of the syllabus.

The unitization and listing of the topics with the syllabus requirements stated in the form of objectives imply a similar pattern for the organisation and presentation of knowledge in instructional materials developed for the syllabus content. For example the listed topics that are presented as separate units of knowledge imply that they are to be presented in instructional materials as discrete independent units of knowledge. Specifically, the objective that requires students to define the concepts implies that the concepts exist as discrete units of meaning. The listing of the objectives in sequence with one succeeding the other also implies a sequential arrangement of the units. The unitised sequential arrangement of the subject matter implies a similar organisation and presentation of the content in instructional material meant to address the requirements of the syllabus.

CAPS and the South African Accounting Curriculum. The National Curriculum and Assessment Policy Statement (CAPS) in South African (see Appendix C) present a detailed illustration of the organisation of each subject topics for teaching and learning. A section on accounting in the CAPS document shows how the subject matter is broken down into small units for purposes of teaching. As in the case of the LGSCE syllabus, the topics are presented as separate units with an explicit delineation of the extent of content to be covered. For example, in one section the syllabus outlines: “the definition and explanation of concepts pertaining to companies and to IFRS (International Financial Reporting Standards) and GAAP (Generally Accepted Accounting Principles)” (DoE, 2011, p., 30).

While the topic of ‘companies’ begins with definitions and explanations, later on in the plan the content requires higher order cognitive abilities. The syllabus requirement shows emphasis on the sequential arrangement of the subject matter. In some sections, a concept is first defined and explained. In subsequent sections tasks that require application of the concepts can be identified. For example, the topic:

“Financial accounting of companies – preparation of final accounts and financial statements” (DoE, 2011, p., 31) as stated in the CAPS policy document covers: “Preparation of final accounts and detailed financial statements of a company, taking into account year-end adjustments” (ibid.).

Preparation of the statements, however, involves application of principles whose learning progression, according to the annual plan, begins with definitions and explanations. A detailed analysis of the subject matter into units of content to be covered over the specified period is presented in the 2011 CAPS document (DoE, 2011, p. 30 - 32). The researcher’s analysis of the curriculum indicates that the content of the subject is made up of separate topics to be taught each on its own (see Appendix C). In addition, the curricula portray a unit by unit sequential development of knowledge of the subject matter.

The presentation of the syllabus content as separate independent topics and sub-topics implies that knowledge can be segmented into discrete units of meaning. The teaching arrangement for the presentation of the subject material is outlined below.

Time allocation for subject matter presentation. The structural arrangement of the school curriculum also involves time schedule for school activities, including teaching and learning arrangements, which directly relate to the enactment of the curriculum. For example, the South African policy statement (CAPS 2011) specifically stipulates content that is to be covered over a time period of two weeks (DoE, 2011) (see Appendix 1C).

A table showing allocation of school time among different subjects (see APPENDIX B). is also included in the South African policy document (DoE, 2011). From the policy document, accounting is grouped with other electives in the last category from which students make their selection of the three subjects that they need to complement four compulsory subjects for a complete programme of study. As the policy shows, the electives are allocated four hours a week, which means that Accounting is taught in class lessons, four times a week.

In Lesotho, the subject is allocated five periods a week (MoET, 2009). Normally the periods are of 40 minutes duration.

The time interval has implications on the amount of content that can be covered in a lesson. The time restriction also has implications on the organisation of the subject matter for presentation in instructional materials. The subject matter may have to be organised into small units suitable for the duration of the allocated periods. This has implications for presentation of the knowledge in textbooks. It may mean that knowledge has to be organised in small, discrete units in order to facilitate teaching within the prescribed time frame.

1.2.3 Instructional material.

Instructional materials play an important role in curricula as students learn through interaction with these materials (Crawford, 2003; Chongos & Whitehurst, 2012). Of all the instructional materials, textbooks constitute the most widely and commonly used material and they are useful for the interpretation and implementation of the curricula (Mahmood, 2009). Above all, as sources of knowledge for both the teacher and the learners they structure and sequence the content (Seguin, 1989; Bakker, Eskell-Blokland & Ruane, 2010). Illustrating heavy reliance on textbooks in accounting education at the tertiary education level, Palm and Bisman (2012) cite researchers who explain that teachers' extensive reliance on textbooks findings in a curriculum is driven by the instructional tool.

The central role that textbooks play implies that the instructional material sets the pace and standard for the way the teaching of the subject matter proceeds at classroom level. Consequently, the pedagogical structure affects the organisation and presentation of content in textbooks. The division of the subject matter into discrete units identified as topics in syllabuses is also depicted in school subject textbooks. The units are presented in a sequence, normally at the beginning section of each textbook under a list/table of contents. A complete presentation of material pertaining to a particular unit is dealt with separately from other units/topics. Some reference to other related topics may be made sparingly but the subject matter relates to that which is identified as the essential matter of the topic under discussion.

An example from an accounting textbook illustrates the above structure of textbooks. A topic on preparation of financial statements of a company is dealt with and completed exclusively without reference to other topics such as the formation of companies or analysis

and interpretation of the statement. The interrelatedness between the individual topics that makes up the subject is thin, appearing mostly in end of chapter tasks. A detailed account of the organisation of the subject matter of the two selected textbooks for this study is presented in Chapter 3.

In summary, the organisation of the school content knowledge in Lesotho and South African curriculum illustrates fragmentation at various levels of the subject presentation. First, at the level of the school curriculum, knowledge is divided into different subjects, which show the different forms of knowledge that are found depicted in university disciplines of knowledge. Secondly, the organisation of the content within a subject is also broken into small units to be presented, each unit at a time. The sequential linear presentation of the subject matter presupposes the progressive accumulation of facts that are ultimately found in complex interrelated concepts which makes up knowledge of a subject. The curriculum organisation is different from the way students experience life as a whole (Rogers, 1997). The latter already marks the difference between experiences of school knowledge and those of everyday knowledge. The section that follows presents from a theoretical perspective the origin of this structure of school curriculum found in the two countries.

1.3 History of the School Curriculum

The organisation of the school curriculum as it is currently portrayed in most schools is attributed to a curriculum perspective associated with academic disciplines of knowledge. The perspective is referred to as academic rationalism. A brief description of the perspective is presented before the analysis of its impact on school curriculum.

1.3.1 Academic rationalism.

Curriculum perspectives arise from attempts by curriculum theorists to address the question of the form and organisation of knowledge that is to be selected for inclusion in the school curriculum. The selection means that there are different forms of knowledge or cultural traditions from which a selection is made. A number of competing perspectives abound. However, only academic rationalism is discussed because of its impact on the school curriculum.

Within academic rationalism, knowledge is selected on the basis of its capacity to develop the intellectual skills of learners and to maintain research in a given field. Drawing from Hilda Taba, Lunenburg (2011, p. 2) confirms that training in disciplined thinking has been identified as central in defining the role of subjects in the school curriculum. According to Deng and Luke (2008), knowledge forms fit for the purpose has been identified in disciplinary knowledge. The latter constitutes facts, concepts and generalizations which have been scientifically researched and verified, together with techniques and ways of knowing in the field (Deng and Luke 2008). Schiro (2013) explains that curriculum theorists identify the disciplinary knowledge as an invaluable heritage for its capacity to develop the intellect of the students.

In explaining the history of the school curriculum, curriculum theorists trace the origin of the current dominant curriculum design to Charles Eliot's Committee of Ten in the US and Peter and to Hirst's description of forms of knowledge for school curriculum in the UK. In reference to the US in particular, Rogers (1997) explains that the design and organisation of the curriculum that the Committee formulated in 1883 matched the organisation of knowledge. That is, it matched separate bodies of knowledge that were offered in universities then. According to Rogers (1997) the perspective of knowledge as separate fields of studies was influenced by the Committee's experience in universities and the success of science as an effective rational method. Intellectual development as a worthwhile purpose for schools was, therefore, seen as a legitimate goal within the purview of expertise in disciplinary knowledge that was emerging in the late nineteenth century in universities (Rogers, 1997).

While intellectual development established a worthwhile goal for schools to pursue in preparing students for life, as indicated above, disciplines of knowledge in universities provided a rich source for the training of the mind (Schiro, 2012). Hence, the Committee proposed a version of these disciplines for the school curriculum. Schiro (2012) also includes an argument of other scholars of the period who defended the ideology of the academic scholar because of the rich academic content accumulated over centuries and organised into disciplines of knowledge. As the curriculum theorist explains, the rich disciplinary content provides rich fertile ground for the students' intellectual development (*ibid.*). According to the author, alternative perspectives were viewed as subservient to academism because of the

invaluable accumulated knowledge and wisdom of humankind residing in these disciplines of knowledge (ibid.).

It is important to note that the influence of academic rationalism was not only in determining knowledge for school curriculum but it also included structural organisation of the curriculum. Thus, curriculum as it obtains in schools today is organised around distinctively different areas of knowledge identified as school subjects. The structure of curricula as shown in Lesotho and South Africa above bears features of the curriculum perspectives as described by these curriculum theorists.

1.3.2 Pedagogizing knowledge: Transformation of disciplines of knowledge.

The history of the school curriculum explained above identifies ways of knowing within a discipline as the most important aspect of the curriculum in terms of developing students' intellectual ability. As a replica of what was then offered in universities with emphasis on development of learners' intellectual skills, the perspective presents a valid rationale. However, as various authors (such as Deng & Luke, 2008; Muller, 2009) insist, disciplines of knowledge have to be re-contextualised for purposes of pedagogical demands of the school curriculum. Critics argue that parent disciplines of knowledge from which the school subjects are drawn are different from their progeny, that is from the school subjects (Deng & Luke, 2008).

Earlier on, Rogers (1997) had already challenged the basis of academic rationalism, protesting that translating the disciplines of knowledge to subject matter suitable for pedagogy resulted in distorted curricula. In principle, as Rogers (1997) explains, attempts to represent the true character of the disciplinary knowledge in learning material suitable for still-developing minds missed the meaning of discipline knowledge. Elaborating on the transformation, Rogers (1997) contests that the structure of disciplines is so distorted that it lacks animating features, which would facilitate an active engagement with the learning material. Distortion of the curriculum is illustrated in the subjects:

... fragmented nature; the fixed and one dimensional quality of the knowledge they promulgate; the passivity they foster in students' learning; their dominion over school time and structure; and their distance from the real-world concerns of many students (Rogers, 1997).

The critique maintains that the propositions arising from research are normally presented as finished products of research, ready to be transmitted to the learner (ibid.). The author also explains that the transformation has so changed the subject matter that it has left it: "... often without the sense that those facts connect in a significant way to some process, some experience" (Rogers, 1997, p. 687). Indeed other scholars have shown that the disciplines are so changed by the translation that they are divorced from the experience of the knower, that is the researcher and how they arise.

In a study in which school science was analysed and compared with university discipline of science, Deng (2007) found that the two are different. An analysis of the transformation of the curriculum process shows that the end result is a subject matter, not of disciplines of knowledge but of school subjects embodied in curriculum materials such as curricular policy documents and textbooks (Deng, 2007). The author adds that the new subject matter emphasises ways of classifying, framing and conceptualising knowledge that are different from the emphasis on disciplined ways of knowing found in universities. It is important to note that Deng (2007) also views the subject matter of school curriculum as a key aspect of curriculum inquiry drawing from epistemology, discourse theories and sociology of knowledge.

In conclusion, the critics of academism point out that the translation of the subject matter of a discipline of knowledge to that of a school subject transforms the content, depriving it of features that render it fit for development of disciplinary processes or ways of knowing particular to a given field of study. Pedagogical implications of the outcome, that is, inert facts which emerge from the translation, are those of a one-way transmission model, whereby the teacher as a knowledgeable expert dominates the presentation (Rogers, 1997, Gardner, 2007).

In addition to the teacher centred method, it has been argued that the emphasis on factual knowledge encourages passive learning. In a presentation on the five minds for the future in the 21st century, Gardner (2007) reckons that learning proceeds by memorization of the facts without understanding. Furthermore, as Gardner (2007) observes, performance might be plausible with students graduating with high grades, but the impact of the inert facts on the life of the learners is minimal as the facts are soon forgotten.

From the above analysis, it can be argued that the major criticism raised against the rational academic curriculum is that the curriculum encourages a passive learning environment. The critics of the curriculum, namely, Rogers (1997), Kincheloe (2008) and Au (2012), recommend different bases for the selection and organisation of the school curriculum. While the critics of the curriculum based on academic rationalism argue for a different basis for the selection and organisation of school curricula, some curriculum theorists, Muller (2009) and Young (2007) in particular, view the disciplines as sources of powerful knowledge. Gardner (2007) confirms arguing that, for the survival in the 21st century a child must be equipped with disciplinary ways of thinking.

Despite the criticism that recontextualising the disciplinary knowledge for school curriculum purposes deprives it of the rejuvenating features, Gardner (2007) insists on the value of the knowledge in school curriculum as indicated above. The emphasis by Gardner and others, seems to ignore the challenge of abstraction and complexity that other scholars such as Rogers (1997) have cogently articulated. It is the impasse on the value of the school curriculum, based on academic rationalism and the challenge of alienation that the curriculum poses to students, that aroused the interest of the researcher to study the nature of accounting.

Although, the impasse contributes to the interest in the nature of the subject matter of accounting, the major motivation lies in the dreary picture of classroom lessons that the critics of school curriculum paint. However, the teacher-dominated lesson and passive students, as experienced and interpreted by the researcher, is attributed to the abstract language used to present the subject matter in accounting. A detailed account of the researcher's experiences is presented.

1.4 Practical and professional motivation

Part of the researcher's interest in studying the topic arises from the work experience as a lecturer in curriculum and the teaching of Accounting. Exposure to the teaching and learning of Accounting in Lesotho was gained from working with student-teachers majoring

in accounting education. Contact and interaction with in-service subject teachers during teaching practice and the teachers' in-service workshops enriched the researcher's experience with regard to the way in which the subject is taught in Lesotho. The teaching and learning of the subject as experienced by the researcher in Lesotho, partly explains the origin of the problem that led to the study of the topic. The following section, therefore, covers the contextual background to the statement of the problem.

1.4.1 Curriculum Studies in Accounting.

The case of this study arises from my experience of working with student teachers during their training at our local university, namely, National University of Lesotho. I lecture curriculum studies and content courses in accounting. I also supervise micro teaching practice activities that the students engage in, in preparation for teaching practice. The responsibility extends to supervision of the teaching practice itself.

The programme is structured to cover 108 credit hours for courses offered over a period of three years. The credit hours are divided among three major courses that each student is expected to take. Each major course is allocated 36 credits. Students are expected to register for two content courses for their major subjects. This means that a total of 76 credit hours is allocated to content courses and the remaining 36 credit hours are shared between the Department of Educational Foundations and the Curriculum Studies Department, in this case, the Department of Language and Social Education. The students spend the first year of the programme studying content and a few courses from the Educational Foundations Department. It is only in their third year of study that they take the curriculum studies course.

For Business Education, the students study for their content courses with the Department of Business Administration in the Faculty of Social Sciences. The content courses continue in second year and at third year. Educational Studies courses with a focus in different areas of specialisation are introduced at second year level. Curriculum studies courses integrate pedagogical principles from the Department of Educational Foundations with content from the Department of Business Administration. Course offerings in the final year mainly include Educational and Curriculum Studies, taken in the first semester. The second semester is reserved for teaching practice.

Courses in curriculum studies reinforce content learned from the Department of Business Administration. The emphasis is on examining the structure of the discipline of accounting. An analysis of the structure of the discipline provides student teachers with an opportunity to study the key concepts of the subject, together with the processes and verification criteria. Pedagogical implications of the structure form the basis of the Curriculum and Teaching of the Accounting course offered in the first semester of the last year of the programme. In addition, preparation of lesson plans and teaching are introduced gradually through the micro teaching practice while at the same time students focus on content through an analysis of the high school syllabus of accounting.

1.4.2 Working with accounting education student teachers: Shared experiences.

The micro teaching practice is meant to put into practice all that is learned from the curriculum studies courses, particularly the course designated, Accounting for a high school teacher. Despite all these attempts to try to find ways of teaching the subject in a way that relates to everyday financial activities of students, the micro teaching lessons were found to be abstract.

The language used was abstract and inadequate for generating meaning for students whose first language is not English. For example, the statement, ‘debit an account that receives a benefit and credit one that loses a benefit’ raise comprehension challenges for most learners even at senior secondary level. Learners may interpret the statement within their existing conceptual map and would identify ‘an account’ as probably a name of a person, because from their perspective only a human being is capable of the act of receiving. In addition, ‘a benefit’ categorised within the children’s meaning-making would constitute a concrete object to be received, probably with human hands. Lesson activities simulating the giving and receiving acts in business did not help. The activities mimicked the everyday act of giving and receiving since through role play students exchanged objects such as a pen or a book. The emphasis with such activities was always on the hand which receives and the one that gives. The aim with such activities, as explained, is to help students to remember the side of an account that is debited and one that is credited. The activities, however, did not seem to simplify the abstract language.

I always wondered what sense an eleven-year-old Mosotho English learner made of the material that seemed so abstract. This was confirmed by my observations in the way that

learners approach assigned tasks. I observed that they sometimes copied from previous work. Whenever the teacher assigns them some work, they refer to work done in previous lessons. Even from the comments of the learners one could tell that they felt lost in accounting.

The student teachers' micro teaching practice lessons lacked practical examples to illustrate the concepts that formed the basis of the subject matter of the discipline. In both the micro-teaching practice activities and teaching practice lessons, the subject matter was presented by student teachers in an abstract language. Examples from real life financial experiences of the students were lacking.

The subject matter of accounting is drawn from practical and real economic activities of businesses. However, when presented in lessons, the subject matter seems to be abstract and remote to everyday life. Studying the construction of meaning through language in an accounting text is, therefore, important for me as a teacher educator as it might identify or explain the cause of abstraction in accounting.

1.4.3 Textbooks in Lesotho's accounting lessons.

While I was struggling with ways of bringing the subject matter of accounting close to the life of students in pre-service education, the in-service programmes were pointing in other directions for the pedagogical challenges in accounting education. The role of textbooks in the teaching and learning of accounting in Lesotho appears to be noteworthy in this regard. A comment by a Business Education inspector¹ during a workshop held for teachers of accounting in the country illustrates the role of the textbooks. The inspector was a subject specialist in Business Education with considerable experience in the teaching of accounting. The inspector commented that teachers of accounting rely on the textbook method. It can be deduced from the comment that the textbook method dominates accounting teachers' pedagogical practices in Lesotho.

The inspector's comment, implying a heavy reliance on textbooks, was reiterated in another workshop by a Subject Specialist and Chair of the National Business Education

¹The inspector is a subject specialist at the Inspectorate Office, a division in the Department of Education and Training responsible for the evaluation of primary and post-primary schools performance.

Subjects Panel from the National Curriculum Development Centre (NCDC). This time the remark bore connotations of judgement rather than a casual observation. The Subject Officer indicated that the textbook method promoted rote learning since ‘some lessons are simply a regurgitation of Frankwood (the Accounting textbook used in the country is normally referred to as Frankwood, from the surname of the first author).

The Subject Officer’s comment evoked various responses. Although the comment raised heated debates among teachers, some of the comments indicated that the statement was a true reflection of teachers’ practices. The latter was dressed in a confirmation that ‘indeed Frankwood was a bible for accounting lessons’, while others thought that ‘an apt term to characterise the use of the textbook was ‘a catechism’.

Subsequent to the workshop I raised an issue about this comment with a body of student teachers in the last year of their education programme. The students had a different view to that of the NCDC Subject Specialist. Their argument was that the subject was practical and that like mathematics it required practice, hence reliance on textbooks. The argument was extended to indicate that the teachers use exhibits and problems from the textbooks in order to illustrate some of the subject’s skills and procedures.

The use of textbooks exhibits in order to illustrate accounting procedures identified textbooks as sources of knowledge for both the teachers and learners. The role of textbooks as sources of knowledge places them at the heart of the curriculum. It is the centrality of textbooks in teaching that prompted the researcher to raise concerns about the abstract subject matter knowledge experienced in Accounting lessons and the representation of meaning in the Accounting textbooks.

Whereas the inspector and curriculum subject officer’s comments on the use of textbooks in accounting lessons raised issues of pedagogy, my concern is rather with abstraction. As a source of knowledge for teachers, the textbook might have contributed towards the abstract subject matter presented in lessons. Studies undertaken to analyse school texts for their linguistic features identify abstraction as one of the dominant features of the texts. A brief outline of the nature of language used in school text follows as a precursor to a detailed discussion of the features of the language, which is presented in the next chapter.

1.5 Scientific language

With specific reference to science Fang (2006) indicates that the language of science evolved over the years, shaping and being shaped by scholars in the field. The language evolved in such ways of communication, particularly written text, that changed from an ordinary communication style to a style that enabled the scientist to communicate the findings of a scientific research. This way of communicating ideas, also referred to as academic or scientific writing, involves special vocabulary and grammar and also different ways of organising ideas in order to construct meaning within a field of specialisation (Fang, 2006). The special grammars enable scholars within the field to present and communicate scientific research findings in a clear and precise manner, using unambiguous language (ibid.). According to Halliday (2004), scientific writing is no longer confined to science, but spreads across disciplines as an effective way of communicating the findings of scientific research.

The scientific language identified above is not only associated with disciplines of knowledge, it also extends to subjects that make up the school curriculum. Deng and Luke (2008), indicate that the two forms of knowledge, that is, disciplines of knowledge and school subjects, are different. The subject matter of the school curriculum, however, bears features of the parent discipline, as Fang (2006, p. 493) observes, drawing from science that:

... as a recontextualized version of science proper for pedagogical purposes, school science inherits essential properties of professional discourse such as informational density, technicality, abstraction and authoritativeness.

The aspects outlined in the citation above identify the language features or register that a subject inherits from the parent discipline. Among these features, abstraction represents a major concern for this study. While the value of disciplinary form of knowledge in school curriculum is acknowledged in this study, the challenge of abstraction and complexity that students face in relation to the curriculum remains real.

1.5.1 Language and perspectives.

According to Halliday (2004) the challenge of abstraction that students face in school knowledge arises from the difference in perspectives between school and everyday language.

The author explains that language used in everyday interactions construes human experience in terms of animate beings carrying out actions on things or other beings (Halliday, 2004). The linguistic representation of the construal indicates that animate and inanimate beings are realised by specific names of people, places and things, while actions are realised by verbs (Halliday, 2004). That is why, meaning is represented in concrete terms that are almost parallel to the way reality is perceived in a given culture (ibid.).

In contrast, meaning in school knowledge is represented in abstract and general terms, deviating from a typical way in which meaning is represented in everyday knowledge (Halliday, 2004). This means that the grammar of the language used in school knowledge is different from that of everyday language. In the former, verbs and adjectives no longer represent actions and qualities respectively, but are construed as nouns. In addition, experiences of specific individuals or animals, which would be represented in specific terms in everyday language, are presented in general terms in school knowledge. Halliday (2004) attributes the difference in representation to differences in perspectives. He explains that students find the subject matter of the school curriculum abstract and alienating because their perspective of reality is different from that of the school curriculum (ibid.).

The argument raised by Halliday (2004), highlights the significance of perspectives in construing reality as well as in the generation of meaning. Perspectives, on the one hand, are said to be embedded in language (Gee, 2004, Fang, 2006, Moje, 2007). According to Fang (2006) exposing students to the linguistic patterns of a discipline, initiates the students into a discipline worldview. Moje (2007) confirms and argues that access to a discipline worldview (that is to the way of seeing things) introduces students to ways of producing knowledge in a discipline. Introducing students to linguistic patterns in a discipline is identified as development of a discipline literacy skill (Moje, 2007).

Elaborating on the effectiveness of the above approach to learning, Moje (2007) further emphasises that access to the literacy skills provides students with an opportunity to question and challenge the knowledge and its production. The influence of language on a worldview is also confirmed by scholars in sociolinguistics (Gee, 2004). The scholars identify a direct relationship between language and formation of consciousness (Gee, 2004). As the scholars argue, it is through language that an individual's conceptual framework or a way of making sense, is developed.

1.6 Statement of the Problem

Since theoretical perspectives are embedded in language, it is a study of the linguistic features of the knowledge of a school subject that identifies the perspectives that the subject expresses. A number of studies examining linguistic features of different subjects have been undertaken. To the researcher's knowledge, however, no study has been undertaken to analyse accounting texts for purposes of determining linguistic features of an accounting text. The nature and source of abstraction in accounting therefore remains as a challenge for teachers and students, since there is no clear indication of the perspectives that underlie the programmatic curriculum, that is, the textbooks as sources of knowledge for both the teacher and the learner.

Accounting as a discipline of knowledge is concerned with the transactions that businesses undertake in the day to day operations. The transactions are technically referred to as economic events. The economic events, therefore, represent the object of study within the discipline of accounting. As a discipline of knowledge, the subject has its own distinct perspectives on reality, which can best be explained through an examination of the manner in which language is used to represent the meaning of the phenomenon with which the discipline is concerned about.

The analysis of the accounting text from the selected textbooks will provide access to theoretical perspectives in the discipline. Studying linguistic features of the text involves an examination of the use of language in the construction of meaning. Anthropologically, the use of language for the construction of meaning is referred to as the representation of meaning (Hall, 1997). Technically this is a study about representation. The present study, therefore, investigated the representation of the accounting phenomena in accounting textbooks. It was undertaken with the view of developing an insight into the use of language in constructing meaning in accounting. The research question posed for this study, therefore, is:

How is language used to construct meaning of the accounting phenomena in an accounting text?

In order to answer the question two accounting textbooks used in the last phase of secondary education in Lesotho and South Africa were analysed. Identification of the linguistic features of this subject was undertaken within the framework of discipline forms of literacy. Researchers in this field argue for development of the literacy skills in order to help learners to cope with the abstract and complex subject matter of the school curriculum. A brief outline of the role of the skills in school curriculum follows.

1.6.1 Theoretical gap: Discipline forms of literacy.

The development of literacy skills alluded to above constitutes the key aspect of curriculum in the early stages of a child's education (Schleppegrell, 2004). According to Schleppegrell (2004), development of the skill is particularly important if the instructional material is written in students' second language. However, Schleppegrell (2004) observes that as students advance to secondary education emphasis in literacy skill shifts from learning to read to reading to learn. Fang (2006) affirms that at this level, students apply their reading skill in order to learn the subject matter of a discipline. Furthermore, independent learning is reinforced at secondary level.

In support of the difference in literacy requirements in the different stages of education cited above, Halliday (2004) explains that the text of secondary education level is different from that of elementary education level. The former involves the expository or specialist form of language whereas the latter is written in narrative style (ibid.). The narrative style bears features of language used in everyday social interaction, whereas expository language is different in the form and construction of meaning.

The difference in texts that Halliday (2004) refers to calls for development of a specific kind of literacy skills. The skills are referred to as *disciplinary literacies skills* as they are associated with disciplinary forms of knowledge. Proponents of the development of disciplinary literacy also posit that grammatical patterns of specialised language differ from one discipline to another (Fang & Schleppegrell, 2008). Consequently, access to specialised knowledge requires that students be introduced to the disciplinary literacy of every subject offered in the school curriculum. In order to address this requirement, studies have been carried out analysing discourses in various disciplines of knowledge. The fields of specialisation include science, mathematics, geography, biology, history, language,

economics and social studies. Some of these studies included the analysis of textbooks because the subject matter of the school curriculum is encoded in textbooks.

A variety of studies analysing accounting textbooks have been undertaken. For example, Davidson (2005) examined readability and comprehensibility, whereas Chiang, Englebrecht, Phillips and Wang (2008) studied complexity. Davidson and Baldwin (2005) investigated cognitive abilities embedded in end-of-the-chapter activities. Other studies such as Ferguson, Collison, Power and Stevenson (2005); Sikka, Haslam, Kyriacou and Agrizzi (2007); Ferguson, Collison, Power and Stevenson (2009), focused on ideological perspectives with Tietz (2007) addressing issues of gender in the textbook that she analysed. None of these studies address the discipline literacy requirement. An analysis of the two selected textbooks probably provides valuable information with regard to literacy requirements of an accounting text and the theoretical perspectives that undergird the discipline.

1.6.2 Research questions.

Accounting is a discipline with a focus on the aspect of reality that pertains to economic transactions, which are referred to in the discipline as economic events. The discipline also includes the professional processes of recording, interpreting the economic activities of a business and preparing financial statements arising from the records. In addition to the preparation of the statements, financial accounting also includes analysis and interpretation of financial statements. Since the focus in this study is on the use of language for construction of meaning the constructed meaning is about the economic events as well as the professional accounting processes. Hence, the key research problem was disaggregated into the following research questions:

What elements of accounting phenomena are represented in selected accounting textbooks?

How are the elements of the accounting phenomena represented in the selected accounting textbooks?

Why are the elements of accounting phenomena represented in the way they are in the selected texts?

1.6.3 Research objectives.

The above questions involve an analysis of an accounting text in order to identify aspects of the accounting phenomena that are represented in the text. By focusing on representation of the accounting phenomena, the study directly addresses an aspect of reality that constitutes the object of study for the discipline. In order to guide an inquiry in the study, the following research objectives were drawn from the overall objective:

To explore representation of elements of the accounting phenomena in the selected accounting textbooks in order to identify how an accounting text construes the accounting phenomena.

To explore how elements of the accounting phenomena are represented in the selected accounting textbooks in order to identify how the selected texts represent meaning.

To develop an insight into the theoretical perspective that underlies the accounting text.

In order to address the questions raised in this study and to achieve the objectives, a methodology explaining the design of the research and the methods for generating and analysing the data was designed. A brief outline of the methodology follows.

1.7 Methodology

This section presents a brief outline of the research design for this study. The section also summarises the method employed for generating and analysing the data.

1.7.1 Research design.

This study investigates how language is used in the construction of meaning in the selected accounting textbooks. Because accounting as a discipline focuses on the accounting phenomena as its object of study, a study of the portrayal of meaning in an accounting

textbook involves a study of how the economic events and the accounting processes are interpreted and represented as a text in the textbooks. Methodology as presented herein locates this study in an interpretive paradigm. Textbooks represent enactment of the schools curricula as they carry the content of a subject syllabus. These artefacts are, therefore, written to meet the requirements of the syllabus. This means that a study that seeks to investigate the use of language in the construction of meaning must take into account all the factors which influence the way in which the text is written. Given the significance of contextual factors on the structure of the accounting textbooks a case study research design was found to be relevant for this study.

1.7.2 Data generation and analysis.

A representation of economic events in the accounting textbooks was studied through an approach to discourse analysis that draws from Halliday's Systemic Functional Linguistics (SFL) as described in Eggins (2004) and Halliday and Matthiessen (2004). Given that the focus of the study is on the representation of economic events, only the experiential meaning of SFL was found to be relevant. The model identifies representation of processes, participants and circumstantial elements as key elements in the analysis of a clause for the representation of meaning. The clause structure of the sampled accounting text has been analysed for representation of these three elements. In order to cover a comprehensive in-depth analysis, as is required of a case study, the analysis has been extended to visual images. Analysis of the images was guided by a social semiotic approach as proposed by Guo (2004) and Jewitt and Oyama (2001). A detailed coverage of the methodology is presented in Chapter 3.

1.8 Significance of the Study

This study is found to be important in two ways. Firstly, the analysis of the manner in which language has been used to construct meaning in the selected texts is illuminated. This reveals the practical significance of the knowledge that teachers and curriculum designers have to pay attention to in helping learners to acquire knowledge, hence, practical

significance. Secondly the analysis adds to the knowledge that has already been accumulated about language use in the construction of meaning in other disciplines of knowledge. The latter constitutes a theoretical significance. The following section elaborates on these two aspects of the significance of this study.

1.8.1 Theoretical significance.

This study focuses on theoretical perspectives that undergird the accounting discipline. A general view of the meaning of *theoretical perspective* is adopted for purposes of this study. In this regard, the concept is employed in reference to a way of making sense of a phenomenon. In other words, a worldview or orientation from which the phenomenon is observed and analysed is presented. Investigating the discipline theoretical perspectives is important because it identifies a way of seeing and interpreting reality that is encouraged in accounting. Such knowledge is important because, as Moje (2007) proposes, it provides an opportunity for a critique of the knowledge and how it is produced. Thus, the perspectives provide a mirror through which one can judge whether the students are being trained to conform to the existing social order or whether they are being initiated into a questioning, critical mind, for the betterment of humanity. Given the role of education in socializing students to cultural traditions, investigating theoretical perspectives in accounting is of significant value, as the discipline serves humanity as an instrument for distribution of resources. Thus, determining theoretical perspectives provides a way through which one can judge whether accounting presents an economic world as given or as one in which students as participants partake in its construction.

1.8.3 Practical significance.

An investigation of theoretical perspectives that the accounting text portrays examines the foundation of the discipline. As a study that investigates theoretical perspectives of a school subject (in other words, the foundation of a discipline), the study is important for education in two ways. It has implications for decisions on curriculum policies. Identification of accounting perspectives highlights issues of concern which must be taken into consideration when instructional materials such as textbooks are selected.

Since abstraction was identified as one of the contributing factors to an alienating curriculum a study of the theoretical perspectives was intended to illuminate some of the contributing factors towards the abstract subject. This means that through the study aspects of

the representation which need special attention have been identified and addressed, particularly through teacher education programmes. Identifying theoretical perspectives that underlie accounting textbooks also points at areas of a teacher education programme that needs strengthening.

1.9 Conclusion

In this chapter the statement of the problem, research questions and research objectives guiding the study were presented. The chapter covered the structure and organisation of school curriculum in the two countries from which the textbooks were selected. The history of school curriculum that has also been presented provides a background to the structure of the curriculum illustrated by the two countries. The chapter also discussed the criticism raised against the academic-based structure of school curriculum, covering debates on other models of curriculum and complementary interventions which have been proposed as ways of bringing change to a school curriculum that is based on forms of academic knowledge. A summary for each of the chapters covered in the rest of the thesis is presented below.

In the next chapter, the literature review by way of studies undertaken to study linguistic features of various subjects and disciplines of knowledge is presented. The chapter covers studies undertaken in mathematics and science, some subjects in humanities and social sciences.

In Chapter 3, the theory of language as a resource for meaning making and grammar as a theory of human experience by Halliday (2004) is presented together with the application of the theory in visual images. The chapter ends with a presentation of an analytical framework formed from the theory and the literature reviewed for this study.

Chapter 4 covers the methodology that guides research in this study. The alternative methodological approaches are presented together with a selection of and a justification for

an appropriate approach. The presentation includes the study research design and the method of generating and analysing data. Since this is a case study research design, a description of the case, population and sampling techniques are also included. The chapter further covers the limitations and delimitations of the study and the researcher's stance in the research process.

Chapter 5 presents the findings of the analysis with respect to the representation of processes. Given the portrayal of processes in the two textbooks, the presentation of the findings focuses on processes with greater prevalence, namely material and relational processes. The presentation includes an analysis of the nature and type of each of these two processes as well as how they are represented. The latter refers to the clause structure that the text portrays.

Chapter 6 presents the representation of participants and participant roles within the type of clauses and the clause structure that the text depicts. The representation of participants examines the nature and types of participants portrayed in the text. In addition, the findings on participant roles in relation to the processes represented are also presented. The chapter ends with the presentation of the findings on representation of processes and participants in visual images.

Concepts derived from the theory and literature review were used to interpret the findings in Chapter 6. Thus, Chapter 7 presents the findings on the technical vocabulary of the accounting text, generalisation, nominalisation and abstraction as well as complexity and objectivity. The chapter ends with a detailed presentation of the representation of meaning in visual images with regard to taxonomic relations.

Chapter 8 discusses the findings presented in chapters 4, 5 and 6 in relation to the reviewed literature. A suggested model for analysing a school textbook for the representation of meaning and portrayal of perspectives is also presented.

Chapter 9 presents the conclusion and professional recommendations. Implications of the study for programmatic curriculum policy and further research and the reflections on my experiences in the research project are also presented. The section that follows presents empirical studies that analyse scientific texts in different school subjects.

CHAPTER 2: LITERATURE REVIEW

The literature reviewed in this chapter covers studies which were undertaken to analyse the discourse of a disciplinary text. Most of the studies focused on the use of language in the construction of meaning in the content knowledge of school subjects. The basic assumption guiding most of the studies is that since the content of each subject is drawn from parent disciplines of knowledge, the two forms of knowledge share some linguistic features in terms of the structure of the text. Some of the features identified in these studies include technical vocabulary, information and lexical density, abstraction through nominalisation and taxonomic relationships of technical concepts. As the studies show, these features cut across disciplines of knowledge. The difference is in the way in which language is used in each discipline to construct meaning so that the structure of the text is patterned along the same features as those identified in other disciplines.

The unit of analysis in most of the studies reviewed involved an excerpt of a text drawn from a textbook, teachers' chalkboard notes, students' texts produced in response to assigned tasks and a few texts drawn from journal articles and scientific magazines. Excerpts from school textbooks dominated sample texts selected as the units of analysis in the studies reviewed. In addition, only studies which adopted Halliday's systemic functional linguistic model for analysis of academic genre in the selected text were reviewed for this study. The Findings reported in each of the features listed above are presented below.

2.4 Technical Vocabulary

One of the distinctive features of the specialized language of subjects is the technical terms used in texts. Scholars explain that subjects use vocabulary that is different from the language used in everyday interactions (Schleppegrel, 2004; Halliday 2006; Fang, 2006). However, as Fang and Schleppegrell (2008) note, technicality differs from subject to subject. In addition, the formation of the technical terms in each subject also differs with some terms originating from a subject's naming processes while others arise from the deployment of

grammatical metaphors, particularly nominalisation, in the construction of meaning. The following section presents studies in which texts from different subjects were analysed in order to identify linguistic features of the register. The focus of an analysis of the studies in this section, however, rests on technical aspects of the language in each discipline. The presentation begins with science.

2.4.1 Technicality in mathematics and science subjects.

Science is identified as one of the subjects characterized by highly technical language. According to Fang (2006) technical terms refer to words or expressions which have a specific meaning in a given field of study. From this perspective, several terms are identified as technical terms in science. From the analysis of scientific text, the researcher identifies terms that are unique to science and have different meaning to those of everyday language (Fang, 2006).

Fang (2006) also analysed science textbooks used in secondary schools in order to identify linguistic features of scientific texts. The linguistic features identified were also compared with those of everyday language. The analysed texts comprised sampled texts selected from two science textbooks, namely, *Science* (Scott Foresman, 2000)², *Science Voyages* (Glencoe & McGraw-Hill, 2000)³ and *Science Explorer* (Prentice Hall, 2001)⁴. The textbooks were identified as widely used science textbooks in the U.S. middle schools (Fang, 2006).

Reporting on the findings of the above-mentioned research, Fang (2006) distinguishes between different forms of technical terms identified from the textbooks. For example ‘deciduous’ and ‘shearing’ are both identified as technical terms, respectively naming objects and explaining processes in the field (Fang, 2006). Other technical terms such as compression, micro-organism, protostar, anthropoloda and rhodophyta are said to be drawn from Latin and Greek (Fang, 2006). In other instances words drawn from everyday language

² Scott Foresman (2000). *Science*. New York: Addison-Wesley.

Glenco/McGraw-Hill (2000). *Science voyages* (red level, Florida edition). New York: Glenco/McGraw-Hill.

⁴ Prentice-Hall (2001). *Science explorer*. Upper Saddle River, NJ: Prentice Hall.

are also identified as technical terms. The implication, as the report shows, is that the technical meaning of the borrowed words differs from the way in which it is construed in the scientific field (Fang, 2006). To corroborate the assertion, Fang (2006) quotes, as examples, words such as *school*, *fault* and *volume* as lexis used metaphorically in the scientific text. Configuration of the words in the sentence indicates different meanings. For example, configurations of *school* and *fault* in “fishes that swim in schools ...” and “How rocks move along a fault ...” (Fang, 2006, p. 495) imply meaning that is different from the everyday use of the words.

Another difference in meaning between school and everyday language arises from the grammar of school texts (Fang, 2006). Cited examples include words, such as *findings* and *flower*, which Fang (2006) observes, realise meaning as verbs, whereas they are commonly considered as nouns. In the last example, *young* is part of a noun phrase while its everyday construal refers to an adjective. Fang (2006) explains that the examples illustrate the use of grammatical metaphors in academic language. Contrasting differences between everyday use of words and that of academic language, Fang (2006) explains that, in some cases the difference in meaning of words drawn from everyday language arises from scientific interpretation and in other cases from grammar (*ibid.*). The researcher cautions that it is not only technical terms that may pose challenges in reading comprehension but also high technical density. The latter refers to the high number of technical terms in a sentence, as was the case in some of the findings (Fang, 2006).

Similar findings on the technicality in science subjects were also identified by Martin (2007) through an analysis of extracts of text from geography, biology, history and sociology. Presentation of the findings was followed by discussion that is weaved into Bernstein’s distinction between horizontal and vertical discourse. Within the latter, history is analysed as a representative of the horizontal knowledge structures in the humanities. Geography was analysed as a representative of the vertical knowledge structures within the sciences.

From the geography text, Martin (2007) found out the activity sequence that regulates the texture of the text, describes, names and defines participants. The structure, as illustrated, depicts a gradual development of technical terms such as *magma*, *volcano* and *lava* (Martin,

2007). Others examples of technical terms reported from the analysis are presented in detail under taxonomic relations in sciences below.

In mathematics, Veel (1999) identified technical terms unique to the subject by comparing teachers' chalkboard notes and textbook texts with that of students' classroom discussion. The terms, which included *parallel*, *denominator*, *bisect* and *quadrilateral*, are identified as being of Latin origin (Veel, 1999). Other technical terms identified by the researcher and other scholars arise from commonly used words such as *find*, *simplify*, *reduce*, *power*, *integrate*, *get* (Lemke, 1999, Veel 1999). Lemke (1999) further explains that most of these words from everyday language constitute terms that describe mathematical processes. According to these text analysts, it is these technical terms, which are shared with commonsense language, that create learning challenges for students. The challenge, as the analysts explain, arises from the fact that the meaning of the terms in mathematics is different from that of everyday use (Veel, 1999, Lemke, 1999).

Veel (1999) also shows that, as it is the case in other disciplines, knowledge in mathematics is construed through nominalisation. For the latter, verbs such as *change*, *estimate*, *weigh*, *measure* are realised in mathematics as nominal groups and therefore assigned the roles of participants instead of processes in a clause (Veel, 1999). According to Veel, the difference between mathematical use of the grammatical metaphors and their use in other disciplines of knowledge is that in the former the metaphors lead to the creation of entities that are ultimately quantifiable, as in the case of 'change' (ibid.). Regarded as a noun, *change*, as the researcher illustrates can be quantified and used with other terms to create new meanings such as "rate of change" (Veel, 1999, p. 194). Veel also shows that nominalisation leads to reification of some mathematical operations as topics or concepts. Examples cited include multiplication, whose knowledge requires the ability to execute the mathematical operation of multiplying as well as the conceptual understanding of the term.

The findings from the studies presented above indicate that some of technical terms in science subjects and mathematics are of Latin and Greek origin while others are shared with words used in everyday language. Other technical terms are formed through nominalisation which, as Lemke (1999) argues, leads to reification whereby an everyday concept is transformed into a technically complex concept that ultimately constitutes a topic in the field.

Presentation of the findings on the deployment of the grammatical metaphor in the construal of meaning in disciplines of knowledge is covered in detail below.

2.4.2 Technicality in humanities and social science subjects.

The focus from above was on the presentation of the findings on the nature of technical terms in the science subjects. However, it is noted that technicality differs from one subject to another. This means that how language is used to construct technical terms in the science subjects differs from the way in which it is used in other realms of knowledge. This section presents the findings of studies conducted on the analysis of texts in humanities and social sciences.

Technical terms in history. As it is the case with other school subjects, history was found to be technical in a different way. For example, Martin (2007) analysed history texts and identified terms such as *police force*, *asylum seekers* and names of government agencies as examples of special terminology. Other examples identified by Schleppegrell and Fang (2008) from a sample of history text include *productivity* and *profit* which, as researchers explain, have been borrowed from economic history. Although history is also identified as a subject with its own specialized terms (Fang, Schleppegrell & Cox, 2006, Martin, 2013) some of the terms, as these researchers show, are borrowed from other disciplines of knowledge.

Besides the terms borrowed from other disciplines, there are other terms that are identified as unique to history. For instance, in a study analyzing historical texts from history textbooks and classroom history lessons, Martin (2013) indicates that history divides the past into periods and repackages the periodic events to form technical terms. A report on the findings includes examples such as “New Kingdom Egypt to the death of Thutmose IV, The Greek world 446-399BC, Rome: The Augustan Age 44BC-AD14 (Martin, 2013, p. 29).” Similar findings reported from other studies include, French Revolution, Great Depression, Middle Ages, Dark Ages and Black Resistance (Fang, Schleppegrell & Cox, 2006, Schleppegrell & Fang, 2008; Kazemian, 2013). These terms depict a series of events combined and referred to as one while in other cases the combination consists of past periods.

These examples show that although technicality in history is controversial there are some technical terms which can only be associated with the discipline.

Another aspect of technicality that Martin, Maton and Matruglio (2010) identified as crucial in encoding the past in history involves history terms formed through the suffix *isms*. According to these researchers, the terms are formed through an attachment of the suffix to a proper name or an adjective transforming the word into a principle, belief or movement (Martin, Maton & Matruglio, 2010). Examples cited include *chauvinism* (coined after Nicolas Chauvin), 'conservatism' (from conservative), *feminism* (from femina, Latin for woman), and *liberalism* (Martin, Maton, & Matruglio, 2010). The researchers explain the *isms* terminology in English as an influence from French and Latin administration in England (ibid.). Detailed findings on this type of technical terms are presented under the representation of taxonomic relations in the history text below.

2.4.3 Technicality in economics.

Other studies analyzing texts in social sciences include text excerpts drawn from economics and sociology. For example, Wignell (2007) undertook a study tracing the development of social sciences from political economy to the present day economics, sociology and political science. The focus of the analysis, however, is on economics. In another study Moore (2001) analysed texts from textbooks used in university introductory courses in physical science, economics and sociology. The focus in this study was on the linguistic features of propositional statements that the text constructs.

Development of the field to present day economics is indicated by Wignell (2007) as gradual. The study traces development of the discipline theory, beginning with Adam Smith's contribution and proceeding to its refinement by Ricardo and Marx. To study the development Wignell analysed extracts of text from: Adam Smith's (1776) *Wealth of nations*, David Ricardo's (1817) *Principles of political economy and taxation* and Karl Marx's (1867) *Capital, Volume One*. According to Wignell (2007) the refinement of the theory by Ricardo and Marx involves the development of general propositions together with technical terms and the latter's taxonomical arrangement.

Wignell (2007) suggests that technicality developed gradually, as evidenced in an identified list of reiterated themes throughout the first four chapters of Adam Smith's *Wealth*

of Nations. From this list *trade*, *labour* and *quantification* are identified as central to theory development in the field. Different lexis is used to realize the thematic meaning of each term. For example, the report indicates that meaning of *trade* takes many forms such as *barter*, *buy*, *sell*, *exchange*, *trade*, *money*, *price*, *market*, *commerce*, *goods* and *commodities*. Alongside *labour*, the report lists: *toil*, *work*, *labour*, *division of labour* as lexical items defining labour. The last category of quantification involves *amount*, *number*, *quantity* and *value*. It is from these lists that Adam Smith, as Wignell explains, changes everyday meanings into technicalities (Wignell, 2007).

Development of technicality and taxonomical relations, however, only begins in the fourth chapter of the *Wealth of Nations* (Wignell, 2007). As Wignell's (2007) analysis illustrates, technicality is developed in search of the meaning of value within the field of political economy (ibid.). Furthermore, an analysis of an excerpt from this chapter indicates development of technical vocabulary through the words: "value, value in use, exchangeable value, real price and market price" (Wignell, 2007, p. 191). To this list, Wignell indicates that Adam Smith incorporated labour as another significant term in theorizing measurement of value (ibid.). Other technical terms introduced in the text developing the meaning of market price include: "*natural price*, *effectual demand* and *absolute demand* (Wignell, 2007, p. 192)" (emphasis original). In addition Wignell adds that some of these technical terms are realized metaphorically (ibid.).

Comparison of the Adam Smith's *Wealth of nations* with David Ricardo's *Principles of political economy and taxation* indicates that Ricardo also uses the same grammatical resources as Adam Smith and further establishes technicality and abstraction as did his predecessor (Wignell, 2007). As Wignell (2007) shows, Ricardo's basic premise is that exchangeable value cannot be equated to labour that produced the goods.

An analysis of Karl Marx's *Capital Volume One* indicates that Karl Marx used and developed the technical terms which were established by Adam Smith and David Ricardo (Wignell, 2007). Wignell points out that Marx also modified the taxonomic relations of value that Smith established and Ricardo adopted. In this modification, new terms such as *commodity*, *labour*, and *labour time* are added. A detailed presentation of the findings on the relationship between these terms is presented in the section of taxonomic relations below.

2.4.4 Summary.

The above analysis shows that some technical terms used in science and mathematics originate from Latin and Greek. Together with words used in everyday language, these terms further carry a precise meaning within the field, as opposed to their everyday use. Terminology used in history, on the other hand, is mainly metaphoric with a distinctive feature in which it functions to unite a series of interwoven but different events or periods. Although social sciences borrow from everyday language, the meaning of the terms used in the social sciences, is precise and specific within the field. The lexis used to construct terminology in most of these subjects has been found to be dense. The dense character arises from the deployment of the grammatical resources, particularly from the deployment of nominalisation in the construction of meaning. The presentation that follows focuses on studies that investigated the role of nominalisation in the construction of academic knowledge.

The unique technical terms associated with certain subjects, as stated above, have implications for this study. A term has a specific and precise meaning in a field, even if it is borrowed from everyday language. The uniqueness and specificity with which terms are used in the specialized areas of knowledge imply a unique and special construal of reality within a given field of study. This is important for this study which sought to investigate the theoretical perspectives that underlie the discipline of accounting. Identification of the nature of the technical terms used in accounting will shed some light on the world view embraced by the discipline.

2.5 Abstraction in Academic Text

According to Halliday (2004), the abstract meaning found in scientific language arises from the incongruent use of language. Incongruence is exemplified by the transformation of verbs and adjectives into nominal groups. Grammatical metaphors are also identified as other examples of incongruent realisation of meaning where a process represents a figure but is used as a unit within an element (ibid.). The following section presents the literature on abstract representation of meaning in scientific texts. It also explains the complexity and

density found in scientific texts. The presentation begins with nominalisation and information density.

2.5.1 Nominalisation and information density.

Some scholars identify information density as another feature that is unique to academic register. The information density is defined as the relationship between the number of content words and the total number of running words per clause, excluding embedded clauses (Fang, Schleppegrell & Cox, 2006, Fang & Schleppegrell, 2008). It is high in academic texts, as opposed to its occurrence in the language used for everyday interactions (Fang, Schleppegrell & Cox, 2006, Fang, 2006, Fang & Schleppegrell, 2008).

The high information density identified in academic texts is attributed to long densely-packed nominal phrases through which meaning is realised. Some of these nominal phrases are dense because of the writer's attempt to describe fully, in clear and explicit terms, the features of a referent in written text (Fang, 2006). Fang explains that such referents would be easily identifiable in the immediate context of face to face interactions. However, the absence of contextual factors that would facilitate identification of a referent, a written text gives rise to qualifications of the referent as an attempt to provide a full description (Fang, 2006).

In other cases, the compact nominal phrase arises from the logical reasoning that is typical of academic texts (Fang, Schleppegrell & Cox, 2006, Fang & Schleppegrell, 2008, Martin, 2013). The explanation is that what has been presented before is synthesised and presented as a theme, introducing new information in the subsequent section of the text. The synthesis, however, leads to abstraction since the linguistic resources available for configuration of the long nominal phrases involve grammatical metaphors. Grammatical metaphors are effective in the realisation of meaning through the use of long nominal phrases. A brief explanation of a grammatical resource follows.

Abstraction, as alluded to above, refers to instances whereby language turns a concrete life experience into an abstract entity (Fang, 2004). Construal of experience as an abstract entity requires deployment of a grammatical metaphor, mainly nominalisation (Martin, 2007). Nominalisation is explained as a grammatical resource through which

processes are transformed into nominal groups in the construal of meaning (Martin, 2007, Schleppegrell & Fang, 2008, Kazermian, 2013). Grammatical resource is used for various purposes in different academic registers (Fang, 2004). For example, in the sciences it is used for construction of definitions of technical terms and explanations (Veel, 1997, Unsworth, 2001, Martin 2007). In history, past events are compiled and expressed as entities through nominalisation (Schleppegrell & Fang, 2008, de Oliveira, 2010, Martin, 2013). In mathematics, nominalisation is used to construct nominal groups which participate with other processes, particularly relational processes and in some cases, with other nominal groups (Morgan, 2006, Veel, 1999, Schleppegrell, 2007). The next section presents studies that investigate the deployment of grammatical metaphors in the construction of knowledge in different subjects.

2.5.2 Abstraction in science.

Fang's (2006) analysis of science textbooks shows that some words are used in a different way from their everyday grammatical structure. The examples that the researcher cites include clauses in which the words *findings* and *flower* realise meaning as verbs, whereas they are commonly considered as nouns. In another example, *young* is part of a noun phrase while its everyday construal refers to an adjective. The examples show, as Fang (2006) explains, that whereas in some cases the difference in the meaning of words drawn from everyday language lies in scientific interpretation, in other cases the difference arises from grammatical metaphors, as is shown in the examples above.

An analysis by Fang, Schleppegrell and Cox (2006) of a text on the formation of rocks demonstrates the construction of long phrases through nominalisation. Examples of such nominalisation are observed in phrases such as: "a natural, nonliving solid with a definite chemical structure; the minerals that make up the rocks; a pattern that forms small crystals" (Fang, Schleppegrell, Cox, 2006, p. 259). The phrases: *a natural, nonliving solid* and *a definite chemical structure* illustrate abstractions whereby qualities have been used as pre-modifiers. In another instance, *this change* and *the arrangement of atoms*, which originate from the construction, "the heat and pressure may change how the atoms are arranged," events have been turned into things. The phrases include the head-noun as well as the pre and post modifier (ibid.). According to the researchers, the construal of experience through such phrases enables the writer to synthesize what has already been presented so that it can be elaborated upon in subsequent sections (Fang, Schleppegrell & Cox, 2006).

In an introductory chapter on ‘Language and Reading in Secondary Content Areas,’ Fang and Schleppegrell (2008) analysed, among others, a science text drawn from a sixth grade science textbook: *Science Voyages* (2000). Fang and Schleppegrell (2008) observe that nominalisation has been employed in order to recast information for purposes of building argument. For example, the researchers identify long abstract nominal phrases such as: “‘*The cells that line the nasal cavities*’ and ‘*tiny hairlike extensions that can move together like whips*’” (emphasis in the original) (Fang & Schleppegrell, 2008, p. 5). The last element of nominal phrase is synthesised and re-represented as ‘*The whiplike motion of these cilia*’ (ibid.). The purpose of recasting the phrase is to create a theme that introduces new information in the section succeeding this last phrase. Deployment of the grammatical resources enables the author to turn verbs such as *move* to *motion* which is modified with the adjective *whiplike* also formed from a noun *whip*. It is through these grammatical metaphors, as Fang and Schleppegrell (2008) attest, that the functions of a cell can be elaborated upon. In addition, the grammatical resources function as cohesive devices because they facilitate the development of an argument.

The studies above indicate that abstraction in an academic text is caused by nominalisation (Fang, 2006) and long nominal phrases (Fang, Schleppegrell & Cox, 2006). The latter findings originate from an attempt to provide the full details of a referent so that the text explicitly identifies what is being referred to. In addition, logical reasoning, in the ways in which what has been presented is summarised and used to introduce new information, also contributes to abstraction. As a way of identifying a referent, a long nominal phrase with a head-noun, post and pre modifier, a qualifier and sometimes an epithet are constructed and contribute to the abstract subject matter. The long nominal phrase is different from the nominalisation that converts verbs and adjectives to nouns. Although different, the two grammatical resources contribute towards making the subject matter knowledge abstract.

The features discussed above are identified in an academic text written for expository purposes. As a school subject, accounting also introduces its subject matter knowledge through a written text. Given the variety in the deployment of grammatical resources in constructing meaning in the different fields of study, investigating how language is used to construct meaning in accounting will identify how grammatical resources are deployed to

construct accounting meaning. Such research is valuable, as Schleppegrell (2004) has emphasised that each school subject has unique linguistic features, which need to be identified for development of disciplinary literacy in the field.

2.5.3 Abstraction in mathematics.

Similar patterns of nominalisation have also been identified in mathematics texts. An analysis of the mathematical word problems by Fang and Schleppegrell (2008) also shows a pattern in which the meaning in “4 lbs. of salt dissolved in 100 gal of water and brine containing 2 lbs. of salt per gallon of water (Fang & Schleppegrell, 2008, p.6)” is realised through long nominal phrases. In addition, the authors explain that the use of grammatical metaphor in constructing mathematical entities transforms everyday meanings of processes such as *salt and water are mixed together* and *how much salt* into things, *mixed solution* and *amount of salt* (Fang & Schleppegrell, 2008, p. 6).

Other analysed mathematics texts include research studies with a focus on multimodal analysis, in which verbal text is used in conjunction with mathematical symbols. For instance, Fang and Schleppegrell (2010) employed a multimodal approach analysing word problems from mathematics textbooks. The analysis shows that nominalisation in mathematics transforms and condenses processes, resulting in dense complex nominal groups (Fang & Schleppegrell, 2010). From one of the mathematical word problems, information density is illustrated with a problem that requires a calculation of the volume of a rectangular solid with the dimensions stated as: “side, front and bottom faces, with areas, $2x$, $y/2$ and $xy \text{ cm}^2$ respectively” (Fang & Schleppegrell, 2010, p. 590). The analysis of the nominal phrase shows that a full description of the faces and the area of each face results in five processes of the relational type. Through nominalisation, information is condensed. Hence, the researchers underscore the importance of identifying mathematical processes embedded in nominal phrases for effective teaching and learning of the subject (Fang & Schleppegrell, 2010).

A similar pattern of nominalisation in mathematics is also noted by Veel (1999). This researcher explains that in mathematics a comprehensive use of the grammatical resource involves a pre-numerative attribute, a classifier and a qualifier, all of which describe a mathematical concept (ibid.). Citing as an example of a nominal group, ‘the volume of a rectangular prism with sides 8, 10 and 12cm’ the researcher explains that the nominal group is formed through the pre-numerative, *the volume*, the classifier, *rectangular* and the

qualifier, *with sides 8, 10 and 12cm* (Veel, 1999, p. 197). All these attributes describe the entity *prism*, resulting in a long complex nominal group.

The linguistic features of mathematics discussed so far illustrate how mathematical symbols, combined with verbal text, construct meaning through long and complex nominal phrases. In addition, the unique way in which grammatical resources are employed to construct meaning highlights the unique characteristics of the subject. This is important for this study, because accounting borrows from mathematical operations to solve accounting problems. Investigating the use of language to construct meaning in accounting helps to determine the extent to which the incorporated mathematical features impact a way of seeing and meaning in the field of accounting.

Drawing from O'Halloran, Schleppegrell (2007) also illustrates the long, extended and complex nominal group as a feature of mathematical knowledge. The illustration involves a translation of a mathematical problem expressed in symbolic language as $a^2 + (a + 2)^2 = 340$ which, when translated, means "the sum of the square of two consecutive positive integers is 340" (Schleppegrell, 2007, p. 146). As the researcher explains, the nominal phrase: '*the sum of the squares of the two consecutive positive even integers*,' is construed as a thing (ibid.). However, as Schleppegrell (2007) elaborates, representation of the nominal group in the equation involves a series of mathematical operations whereby a is squared and a is also added to 2, the sum of which is also squared, ending with a process of adding the product of the two. This illustrates that although in symbolic mathematical language the items such as those in the cited equation are presented as entities, there are embedded operative processes within the entities, as O'Halloran (2005) also observes. Mathematical symbolism presents a complex form of abstraction through its unique deployment of grammatical metaphors (Schleppegrell, 2007, Veel, 1999).

Construction of nominal phrases through embedded clauses does not feature only in mathematics. Realizing embedded clauses as modifiers, particularly as post modifiers, seems to be common in science, as the examples of nominal phrases in science cited above illustrate. Fang and Schleppegrell's (2008) example: "*The cells that line the nasal cavities*" and "*tiny hairlike extensions that can move together like whips*" and Fang's (2006) text, "*The hybrid organism that findings*" illustrate the contribution of embedded clauses to information density and abstraction. Pre- and post- modifiers vary from deictic (the determiner whose

referent depends on the context in which it has been used) determiners, adjectives, nouns to embedded clauses and, as other scholars show, in some cases includes prepositional phrases. Fang, Schleppegrell and Cox (2006: 259) confirm the observation, indicating that information density findings from long nominal phrases formed through embedded clauses and, in some cases, through prepositional phrases.

The studies above show that different grammatical resources are deployed to construct long phrases in order to present clear accurate meaning. Even though the grammatical structure of the nominal phrase leads to information density, the long phrase serves the purpose of clarity and avoids ambiguity in a text meant for exposition. An accounting text at secondary level is also intended for exposition. This means that the text must be clear and accurate. Investigating linguistic features of the text is, therefore, important in this regard. This study examines how an accounting text accounts for clarity, precision and accuracy.

2.5.4 Abstraction in humanities and social sciences.

Nominalisation is not only a feature of scientific and mathematical texts. Texts in other areas of specialisation bear similar features in terms of the deployment of the grammatical metaphors for construction of knowledge. However, the purpose for which grammatical metaphors like nominalisation is put to use in these fields is different (Fang & Schleppegrell, 2008). The following section reviews the literature on the role and function of nominalisation in the construction of knowledge in humanities and social science subjects.

According to de Oliveira (2010), nominalisation in history texts is used to package information about past events into one element. For example the researcher explains that *Industrial Revolution* refers to a periodic past during which different, though related, events happened. However, as de Oliveira (2010) indicates, the events are presented in history textbooks as *Industrial Revolution*, in other words, as a thing. Analysing an 8th-grade US history textbook the researcher cites two nominal groups, *This increased trade* and *the growth of major port cities in the South* as events realized as things within the analysed text. However, the first nominal phrase summarises a series of activities and events that led to increased trade between Great Britain and the South. The second, on the other hand, puts together different processes and events which resulted in growth, as consequences of trade (de Oliveira, 2010). Nominalisation in history, therefore, not only turns

events and actions into things but also combines several events into one element (ibid.). The events may have taken place over a long period of time and may also be different even though they might be related in some ways (de Oliveira, 2010).

History, as opposed to the natural sciences, deals with events which involve humans. There are types of participants represented in a history text other than the nominalized entities. Fang, Schleppegrell and Cox's (2006) analysis of texts from a primary grade storybook (Percy, 2002, pp. 58–62) and a 10th grade history textbook (Beck, Black, Krieger, Naylor, & Shabakam, 2003, p. 423) indicates that representation of participants through nouns in a history text involves abstract entities while in a literary text participants are realized as humans and animals (Fang, Schleppegrell & Cox, 2006). A few instances in which Fang et al. (2006) identified participants realized as human actors in the history text, show representation in general terms. The cited examples include: “...*the richest 5 percent of the population, 60 percent of all American families* (Fang et al., 2006, p. 263)”. Other than these, as the researchers attest, the realisation of people as participants is objectified through nouns which refer to institutions such as ‘American factories’.

Similar findings on representation of human participants are also reported by de Oliveira (2010) from an analysis of an 11th grade history textbook. An excerpt from a chapter on Vietnam War, as the author indicates, begins by assigning responsibility over the actions of the use of chemical weapons against the Vietnamese to American forces. Later on, the responsibility is transferred to pilots, the participants who dropped the material identified as Agent Orange. For the rest of the text, human actors recede into the background to be replaced by Agent Orange, in this instance a thing. Discussing the role of nominalisation in history text, the writer indicates that the grammatical metaphor: “... allows history writers to use abstract participants such as institutions, ideas, things, or places, as historical actors...” (de Oliveira, 2010, p. 194).

The presence of human participants identified in the studies above shows that the representation of meaning in humanities and social science texts is less abstract. However, realizing the human participants as classes of people, not as specific individuals, imbues some degree of abstraction in the text. This realisation of human participants in such general terms has implications on identification of causation in historical events. Like history, accounting is a social science subject. Examination of the linguistic features of the discipline

shed some light on what or who accountants identify as responsible for the economic events that the subject deals with.

2.5.5 Summary.

The above presentation on the use of nominalisation in building knowledge indicates that deployment of the grammatical metaphor differs from one content area to another. In science, nominalisation is used to turn events into things because the interest is in studying and reporting on the nature of the process. The focus in science is to study natural causes, hence eliding human agency. As Shanahan and Shanahan (2008) observe, human agency is important in history and literary arts, as the interest is in studying the cause, as it arises from human actions. Although it is included in the literary arts, human agency is sparingly mentioned and the participants are mentioned as classified, not specific, human agents in history. Thus, agency is assigned to institutions or to a certain cadre of people and not to specific individuals. This observation is relevant for this study as the analysis of the accounting text shows how causation in economic events is explained, that is, whether it is attributed to human actions or to things. Thus, nominalisation in humanities is used to unite disparate but connected events, in addition to which it allows for a historian to include some view or a particular perspective in the interpretation of an event.

Another feature that the researchers identified from scholarly texts involves representation of meaning in objective authoritative terms. Studies analysing academic text identify a neutral stance adopted by authors of these texts as a common element featuring in most of the academic texts. A detailed presentation of literature on this aspect follows.

2.6 Objective and Authoritative Academic Content Knowledge

One other feature of scientific language that analysts identify as characteristic of school content knowledge concerns authoritativeness (Fang, 2004). According to Fang, one of the functions of the scientific language is to present accurate and objective knowledge portrayed in the assertive tone of a knowledgeable expert in the field (*ibid.*). This refers to a stance that a presenter of information takes as an expert knower in the field. Fang (2004) identifies detached authorship as one of the strategies through which information can be

presented objectively. In addition to detached authorship, Morgan (2006) includes an agent-less portrayal of events achieved through passive constructions as yet another way through which objectivity in construction of knowledge is achieved. Such scholars argue that passive constructions serve a variety of functions of which authoritativeness is one.

In agreement with Morgan (2006), Fang (2004) identifies grammatical resources through which authoritativeness may be attained when encoding information. It is suggested the resources include the use of technical vocabulary, declarative statements and passive voice (Fang, 2004). The author indicates that all these resources are orchestrated to present an accurate objective realisation of meaning within the scientific field (*ibid.*). Since this study is restricted to experiential meaning, only studies with the findings on the representation of voice in an academic text were reviewed for this section. The findings are presented below.

2.6.1 Passive and active in academic text.

Passive voice, as text analysts explain, is used for a variety of reasons. One of the purposes that passive construction of text serves is to highlight and enhance processes and the medium (Fang, 2004). In addition, Fang (2006) also indicates that passive voice enables the writer to add more information after a verb; this allows for ‘end-focus’. Another reason that has been raised and highlighted as being important with respect to passive voice, concerns the ideological perspectives that passive constructions endow a text with. Passive voice creates the image of an objective authoritative meaning (Fang, 2006). The findings reported by Fang (2006) illustrate a passive construction which, as the author argues, presents an image of an objective representation of meaning. Portrayal of the clause structure is shown in examples such as: “photosynthesis and respiration *can be thought* ... and forests *were cut down* ...”. As Fang (2006) explains, the actors responsible for the thinking and cutting are deleted through the passive voice.

In discussing the findings, the writer argues that the first proposition could have been written such that it reflects that the statement refers to what scientists think, but instead: “... the actor who does the thinking is hidden through the use of passive voice” (Fang, 2006, p. 504). In relation to the second statement, Fang (2006) indicates that other reasons for the use of passive voice involve a deliberate intention not to disclose the party responsible for the action of cutting the trees, thereby causing the price of the firewood to rise, as the rest of the text discloses.

Like all disciplines in the social sciences, accounting deals with events which arise from human actions. Given that disciplinary texts within the social and human sciences exhibit the linguistic features of texts in natural sciences. Investigating linguistic features of an accounting text indicate to whom or what the discipline attributes causation. This is important in this study as the identification of the linguistic features indicates theoretical perspectives that guide scholars in the field.

In a study illustrating the linguistics challenges that an academic text poses for students, Schleppegrell (2006) analysed, among others, an abstract of a research report drawn by a third year student in chemical engineering. As Schleppegrell (2006) shows, different lexico-grammatical resources are deployed to efface agency in a scientific text. For example, the report identifies choice of processes and grammatical participants as some of the strategies that enable the student to present the findings that emerge from the experiment without specifying the person responsible for conducting it. The report further identifies passive clause structures as being effective in the presentation of the findings that emerge from a process. Thus, the researcher states: “Passive voice, as well as clause subjects that focus on the procedures and findings, enable this stance” (Schleppegrell, 2006, p. 60). As the report indicates, the passive clause structure identifies ‘the findings’ as a theme of the clause, thereby suppressing the agency of the researcher responsible for carrying out the experiment. Examples cited to illustrate the realisation of meaning through passive voice are listed as the text below:

A range of temperatures *is explored*
 Findings which agree with the literature *were generated*
 The best findings *were found*
 The diffusion coefficient D_{AB} *was calculated*
 The smaller diffusivity *was demonstrated*
 Possibilities for the improvement of data collection *are considered*
 (Schleppegrell, 2006, p. 60).

This way of presenting the findings allows the researcher to take a neutral stance so that the findings will be acceptable to members in the community of practice in the field (ibid.).

Other studies have shown that passive voice is a common feature of academic text (Fang, 2006, de Oliveira, 2010). As these researchers explain, suppression of agency is caused by the need to present objective findings. However, suppression of agency in research

activities eventually impacts on the nature of knowledge that the findings suggest from the activities. The ‘objective’ knowledge resulting from the research activities presents a view of things which happen naturally without human agency. This is important for the current study whose purpose is to examine how language is used in the construction of meaning in order to determine theoretical perspectives embedded in the language of an accounting text.

2.7 Taxonomic relations

Because of its widespread use across disciplines of knowledge, nominalisation also contributes towards a high prevalence of linguistic constructions that construe meaning by establishing relations between things. A number of scholars cite Halliday’s description of the language used in an academic text, thus indicating that: “In these discourses, the semiotic power of *referring* is being further exploited so as to create *technical taxonomies*: constructs of virtual objects that represent the distillation of experience...” (Halliday in Fang, Schleppegrell & Cox, 2006, p. 261). Thus, in addition to the transformation of events and actions into entities, these scholars have shown that nominalisation enables the nominalised entities to be related one to the other in order to form classes or categories or to establish cause-effect relationships in a field (Fang, 2006, Fang, Schleppegrell & Cox, 2006, Martin, 2007).

While causal relations result in cause-effect relationships between two entities, formation of the categories leads to the establishment of relational taxonomies (Fang, 2006, Martin, 2007). Drawing from Halliday, Shanahan and Shanahan (2010) explain that the classifications are realized through identifying and attribution processes. Identifying relations, as Fang (2006) explains, involves identifying one class of things through a definition. In contrast, attribution refers to a relation where one element functions to describe an identity of a thing by assigning an attribute or identifying a domain to which it belongs (Fang, 2006). The section that follows presents the findings from studies analysing textbooks, with a focus on the representation of taxonomic and causal relations. However, for purposes of this study, only the findings on taxonomic relations are presented.

2.7.1 Definitions and attributions in sciences.

Taxonomic relations in scientific genre are realized through relational processes. The processes imply classification in the sense that a definition or description of an entity may specify a general criterion for classifying things or specifically identify an entity as a class of a general category. The following section presents studies illustrating realisation of taxonomic relations in a scientific text.

In a study in which Fang, Schlepppegrell and Cox (2006) analysed a scientific text, the researchers identified a relational clause that ascribes an attribute to a mineral as: “A mineral is a natural, nonliving solid that has a definite chemical structure” (Fang, Schlepppegrell & Cox, 2006, p. 260). This example illustrates an instance in which a more specific concept, that is a mineral, is in a taxonomic relation with a more general concept. In this case, *a mineral* is identified as belonging to a class of solids. The attribution, therefore, illustrates how *a mineral* fits into the overall structure depicting taxonomic relations in the field. The researchers, however, observe different relational processes, some of which are quoted as: “(make up, change, occur, arrange)” (Fang, Schlepppegrell & Cox, 2006, p. 261). These processes realise meaning by stating features of an entity while in general they portray the state of affairs.

Other examples of science text that illustrate identification and attribution relations are cited by Fang and Schlepppegrell (2010) who analysed excerpts from, among others, the biology textbook, *Modern biology* (2006). These researchers identified definitions of technical terms, as in: “eukaryotes are made up of one or more cells; that have a nucleus and membrane-bound organelles (Fang & Schlepppegrell, 2010, p. 589)”. The process *made up of* is used to describe the structure of *eukaryote*. The researchers also indicate that the technical term, *organelles*, is also described in a long nominal phrase which includes an embedded clause in a subsequent sentence. The cited phrase describes organelles as: “well-defined, intracellular bodies that perform specific functions for the cell (Fang & Schlepppegrell, 2010, p. 589)”. As the researchers explain, nominalisation in a science text enable relations to be established between created abstractions through verbs such as *are called*, *are made up of* or *have*, as depicted in the analysed biology text (Fang & Schlepppegrell, 2010)”.

Descriptions of a mineral and eukaryotes above show that the relational clause does not only define or describe an entity but it also implies the structural make-up or

classification of an entity. For example, the definition of a mineral identifies a class to which the concept belongs. Other relational processes such as *are made up of* illustrate compositional meaning. It is through such constructions that portray a relationship between entities that taxonomic relations are developed, as Martin (2007, 2013) and Martin and Rose (2008) have shown from an analysis of visual images, as portrayed in secondary school textbooks. The section that follows presents studies illustrating the portrayal of taxonomic relations in science texts.

2.7.2 Classification and composition in science texts.

Taxonomic relations, as stated in Martin and Rose (2008), involve classification and composition of a phenomenon within a field. Classification identifies the category to which the phenomenon belongs while composition refers to its structural components (Martin & Rose, 2008). According to Martin and Rose (2008), classification precedes a description and requires criteria for classifying things. In addition, Martin (2007, 2013) maintains that visual images play an important part in realizing relational meaning in the sciences. In addition, Martin (2007) explains that geography and biology images realise relational taxonomies through structures that illustrate classification and composition. Detailed illustrations of some aspect of the structure are presented below.

Representation of classification and composition meaning through diagrams is important for the current study, as visual images form a substantial amount of accounting knowledge. In any representation of information through visual images such as accounting statements, with similar features to those of tables, the information is normally arranged in certain patterns. The relational processes are important for this study in this regard, just as Martin (2007, 2013) stresses that the processes have a bearing on the development of taxonomic relations within a field.

Structures that illustrate classification and composition are identified by Martin's (2007) analysis of a geology text. The structure shows classification and composition of technical terms on the topic of rocks in geology. The classification and composition of the rocks is illustrated through a diagram, which, as Martin (2007) points out, illustrates the origin of igneous rocks. Martin (2007) further indicates that the diagram shows classification of igneous as a type of a rock and a member of the three types of rocks displayed. In addition, and as the writer attests, the sub-types of both igneous and sedimentary rocks are also

illustrated. Elaborating on the findings, Martin (2007) applies a social semiotic approach to the analysis of visual images in geography. The analysis is based on the distribution of the value of information displayed in the image. Martin's (2007) findings show that, in geography, classification is realised by the placement of the general on the left with progression to the subcategories on the right. The author highlights differences with regard to a presentation in biology, whereby classification is realised vertically with the general placed on top and the parts, together with their subdivisions below the general (*ibid.*).

Classification schemes in a disciplinary text, particularly biology and ecology, are also identified as stratified and elaborate (Martin & Rose, 2008). These authors analysed an ecological text describing the producers and consumers of energy. The findings indicate that the descriptive text provides major categories and sub-categories with different bases of criterion at each level. Diagrammatically, they identify the structure as a stratified classification, with the first level being general and more encompassing, while lower levels indicate sub-categories with finer details (Martin & Rose, 2008). As the researchers explain, classification is similar across disciplines. However, in biology it is more elaborate and structured, covering all aspects of a phenomenon in minute detail (Martin & Rose, 2008). Following on Bernstein's hierarchy of structures of knowledge, the authors explain that structured classification is a feature of all hierarchically organized knowledge structures (*ibid.*). Martin and Rose explicitly indicate that "... the field as a whole is organised in textbooks as taxonomy of types, and the description of each type gives the criteria for its classification within the taxonomy (Martin & Rose, 2008, p. 146).

Comparing the different disciplines of knowledge, Martin and Rose (2008) state that vertically structured disciplines such as the sciences have classifications that are elaborate and have specific criteria. In contrast, they assert that in humanities and disciplines such as political sciences there might be competing claims to the valid criteria (*ibid.*). Consequently, an organisation of elaborate classifications with precise clear categories may be less explicit than it is in an everyday knowledge domain (Martin & Rose, 2008).

The above studies on the classification of concepts in the sciences illustrates that the relational processes provide a criteria for the classification of things through their identifying definitions. The researchers also show that the classifications are portrayed diagrammatically in textbooks in the sciences. Martin (2007) compared the ways in which information value is

communicated in diagrammatic portrayals in geography and biology texts. Finally, research studies also highlight a feature of elaborate and stratified classification, which Martin and Rose (2008) identify as common in the science subjects. These findings have implications for accounting texts, as the classification and presentation of information through visual images are common features of the discipline. Investigating the representation of meaning will indicate how classification is realised in an accounting text.

Further illustrations indicating ways in which composition is realised in scientific text involve realisation through visual images. Among the texts that illustrate transport systems in the body, specifically for blood circulation, Martin and Rose (2008) analysed is a biology text and found that the meaning is realised through a verbal text and a labelled human skeleton illustrating the circulatory system. As Martin and Rose (2008) explain, composition from the verbal text involves identification of the parts and a description of their functions. For examples researchers indicate that the text identifies the entity, the *circulatory system*, together with its function as: '*carries digested food and other materials around the body*'; in addition, the parts are identified as: "*plasma, red cells, white, cells, platelets, blood vessels, heart, arteries, veins and capillaries*" (Martin & Rose, 2008, p. 149)" with the functions explained in a verbal text.

Commenting on the findings, Martin and Rose (2008) describe the composition as hierarchical. In accordance with their explanation, the structure proceeds vertically with the entity to be de-composed on top and the parts, with their sub-components, at the bottom. A comprehensive illustration of the structure is represented as a tree diagram with three levels. The levels involve the circulatory system as the first level on top, succeeded by a second level of the heart, the blood and the blood vessels. The third level represents the subcomponents of the blood and the blood vessels (Martin & Rose, 2008). A comparison with a tree diagram implies an organization with meaning realized such that the first level on top is allocated to the more general aspects of the information and the bottom to the concrete and specific.

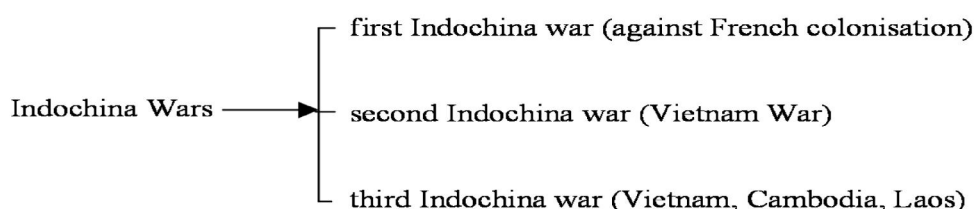
The analysis of the circulatory system shows that the composition of elements in a biology text is as elaborate as a classification. Through the identified level, the researchers are able to illustrate the comprehensive analysis of an element into its sub-components (Martin and Rose, 2008). Martin and Rose's (2008) study further shows that classification

and composition in the construction of meaning in scholarly knowledge is equally important for accounting as a discipline of knowledge.

2.7.3 Classification and composition in humanities.

Although history is not identified as a technical subject, studies have analysed history texts and identified, among their findings, taxonomic relations. For example, Martin, Maton and Matruggio (2010) undertook a study in which they analysed transcripts of three hour-long video-recordings in history lessons, syllabus documents from two Australian states and chapters on Indochina wars from six textbooks. The analysis was undertaken in order to explore cumulative learning in history lessons, to identify the place of the *isms* in history curriculum and to study the structure of what the researchers identified as a ‘senior Modern History Course’ (Martin, Maton & Matruggio, 2010). In particular the study focused on the values and attitudes that the history lessons encouraged towards colonialisms and nationalism, as the terms relate to Ho Chi Minh and French colonialists.

The analysis shows a transformation of the postcolonial struggle into a technical term as Indochina Wars, which are divided into three periods, namely: “‘the struggle against the colonial rule identified as Indochina war’, ‘the struggle to unify the country, that is, North Vietnamese campaign’ and ‘the clashes with Cambodia and China’” (Martin, Maton & Matruggio, 2010, p. 443). The researchers depict the taxonomic relations between the wars from cited textbook texts in a diagram as indicated below. Such relations indicate a general practice in history whereby taxonomic relations are realised by a sequential ordering of the eras, with some eras preceding while others follow.



(Martin, Maton & Matruggio, 2010, p. 443)

Although the diagram identifies the wars in terms that may be considered technical, the researchers explain that only *Indochina War* is technicalised. This fact was indicated by the fact that the initial letter of the concept was marked with upper case (ibid.). Furthermore, the researchers explain that other Indochina wars, namely, the Vietnam War and the clashes are not identified as technical terms. Martin, Maton and Matruglio (2010) also show that nominalisation infiltrates the genre through setting proper names for historical episodes.

An analysis of the *isms* terminology in the lessons and the textbooks shows a number of *isms*, which are spread across the text on Indochina war. The researchers identify concepts such as *capitalism*, *nationalism* and *imperialism*, in other chapters of the textbooks, as key feature of the Indochina wars (Martin, Maton & Matruglio, 2010). These researchers explain that the *isms* technical terms are related to one another through opposition (ibid.). They identified the oppositional relationships from all of the material analysed and presented the taxonomic relation in the form of a list of opposites.

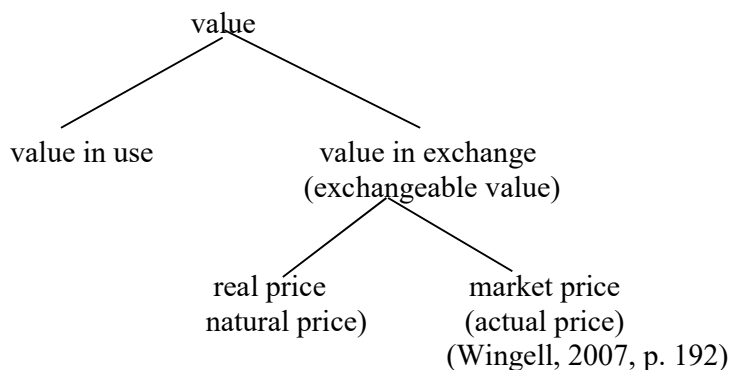
In confirmation of the juxtaposed presentation of the -isms mentioned above, Martin (2013) cites capitalism-socialism, imperialism-nationalism, democracy-autocracy and other ordered pairs as an indication of relations among technical terms in history. As Martin (2013) observes, the taxonomic relations in history are not as well developed as they are in the science subjects, even though, within the sciences, development in terms of the relations among concepts differs from one subject to another.

Drawing from Bernstein, Martin (2013) suggests that the less developed taxonomic relations position the history discourse towards the ‘weak grammars’ end in a continuum of grammars of vertical discourses. A review of the literature shows that history, as opposed to economics, both of which are in social sciences, displays taxonomic relations that are not well developed. Development of the taxonomic relations in economics is presented below.

2.7.4 Classification and composition relations in social sciences.

As with all the other texts, the texts of political economy organize vocabulary in ways that show structured relations. The relations are shown in the findings of Wignell’s (2007) study of the development of political economy from Smith to Marx. Since the analysis traces the evolution of the subject, the findings show changes in the arrangement and organization of the technical terms as the subject develops with contributions from the three authors.

According to Wignell (2007), measurement of value forms the basis of taxonomic relations which were identified in the three textbooks. An analysis is, therefore, undertaken by tracing the development of value as one of the key concepts in economics. Value is gradually developed by the three scholars as each successively draws from the predecessor and develops the concept in search of a general theory for the discipline of political economy.



Wignell (2007, p. 192) illustrates the relationship between the technical terms that developed from Adam Smith's analysis with a diagram, as shown above.

In addition to identification of value as key to the development of the discipline, Wignell (2007) also identifies definitions and attributes of some of the concepts that stand in one to one relation with value, as an encapsulating general term. For example, Wignell's (2007) analysis of the text indicates that the scholars' critical examination of value led to identification of two technical terms, namely, value in use and value in exchange. Elaborating on the findings, Wignell (2007) points out that the concept *market price* is explained through a network of other technical terms which relate one to the other through the analysis of value.

The structure that Wignell (2007) uses to illustrate the development of technicality in economics has led to stratified taxonomic relations, whereby the relations are arranged in levels. The structure is also similar to Martin's (2007) and Martin and Rose's (2008) in their analyses of science texts. In addition, as Martin (2007) observes with the analysis of an ecology text on rocks, the structure shows a classification as well as a composition of the technical terms.

Wignell (2007) stresses that Marx's contribution to the development of the theory of value radically changed Smith's technical framework. The author identifies the change as an outcome of Marx's analysis of value while at the same time incorporating commodity and

labour in the development of the new framework (ibid.). Thus, Marx not only refined value but also analysed labour and commodity into finer details. Hitherto, these two terms had been used in general terms. A detailed review of Wignell's (2007) analysis of Marx's contribution to the theory of value follows.

Analysis of value, as Wignell (2007) illustrates, involves a comparison of use value with exchange value in terms of quality and quantity. Use value refers to the different uses of commodities (Wignell, 2007). As such it endows each product with a unique quality. The unique quality of each commodity is identified as a cause for exchange. Wignell (2007) suggests that the development of a theory of value by Marx encapsulates the role of use value in a proposition that draws a distinction between product and commodity. Drawing from the systemic functional linguistics model, Wignell (2007) analyses the drawn difference into a token and value as shown below:

To become a commodity	A product must be transferred to another, who it will serve as a use-value by means of an exchange
Token	Value

Wignell (2007, p. 197)

Wignell (2007) explains that, although use value serves the purpose of facilitating exchange, a further analysis of Marx's text shows that it is ultimately left out of the technical framework. The reason for Marx's exclusion of use value, according to Wignell (2007), is that it does not qualify as a common element in commodities that can serve as a basis for measurement of value (Wignell, 2007). Instead, exchange value is retained as it relates to proportionate differences between commodities in terms of quantity. With this development, the taxonomy, as Wignell (2007) describes it, changes such that value becomes synonymous with exchange value while use value is left out of the taxonomic relations.

A similar approach to that of value is used by Marx in the development of a framework for labour, which is eventually brought to bear upon an accurate measure of value (Wignell, 2007). As Wignell explains, Marx draws a comparative analysis between concrete and abstract labour from which concrete labour, like use value, is considered to be qualitative and therefore, left out of the theory (ibid.). Wignell's (2007) analysis of Marx' text indicates that labour is identified as the common element in all commodities and therefore forms the

basis for measuring value. However, as the analysis indicates, it is the quantifiable labour, that is abstract labour or labour power, that Marx in his examination of the term eventually identifies as a basis for determining the exchange value.

As Wignell (2007) notes, quantification of labour is brought about by the view of labour in terms of labour time. The established theory of labour allows labour to measure value (ibid.). Incorporating labour and value in the construction of a technical definition of commodity, however, as Wignell (2007) indicates, takes the term to a higher level of abstraction. Using systemic functional grammar, Marx's definition of commodity is analysed as:

As values,	All commodities	are	Only definite masses of congealed labour-time
Circumstantial role	Token		Value

Wignell (2007, p. 196)

In conclusion, Wignell (2007) highlights Marx's development of the theory which reversed that of Ricardo and Smith in that it is not the exchange of commodities which determines value but the magnitude of the commodities' value which determines the proportions of exchange. In turn, value is determined by the labour power expended on the commodity. The three technical concepts, namely, *value*, *commodity* and *labour*, form a complex taxonomic relationship, which is expressed in Marx's equations as relativity value (Wignell, 2007). The latter refers to the relative value of exchanging one commodity for another.

Wignell (2007) argues that Marx's expression of the relationship through exchange of commodities, as for example: "20 yards of linen are worth 1 coat" (Wignell, 2007, p. 199) construes meaning in terms of the relationships between things. An analysis of the clause is indicated as: "coat = Token, linen = Value" (Wignell, 2007, p. 199). As Wignell (2007) explains, the developed relationship forms the basis of exchange value and is extended to all other types of commodities. The essence of the theory is that the magnitude through which a commodity is expressed as in, 10lbs tea or 1 quarter corn reflects the labour-power expended in production of the commodity in relation to quantification in other commodities. The development of the theory in the discipline by Marx, as Wignell (2007) contends, turns the

gaze from construal of economic experience as a field constituted by human beings engaged in economic activities to that of entities affecting each other.

The importance of Wignell's (2007) analysis of Marx's contribution to the theory of value to this study lies in the structure that depicts the relationship of the three concepts and the emphasis on quantifiable concepts. Marx's analysis, as Wignell (2007) asserts, expresses the complex relationship between value, commodity and labour through a definition of a commodity in terms of labour which, in turn, determines the value of a commodity. Moreover, Marx's formulation leads to the relativity value, in which the relationship is expressed through the equal sign. The comprehensive way in which the concepts are analysed and the precision with which they are defined identifies political economy more with the natural sciences than with history. The gradual introduction of mathematical concepts in taxonomic relations and its impact on the outlook of a discipline, as observed by Wignell (2007), has a direct bearing on accounting, as the subject makes similar use of mathematical concepts.

2.7.5 Summary.

The above presentation of the studies with the findings indicating how language has been used to construe relationships in the various subjects highlights the significance of the relational meaning in disciplinary knowledge. A number of these scholars refer to Halliday's assertion, which alludes to the tension between the construal of experience as the engagement of human or animals with things to that of relationships among and between entities in academic text. The citation as illustrated in Fang (2004) reads:

Where the everyday 'mother tongue' of commonsense knowledge construes reality as a balanced tension between things and processes, the elaborated register of scientific knowledge construes it as an edifice of things. It keeps reality under observation to be experimented with. In so doing, it interprets reality not as changing with time . . . but as persisting—or rather, persistence—through time, which is the mode of being a noun (Fang, 2004, p. 341).

The findings presented above confirm Halliday's assertion that, from sciences to social sciences, the analysed texts show the prevalence of relational processes over other types of processes. It is important to note, however, that only relational processes pertaining to taxonomies have been presented in the present study. Cause-effect relationships, sequential reasoning, constructions of arguments and other types of reasoning, although covered in some of the studies reviewed, have been left out as they are not relevant. Within the ideational meaning in systemic functional linguistics, the study is limited only to experiential meaning as is realized in transitivity for reasons explained in Chapter 3. The logical meaning is not included even though some aspects of it are applied in an analysis of visual images.

2.8 Conclusion

The studies presented above illustrate different ways in which language has been used to construct knowledge in different subjects. Widespread features reported across the disciplines include technicality, abstraction, objectivity, authoritativeness and taxonomic relations. However, realisation of each of the features differs from subject to subject. The studies show that different grammatical resources are employed to realise meaning in each area of specialisation. The resources include the choice of verbs to realize processes; nouns to realize participants; deployment of grammatical metaphors and passive clause structures. This means that although most of the listed features were found to be common in the analysed texts, the difference within a text lies in the way language has been used in each subject.

The present researcher indicated in Chapter 1 that one of the challenges that students teachers face in accounting education is abstraction. As the studies above show, abstraction arises from the way language has been used to realise meaning within a particular field. In the following chapter a theory of language and how it is used to construct meaning is, therefore, presented.

CHAPTER 3: SCIENTIFIC LANGUAGE AND REPRESENTATION OF MEANING

This is a discourse analysis case study in which the transitivity model proposed by Halliday was used for the generation and analysis of data. Given that the accounting text also involves accounts and financial statements (henceforth accounting schematics), a social semiotic approach for analysis of visual images was also employed for the analysis of the accounting schematics. Thus, as it is shown in Chapter 4, the study adopts a multimodal approach to the analysis of the selected text. Both the transitivity model and the social semiotic approach are offshoots of Halliday's theory of systemic functional linguistics (SFL). The theoretical base of this study is, therefore, drawn from systemic functional linguistics as proposed by Halliday.

This chapter presents the SFL theory and the social semiotic approach to the analysis of visual images. The presentation covers the structure of language and representation of meaning, focusing on the relationship between meaning and context and that on form and meaning. A detailed description of the social semiotic approach together with the representation of meaning in visual images is also covered. These sections are concluded with a presentation of the analytic framework drawn from the two theories of semiotics.

Since this is a study about the nature and the structure of academic texts, the last section of the chapter focuses on abstract representation of meaning in general and that which pertains to scientific text. Accordingly, the analysis includes an incongruent representation of meaning through deployment of grammatical metaphors, which lead to a meaning that is realised in abstract terms. The presentation is concluded with a representation of objective and abstract meaning in academic texts. The relevance of the presented theory to the present study is also highlighted. The section begins with the structure of language, while the chapter itself begins with a description of the nature of language within the purview of SFL theory.

3.1 Language, meaning and context

The systemic functional linguistics is a theory in which language is viewed as a system of meanings (Halliday & Matthiessen, 2004). According to the authors, the system constitutes a network of meanings or semantic features from which text producers make their choice when constructing a text (ibid.). As Halliday in Eggins (2004) argues, language is a social semiotic resource for making meaning. As social, the resource refers to people who, engaged in real social practices for a specific purpose, interact with one another (Eggins, 2004, Martin & Rose, 2008). This means that the social setting from which the meaning is constructed determines the meaning-making process. In addition, the interactions are directed at and by the purpose for the social practice. In other words, discursive patterns arising from the interactions serve a specific purpose, hence a functional discourse. Martin and Rose (2008) also identify as important the fact that meaning arising from the interactions also defines the context. Given the role of context in assigning meaning to a linguistic choice the point is elaborated upon in the sections that follow below.

3.1.1 Context of situation.

The linguistic choices, that is the meanings that a producer of a text makes in the process of creating a text, are determined, in particular by the context of the situation in which the meaning is exchanged (Halliday & Matthiessen, 2004, Gee, 2011). SLF linguists contend that it is the context which brings meaning to a text. Gee (2011) explains that there is a range of possible meanings that a word or a grammatical structure in language can have, depending on the context of use. For example, the phrase, 'I am so sorry', may be viewed as an expression of an apology, regret or condolence depending on the context in which it is used. Gee (2011) provides an example of coffee, indicating that the meaning of the word differs in the utterances, 'bring the mop the coffee spilled' and 'the coffee spilled bring the broom'. In the first instance coffee refers to a liquid and in the second, coffee granules. Thus, according to Gee, linguistic resources or the words and structures which make up language have the potential to generate meaning when used in a given context. In other words, there is a general expectation about the meaning of words or structures. In Halliday and Matthiessen's (2004) words, the network of semantic features expresses the meaning potential of language.

As the example of coffee above shows, in actual situations of use the words or structures take on specific meaning within the possible range of their meaning potential. In other words, linguistic interactions are understood in relation to the context of use. Given that in SFL the choice of meaning is influenced by the context, a text producer produces a text that will be found to be meaningful in a given context. As it has already been indicated, the relationship between language and the situational context is bio-directional. This means that language constructs while at the same time it, is being constructed by the situational context in which it is used. Elaborating on the social context, Halliday describes the situations that occur in social contexts as a tripartite system involving, the social activity which he labels as the field, the social relations among participants involved in the activity (identified as tenor), and the mode referring to the method and channel of communication. The components are referred to in SFL as register variables (Halliday & Matthiessen, 1999).

The above presentation describes the nature of language as a system of meanings from which text producers make their choice in the construction of a text. The presentation also illustrates the influence of context on the choice of meaning, including how the context and the meaning of a text co-construct each other. As already indicated, the SFL theory is also considered to be a functional theory of language. This means that people engaged in social activities use language for specific purposes (Taverniers, 2004, Martin & Rose, 2008). Scholars such as Hart (2014) and Knain (2015) identify the purpose for which language is put to use as a determining factor of the linguistic choice in the production of a text. A description of the functions of language seems to be in order, given the role of the purpose and the function of language in the choice of relevant meaning. The presentation of this aspect follows.

3.1.2 Metafunctions of language.

The functions for which language is put to use, in other words meaning for which language is used to create, vary (Halliday & Matthiessen, 2004, Biber & Conrad, 2009). However, Halliday mainly outlines three functions or three meanings, namely, ideational, interpersonal and textual. The first function deals with how people use language to interpret and represent their experience of reality. In other words, it reflects the manner in which language is used to construe and encode peoples' experiences and happenings in the world. The second function refers to the fact that human beings use language to share these

experiences of the world with others. The experiences are shared within an environment of social relations that govern the interaction among participants engaged in a social practice.

The two functions or meanings above, are organised into a coherent meaningful message, while at the same time highlighting the focal point of what the message is about. Thus, the organisation is undertaken to formulate a text, hence textual function. In SFL the functions are referred to, as metafunctions of language. The metafunctions indicate the choice that a text producer makes in the construal of experience, when establishing social relations and in organising the text as a message. In addition the functions simultaneously serve in any given utterance.

The analysis above indicates that both the register variables, which define the context of a situation and the three metafunctions of language impact on the choice of the meanings made in the generation of a text. Since the linguistic choice is influenced by both the variables and the metafunctions there is a need to examine how the two aspects are related. According to Halliday and Matthiessen (1999), the variables relate to the three metafunctions of language such that the ideational meaning describes the field, the interpersonal meaning, the tenor and the textual meaning, the mode. This relationship between the register variables and the metafunctions of language is illustrated by Martin (2009) in a diagram with three nested circles as shown in Figure 3.1 below. The third outer circle, labeled genre relates to the context of culture. Even though the focus of the study is on the two inner circles, a brief account of the context of culture was found to be relevant as it provides a general background to the genres of school knowledge as presented in textbooks.

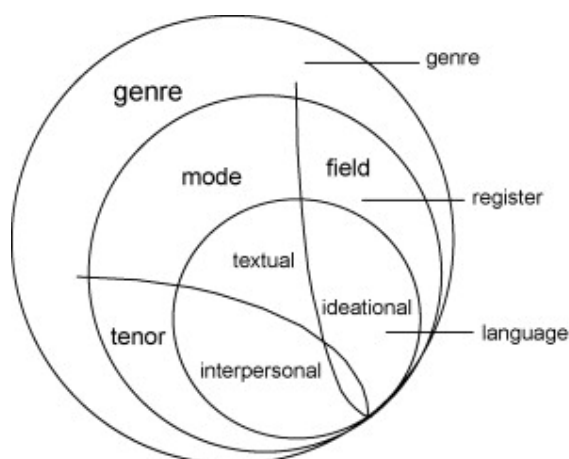


Figure 3.1 Relationship between language and context

3.1.3 Context of culture.

Beyond the situational context, a register makes sense to people who share the same culture. This refers to members of a community sharing the same knowledge about beliefs and experiences. The shared experiences provide the background against which meaning is interpreted. The condition operating at the cultural level is referred to in SFL as genre. Technically genre is defined as: “staged, goal-oriented social processes (Veel, 1997, p.191)”. The processes are ‘Staged’ because genres usually consist of a number of distinct phases, logically organised to build the meaning of a text. The phrase ‘goal-oriented’ refers to the fact that genres usually function to achieve some purpose, while ‘social’ refers to the fact that genres arise from social interaction. Thus, genre refers to conventional structures around which a complete text is organised.

In relation to register, the context of culture represents a catalogue of different conventional ways of structuring text from which an appropriate genre is chosen for a given text. Furthermore, meaning at the cultural level is broad because it encompasses the three register variables of the SFL model. The SFL model is, therefore, extended to include the cultural context operating at a higher level of meaning than that of the register. Thus, within the SFL, choice of meaning is made at both the context of a situation and that of culture because, as Martin and Rose (2008) observe different types of situations have associated genre structures. These two levels at which the choice of meaning is made are related because the register reflecting the context of a situation represents an instance of the context of culture.

The analysis of the relationship between meaning and language presented above relates to the current study because the selected accounting text was taken from textbooks used in secondary schools. This means that education constitutes the field of the text. The school curriculum, as the blue print of education, was presented in chapter 1. The ideational metafunction corresponds to this register variable. However, the focus in the current study is on experiential meaning of the ideational function. The analysis of the selected text was, therefore, restricted to the register level. Since the focus of this study is the experiential meaning, the following section presents the process of constructing meaning from experience through language.

3.2 Language as a theory of human experience

According to Halliday and Matthiessen (2004) language is a theory of human experience in the sense that it is language which translates the experience into meaning. As Halliday and Matthiessen attest, it is the grammar of language through the words and their organization into the grammatical structures, which give meaning to experience (ibid.). This means that the grammatical analysis of a text explains a representation of the meaning of a text. Grammar, in turn, is analysed within the compositional structure of language. The following section presents a brief outline of the compositional structure, referred to as constituency, beginning with an identification of the constituent units, which form the structure.

3.2.1 Stratification.

As indicated in the analysis of metafunctions above, language is simultaneously used to regulate social relations among people engaged in an interaction and to construe experience (Halliday & Matthiessen, 2004). Halliday and Matthiessen add that in fulfilling these two functions, grammar influences while at the same time it is influenced by the reality to be construed and social relationships enacted (ibid.). Furthermore, the construed experience and the social relationships must be transformed into a text (Halliday & Matthiessen, 2004). The whole process covers two stages. First, the experience and the social relations are translated into meaning, which is the stratum of semantics. The second stage, that is the stratum of lexicogrammar, involves an expression of the meaning in words and grammatical structures. These two stages define the levels or strata in which language is

organised (Halliday & Matthiessen, 1999) to construe meaning at the content plane, as Figure 3.2 (adopted from Halliday & Matthiessen, 1999, p. 5) below shows.

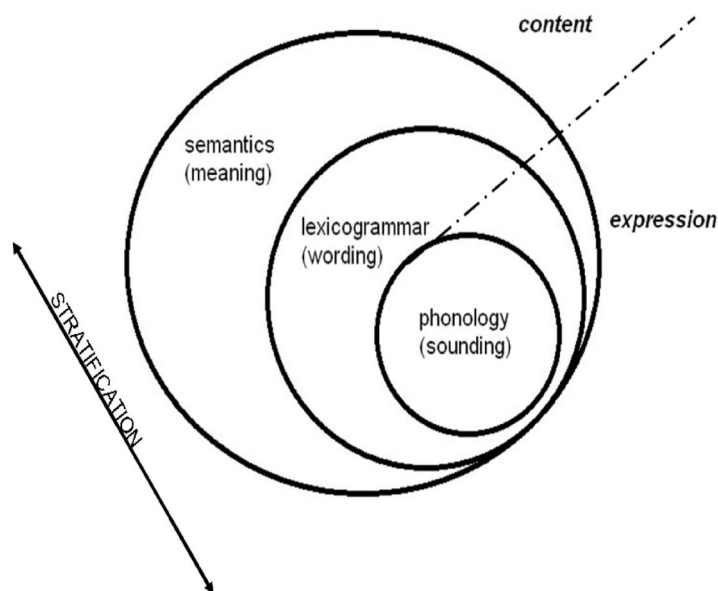


Figure 3.2 Levels at which meaning is construed in language

The third level of the language strata involves phonology, which is the level at which the textual meaning is transformed into expression. The focus of this study is on written text, which means that the analysis of the text was only at the content plane indicated by the section above the dotted line of Figure 3.2. The content plane, as the diagram shows, is concerned with semantics as well as words and their grammatical structure. As the levels are what this study is concerned about, a detailed description of the nature of the levels and their relationship is provided below. The section begins with the relationship between the two levels.

3.2.2 Constituency in Language.

In this study, the selected accounting textbooks were examined through an analysis of the manner in which language has been used to construct meaning. Language as a tool through which human beings make sense of their experience was found to be an important phenomenon. This section, therefore presents an overview of the nature and structure of English language, as it is the language that has been used in the two selected textbooks. The

section also covers the relationship between language and the meaning that it creates. The presentation extends to the manner in which experience mediates this relationship. It begins with form and content.

3.2.3 Form and content.

According to Halliday and Matthiessen (2004) language is a theory of human experience because it is language which translates the experience into meaning. As the authors attest, it is the grammar of language through the words together with their organization into the grammatical structures, which give meaning to experience (*ibid.*). This means that a grammatical analysis of a text explains a representation of the meaning of a text. Grammar, in turn, is analysed within the compositional structure of language. The following section presents a brief outline of the compositional structure, referred to as constituency, beginning with an identification of the constituent units, which form the structure.

According to Halliday and Matthiessen (2004), language is simultaneously used to regulate social relations among people engaged in interaction and to construe experience. The authors also add that, in fulfilling these two functions, grammar influences, while at the same time it is influenced by the reality to be construed and the social relationships enacted (*ibid.*). Furthermore, the construed experience and the social relationships must be transformed into a text (Halliday & Matthiessen, 2004). The whole process covers two stages. First, the experience and the social relations are translated into meaning, which is the stratum of semantics. Second, the stratum of lexicogrammar involves expressing the meaning in words. These two stages define the levels or strata in which language is organised (Halliday & Matthiessen, 2004).

The structure of language is organised around grammatical units in correspondence with the semantic units that the grammar creates. According to Halliday and Matthiessen (2004) grammar creates meaning from experience by breaking down a continuous flow of events into segments, referred to, semantically as figures. As the authors explain each figure represents an occasion of a happening, or an event represented grammatically by a clause (*ibid.*). Two or more figures joined together by conjunctions construe a sequence. Thus, a sequence realised by a logical relation such as cause in 'he slept because he was tired' is

normally expressed by a clause complex. In technical terms, if there is only one link between two figures the configuration is realized by a clause nexus (Halliday & Matthiessen, 2004).

The happening referred to above may be a doing, a saying, a sensing, or a manner of being. Furthermore, a happening is accompanied by participating entities and circumstances under which the happening occurs. In SFL the happening is referred to as a process. Semantically the process and participants are represented by an element, grammatically realised by a group or a phrase (Halliday & Matthiessen, 2004). The relationship is defined by a realisation, as Randaccio (2004, p. 2) illustrates with a matrix shown in the top section of Table 3.1.

Table 3.1

The Relationship between Semantics and Lexicogrammar

	Semantics		Lexicogrammar
Ranks	Sequence (of figures) Figure Elements (of figure)	Realised by ” ”	Clause complex Clause Group/phrase
Types of element	Process Participating entities Circumstance Relator	Realised by ” ” ”	Verbal group Nominal group Adverbial group or prepositional phrase Conjunction

The above description means that whereas a clause realises a figure a clause complex formed through logical relations realises a sequence. In SFL the former represents experiential meaning and the latter, logical meaning. Since the focus in this study is on experiential meaning, that is meaning inside a clause, minimal reference is made to logical meaning.

Realisation of meaning inside a clause is illustrated by the first three elements in the bottom section of Table 3.1. According to Halliday and Matthiessen (2004) there is a parallel between the way life experience is construed and the representation of the construed meaning

in a typical structure of an English clause, that is, lexicogrammar. This means that units of meaning or semantics correspond to typical grammatical categories.

The above relationship is organised in such a way that people, places and things are realised by nouns, events or actions by verbs, qualities or attributes by adjectives and circumstances by adverbs or prepositional phrases (Eggins, 2004, Halliday & Matthiessen, 2004). As Table 3.1 shows, semantic elements correspond to grammatical elements in such a way that verbs realise processes or actions, nouns participants and adverbs circumstances. Furthermore, as Halliday (2004) argues, a representation of meaning through these typical elements of a clause illustrates the natural way in which grammar evolved. The section is concluded with a presentation of the structural arrangement of the units of meaning in Table 3.1.

The grammatical and semantic units in Table 3.1 are organised hierarchically, illustrating a stratified structure of language. This hierarchy of units is referred to as a rank scale (Halliday & Matthiessen, 2004). The order is such that a higher unit in rank is made up of units below it in the rank scale (*ibid.*). For example, a clause complex, which is higher in the rank, is made up of clausal units. A clause in turn is made up of lower units in the form of a group or phrase. Semantically, a sequence consists of figures, while elements constitute a figure with each succeeding unit lower in the rank than the one above it (Halliday & Matthiessen, 2004). Thus, the ordering of the semantic units running parallel to the order of the grammar that realises the meaning of the units portrays a common sense means of representing meaning (Halliday, 2004).

3.3 Social semiotic approach in visual images

Social semiotic approach to the analysis of visual images is a model that is grounded in Halliday's systemic functional linguistics. Semioticians such as, Royce (1999), Jewitt and Oyama (2001), Guo (2005) and Motta-Roth and Nascimento (2009) identify Kress and van Leeuwen among the first group of semiotic analysts who developed a visual semiotic analysis model based on the SFL theory. Royce (1999) and Guo (2005) also note that other visual semioticians such as O'Toole applied the systemic functional linguistics to analyse visual images, particularly in displayed art.

3.3.1 Context and meaning in visual images.

This section provides a description of the manner in which meaning in visual images is construed and communicated within the framework of social semiotic approach to discourse. Within the framework, images as means of communication are not considered to carry predetermined fixed meanings in such a way that they reflect reality in its true form (van Leeuwen, 2005). Rather, as a number of visual semioticians show, the meaning of the images are a result of the history of the artefact in use within specific social and cultural settings (Guo, 2005, van Leeuwen, 2005, Motta-Roth & Nascimento, 2009). The meaning of the artefact is, therefore, not given, but is interpreted against this background of knowledge about the use of the artefact in specific social practices. This means that the meaning associated with a particular artefact cannot be the same in all situations and for every context (Jewitt & Oyama, 2005). Social semioticians, therefore, refer to resources not a sign to refer to the various means, especially visual images, through which texts are constructed. This view needs to be elaborated upon, given the centrality of the concept of resources in the social semiotic approach.

In an introductory chapter in *Introducing Social Semiotics* van Leeuwen (2005) cites Halliday's assertion that semiotic resources are not rules to be followed in order to produce a correct text, but rather resources which provide means for making meaning. The author extends the assertion to the grammar of other semiotic modes, defining semiotic resources as: "the actions and artefacts we use to communicate ... (van Leeuwen, 2005, p. 3)". As the author observes, the actions and the artefacts were originally referred to as signs used in conjunction with the signifier, whereby the latter refers to the meaning of the sign (ibid.). The substitution of the sign with resources, as van Leeuwen (2005) elaborates, resulted from the view that the meaning of a sign varies according to its use in the context.

Drawing from Hodge and Kress, van Leeuwen (2005) explains that signs do not exist in isolation of the context in which they are used, hence the meaning of a sign cannot be separated from the concrete social setting from which it emerged and in which it is embedded. The analysis leads the author to conclude that in social semiotics, resources are signifiers of actions and objects:

that have been drawn into the domain of social communication and that have a *theoretical* semiotic potential ... considered relevant ... by the users on the basis of their specific needs and interests (van Leeuwen, 2005, p. 4).

By a semiotic potential van Leeuwen refers to the range of possible meanings that a sign carries and which is similar to Halliday's meaning potential in verbal language, as explained in section 3.1 above. Thus, as the definition shows, the semiotic resources derive their specific meaning from the context of use as well as the purpose for which they are put to use.

The above analysis shows that, as it is the case with verbal language, producers of visual images make a choice from available resources to construct meaning, as Kress and van Leeuwen in Motta-Roth and Nascimento (2009, p. 321) explain that:

Visual structures realise meaning as linguistic structures do ... For instance, what is expressed in language through the choice between different word classes and semantic structures is, in visual communication, expressed through the choice between, for instance, different uses of colour, or different compositional structures.

The authors elaborate that the choice is influenced by the context of use (*ibid.*). Kress and van Leeuwen's further analysis of the social semiotic approach in visual images, as indicated by Guo (2005) and Jewitt and Oyama (2005), includes the fact that an image is a coded semiotic which follows the rules which link form to meaning. Thus, just as verbal language relates semantics to grammar, so does visual communication which relates visual semantics to the grammar of visual semiotics.

Guo (2005) also identifies O'Toole as another prominent scholar who applied the SFL theory in visual semiotics. O'Toole's contribution involves Halliday's three metafunctions in the analysis of visual images. The three metafunctions are specified by O'Toole in Guo (2005, p. 58) as: "1) to engage our attention and interest, 2) to convey some information about reality, and 3) to structure these into a coherent textual form". These three metafunctions correspond to Michael Halliday's ideational, interpersonal and textual metafunctions and were also suggested in Kress and van Leeuwen's (1996) model, although with different terminology, namely, representational, interactive and compositional (Jewitt and Oyama, 2001, Guo, 2005). According to Guo (2005) the three meanings are simultaneously enacted in any unit of meaning within a piece (*ibid.*). As it is the case with the

verbal text analysis, analysis of the accounting schematics was restricted to representational meaning. A detailed description of the meaning is presented in section 3.3.2 below.

In addition and as Guo (2005) indicates, O'Toole explains that all the metafunctions are fulfilled in all the units of meaning along the hierarchy of the levels of meaning in visual semiotics. The hierarchy or rank scale includes, work as the highest level of meaning, followed by the episode, with the figure and the group as the lowest levels, as Figure 3.3. shows. The rank scale is organised hierarchically such that a higher unit consists of one or more of the units below it. Thus, as shown in Figure 3.3. work is made up of one or more episodes and an episode of a figure or more figures.

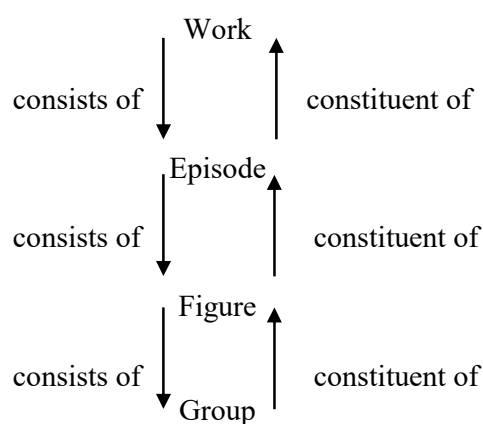


Figure 3.3. The hierarchy of units of meaning in visual images

Despite O'Toole's contribution to the social semiotic approach to analysis of images, scholars in this field acknowledge Kress and van Leeuwen's major strides in the application of the SFL theory in visual semiotics, especially with the analysis at a more delicate level than it is the case with other applications of the theory. According to Guo (2005) Kress and van Leeuwen identified visual semiotics process types that are equivalent to Halliday's material and relational processes in language. These process types were applied in this study as a basis for the development of the analytic framework.

In summary, the application of the SFL theory in interpreting meaning in visual semiotics indicates general claims about visual semiotics mode of communication which are similar to Halliday's description of the verbal language. The claims are based on the idea that the visual semiotics communicate meanings and serve a specific purpose within a given context. In addition, the process of making meanings involves selecting from the semiotic

potential meanings a relevant option for the purpose and interest of the user. Thus, meanings generated and exchanged are motivated by their social and cultural contexts. Finally, the meaning is organised around a hierarchy of ordered levels of meaning.

The above analysis indicates a valuable contribution by O'Toole and Kress and van Leeuwen on the social semiotic approach to the interpretation of meaning-making in visual semiotic modes. These scholars, as it is already shown, are concerned with images such as photographs, drawings, diagrams, and displayed art in painting, sculpture and architecture. The accounting schematics, however, involve statements and accounts with the closest resemblance to Tables. Although Kress and van Leeuwen's process types were used to develop the analytical framework, it is Guo's (2004) application of the approach in an analysis of tables that was found to be relevant for this study. A conceptual framework explaining the structure of Tables was, therefore, adapted from Guo (2004, p. 76). The framework is presented in Section 3.4.2 as part of the analytical framework. A detailed analysis of the framework follows.

3.4 Analytical Framework

The analytical framework guiding the generation and analysis of data in this study is drawn from the transitivity aspect of ideational meaning within the systemic functional linguistic theory described above. In addition, since the selected accounting text involves visual images, representational meaning drawn from the social semiotic approach to the analysis of visual images guided the generation and analysis of the data from the accounting schematics. The following section presents a detailed account of the transitivity model and the representational structures as analytical instruments for the analysis and generation of the data. The section begins with transitivity within the context of the verbal text.

3.4.1 Transitivity.

As a theory of language, systemic functional linguistics identifies language as a resource from which lexical and grammatical choices are made in order to create meaning (Halliday & Matthiessen, 2004). Different choices produce different meanings. As already indicated, the theory posits three different meanings, namely ideational, interpersonal and textual, which are expressed simultaneously in a text (Halliday & Matthiessen, 2004).

Ideational meaning refers to the manner in which experiences in the world or imaginations are interpreted and presented as meaning through language (Eggins, 2004). Interpersonal relates to the relationship that the message establishes between the author and the audience (ibid.). The organisation of these two metafunctions into a coherent message results in the textual meaning (Eggins, 2004). Given the focus of the study, the analytical framework used to guide the generation and analysis of the data drew from ideational meaning only. Discussion of the theory is, therefore, limited to ideational meaning, hence the rest of this section is devoted to this type of meaning.

Ideational meaning comprises two types of meaning, namely experiential and logical meaning (Eggins, 2004). Experiential meaning refers to a meaning that is realised in a clause. In specific terms, Eggins (2004) refers to the experiential meaning as: "... grammar of a clause as representation." Logical meaning on the other hand refers to meaning expressed between clauses. The focus of this study is on experiential meaning, which, as Halliday and Matthiessen (2004) explain, is realised through transitivity. Transitivity is a system of types of processes from which a text producer selects a process that represents activities or events experienced from reality (Halliday & Matthiessen, 2004). In other words, how the text producer perceives and interprets experience is projected through the selected process. Moreover, the authors show that the selected process in turn has implications on the participant roles that are associated with it, while the context in which a process takes place is realised through circumstantial elements (ibid.). As an expression of a strand of experiential meaning, transitivity was found to be relevant as a framework that guides an analysis of the selected textbooks. The model is presented in detail below.

According to Eggins (2004) transitivity provides the means by which experience of the world is translated into meaning. Construal of experience of reality into meaning is made possible by the processes that make up the system. In interpreting Halliday's theory of systemic functional linguistics for the analysis of a text, Fairclough (2003) adopted the transitivity system as shown below. As a critical research scholar, Fairclough has adopted the model to analyse text in critical discourse research studies. The transitivity model is, however, an aspect of Halliday's theory of the systemic functional linguistics. Fairclough's illustration of the transitivity model is only shown in this study because of the brief and explicit presentation of the elements of a clause. The elements are shown in Table 3.2.

An overview of transitivity identifies the six processes shown in Table 3.2 below. The processes include material, mental, verbal, behavioural, relational and existential (Eggins, 2004, Halliday & Matthiessen, 2004). In addition, as Table 3.2 shows, each of the processes involves participants taking part in the performance of the process and the circumstance under which the activity takes place.

Table 3.2

The transitivity model: Elements of a clause

<i>Process type</i>	<i>Key participants</i>	<i>Circumstances</i>
Material	Actor, Affected	Time, Place, Purpose, Reason, Manner, Means
Verbal	Actor	Time, Place, Reason
Mental	Experiencer, Phenomenon	
Relational (1)	Carrier, Attribute	
Relational (2)	Token, Value	
Existential	Existent	

(Fairclough, 2003, p. 141)

Elaborating on each of the processes, Halliday and Matthiessen (2004) explain that the material process refers to an action verb denoting an action that may be undertaken by an animate being affecting another thing, that is, an object of the verb. For example, the statement, ‘accountants prepare a financial statement’ illustrates an action of ‘prepare’. Mental processes refer to the mental processes experienced by an animate being. As an example, in the statement, ‘an accountant views an expense as an expenditure incurred in running the business’ view represents a mental process. Verbal refers to what the concerned party says while behavioural means physical action like the clapping of hands. The relational process is represented by the *be* verb form, which identifies or describes a relation between two phenomenon. For example, ‘a balance sheet is a statement of financial position’ is a statement that describes the relation between the entities, *a balance sheet* and *a statement of financial position*. Existential specifies the state of being through the form, *there is*.

Table 3.2 shows that each of the processes involves key participants in the event or happening. For instance, in the first example above, two participants, namely *accountants* and

financial statements are involved. While accountants act, the action passes on and affects financial statements. Thus, the accountants and the financial statements represent the key participants of the actor and the affected in the clause. As it can be seen from Table 3.2 the key participants differ from process to process. The transitivity model also includes the circumstance under which a process takes place, as the last column shows. The circumstances differ in terms of manner, place, time, reason, means and purpose (Eggins, 2004).

Any one of these process types may feature in a clause presenting the experiential meaning of a social event. The analysis so far relates to the verbal text. Since the accounting text includes the accounting schematics, an additional framework for analysis of the schematics was selected. The framework is presented in the sections below.

3.4.2 Transitivity in visual semiotics.

The following section presents the structure of numerical tables as the basis for the formulation of the analytical framework. The framework was developed for the analysis of the visual images selected from the textbooks. In addition, the section also covers details of the framework describing the manner in which meaning is realised in the visual images. The section begins with the composition of tables.

Composition of tables. Guo (2004) defines a table as an arrangement of information which may be verbal, numerical or both, in rows and/or in columns. Elaborating on the definition cited above, Guo (2004) explains that representation through rows and columns evolved to illustrate relations between and among connected values or facts. The author suggests an analysis of tables, following an APA style of reading a table. The orientation identifies parts of a table as the title, heading of the columns, the body and the notes to the tables (ibid.). The body is made up of the cells of the table while the title, headings of the columns and notes to the tables are referred to as the periphery. Furthermore, units through which meaning is realized in a table are arranged sequentially with the first largest unit being the table itself, followed by the cells and the periphery. While the cells define a table, peripheral information provides orientation to the reading of the table (Guo, 2004). The structure of a table is shown in Table 3.3.

Table 3.3*Functions and systems for numerical table*

Functions Units	REPRESENTATIONAL	MODAL	COMPOSITIONAL
TABLE	Narrative structures Conceptual structures	-	-
CELL	Narrative structures Conceptual structures	-	-
PERIPHERY (excluding Notes to the table)	Orientation to the reading of the table	-	-

Since the focus in this study is on representational meaning, only process types corresponding to Halliday's transitivity model formed the basis of the analytical framework. These involve the process types suggested by Kress and van Leeuwen. Details of the processes follow.

Metafunctions in visual images. The composition of visual images presented above refers to the analysis of an image into units through which meaning is realised. Representation of meaning through these units is explained in the social semiotic approach through metafunctions in visual images, as in verbal text (Guo, 2004). This means that a table realizes simultaneously the experiential, interpersonal and textual meanings. In visual images, the three metafunctions are referred to as representational, interactional and compositional respectively (Jewitt & Oyama, 2001, Guo, 2004). A framework for the analysis of the schematics, however, draws from representational meaning and some aspects of compositional meaning only. A description of these two types of meaning follows.

Representational meaning. Representational meaning refers to the way in which meaning arising from the interpretation of experiences in reality is represented in visual images (Jewitt & Oyama, 2001, Guo, 2004). The meaning is expressed through narrative and conceptual structures an image portrays (Jewitt & Oyama, 2001). According to Guo (2004) the structures are realised by the cells in tables. The structures are explained below.

Narrative structures. Narrative structures realise the actions or happenings expressed in an image. The structures are actions that an image displays. They are similar to material processes in verbal text. The actions that an image shows are realised by vectors in images. In the accounting schematics, a vector expresses the calculations, that is the additions and subtractions displayed in an image (Jewitt & Oyama, 2001). The structures are expressed by changes in values, meaning of some accounting terminology such as balance and horizontal framelines indicating calculations. An essential feature that defines vectors in accounting images, therefore, is the connection between and among participants and changes of participants arising thereof.

Conceptual structures. Conceptual structures, on the other hand, are depicted through three structures, namely classification, symbolic and analytical structures (Jewitt & Oyama, 2001). The structures are similar to the relational process because they show how the elements that make up an image are related to one another. Classification refers to the arrangement of information that illustrates things that are grouped together (Royce, 1999). The grouping also illustrates subordination of some participants to an overarching, superordinate, participant (Royce, 1999). In addition, Royce (1999) explains that the classification may be single or multi levelled in terms of layers of subordinate classes.

Symbolic structures. Symbolic structures identify an entity or participant by projecting features that provide descriptive values. In other words the outstanding features symbolise and establish the meaning of the participant (Royce, 1999). The author further explains that the participant being defined is referred to as a carrier and elements that identify the features of a participant are referred to as symbolic attributes (ibid.). The carrier as a phenomenon being defined is foregrounded in the image through colour, size or position (Jewitt & Oyama, 2001). Analytical structures project a relationship of parts to the whole (Jewitt & Oyama, 2001). In other words, the analytical structure shows what the whole is made up of and how the parts relate to each other to make the whole. The participant representing the whole is

referred to as the symbolic carrier. The components of the symbolic carrier are referred to as possessive attributes (Jewitt & Oyama, 2001).

These three structures illustrate different ways in which the relationship between the different elements of an image is portrayed. The conceptual structures together with narrative structures form part of representational meaning.

Table 3.4

Structures and realisation in visual images

Functions \ Structures	Structures		Realisation resources
Representational	Narrative Structures	Vectors	Horizontal lines, parenthesis, changes in values etc.
	Conceptual structures	Classification	Connection/Disconnection <ul style="list-style-type: none"> • Framelines • Empty space
		Symbolic	Foreground <ul style="list-style-type: none"> • Placement position • Size • Colour/shading
		Analytical	Whole Parts

The literature reviewed for this study in Chapter 2, indicates that the representation of meaning in scholarly texts includes a representation of taxonomic relations (Martin & Rose, 2008). The latter, as the authors suggest, include both classifications and compositions of phenomena and are normally presented through visual images (ibid.). In this study, the taxonomic relations were considered as part of the representational meaning, particularly the meaning realised within a clause. Since classifications form part of conceptual structures, symbolic structures and part-whole relationships were identified as structures, which realise the composition, as illustrated in Table 3.3.

All of the above-mentioned semiotic functions and types of meaning realised in images are summarised and illustrated in Table 3.4. As illustrated in the framework, the first column shows the semiotic functions which were found to be relevant for this study because of their representational meaning. The structures through which the function is realised are shown in the second column. The last column illustrates different resources through which the structures are expressed in an image. The structures and the realisation resources of the accounting schematics are not exclusively visual. As it has been shown above, the schematics resemble tables, which are made up of verbal and numerical texts. This means that the meaning of the verbal text was interpreted along with the numerical text, while equally significant attention was paid to the placement and the structural arrangement of the text as a visual mode of communication. Consequently, the analysis and the interpretation required a multimodal approach. A brief account of the approach follows.

3.4.3 Multimodal approach.

Multimodal texts integrate different modes of making meaning, such as verbal, visual, gestural and aural languages, in one text. The multimodal text represents one of the common features of school textbooks. Subject specific texts draw on different semiotic modes including natural language used in conjunction with a visual representation through pictures, graphs, diagrams, and tables (Fang & Schleppegrell, 2010). Extending the list, O'Halloran (2005) adds mathematical symbols, which are specifically associated with a mathematics text.

The different semiotic systems, as Schleppegrell (2007) expounds, require students to be able to recognize the meanings made in both language and visual elements, and in the interaction of these semiotic systems. The author provides a detailed analysis elaborating on the function of each semiotic system in the construal and construction of meaning (*ibid.*). Thus, with a specific example drawn from problems in trigonometry the author clarifies that:

Language provides the contextual information about the situation, the mathematics symbolism describes the pattern of relationships between the entities, and the diagram provides a connection between the material world (a cliff and a river) ... (Schleppegrell, 2007, p. 142).

Although each of the semiotic modes serves a specific function in the construction of meaning, it is the interaction among the different semiotic systems that gives the essence of

the meaning of the problem. The written language, the mathematical symbols and the visual representations work together to construct the meaning of a mathematical text (ibid.).

Like the mathematics texts, the accounting text bears a similar feature of multimodality. The text combines the verbal text with visual images, that is, the accounting schematics. The schematics include verbal text and numerical values used in conjunction with some mathematical operations. The analysis of the text included an examination of how meaning in the accounting text is constructed through the interaction of the graphic representation and the verbal text.

3.5 Abstraction, the Language of Schooling

According to Halliday (2004), children are introduced to a language in the typical grammatical structure that the above description depicts. This means that children begin formal education with some background knowledge of grammar in its typical or common sense characteristic. In school, however, the children experience the structures of language that represent meaning in its generalised form (Halliday, 2004). For instance, as the author shows, a sentence like, ‘a cat protects itself by biting’ is likely to change to, ‘animal protection’ (ibid.). Thus, a specific instance of a cat’s tactic in protecting itself is depicted in general terms as animal protection in school. As Halliday (2004) explains, the school terminology illustrates a type of protection.

The generalising effect of language explained above is further developed into abstraction as the children proceed to the middle and secondary level of their education Halliday (2004). For example, the tactics that animals use to protect themselves such as, ‘by biting and stinging’ is construed as, ‘with bites and stings’, in a school text (ibid.). The school terminology, therefore, contrasts sharply with a child’s grammar which, as Halliday (2004) explains, indicates that verbs construe happenings and nouns things. Christie (2004) affirms that the structure of the language used to express meaning in school knowledge is different from that which is used to construct meaning in everyday life experiences. According to the authors, the difference is more prominent in the school knowledge in its written form than in the spoken text (Christie, 2004, Halliday, 2004).

In a written discourse, space is limited, hence the need for a concise, though succinct argument. Although succinct, exactitude has to be maintained in order to avoid ambiguity, which in turn requires precision. In order to construct a succinct argument which flows logically, authors present new material in detail at first. The material is summarised and presented as a summary, introducing new information in subsequent sections. In summarising an already presented material, the information is condensed into a nominal group, hence nominalisation. Nominalisation constitutes a lexicogrammatical resource that authors draw from in constructing a text that meets the aforementioned criteria of concision, precision and coherence as well as cohesion (Briones, Fortuny & Sastre, 2003, Martin & Rose, 2008, Azabdaftari, 2015, Ezeifeke, 2015, Schulze, 2015).

It is important to note that the concision and precision in the written text results in long complex nominal phrases that Fang and Schleppegrell (2008) identify as a common feature of a scientific text. The complex nominal phrases are made of a head noun, a deictic determiner and a pre and post modifier. The pre modifiers include adjectives, participles and nouns while the post modifier, as Fang and Schleppegrell (2008) note adds to these elements embedded finite and non-finite clauses. Although, serving a specific purpose in the discourse of the scientific text, particularly that of identifying a referent, the phrases as, Fang and Schleppegrell (2008) observe, increase the complexity of the text.

Nominalisation, identified as an example of grammatical metaphor, constitutes one of the widely used grammatical resources that authors employ in constructing meaning in school textbooks. Given the prominent role that the grammatical metaphors play in constructing scientific knowledge, the section that follows presents a detailed description of the nature of the resource and how it impacts representation of meaning.

3.5.1 Grammatical metaphors and nominalisation.

In contrast to the representation of meaning in everyday social interactions described above, representation of meaning in scientific language may not necessarily correspond to the typical elements of a clause, giving rise to grammatical metaphors (Halliday & Matthiessen, 2004). The latter is explained as a situation in which the mappings of lexical and grammatical categories shift such that verbs and adjectives realise the meaning of nouns or participants, a grammatical metaphor identified as nominalisation (*ibid.*). This means that meaning is coded differently at the level of grammar, hence the term, *grammatical metaphor* (Halliday &

Matthiessen, 2004). The shift in meaning implies a different perspective from which experience is construed since lexes, which normally realise processes and qualities are used to refer to things.

In addition to the nominalisation described above, Devrim (2015) explains that the metaphors also involve a shift in the order of the structures of language shown in Table 3.1. The shift is such that a figure is no more represented in the grammar by a clause. Instead it is realised by a nominal group. For example, Ezeifeka (2015) shows that the clause: '*Snow had covered the fields*' may be represented as: '*the snow-covered fields*'. In the latter, a whole clause has been downgraded to a nominal group, which is an element. Further elaborations on the metaphors indicate that logical relations are also not realised within a clause complex, but are realised by a clause (Halliday & Matthiessen, 2004, Devrim, 2015). Thus, the meaning of a sequence is realised through a figure.

In summary, Devrim (2015) indicates that grammatical metaphors involve a vertical movement along the rank scale and a structural movement across the functions or categories of the grammatical elements. For example, the clause nexus: 'the clothes become dry quickly when they are washed by a machine' can be realised metaphorically within a clause as: 'machine-washed clothes dry quickly'. The metaphorical realisation involves a shift down the rank scale whereby a clause nexus realising a sequence has been reconfigured to realise the same meaning within a clause as a figure. The downward movement along the rank scale is accompanied by a movement across the structural functions of the elements. The process, *were washed* and the prepositional phrase, *by a machine* are reconfigured to represent the epithet *machine-washed* which realises a quality in the meaning realised in metaphoric terms. In addition, *dry* which in congruent terms realise a quality replaces the relational process *become* to realise the meaning of a process.

The above analysis shows that the rank scale shifts such that a unit of one rank may be coded as part of the structure of a unit of its own rank or the rank below (Halliday & Matthiessen, 2004). This means that the structure of grammar is not tight, but accommodating, allowing for the realisation of meaning through structures that are not prototypical. Various ways in which grammatical metaphors may be deployed to realise meaning are presented in a diagram adopted from Devrim (2015) as shown in, Figure 3.1.

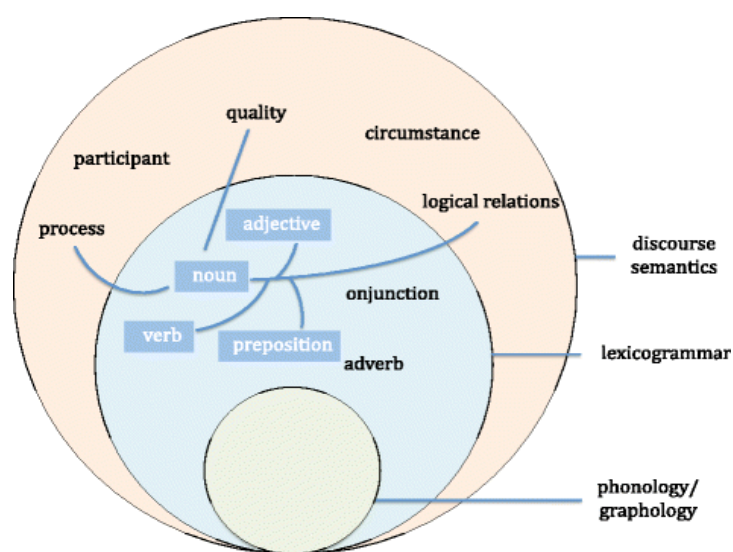


Figure 3.4 An Illustration of an irregular pattern of the relationship between form and content

Figure 3.3 indicates that most of the grammatical elements converge towards the realisation of meaning through a noun. This means that a nominal group may be used to realise the participants that are imbued with the meaning of a process or quality. In addition, the nominalised entities are reconfigured to relate to one another or to realise logical relations. Because of the scope of the study with a focus on experiential meaning only, Devrim's (2015) model has been adapted so that the analysis of the text is on the realisation of a figure and representation of participants only. Logical relations as part of ideational meaning do not form part of the study. In addition, the analysis for this study begins at the level of lexicogrammar which means that the level of phonology/graphology is excluded.

Although grammatical metaphors and nominalisation represent a deviation from a typical representation of meaning, Halliday (2004) and text analysts emphasise that metaphors dominate the representation of meaning in scientific texts. The following section presents the qualities of a written scientific text.

3.5.2 Discourse in scientific texts.

In an analysis of the difference between school and everyday language, Halliday (2004) argues scientific language specifically evolved to construct theories. Consequently characteristics of language are those that make theoretical discourse possible. For example, in

order to theorise about the processes and their consequences the human participants who are involved in the processes are removed, resulting in the representation an impersonal objective meaning that foregrounds processes and results while deleting doers of actions (Fang, 2006). The grammatical resources deployed to delete human agency in the scientific text involve passive voice and nominalisation. In agreement, Briones, Fortuny and Sastre (2003) add that the difference between the two forms of language arises from technical terms that are found in a scientific text and the grammar thereof.

According to Halliday (2004) deriving technical terms from nouns originated from early Greek scientists' attempts to develop the grammar of scientific knowledge. Halliday explains that ancient Greek scientists developed grammar through transcategorization, a process whereby the derived technical abstractions form part of scientific theory with examples such as motion and distance as instances illustrating that the construed meaning of the terms differs from that of 'moving' and 'being far' (Halliday, 2004). Development in scientific language involved a process whereby a complex sequence of clauses is packaged and used in a subsequent semantic configuration as a single element (Halliday, 2004, p. 216). The single element, in turn, is transformed into a nominal group. Accordingly, "It is this nominalization that enables them to function as an element in another clause (Halliday, 2004, p. 216)". These grammatical patterns populated by nominalisation are ascribed to the development of scientific knowledge.

In tracing the evolution of the language of science Halliday (2005) attributes the linguistic features of a scientific text to the sequence of experiments conducted in order to study scientific phenomena. An analysis of the research process indicates that experiments were carried out and principles derived from the experiments through reasoning (Halliday, 2004). The derived principles would be subjected to testing through further experiments. The discourse that developed to depict the step-by-step procedure begins with a full description of what had been established from initial experiments to be succeeded by a presentation of what followed from the initial stage (ibid.). A logical presentation of the process, therefore, depicts a full description of an event that is being introduced for the first time. The description is summarised and presented as known material introducing new information in subsequent paragraphs (Halliday, 2004). As Halliday observes:

The most effective way to do this, in English grammar, is to construct the whole step as a single clause, with the two parts turned into nouns, one at the beginning and one at the end, and a verb in between saying how the second follows from the first (Halliday, 2004, p. 174)

This means that the two steps representing a sequence of procedures and the findings of experiments are summarised and presented as nominal groups connected one to the other by a verb showing the relationship between the two groups.

In addition, the summarised nominal groups are construed as if they are things in the sense that a noun is typically conceived as an object. The objects are, however, abstract objects within the semantic field of technical taxonomies (Halliday, 2004). Consequently, the meaning construed from experience of reality changes to that of things as he observes that:

Where the everyday ‘mother tongue’ of commonsense knowledge construes reality as a balanced tension between things and processes, the elaborated register of scientific knowledge reconstrues it as an edifice of things (Halliday, 2004, p. 216).

Further, the impact of nominalization is to hold reality still so that it can be studied (Halliday, 2004). This is why reality is interpreted as static and not changing with time as the typical grammar of a clause would depict. Along with the tendency towards the nominal group are, the long nominal phrases and the passive clause structure, also identified as common features of the scientific discourse. Nevertheless, as scholars indicate, the linguistic features represent meaning in objective, general and abstract terms that alienate students from the school curriculum knowledge.

3.6 Conclusion

In this chapter, the structure of language and how language construes experience were presented. A distinction between everyday language and discourse in a scientific text was also drawn. The differences between the two forms of representation imply a difference in the way in which experience is construed. This, in turn, means a different way of seeing things, hence a different theoretical perspective. The theory of the systemic functional linguistics provides a lens through which the three features of a scientific text, namely, objectivity,

generality and abstraction are studied in the selected accounting texts. The intention is to study the representation of meaning through an analysis of the lexicogrammatical features of the texts. Because of the scope of the study, the features are restricted to the representation of experiential meaning through the clause in Halliday's model. Given that the field in this study is also defined by academic register, namely accounting, the three chapters that follow present the findings from the analysed accounting text. The presentation begins with a representation of processes. In other words, it begins with the choice of verbs and how they are represented within the clause.

CHAPTER 4: METHODOLOGY

4.1 Research Design

This study focuses on the representation of theoretical perspectives in two accounting textbooks selected from Lesotho and South Africa. The study examined the representation of the accounting phenomena in the selected textbooks in order to probe the use of language in the construction of meaning. The objective of the study was, therefore, to investigate how language is used in constructing the meaning of the economic events and accounting processes in the selected accounting textbooks, with a view to gaining an insight into the theoretical perspectives embedded in the language used to represent meaning.

In order to answer the three research questions posed in Chapter 1, sections in the selected textbooks were analysed. The analysis was guided by the transitivity model of discourse analysis. The model is part of Halliday's systemic functional linguistics. A detailed account of the model, together with the application of the model in the generation and analysis of data is presented. An outline of the contents of the chapter is the first to be presented

This is a qualitative case study research grounded in an interpretive theoretical framework. The following section presents the framework and the approach for the study. Two approaches are first compared and then a presentation of the approach selected for this study is made. A definition of a case study and its rationale in this study follows. The methods of collecting data and an analysis of the findings are also presented. The section concludes with the explanation of ethical considerations for this study.

4.2 Interpretive qualitative approach

A researcher's perspective informs decisions that are made in relation to the approach and methods that are followed in investigating a phenomenon (Creswell, 2013). The perspectives are, in turn, influenced by the manner in which the researcher interprets and understands the phenomenon to be researched. An analysis of the phenomenon and how it was interpreted in this study ensues.

The purpose of this study was to investigate the representation of economic events in accounting textbooks. The representation involved a study of how language is used to construct meaning (Hall, 1997). Given that a textbook presents a text in written form, investigating representation means analysing the text for its linguistic features. The next section provides a brief outline of the theoretical underpinnings of the study.

The researcher's view on the nature of reality in this study lies within the interpretive paradigm. Within this framework, reality is not viewed as an objective phenomenon existing independently of the viewer (Merriam, 2009). Rather, while acknowledging the existence of reality, it is also believed to be a product of the viewer's make-up (Cohen, Manion & Morrison, 2011). In other words, the meaning the viewer ascribes to the phenomenon. This means that construction of the reality involves the meaning a human being makes of the phenomenon in question. Thus, in this regard, knowledge is the meaning that people engaged in social practice make of the phenomenon they are dealing with (Merriam, 2009, Cohen, Manion & Morrison, 2011).

Based on the assumption that the social world is described in terms of the meaning the participants make of the phenomenon, it is argued that there are various ways in which a text is read and interpreted. There is no single mechanism of reading the text, but multiple readings. This means that meaning is not contained ready-made in the text to be analysed. Rather, the meaning is co-constructed by the author and the reader of the text (Cohen, Manion & Morrison, 2011, Merriam, 2009). The analysis and the interpretation of the verbal accounting text as well as the schematics, therefore, results in one among an array of meanings arising from analyses of a text.

In line with the above presentation, the researcher believes, as Hall (1997) attests, that representation is socially constructed. This means that economic events do not carry clear fixed meanings that can be picked and presented in a text as they are. Contrary to this view, the research is undertaken under the assumption that the author of a text perceives and interprets the events within a complex interplay of cognitive and socio-cultural factors (Hall, 1997) that impact on the meaning that is eventually presented as a text. In addition, since representation is in language, the words and images do not carry ready-made meanings that can be lifted from the signs for one to make sense of their meaning. Meaning is, instead, negotiated (Hall, 1997, Potter, 2008). Scholars argue that the relationship between language and meaning in educational discourse is not straight forward but complex (Huang & Morgan, 2003).

From the above discussion it follows that analysing a text requires an interpretation at two levels. The first level involves the author's interpretation of the meaning of the economic events before encoding them in words and images, as presented in textbooks. At the second level, in decoding the text the researcher interprets the signs, that is the words and images that the text depicts. The data generated from the textbooks is, therefore, laced with the author's and the researcher's interpretation of the meaning of economic events. Given this analysis, an interpretive theoretical framework was used to guide the researcher's design.

4.3 Qualitative and Quantitative Approaches

Research designs, as Curtis (2007) shows, are many, but are located within qualitative and/or quantitative research approaches. The quantitative approach is explained as a methodology that is dominated by methods that collect data that are analysed and reported in numerical and statistical form, while qualitative studies use words in their descriptions and analyses (Gilbert 2008).

A more informative explanation by Creswell (2007) indicates that qualitative research is that which is undertaken in a natural setting of social activities as opposed to quantitative research, in which experiments are set. The author observes that the qualitative approach underscores the meaning that the participants attach to the phenomenon under study (ibid.).

Punch (2009) adds that the philosophy of phenomenology underpins the approach with its emphasis on interpretation informed by experience. These properties of the approach place the author of the accounting text and the researcher's experiences at the heart of the analysis and interpretation of the text. What the text means to the author as well as the meaning that the researcher makes from the text form part of the knowledge that arises from the research project.

The view of reality is not the only difference between the two approaches; as Curtis (2007) explains, researchers choose between the two approaches because they do different things. Numbers summarize data, whereas words explain in detail (*ibid.*). In addition, qualitative research focuses on a few cases with many variables while quantitative research uses many units of analysis, a sample of the population and a few variables (Curtis, 2007). A qualitative approach was, therefore, found to be relevant for this study as it requires an explanation of linguistic features of the text, hence a detailed description illustrating a representation of meaning. In addition, the required details can best be attained through an analysis of a few cases.

The two approaches described above have advantages and disadvantages. Haralambos and Holborn in Curtis (2007) argue that qualitative studies are likely to present people's experiences of life together with their subjective beliefs as they are. Quantitative research, on the other hand, is said to be comparatively clear, specific and objective. In addition, as the data is drawn from a representative sample and the findings are analysed in statistical form, this approach is suitable for a representative study (Curtis, 2007). Since the sample represents the overall character of the population the findings of such studies are generalizable to the whole population from which the sample was drawn (Curtis, 2007). In contrast, qualitative studies are inundated with the double interpretation of the researcher and the participants. The results of the research are said to be subjective and, therefore, not generalisable.

Although generalisability and objectivity are valued in research, Opie (2004) cites many authors who have shown that such qualities are scarce in education where researchers deal with humans. Elaborating on the limitation of positivism, the author identifies unique experiences and subjective interpretations of individuals as valuable characteristics that define humans (*ibid.*). Thus, given the research question in this study and its location in education, as a social practice, a qualitative approach was found to be appropriate. Within

this framework of the interpretive paradigm and a qualitative approach, a case study research design was identified as an appropriate design for investigating the representation of meaning in relation to economic events in the selected accounting textbooks. A description of the research design follows.

4.4 Case Study Research

Research design outlines the structure of a research project, indicating the sequence of steps that will be undertaken for the investigation. Different designs are advocated for different types of studies. Each design is appropriate for a given phenomenon to be researched depending on the philosophical orientations of the researcher. In this section a detailed description of the design for this study and the justification of the choice of the design are presented. The section begins with the definition of the design, followed by the types and characteristics of the selected design.

4.4.1 Case study defined.

A case study research involves an investigation of one or more instances of a phenomenon (Payne & Payne, 2004). As indicated earlier, a representation of economic events in the accounting text defines the instance for this study. According to Chadderton and Torrance (2011) a researcher can investigate a single case or a number of cases. In this study, only one case was selected for the study. However, Creswell (2013) explains that such an investigation is undertaken through data collection from a variety of sources of information. In this study, multiplicity of the sources of information was attained through an analysis of two accounting textbooks and curriculum policy documents guiding education in the two countries. The latter provides the basis and context for the development and use of instructional materials, the two textbooks in particular.

A case study research design is defined by a case. From the examples cited by Punch, (2009), Wisker, (2008) and Johnson and Christensen (2012), a case may be an individual, an object, an entity, an activity, a process, an event or a situation. In education, these categories may be exemplified by a student, a classroom, a school or a national programme (Johnson and Christensen 2012). Textbooks involve translating national curriculum into realisable

outcomes. These artefacts entail an enactment of the curriculum. Studying the representation of meaning in the accounting textbooks, therefore, identifies the study with an event of the national programme. In addition, textbooks are normally approved by the department of education in a country for use in public schools. This means that the concerned departments identified the artefacts as aspects of the national curriculum of Lesotho and South Africa.

4.4.2 Types of case studies.

Punch (2009) and McMillan and Schumacher (2010) identify three types of case studies, namely, intrinsic, instrumental and collective case studies. An intrinsic case is studied for its inherent worth. That is, the case as an object of study is, itself, of interest to the researcher (Punch, 2009). An instrumental case is one that is selected in order to study an issue or a phenomenon within a case (McMillan & Schumacher, 2010). Any case with such a phenomenon would suffice thus, the case itself is not of interest. The collective case study involves an instrumental study of phenomenon in a number of cases (Punch, 2009). In this study, the representation of meaning in accounting curriculum is studied as it is depicted in the textbooks; hence this study is defined as an instrumental case study.

Another reason for choosing an instrumental case design is that it allows for a detailed study of the way in which meaning is represented in the selected textbooks. Although an intrinsic study allows for a detailed analysis, the interest in this study is not in textbooks per se but on how meaning is constructed through language. A collective study also provides for comparison between the cases and the findings as Johnson and Christensen (2012) show. The intention in this study is not to compare a portrayal of a phenomenon in accounting textbooks, but to study the nature of representation, as depicted in an accounting text. The intent, therefore, requires an in-depth analysis, hence the need for an instrumental case study.

4.4.3 Characteristics of a case study.

Elaborating on the nature of case research, Payne and Payne (2004) and Johnson and Christensen (2012) indicate that boundaries delineating the scope of the unit must be set. The case for this study is, therefore defined geographically by location, since it focuses on the textbooks used in Lesotho and South African high schools, which also delineate the case by the level of education, as accounting is taught from the secondary school level to the tertiary level.

Chadderton and Torrace (2011) warn of the dangers of restricting boundaries to physical aspects only. They highlight the importance of the social and historical context of action, arguing that social practice does not take place in a vacuum but is affected by the context while it also impacts on it (Chadderton & Torrace, 2011). An accounting textbook used at the level of secondary education is written within a policy framework and history of the school curriculum. A detailed account of a school curriculum policy in the two countries is presented as the context that surrounds an authorship for the two textbooks. In addition, a description of the history of school curriculum is included as a basis for explaining the character of the policies that govern the school curriculum in the two countries.

The major weakness of a case study, as noted by Wisker (2008), is that its findings are not transferable to other situations with similar phenomena. This is particularly so in a programmatic curriculum, where a programme of study may differ from one context to another. Linguistic features of textbooks differ. The context, particularly the school curriculum within which and for which the textbooks are written, largely determine the structure of the text. This means that even if the textbooks to which the findings from this study are to be applied represent accounting textbooks written for a school curriculum, they might portray different features from those shown in the sample texts for this study. Thus, for each accounting textbook, the representation of meaning is unique and different, with each text written and authored for a unique education or curriculum setting.

According to Merriam (2009) transferability in a case study depends on the user's evaluation of the context to which the findings are to be applied in relation to that of the case. A detailed description of the context surrounding the authorship of the accounting textbooks is provided in Chapter 1 in order to enable the users to judge whether similar linguistic features can be inferred from school curriculum accounting textbooks or not.

4.4.4 Why case study.

This is a study that sought to understand how economic events are represented in the textbooks, as well as to explain a portrayal of the events. Representation is a complex phenomenon as it involves an interaction of many factors, including language and the purpose for which language is used (Hall, 1997). In addition to these factors, functional linguists argue that the structure of a text is not determined by the purpose of conveying messages only, but it is also determined by the context from which the text arises (Martin &

Rose, 2008). Seeking to explain a representation of economic events, therefore, requires digging beneath the surface to find why the text portrays meaning in a particular way, as Moje (2008) explains. The design was, therefore, chosen because it allows for the study of the accounting text within its context, in addition to which it is said to be rich with description (Van Wynsberghe, & Khan, 2007). It is important to note, as Huang and Morgan (2003) affirm, the significance of the meanings that the text underscores through such portrayals.

4.5 Methods of Generating and Analysing Data

The term *Method* in research refers to techniques and procedures that are followed for generating and analysing data (Van Wynsberghe, & Khan, 2007). Since this study is about representation of meaning in language, discourse analysis was found to be a relevant method for the generation of data. A functional approach to discourse analysis was applied for an analysis of the text. This section describes the methods used for generating and analysing data. The unit of analysis identified for analysis is presented before a detailed discussion of the specific methods used to generate and analyse data for this study.

4.5.1 Unit of analysis.

This section presents the techniques and justification of sampling employed in deciding on the units of analysis. A unit of analysis is a phenomenon for which data is generated (Van Wynsberghe, & Khan, 2007). Given the purpose of this study, there are many textbooks of accounting from which data could be generated. All accounting textbooks describe and cover the phenomenon selected for investigation in this study. Since the level of education that the study focuses on is that of the high school, all high school accounting textbooks represent the population of this study. According to 6 and Bellamy (2012) it may not be feasible to generate data from all the available sources of information about the phenomenon. Consequently, a reasonable sample is drawn from available sources. A sample is a subset of the objects of interest in the research (6 & Bellamy, 2012). A detailed description of the study sampling techniques follows.

Sampling. According to Merriam, (2009) there are different types of sampling techniques appropriate for qualitative studies. A purposeful and convenient (Cohen et al, 2011) sampling technique was, therefore, found to be relevant for this study. However, with respect to sampling for a case study, different levels of sampling may be needed before a unit of analysis is decided upon (Merriam, 2009). The first level of sampling involved selecting Lesotho and South African as countries from which the textbooks required for the study could be acquired. The countries were selected for convenience and accessibility (6 & Bellamy, 2012). Moreover, Lesotho is the researcher's country of origin. The second level concerning selection of the textbooks is described below.

The limited time within which the study was expected to be complete and the scope of the study also restricted the sample at the second level to two accounting textbooks from which data was to be generated in both countries. The choice of an appropriate textbook from each country was based on its wide use. Identifying a widely used textbook in Lesotho was straightforward since it is the researcher's country of origin. The selection was informed by the researcher's personal knowledge and experience as a teacher educator of the subject and a member of the business education panel in the country. In addition, the researcher consulted the syllabus to examine the list of the recommended textbooks. Since the recommendation is not specified in the syllabus, the researcher consulted the subject inspector from the country's Inspectorate office to find out the textbooks that had been specified. The subject specialist from the National Curriculum Development Centre and another subject specialist in charge of social science subjects at the Examination Council of Lesotho were also consulted about the selected textbooks used in schools. *Business Accounting I* by Frank Wood and Allen Sangster (2007) 10th Ed. was identified as a widely used textbook in the country.

In order to identify the accounting textbook used in South Africa, the CAPS document was perused. Informal interaction with student teachers majoring in accounting at Edgewood campus was also helpful, as most of the student teachers were familiar with the textbook that was popular in schools. Teachers of accounting in the schools, who were met on campus during their study visits also provided information. Valuable information in this regard was also obtained from bookshops as they are able to keep track of the books in demand with regard to the subjects offered in schools. All these sources of information identified *New Era Accounting Grade 12 Learner's Book* (2013) by Trevor Hall, Diane Woodroffe, Pravin Singh

and Hanif Aboobaker as a widely used textbook in 2013. The last level of sampling involved sampling within the case and is elaborated upon in the section below.

Sampling within the case. As Merriam (2009) notes, different elements combine to make up a case. The make-up requires sampling as it may not be possible to study all aspects of the case (Merriam, 2009). Sampling within the case, therefore, involves identifying and selecting the elements to examine. Studying the organisation of the content of the two selected textbooks showed the division of the content into chapters, identified under a list of contents at the beginning of the textbooks. The chapters constitute different topics that make up the subject matter knowledge of the text. For ease of reference, the textbooks were identified as Textbook A and Textbook B. A brief structural arrangement of the content follows.

Textbook A's content is divided into 8 sections identified as parts. Each of the parts has a list of topics identified as chapters listed below a title heading written in bold. The structural arrangement is similar to that shown in the LGCSE syllabus. There are 48 chapters shown under the list of contents. Textbook B's content is divided into 16 sections identified as modules. The last of these modules is headed, 'Examination Papers'. Each module is divided into sub-sections with headings written in bold inside the textbook, where the material is presented in detail. As in Textbook A, the organisation demonstrates the division of knowledge into segments (see Appendix 3A for the list of contents of the two textbooks).

In addition to the organisation described above, each unit is divided into sections which present the objectives of the topic, the subject matter knowledge together with problems which have been used to illustrate accounting procedures and their solutions; and end of the chapter tasks. The subject matter is also presented through verbal as well as visual images which include pictures, tables and diagrams. The tables include different types of accounting statements. In both textbooks only the text pertaining to the subject matter knowledge was selected. Peripheral information such as chapter objectives, inside and end of the chapter tasks was excluded for analysis on grounds of relevance. The study is about the representation of meaning that directly relates to economic events, therefore only the aspects of the text which cover content knowledge directly were included for analysis. The final stage of sampling within the case involved a selection of the text to be analysed from the content that presented the subject matter knowledge only. In order to present a comprehensive picture of an accounting text, a typical case technique within a purposive sampling technique

(Cohen, Manion & Morrison, 2011, Merriam, 2009) was used to sample the text for analysis. A brief account of the latter follows.

Typical case sampling. A typical case sampling refers to a selection of a section of a case that bears characteristics found in most of the elements of a case (Seawright & Gerring, 2008, Merriam, 2009, Cohen, Manion & Morrison, 2011). As Seawright and Gerring (2008) explain, the selected case exhibits qualities that are found to be representative among other elements of the whole case. Given the nature of an accounting text, a typical text was described as one which incorporates verbal and visual image texts. Since accounting statements vary, representativeness of the statements was also taken into consideration in selecting a sample text.

In addition to the typicality of a text, purposiveness in sampling was also based on the relative importance of the topic in the discipline as a whole. Representative characteristics also include professional procedures that accountants follow when preparing accounting statements. The procedures are defined by the standards, principles, rules and regulations within the discipline. Accounting standards are vast and sometimes contradictory. However, scholars within the field argue that the conceptual framework of the discipline forms the basis of the formation of the rules, regulation and standards.

The conceptual framework explained above constitutes key aspects of the theory of accounting. A theory in a discipline provides a basis for the selection and organisation of content of a high school curriculum (Deng & Luke, 2008, Lunenburg, 2011). It therefore seemed reasonable to select the unit of analysis which adequately covers key aspects of the theory of accounting on the section of the textbooks. The topic that covers the theory adequately, while at the same time including different aspects of a typical accounting text, was identified as the financial statements of a public company. Thus, ‘financial statement of a public company’ was chosen as a unit of analysis for the study.

From the list of contents of the textbooks (see Appendix 3A) only the chapters that cover the financial statements were selected. The topic covers three modules in *New Era Accounting Grade 12*, namely, Companies: Introduction, Basic concepts and Unique transactions; Companies: GAAP, Year-end procedures and Final accounts; and Companies’ financial reporting. The modules cover pages 16 to 199. In *Business accounting 1* the topic

covers Chapter 10 Accounting concepts from page 104 to 115; Chapter 45 An introduction to the financial statements of limited liability companies from page 576 to 607. The text in these chapters was analysed following the SFL transitivity model presented in the previous chapter. The model was applied in the process of generating data from the textbooks. The process is described below.

4.5.2 Data generation.

In this section the focus is on the generation and analysis of data. The method adopted for generating and validating data is explained. The ways in which the data was analysed and organised for presentation of the findings are also presented.

The analytical framework that guides the generation and analysis of data included the elements of a clause, as outlined in the transitivity model proposed by Halliday within the systemic functional linguistics theory (Eggins, 2004). In addition, the framework for the analysis of the accounting schematics was also drawn from Kress and van Leeuwen's as well as O'Toole's application of the SFL theory in the analysis of visual images. The social semiotic approach to the analysis of visual images and the transitivity model were presented and described in the previous chapter. Since the transitivity model was adopted as an analytical framework for the generation and analysis of the data, the section begins with a brief outline that illustrates the manner in which the model guided the analysis of the text. A detailed description of the model was presented in the previous chapter, therefore the section covers only the process of analysing the data.

Analysis of the verbal text. An analytical instrument which was originally identified and drawn for the defence of the proposal was tested in a pilot study on a South African accounting textbook: *Accounting Grade 11: a simplified textbook*. The representation of social events, as presented by Fairclough (2003) was used to revise the instrument. The pilot resulted in a revision of the method which changed the analytical framework from presuppositions to the transitivity model, based on the SFL theory.

In relation to analytical concepts, as encoded in the transitivity system, the processes, participants and circumstances were identified as the main categories for analysing a clause. Any one of the process types outlined in the previous chapter may feature in a clause

presenting the experiential meaning of an economic event. Analysing a clause structure for transitivity patterns involved identifying the process types realised in a clause.

The above processes represent actions, events or happenings undertaken by social actors or participants in a given social practice (Eggins, 2004, Halliday & Matthiessen, 2004). The three elements of a clause, that is, processes, participants and circumstance, are realised by verbs, nouns/nominal groups and adverbs respectively. A complete analysis, therefore, involved identification of the processes and the accompanying participants in a clause.

Labelling and bracketing. An analysis of the texts began with the generation of the data. Each of the selected topics was initially read in order to get an overview of the discourse and the structure of the selected text. This was followed by a procedure in which the beginning and an end of a sentence was marked by a forward slash '/'. The sentences were then carefully read and analysed into clauses. The beginning and the end of the clauses were marked by a double forward slash '//'. The clauses were then typed. A process was identified for every clause in the typed script. An identified process was then shaded with a translucent distinct coloured highlighter. For example, material process was shaded with a green shading, though translucent. The different processes were, therefore, shaded, each with a specific colour. The analysis proceeded by identifying each clause and the process realised in it. This facilitated the identification of the clause type. Thus each identified clause was marked with a relevant colour shading of the process. The translucent shading allowed the writing to remain vivid while the colour provided an instantaneous perceptual insight into the representation of the different processes in the analysed text.

The process of labelling and bracketing also applied to embedded clauses. This seemed to be the case for the clauses with complex nominalised phrases. A double square slash, that is [[]], was used to highlight embedded clauses. As already indicated, a process defining a clause was italicized and underlined. The processes that were identified in embedded clauses were highlighted yellow and red. An example of an analysed clause is presented below.

“//Other exceptional items *should be credited or charged* (in arriving at the profit or loss on ordinary activities) (by inclusion under the heading to which [[they relate]].)” (Textbook A, 2007, p. 591)

Bracketing of circumstantial elements involved enclosure in parenthesis while participants were identified as unmarked elements.

The procedure for analysis presented above refers to the analysis of verbal text. The findings from the pilot of the instrument, however, indicated that the textbook text incorporated visual images. A revision of the method, therefore, included an extension of the analytical framework for guiding the analysis of the visual images. The extension led to the incorporation of the social semiotic approach in the framework for the analysis of visual images. A description of the generation of the data from the images follows.

Sampling the images. There are different types of images through which a text realises meaning. With examples drawn from a biological text, Guo (2004) identifies photographs, drawings, maps, graphs, models, tables and imaginary figures. Guo further explains that whereas the first three illustrate real things from everyday life experiences, graphs, tables and models redefine space so that each has reference to the imaginary object that the image refers to (Guo, 2004). It is from this category that images in the accounting text in the form of tables were found to be relevant for the study. The accounting schematics analysed in this study are distinct and different from other types of visual images on which the model was applied. This section, therefore, covers descriptions of the types of visual images portrayed in accounting texts and the sample of visual images from the textbooks. The section begins with the sampling techniques that were used and the rationale for their selection.

Accounting images as portrayed in the textbooks include pictures, schematic drawings, graphs and tables in the form of accounts and accounting statements. As it has already been shown, the scope of the study restricts analysis to limited data. Consequently only one type of image, namely, accounting statements in the form of journal entries, accounts and financial statements was selected. The statements constitute the essence of the knowledge of accounting. All professional practices, conventions and standards that guide the practice within the field centre on the construction and preparation of the statements. The statements, therefore, lie at the heart of the content of accounting. It is for this reason that of all the images in the textbooks only the statements were selected. This section presents the analytical tool that was used to analyse the schematics. The presentation begins with a discussion of the features of a table as a framework in which the statements are grounded. It is followed by a brief outline of the composition of the statements.

Labelling and bracketing in visual images. The structure of a table and the analytical framework presented in Chapter 3, Section 3.4 were used to guide the analysis of the accounting schematics. The analysis involved the identification and labelling of the aspects of a statement which formed the periphery and the body of the schematics. Identification of the periphery involved labelling of the title of a statement and subheadings within the statement. Since the arrangement of the content of the accounting schematics is in rows and columns, the labels of the columns and/or the rows were also identified as part of the periphery. The cells within the table were identified as the body and also labelled accordingly.

In order to generate the data, the structures that an image portrays were identified. Then the resources through which each structure is realised were labelled through the use of an arrow. The resources are outlined in the last column of Table 3.4 in section 3.4.2 in the previous chapter. The identified resources indicated the structure that an accounting schematic displayed. These structures were read alongside the processes which were identified in the verbal text.

Delimitations and limitations of method. A comprehensive study of the representation of meaning within the systemic functional grammar entails an application of Halliday's complete model. Specific aspects of the model and their implications for the complete structure of knowledge include a comprehensive analysis of a text for a study of the experiential meaning, as it is realised through the transitivity system as well as the logical organisation of a text. To complement the ideational meaning, interpersonal and textual meaning would also have to be studied. The latter, together with logical patterns of a text, relate to the means by which a text builds an argument. Explanations and reasoning constitute the bulk of the content of most disciplines. In addition, they are crucial in disciplines such as history where causation is a key concept and may form the basic structure of the subject curriculum. In the sciences explanations are equally important, as disciplines in this field seek to understand the cause-effect relationships of the objects of their study. Important as explanation is in disciplines of knowledge, it could not be covered in this study because of the limited resources which restricted the scope to experiential meaning as it is realised in transitivity.

A transitivity system covers a reasonable amount of representational meaning, especially as it includes all aspects of economic events in this study. A comprehensive

coverage of transitivity, as is realised in the text and an in-depth analysis of the data was therefore undertaken in order to minimise the impact of the above limitation. Through this broad, detailed coverage and the in-depth analysis which follows the nature of a case study, it is hoped that the findings will shed some light on the representation of meaning in the accounting text.

4.5.5 Analysis of data.

Data analysis began with a transcription, organisation and coding of the data which was transcribed verbatim because the clauses within the selected text were different in terms of types and syntactic structure. In order to gain a comprehensive view of the representation of the types of clauses, each clause was transcribed as it was presented in the textbook.

The data was organised by combining all the information from both textbooks and then reading and re-reading the transcripts carefully. The overall impression gained from the reading indicated that the material and relational clauses dominated the representation of clause types. The impression provided a direction on the decisions regarding subsequent stages of the coding process. Because of the prevalence of the material and relational clauses in the text, the two types of clauses were identified as the themes according to which a clause as a coding unit was classified.

Open coding. According to Nieuwenhuis (2007) open coding deals with the naming of categories or noticing of bits of data and assigning codes that on reflection are later on grouped and organised into themes or topics. The transitivity model used for generating data identifies a clause as the smallest unit of meaning of a written text in English. The processes are the determining factors of how experience is interpreted and represented as meaning in the text. The processes were, therefore, used to designate the different types of clauses, which formed the initial categories into which the clauses were classified. The clustering of the clauses progressively moved towards the identification of the widely represented type of clauses. The types of clauses were identified as categories around which the classification within the initial stages of the analysis process was approached.

Elo and Kyngäs (2007) also identify the research question as one of the tools for guiding the decisions on, the detail and the sampling techniques for what to analyse. The first research question is concerned with economic events that are represented in the accounting

texts. Since experiential meaning is expressed through the transitivity system, an examination of the types of the clauses that the text depicts was found to be appropriate for addressing the first research question. Thus, the research question also confirmed the clause types as a valid category for classifying the findings.

The grammatical elements of the clause provided codes for generating and analysing the data. The elements provided ways and means for open coding. The open coding was succeeded by a process whereby the clauses were grouped under collective headings to signify different processes that the transitivity model depicts. The clause structure in each of the central categories was examined closely as a way of studying the representation of meaning.

An analysis of the clause structure within each category led to the development of sub-categories, with the representation of participants and participant roles as assigned labels. The representation of participants and participant roles was identified as a central category or axis around which all other categories and sub-categories were explored. An examination of the representation of participants and participant roles focused on the participants depicted by a clause, the various forms of identified participants, how they are represented and why they are represented in a particular way. Through the application of these critical questions, the researcher identified the themes which were, in turn, refined through a selective coding method (Nieuwenhuis, 2007, Elo & Kyngäs, 2007).

Whereas axial coding identified the overarching theme, selective coding involved refinement of the theme. For the refinement of the theme, a close and critical reading of the results of open and axial coding was undertaken. Refining the identified central idea, included examining the findings within a broader picture of ideas borrowed from the literature and theory. The relationship between the central category and other categories was examined closely. The codes illustrating the features of the theme focused on evidence supporting or refuting the central idea. Relational and variational techniques within purposive sampling (Elo & Kyngäs, 2007) guided the selection of clauses as the cases that demonstrated the properties of the categories.

Summary. The coding process was not a straightforward linear process but it involved forward and backward movements. It began with a preliminary reading of the text and the

generation of data. However, critical reflection and close reading of the text led the researcher to pay attention to finer details of coding. In addition, although the concepts of the transitivity model, derived from theory and the literature review, influenced the identification and labelling of categories, particular attention was paid to allowing the categories to emerge from the data. Thus, on the whole, the analysis followed an inductive approach even though deductive reasoning did influence the analysis to a limited extent. Measures undertaken to present a true picture of the findings as they emerged from the data are explained below.

4.6 Trustworthiness and Rigour

Research is concerned with a production of knowledge that can be trusted to be valid and reliable in the representation of the phenomenon that it purports to describe or explain. Though Zhang and Wildemuth (2007) identify validity and reliability as relevant terms particularly within positivism, the criterion that the findings can be trusted holds in other approaches. The authors explain that for studies such text analysis, designed within the interpretive paradigm, the relevant criteria include credibility and dependability (Zhang & Wildemuth, 2007).

Merriam (2009) confirms that adoption of the terms validity and reliability in qualitative approaches to research have been critiqued. However, Merriam suggests trustworthiness and rigour to refer to these aspects of research. Zhang and Wildemuth (2007) include an aspect of generalisability of the findings, for which they suggest transferability. It is important also to note that the research has to be carried out within the ethical considerations of the society and environment within which it is conducted.

Since the data that was generated and analysed in this study is descriptive the terminology suggested for qualitative data above was used in place of validity and reliability. Therefore this section, covers credibility, transferability, dependability and confirmability as dimensions of trustworthiness and rigour in this study.

4.6.1 Credibility.

According to Zhang and Wildemuth (2007), credibility in a qualitative study involves content validity, construct validity and criterion-related validity. Content validity refers to the adequate representation of what is being studied in order to ensure that the findings portray and describe as many aspects of the phenomenon being studied as possible (Zhang & Wildemuth, 2007). This means that the generation and analysis of data should cover the phenomenon in its totality while being cautious to ensure that the data remains true to what it is intended to establish. The different aspects of credibility and how they apply in this study are presented below.

Prolonged engagement. With a background and experience in accounting education, it was important for the researcher to exercise caution to avoid imposing meanings of the text instead of allowing data to emerge from the text. In order to safeguard the interpretation of the text against misinterpretation of the text and to enable the researcher to read the text from a fresh perspective and gain new insight, a critical reflection and reflexivity were exercised. The critical examination of assumptions led to the identification of taken-for-granted meanings such as ‘financial statements’, a typical example of nominalisation, which has been naturalised into a thing.

In order to safeguard against bias, a thorough study of the text was undertaken before the generation and analysis of data. The text study was followed by a careful analysis of the entire text, hence adequate coverage of the phenomenon. A detailed step by step procedure has already been presented under the methods of data generation and the analysis procedure explained above, as a way of the illustrating means and ways adopted in order to enhance the credibility of the findings. A complete exercise of analysis and verification of the findings took almost the whole year, since it began on 7th January, 2014 and was nearly complete on the 28th November, 2014. The long period spent on the analysis of data is supported by Zhang and Wildemuth (2007, p. 6), who identify: “... prolonged engagement in the field and persistent observations ...” as criteria for credibility.

Member checks. Another strategy that was undertaken to ensure adequate coverage of the phenomenon involved constant checking and corroborating of the findings with the original content in the text (Merriam, 2009). Data generated from the text was matched with the text to ensure that it corresponded to what was written in the text at the end of every subsection of

the original chapter. Clear steps delineating the analysis process have been described in the section on the analysis of data.

Peer debriefing. According to Murphy and Yelder (2010), peer debriefing can also be undertaken as way of establishing the credibility of the findings. Preliminary findings were presented on several occasions in the University cohort sessions held for PhD students. The sessions were held four times in a year. The sessions provided ample opportunity for peer assessment. Valuable feedback was received from these sessions. In addition, some of the findings were presented in the SAERA conference on education held in 2014. The conference provided valuable comments as a spur for reflection on the analysis and the findings.

Some of the work was also shared with an expert in linguistics. The expert provided feedback that enabled a re-examination of the interpretation of the processes from the text. For example, it was noted that ‘shown’ was labelled differently in different occasions. When used in a clause illustrating how an account looks, as in: “declared dividend account will show a credit balance” it was labelled as a relational clause. However, in the case where, for instance, the clause reads: “declared dividend will be shown in the appropriation of profits account” it was labelled a material clause. Expert comments also provided an opportunity to reflect on the thoroughness of the analysis. There were some elements of the text clause which, although labelled, had not been included in the presentation of the findings. Comments from the expert drew attention to the omissions. Caution was also exercised to avoid mislabelling processes, especially in the clauses which involved infinitives and gerunds. Regular and critical examination of the labelling was, therefore, exercised throughout the data generation and analysis process.

4.6.2 Dependability and Confirmability

Dependability refers to consistency of the process of the research such that an instance is assigned to the same category by different researchers or the same researcher at different times (Murphy & Yelder, 2010). The authors define confirmability as coherence of the findings, interpretation and recommendations with data (ibid.). This means that a great deal of caution is exercised in order to avoid variation in the method, which can ultimately affect the nature of the findings. According to McMillan and Schumacher (2010) such caution is exercised through an audit trail.

In order to ensure internal coherence and consistency of the research process and to guide the data analysis the transitivity model was drawn up. A table which extended and elaborated on the processes and a coding manual for analysis of the images were also prepared. The tables together with the transitivity model were regularly checked and critically examined. In addition to the coding procedure manuals, notes on connotations and meaning of some processes within the context of accounting were made on the manual as the coding progressed. For example, it transpired during the coding procedure that the nature of the transformation that a process like *sold* and *bought* brought to a medium needed to be examined critically in order to be clarified. Cross-checking with documentary literature and the discussion with experts were therefore carried out during the entire process of analysis. All these tools guiding the generation and analysis of data provide an adequate audit trail for an independent researcher to evaluate the authenticity of the findings.

The coding procedure involved identifying the clauses in each sentence and labelling the processes realized in each of the identified clauses. The process was followed for all the sentences throughout a page before moving on to another page. After completing one page, all sentences were re-read to ensure that every process realized in a clause was marked. The process was devised as a way of identifying clauses that might have been missed and therefore left unmarked before moving on to another page. In addition, at completion each page was given to an independent reader to verify the marking and the identification of the clause types. The tags for each process type were counted and the total for each type was written at the bottom of the page against the relevant coloured sticker. The total figures on each page were then added at the end of the chapter to cross check with the total number identified by an independent reader.

The identified clauses from the text were then typed according to their classification (see Appendix 3C). The clause type was easy to identify from the coloured shades of the stickers used. The clauses were then counted in each category and the findings thereof were matched with the counting of the stickers from the pages in the text. The clauses were then typed in order to determine the structural configuration of each clause. To determine the structural organisation, the clauses were analysed, each according to how the different constituents of grammar stand in relation to each other. Eggins (2004) refers to the process as bracketing. Bracketing was found to be relevant for this study as it allows for the

identification of participants and participant roles, and the circumstantial elements of each clause. Thus, a complete analysis at data generation stage involved constituent bracketing and labelling according to the grammatical elements, as it is depicted in the transitivity model above.

A similar approach to the analysis of verbal text was applied to visual images. The tables were first labelled in order to identify peripheral aspects and the cell text within the grid. This was followed by an identification of the vectors for realising the narrative structures and the classification, symbolic and analytical structures for realising conceptual meaning. In addition, compositional meaning, particularly information value and salience, were also applied in order to provide a comprehensive analysis that illuminated essential elements with regard to the means by which economic events are represented in accounting through visual images. For images, a social semiotic approach was adopted to guide an analysis of the statements.

A presentation of the findings also involved an inclusion of a detailed documentation of the data. Various examples of different clauses and clause structure, together with visual images identified from the text were cited in the presentation of the findings. A classification of the clauses involved an interpretation. The processes were not straight forward as some processes were found to be ambiguous. For instance, dubious processes such as *issue*, be it of company shares or accounting standards, threatened consistency and coherence. Sharing and discussing personal interpretations of such processes with peers and experts clarified the ambiguities.

4.6.3 Transferability.

Transferability refers to the extent to which the findings of the research can be transferred to another context (Zhang & Wildemuth, 2007). According to Murphy and Yelder (2010) transferability of the findings to the population is not the aim in a qualitative study. It cannot, therefore, be claimed that the findings in this study are applicable to all senior secondary accounting textbooks. However, as Murphy and Yelder (2010) explain, transferability lies with the consumer of the findings, who can assess the extent to which the findings apply to the context in question. Consequently Murphy and Yelder (2010) recommend a detailed description of the context for comparison with that to which the findings are to be applied. Detailed sets of data with full descriptions were therefore included

in a presentation of the findings. In addition, the school curriculum, of which the textbooks are a part, was presented with all the necessary details in Chapter 1. The details provide other researchers with information for decisions on the transferability of the findings to different settings or contexts.

4.7 Limitations of the Study

The studies undertaken to analyse textbooks have been criticised for leaving out the perceptions of the readers and users of the instructional material, as well as those of the authors and publishers. It would have been interesting to know how teachers and learners interpret and use the text and the intentions and interpretations of the authors but the resources and scope of the study restricted the research to textbook analysis. However, as an initial attempt to analyse the theoretical basis of the discipline, the study provides a fertile ground from which further studies on these aspects can be undertaken for the purposes of developing a comprehensive foundation for an accounting school curriculum.

In acknowledgement of the different ways in which a text can be interpreted, the researcher also recognises the multiplicity of realities such as the author's presentation of accounting as a social construct in the text as well as the researcher's interpretation of the text and the reader's interpretation of the findings of this study. In addition, my own experience may influence my reading and interpretation of the text because I have taught the subject. Therefore, even though the intention is to be reflexive in the analysis of the text, the findings may be coloured by the researcher's values and bias. The researcher acknowledges her position as an insider in the project.

The degree of researcher subjectivity and the value-laden nature of the collected data are compounded by the intricacies and complexities of language as it mediates an interpretation of the text in discourse analysis.

4.8 Research Ethics

According to Rule and John (2011, p., 112), due consideration must be exercised when undertaking research that involves the participation of other people or animals. The authors note that relationships between the researcher and the participants together with the adopted practices should be such that they respect the participants' rights. The authors mention three principles that guide ethical research. These are "autonomy, non-maleficence and beneficence" (Rule & John, 2011, p., 112).

The first principle refers to autonomy or independence of the participants. This means that a researcher must observe and respect participants' freedom to choose either to participate or to decline an offer to participate or even withdraw as they might see fit. It follows that all the information that is considered to be of material fact in influencing participants' decisions must be fully disclosed before participants take decisions. Participants in this study refer to authors of the textbooks, they are indirectly affected by the research. The autonomy and independence of the participants' decision to participate in this case did not apply for this study since the selected textbooks are already in circulation for public consumption.

This study might be sensitive for the authors as they were not consulted for comment on the interpretation of the text. The research that investigates their use of language positions them in a vulnerable spot. Caution was, therefore, exercised in reading and interpreting the text to ensure that it was undertaken within the authors' written words. Of particular importance in this instance was avoiding a judgemental attitude and assuring the Research Ethics Committee of the intentions of the study which was purely generating data from the textbooks. Equally important was the issue of power relations and status, particularly for the authors who were not there to defend their stance. This called for a sensitive attitude in order to avoid a misrepresentation of the text.

The second principle refers to the fact that the research should avoid anything that might be harmful to the participants. Since I personally analysed the text, the implication required that necessary measures should be taken to ensure that nothing from the research activities tarnished the authors throughout the entire process of data generation.

Emphasis on beneficence rests with ensuring that the research contributes to the good of society through its contribution to knowledge. Even though one of the disadvantages of a case study is the lack of generalisable findings, it does, however, enable one to gain an insight of the phenomenon being researched. Through an illustration of the linguistic features of accounting texts, the study adds to the knowledge of the forms of disciplinary literacy. The study is also of benefit to me as a teacher trainer and teachers of accounting and curriculum developers, as well as authors of textbooks, since it shows not only the features of the register but also its impact through the theoretical perspectives implied in the accounting text.

As expected, I showed my commitment and intension to comply with the ethical requirements stated above by applying for ethical clearance to the Research Ethics Committee (see Appendix 3D).

4.9 Conclusion

This chapter presented and described an interpretive paradigm as a framework for guiding the decisions and research activities undertaken for the project. Within the philosophical orientation of the framework, qualitative data was identified as relevant for addressing the key question posed for the study. Thus, the content presented also drew a distinction between qualitative and quantitative approaches while at the same time justifying the choice made in relation to the two approaches. A detailed presentation of the method adopted for the generation and analysis of data the criteria for the verification of the findings as well as the limitations of the study have also been covered. The coverage illustrates, in a detailed form, the analysis of the findings, which are presented in the next chapter.

CHAPTER 5: REPRESENTATION OF PROCESSES

This study is about the representation of theoretical perspectives that undergird the discipline of accounting, as portrayed in the selected accounting textbooks. Representation of the perspectives is studied through an examination of the use of language in the construction of meaning about economic events. Therefore, the study specifically focused on how economic events are interpreted and represented as meaning in selected accounting textbooks.

In order to answer the questions posed for the study, the transitivity model as presented in Chapter 3 was applied in the analysis of the selected texts. According to the model, the analysis of a text for representation of meaning involves an examination of the clause for representation of processes, participants and circumstantial elements. This chapter presents the findings on the representation of processes as depicted in the selected textbooks. The first section of the chapter presents the findings on the representation of material processes and the manner in which the texts portray the processes. The second section presents the findings on the representation of relational processes. A substantial amount of accounting knowledge is expressed through visual images. The findings also cover the representation of structures that express processes in the images.

Since the focus of this study was on how language has been used to construct meaning, the ‘clause’ as a smallest unit for representing meaning in English grammar was analysed for representation of processes, participants and circumstantial elements. The three make up the transitivity model, which, as explained in the methodology chapter, constitute a significant aspect of experiential meaning. Processes play a pivotal role in transitivity as they determine a clause type and participants of a clause. Presentation of the findings, therefore, begins with the type of processes found in the accounting text. This chapter presents the findings on the processes as they relate to experiential meaning. It presents the findings on the types of the identified processes and their portrayal in the textbooks. The latter refers to the clause structure of the text.

Transitivity, as set out in Halliday’s model, describes six processes, namely material, verbal, mental, relational 1, relational 2 and existential processes (Halliday & Matthiessen,

2004). These processes are represented in the chapters that were analysed. However, verbal and mental processes are encoded in a few clauses addressing the reader to either to the covered material in the prescribed textbooks for the previous education levels or certain sections of the topic under discussion. Examples of such clauses include: “//but in our Grade 12 studies we will focus only on two forms//” (Textbook B, 2013, p. 24) and “//the following changes are noticed in practice//”. The existential process is also sparingly represented to state the current state of affairs, particularly the laws governing business practice or, in some cases, to specify existing institutions and institutional structures. Examples in this category read: “//There is also a secondary tax on companies of 10% of dividends declared//” (Textbook B, 2013, p. 51).

Material and relational processes were found to be widely represented in the analysed chapters. Because of the high proportion in the prevalence of these two processes, the presentation of the findings focuses on these two processes, even though other types are also included where necessary. Since the findings cover a representation of the processes in all of the analysed clauses, the processes are highlighted in italics while optional elements of a clause are marked by parenthesis. In addition to the italics, processes being analysed in a given section have also been underlined. A presentation of the findings begins with material processes identified in the two textbooks.

5.1 Material Clauses

The term *Material process* within the transitive model refers to an action process whereby the action of one participant is extended to another participant, the goal (Eggins, 2004). Although the actor participates in the actualisation of the action, the participation only facilitates a process that is already in progress. In contrast, in the ergative model, as Eggins (2004) shows, the actor initiates an action and, therefore causes the effects of the action on the goal. The ergative model, as opposed to the transitivity model, foregrounds the medium, which is considered to be the instrument through which the process takes place (Iwamoto, 2007). This means that without the medium there would be no process. The goal within the

ergative model is referred to as a medium, that is, a participant through which the process takes place. The actor is referred to as an agent. In addition the processes impact on a third participant in the form of a beneficiary (Eggins, 2004), that is one who benefits from the action.

A definition of a material process adopted for this study includes aspects of both models in the sense that some processes may have some features of transitivity while others illustrate those of the ergative model. For example, the clause: *a company could draw up its balance sheet and profit and loss account* in Clause 2 below, involves an actor/agent, that is, *a company*, which initiates the action of drawing up the statements. At the same time, the action of drawing up the statements would not take place without the medium involved, that is, *the balance sheet and the profit and loss account*. In other words, it is the requirement of the statements which necessitates their being created. A more explicit example is the embedded clause, *when a debt is paid* in clause 1 of Text Excerpt – 4AB 1 below. Although realised through a passive voice the clause shows that someone paid for the debt. This means that the action was initiated by an agent outside the action, as payment cannot evolve out of its own accord. Although the payment was initiated by the agent, it, the payment could not take place unless there was something to be paid for, in other words, the debt. It is, therefore, the existence of the debt that caused the payment to be made. Thus, within the transitive and the ergative models, both the actor/agent and the goal/medium are equally important for the realisation of a material process.

Halliday and Matthiessen (2004) also identify two types of material processes, namely processes of transformation and creation. The former refers to actions directed to a goal/medium, thereby resulting in a change of the goal while the latter results in the creation of a new thing. This means that the action is undertaken with a purpose of producing something new, the goal/medium. The analysis of the text was based on these two types of material processes. The findings presented below illustrate a representation of the two types of material processes in the accounting text.

5.1.1 Representation of material processes in the accounting text.

Material processes are concerned with an action that changes a goal or leads to the creation of a new thing (Eggins, 2006). The findings show different material processes in both textbooks. Processes that were prevalent included: *entered/recorded, prepare/draw,*

shown, purchased, sold, paid, prepared, credit and debit. Some of the processes resulted in the transformation of a goal while others led to the creation of a new entity. For example, a section covering the going-concern concept includes a clause stating that: “//Financial statements are prepared (on the basis that the business in question will continue operating (for the foreseeable future.))//” (Textbook b, 2013, p. 99). The phrase: *Financial statements are prepared*” involves producing or making the statements, hence the creation of a new thing. The clause: “//These profits are transferred (to reserve accounts.))//” (Textbook A, 2007, p. 582), on the other hand, entails the process: *are transferred*, which means a change in location. The change in location, therefore, implies transformation. Both of the processes, *are prepared* and *are transferred* require an agent outside the medium to initiate the action. A detailed analysis of the representation of the two types of material processes follow.

In another section on balance sheet adjustments, a clause shows material processes thus: “//In most cases, the adjustments that affect the financial statements *will be entered* (in the General Journal)// and posted (to the ledger)// so that the books of a business *agree* (with the financial statements.))//” (Textbook B, 2013, p.104). The highlighted processes, *will be entered* and *posted* refer to actions comprising the creation of a record and changing it since both of them in this context refer to the process of recording and transferring the records to another book. Most of these processes are related to the process of recording transactions, which describe economic events, while a few are related to the preparation of financial statements.

5.1.2 Material processes of creation.

A number of processes which concerns the creation of an economic entity were identified. For example, some processes bring into existence a record of an economic activity that took place in the business. Other processes lead to the creation of an accounting instrument such as financial statements, which are used to guide financial decisions. A variety of processes were identified in relation to these types of processes, leading to the creation of a new thing. Examples identified from various sections of the sampled chapters include: *entered, record, posted, made, prepared and draw up*. A portrayal of the processes is shown in the examples below.

1. //The cash flow *occurs*, (when [[a debt is paid]], *not* when [[provisions are made]] in case there may be bad debts in the future.)// (Textbook A, 2007, p. 493).
2. //(Prior to the UK Companies Act 1981, [[provided it *disclosed* the necessary information,]]) a company could draw up its balance sheet and profit and loss account (for publication in any way [[that it *wished*.]])// (Textbook A, 2007, p. 584).
3. //(If goods have been sold) the Sales value and the Cost of sales value must be recorded (simultaneously),// they must be matched.// (Textbook B, 2013, p. 100).
4. //An account *called* Directors' fees will be opened,// and this will be closed off (to the Profits & loss account) (at the year-end)// (Textbook B, 2013, p. 43).

5 //For example, if Land and buildings are re-valued, //a non-distributable reserve must be credited, // because the profit is not earned (until such time as [[the asset is sold]])// (Textbook B, 2013, p. 37).
6. //Financial statements are prepared, copied and circulated to those people who *are entitled* to or *interested* (in the financial findings of the business)// (Textbook B, 2013, p. 97).
7. //The entry is made (in the Cash Payments journal) //and is debited (to the SARS (Income tax) account) (in the ledger.)// (Textbook B, 2013, p. 51).

Text Excerpt – 4AB 1

The processes, *made* and *draw up* in clauses 1 and 2 respectively, represent material processes of creation. Through the action of making provisions, *provision for bad debts*, comes into existence. Similarly, drawing up brings into existence the two statements, *balance sheet* and *profit and loss account*. The phrase *the Sales value and the Cost of sales value must be recorded* in 3 concerns bringing into existence a record of a new entry of the two mentioned values. The process, *must be recorded* also illustrates a material process of creation. In clause 4, *will be opened* refers to a process of making a new record of the *Directors' fees*.

An exceptional case of widely represented material processes leading to the creation of a new record of an economic event pertains to two technical terms, *debit* and *credit*. A high proportion of the representation of the two processes was found in different sections of the analysed text, particularly the accounting schematics. Examples which illustrate the processes are included in the excerpt above as: *must be credited* in 5 and *is debited* in 7. These two processes refer to an activity of making, what is referred to in accounting as an entry, in the two stated accounts, *non-distributable reserves* and *SARS Income tax account*.

Making an entry means that relevant information pertaining to the affected accounts is recorded in the accounts. Depending on the manner in which an account is affected, a record is made on the right or left side of the account, hence credit and debit respectively. The impact of the activity is that a new record is generated, and, therefore, an entity is created.

All the processes described above concern the creation of the records of a business. These types of processes pertain to duties that are professionally described as bookkeeping in accounting. Basically, bookkeeping involves creating a record of economic events, the business activities which took place between a business and its environment. The processes also show that there are different ways in which the creation of a record in accounting is described. Nevertheless, all the cited processes lie outside the created entity, the goal/medium. There has to be an initiator who is the agent, for the records to be in place.

A second category of processes belongs to those processes that involve making available financial statements for purposes of financial decision making. The portrayal of the processes which describe professional duties varies. However, a high proportion of *prepare* and *draw up* was found to be prevalent in the analysed text. As clause 6 above shows, the process: *are prepared, copied and circulated* refers to the construction of the financial statements, which is the creation of a new entity. The process directly involves the professional duties of an accountant and has a bearing on the key processes of the discipline, recognition and measurement. The latter is implicated in clause 5 above in: *are re-valued*, even though the process refers to transformation and not to creation of a new thing, as it pertains to the change of the values of the land and buildings.

All of the above-mentioned processes of bookkeeping and accounting lead to the process of bringing into existence a thing that did not exist before. In addition, the processes arise from a source outside of the created entity. In other words, there must be an animate being responsible for the things to happen. This means that the records and the financial statements cannot happen out of their own accord. The process that leads to their occurring or happening does not begin from the entities; it arises from the bookkeeper or the accountant.

Some of the processes describe the economic activities taking place in business. Some of these processes result in changes in an affected entity while others lead to the creation of a new thing. For example, *traded* and *issued* in: “//The shares of a public company may be

traded (freely, i.e. [[new shares may be issued (to the general public upon the issue of a Prospectus)]]//” (Textbook B, 2013, p. 24), refer to the transformation and creation processes respectively. The trading of shares encompasses a transfer of ownership and the issue of shares refers to making the shares available to the public, something that was not available before. However, whether leading to the transformation of an entity or to its creation, the processes involve an active engagement of human participants for the processes to occur. The commonly found processes, which refer to economic activities, include *sold*, *bought*, *issue*, *paid* and *incur*. A list of some of the examples of the processes concerned with economic activities is presented below.

1. //The individual shareholders will be paid (as soon as practically possible.)// (Textbook B, 2013, p. 53).
2. //Stock, investments and land buildings, for example, *are not valued* (on the basis of [[the amount of money that *would be received* for them]])// if (they) were sold (at short notice)// (Textbook B, 2013, p. 99).
3. //In other words, they *must be matched* (to the same period in which [[they were incurred]]).)// (Textbook B, 2013, p. 99).
4. //[[A company, registered (in terms of the Companies Act)]] ... //can enter into contracts in its own name//can institute legal proceedings in its own name,//and it can sue and be sued// (Textbook B, 2013, p. 17).
5. //The term debenture *is used* //when limited company *receives* money (on loan), //and [[certificates *called* debenture certificates]] are issued (to the lender)// (Textbook A, 2007, p. 581).
6. //(At present) income tax for a company *is calculated* (at 28% of taxable income)// (Textbook B, 2013, p. 51).
7. //These shares may be purchased (directly from the company)// (Textbook B, 2013, p. 23).

Text Excerpt – 4AB 2

The underlined processes above comprise economic activities. Some of them lead to a change in the affected goal/medium. For example, *will be paid* in 1, *were sold* in 2 and *may be purchased* in 7 refer to economic activities. The activities concern a transfer of ownership of some economic entities, the property and shares of a company from one person or organization to another, as is the case in these instances. Transfer only leads to a change in location. The shareholders’ account in 1 also changes in the company’s books as a result of

the money that they received. All the underlined processes in 4, *issue* in 5 and *calculated* in 6 however, result in the creation of a new thing. The processes *registered*, *can enter*, *can institute* and *can sue* result in lawsuits, formation of companies and formulation of contracts and material processes of creation. In 6, *calculated* also produces tax.

All the identified processes related to economic activities originate from the sources outside of the involved goal or medium. For example, transfer of ownership is a process that can only be initiated by animate beings. In 1 the process, *will be paid* also describes a transfer of money from the company to the shareholders. The payment, however, can only be effected by an agent. An inanimate being such as money cannot leave the business coffers out of its own accord to present itself to the shareholders. In the last two clauses, *purchased* and *traded* refer to the exchange of something between the entities. This means that the actions involve the economic activities that are taking place in business. As such, they involve animate beings. Nevertheless, *issue* represents a practical action undertaken by social actors and was found to be fairly frequently represented throughout the analysed text. It is important to note that the representation of meaning in all of the above clauses is realised through a passive clause structure.

5.1.2 Material processes of transformation.

An analysis of the text shows a wide representation of material clauses of transformation. The processes which were found to be commonly represented include: *is paid*, *appropriated* *is charged*, *are transferred* and *should be shown* and some of those which have been cited under processes describing the economic activities of a business. Some examples of processes which lead to a change in the goal/medium are presented below:

1. //The cash flow *occur*, (when [[a debt *is paid*]], *not* when [[provisions *are made*]] in case there may be bad debts in the future.)// (Textbook A, 2007, p. 493).
2. //Their remuneration *is charged* (to the profit and loss account.)// (Textbook A, 2007, p. 582).
3. //Fixed assets *should* normally *be shown* (either at cost or alternatively at some other valuation.)// (Textbook A, 2007, p. 586).
4. //As you *will see*, //all the profits *may not be appropriated* (during a period.)// (Textbook A, 2007, p. 582).

5. //These profits are transferred (to reserve accounts.)// (Textbook A, 2007, p. 582).

Text Excerpt – 4AB 3

After being paid, the debt referred to in clause 1 will be no more; this implies a change or transformation of the paid item. In clause 2 the process, *is charged* refers to an action whereby *the remuneration* is included and added to other expenses in the stated statement. Transfer of the item and its addition to other expenses means that the location of the item changes in the sense that it will be found in the *profit and loss account* form. The process *should be shown*, on the other hand, refers to the manner in which the affected items should be shown in the stated statements. The process indicates the value at which the items are to be expressed. Showing or expressing the item at a particular value, however, implies making the item accessible for viewing from the perspective of the given value. This means that at an initial stage the object projects a particular value but after transformation the new perspective projects a different value. The valuing of the items also implies a dynamic action carried out by animate beings.

In clause 4, *appropriated* denotes a process whereby the *profits* referred to in the clause are apportioned for various purposes in business. The process results in a change of the figure of the profits since it will be apportioned for different uses. The process *transfer* of the profits in clause 5, on the other hand refers to the removal of the items from one location to another. This also implies a changing position, a process whereby the profits are included in the reserve account.

Different processes of the transformation type were identified across different sections of the text. They vary widely and describe different accounting procedures, some of which involve professional duties while others refer to economic activities undertaken for and in the business. Common professional duties included the measurement of value for different items, as in the example of fixed assets in 3 above; processes which involve calculations, as when *the remuneration is charged to the profit and loss account* or when profits are transferred to some other account; and recording keeping as exemplified in the transfer of profits in 5. Other transformation processes imply business activities. For example, the payments, purchases or sales of goods or are made.

All the processes discussed above imply an instigator of the action that is outside of the process itself, hence an agent. The processes refer to a dynamic action in which a given entity is transformed by a process that directly impacts on it.

5.1.3 Summary.

From the above analysis, it can be concluded that the material processes represented in the two textbooks cover both creative and transformation categories. The processes are widely represented, ranging from those that describe record-keeping to those which define accounting procedures and those inscribed with the economic activities undertaken in the businesses. Of significant importance to this study is the fact that a high proportion of the processes were identified within the transitive and ergative clause structures. This means that although the identified processes are initiated by an instigator, the medium is equally important as an instrument through which the process is carried out. The implication of such processes for the discipline is that accounting involves activities carried out by animate beings as well as the medium through which the process is carried out.

Halliday's theory of systemic functional linguistics identifies lexicogrammar as a system of structures from which an author of a text makes a choice in the construction of meaning. Up to this end, the presentation of the findings has been on the choice of the lexis, that is, on the verbs that the authors of the accounting texts use to construct meaning. Within the experiential meaning of the SFL the verbs identify processes. So far, the discussed processes represent material processes. A comprehensive representation of meaning, however, includes the portrayal of the identified processes. The following section, therefore, presents the findings on the material clause structure as presented in the textbooks. The three main ways in which material processes were found to be presented include, active voice, passive voice and embedded clauses. The findings on these clause structures begin with the active voice.

5.2 Portrayal of Material Processes

Material processes presented above are portrayed in different ways, with the passive voice dominating the representation of the clause structure. A few identified cases realise meaning through the active voice. In other cases, the material processes are realised in embedded clauses. The latter was found to be more prevalent in relational clauses and visual images than in verbal material clauses. The findings on the portrayal of material processes begin with active clause structure.

5.2.1 Active clause structure.

The findings show instances in which the processes are realised through an active clause structure. For example, the clause, “/(Prior to the UK Companies Act 1981, [[provided it *disclosed* the necessary information,]]) a company *could draw up* its balance sheet and profit and loss account (for publication in any way [[that it *wished*.]])/” (Textbook A, 2007, p. 584), illustrates the active voice. The material processes, *disclosed* and *draw up*, in this example are realised through active voice. As actions which transform and create entities, the two processes require an agent which is explicitly mentioned as *it*, in reference to the company and specified as *a company* in the second clause.

Another clause in a section on “The appropriation account” also realises a material process of creation through a proposition that identifies dividends as one of the items to be included on the debit side of the account. The clause states that: “/(Out of the remainder of the profits) the directors *propose* what dividends *should be paid*./” (Textbook A, 2007, p. 583). The process *proposes* represents an activity of an action that involves creation since the directors make a recommendation or proposition of the amount of profit to be distributed as dividends. The doer, in this case *the directors*, is explicitly mentioned.

Another process commonly found among the clauses expressed in active voice involves *issue*, particularly the issue of accounting standards. Examples illustrating the realisation of the process include: “/The IASB *issues* International Accounting Standard (IASs) and International Financial Reporting Standards (IFRSs) (Textbook A, 2007, p. 107); “/ From time to time, the ASB also *issues* Urgent Issue Task Force Abstract (UITFs)/” (Textbook A, 2007, p. 106) and “/(In November 1997) the ASB *issued* a third category of

standards – the *Financial Reporting Standard for Smaller Entities (FRSSE)*./” (Textbook A, 2007, p. 106). The process of *issue* in this case refers to an activity in which the standards are proposed and publicised. The process, therefore, involves creation; since they are realised in an active clause structure, the agent responsible for the created entity is also mentioned. Some instances were, however, identified in which the same process is realised in the passive voice. Furthermore, widespread representation of material processes realised through a passive clause structure was identified. A detailed analysis of the findings related to this structure is presented below.

5.2.3 Passive material clause structure.

The findings show various material processes realised through a passive clause structure. Some of the clauses through which material processes are realised in the passive voice have been encountered in the previous section. They include processes such as *may not be appropriated*, *must be credited*, *are charged*, *is debited*, *are transferred*, *should be shown*, and *is paid*, all of which require an external cause for them to be effected. In a clause structure in which meaning is realised through the passive voice, an agent may be realised by a prepositional phrase as a circumstantial element. In the other cases of passive voice, the agent is deleted. The latter situation holds for most of the material clauses identified in the text yet most of the material processes discussed above are expressed through transitive and ergative verbs. The latter, as already noted, require a goal/medium. In addition, these types of processes have a wide representation throughout the text.

Other types of processes expressed in the passive voice include *issued*, as illustrated in: “//You *will recall* the note about the veil of incorporation //where debentures *had been issued* (to the owner of company)//” (Textbook A, 2007, p. 581). Whereas the first part of the statement addresses the reader through a mental clause, the second part reflects a material process. The activity of *issuing* involves giving out something or making it accessible to the public, hence material processes of transformation. Interpretations of the processes denote actions initiated and carried out by human beings.

An elaborate example involves the use of a box of paper clips to illustrate a concept of materiality. All the clauses that depict business activities from when the box was bought to when it is used and recognised as an expense are expressed in passive voice. As an illustration, the clause referring to recognition states: “//the paper clips *are* not a material item

//and, therefore, the box would be charged as an expense [[(in the period it was bought,)]// (Textbook A, 2007, p. 112) irrespective of the fact that it *could last* (for more than one accounting period)//”. The highlighted processes indicate activities that result in changes of the item but they are expressed in the passive voice without reference to the doer of the action. The following clauses identified from the sections dealing with accounting concepts also illustrate this pattern.

An elaboration on the meaning of prudence expresses that: “//Misjudgements *can arise* //when, for example, profit is recognised (in one period,) //only to discover later that this *was* incorrect //because the goods involved have been returned (in a later period) (because of some deficiency)//” (Textbook A, 2007, p. 111). The process *recognised* refers to a material process of creation, as it means that the profits are acknowledged as having been made, while *returned* implies a transformation, as it involves a transfer of ownership. The process, *are prepared* in the embedded clause of: “//One of the underlying principles of accounting, the time interval concept, *is* that [[financial statements are prepared (at regular intervals of one year).]]// (Textbook A, 2007, p. 109) as already indicated, involves a creation of the statements. These processes involve actions which can only be brought about by animate beings, although reference to the latter is omitted in all of them without loss of meaning.

The processes describing actions represented in the passive past participle were fairly represented. The extract below presents examples of clauses describing the processes involved in social events from which economic transactions arise.

1. //Shareholders of a company, however, are compensated (for their investment) (in the form of dividends.)// (Textbook B, 2013, p. 52).
2. //Debentures *are* negotiable documents, //i.e. they may be sold (to another person)// or may be used to settle (a debt.)// (Textbook B, 2013, p. 36).
3. //(When) the dividend is approved (by the directors) (after the application of the test)//, (then) it *is said* that the dividend has been authorized and declared// (Textbook B, 2013, p. 52).
4. //If the shares are over-subscribed //then each applicant will not be allotted (the full number of shares ordered (by him))// (Textbook B, 2013, p. 23).

5. //(Under certain circumstances) the shareholders (in a general meeting) *may have to specifically decide* (on this) //e.g. if the shares are issued (to directors)// (Textbook B, 2013, p. 36).

Text Excerpt - 4AB 4

The underlined processes in the above extract represent material processes realised through passive clause structures. The processes: *are compensated, may be sold, may be used, is approved, has been authorized and declared, over-subscribed, allotted, ordered, issued and paid* describe actions initiated by external sources from the process itself. The processes result in a transformation of the goal. For example, *are compensated* means that the shareholders are given something in return for their investment; this means that they may be better off financially after the compensation. In clause 2, *sold* and *used to settle debts* involve an exchange of the documents for something, which results in a change of ownership. The process *issued* in clause 5 means that someone allocated some shares to the directors. The processes realised in the highlighted verbs, therefore, represent the descriptions of actions. This means that an animate being must engage in some activity in order for the action denoted in the process to be effected.

The processes denote dynamic actions. For instance, *ordered* in clause 4 and *compensated* in clause 1 indicate actions which can only take place through an initiation by an agent. For instance, shares cannot order themselves and shareholders cannot compensate themselves, otherwise there would be no compensation. *Oversubscription, allotment and ordering* are not natural processes which happen without initiation by an animate being. The former involves *him*, realised through an adjunct, *writing* to the directors as a way of applying for the shares, hence an action of writing. Similarly, *is approved*, and *has been authorized and declared* refer to actions, since approval means that the directors took a deliberate action and decisions leading to the approval and authorisation of the dividends.

It can be concluded from this pattern that the representation of material processes through a passive clause structure was found to be prevalent, since the representation of material processes is also widespread. The implication of the passive clause structure is that although the actions realised through the material processes require an initiator for the actualisation of the event, there is no loss of meaning even though the initiator is deleted. In addition, some participant roles are foregrounded through the clause structure while others

are demoted. Other ways in which material processes are realised involve embedded clauses, the presentation of which follows.

5.2.4 Embedded material clauses.

A variety of embedded clauses was identified in both verbal text and visual images. The findings show that embedded clauses include both material and relational clauses. Material clauses were found to be embedded in long nominal phrases, particularly those describing participant roles in relational clauses. Other material clauses were found embedded in the prepositional phrases that are used to realise circumstantial elements. The clauses embedded in these phrases also varied from typical material clauses to infinitives, which included the non-finite to-verb and gerund. The presentation of the findings begins with typical material clauses embedded in nominal phrases.

In a section describing revaluation of assets, a statement expresses the process in: “//For example, if land and buildings are re-valued, a non-distributable reserve must be credited, // because the profit is not earned (until such time as [[the asset is sold]])//” (Textbook B, 2013, p. 37). The prepositional phrase in parenthesis describes, in temporal terms, the reasons for which *the profit is not earned*. The phrase, however, includes a material clause, *the asset is sold*, which is highlighted in double square brackets. The process, *is sold* represents another example of a passive clause structure though embedded in the prepositional phrase. In another instance, the clause is embedded in another prepositional phrase describing an attribute of a carrier, *the general rule*. The clause is expressed in: “//The general rule is that, (in the Balance sheet,) [[the assets are valued]] (at their historical cost.)//” (Textbook B, 2013, p. 99). The phrase, *in the Balance sheet, the assets are valued at their historical cost* includes an embedded material clause, *assets are valued* as the double square brackets show. As with other cases the process, *are valued* is realized in the passive voice. The findings on other examples of embedded material clauses follow. Some of the material processes were found to be embedded within relational clauses, as illustrated in the findings below.

1. //The term debenture *is used* //when a limited company *receives* money (on loan), //and certificates *called* [[debenture certificates are issued (to the lender)]]// (Textbook A, 2007, p. 581).
2. //Contrast this (with dividends) //which *are* dependent on [[profits having been made]]// (Textbook A, 2007, p. 581).

3. //This *will* then *be* [[the balance on the appropriation account, as brought forward (from the previous year)]]// (Textbook A, 2007, p.582).
4. //When such a change *occurs* //and [[the profits calculated (in that year)]] *are affected* by a material amount (i.e. one that makes a noticeable difference to the figure shown in the financial statements) //then, either (in the profit and loss account itself or in one of the [[reports that *accompany* it]],) the effect of the change *should be stated*// (Textbook A, 2007, p. 110).
5. //In the case of companies, [[the taxation levied (upon them)]] *is called* corporation tax// (Textbook A, 2007, p. 583).

Text Excerpt – 4AB 5

The underlined process, *are issued*, in the first clause represents a material process of transformation. The process is, however, embedded within a naming relational clause. In clauses 4 and 5 the processes, although still material, are different from *issue* in the sense that they involve an action that results in bringing into existence a new thing in relation to profits that are made or calculated. Similarly, the process, *levied*, in clause 5, bears qualities of creation. The process refers to tax that is charged for profits that are made in corporations. The process results in bringing about an expense that would not be incurred in business without it. In clause 3, however, the underlined process indicates a change in space because the balance is placed in a different location from where it was initially before the action took place. The process, therefore, implies a material change of transformation. These underlined processes represent actions that can only be brought about by an initiator. However, because they are embedded within other clauses, the participants responsible for their execution are missing, yet there is no loss of meaning.

In addition to the material process discussed above, the discipline of accounting includes peculiar material processes, *credit*, *debit* and *balance*. Although these processes bear some characteristics of a relational process, when probed through the question relating to what an actor/agent did to a goal/medium the answer indicates qualities of a material process. For example, the clause formulated as: *the bookkeeper debited cash account with sales*, means that the bookkeeper undertook some action whereby he/she recorded the sales on the debit side of the cash account. The example illustrates a concrete action in which the actor, the bookkeeper, performs some action directed at a goal, a cash account, which resulted in some change in the goal after the action. It is within this context that the processes *debit* and

credit were analysed in this study as material processes. These types of processes were identified in a number of clauses, particularly visual images. For example, the section covering the explanation and treatment of directors' fees provides an illustration of entries pertaining to the fees as: //(The entry) *will be*:

[[<u>(DEBIT</u>	Directors' fees]]
[[<u>CREDIT</u>	Expenses payable or Accrued expenses)]]//

(Textbook B, 2013, p. 73)

As the double forward slashes show, this text was analysed as a clause. The clause portrays a relational type judging by process *will be* highlighted in italics. However, within this relational clause are embedded material processes, *DEBIT* and *CREDIT*. Therefore, although the clause represents meaning through a relational process indicating a static situation, the embedded material processes imply an action or a doing undertaken through the two represented participants. This means that even though the initiators of the action are omitted, evidence of the performance of an action still remains. The questions pertaining to the agents involved in debiting and crediting the two participants can still be asked.

The material processes embedded in nominal and prepositional phrases realise meaning as participants or as circumstances in which an event or happening took place. The realisation of meaning through embedded material processes has implications for the structure of nominal phrases and prepositional phrases used to realise participant roles and circumstantial elements of a clause. Most embedded material processes, however, were identified in non-finite clauses. Because of the widespread representation of non-finite clauses, it was found necessary to present the findings on the clause structure. However, given their structure the findings are presented below in a section on relational clauses.

5.2.5 Summary.

This section has presented the findings on the representation of material processes in the analysed accounting textbooks. The findings are that material processes are widely represented throughout the analysed text. A variety of material processes of both transformation and creation were found to be fairly represented in the text. The processes identify different functions and activities which define professional duties and business economic activities respectively. The findings also show passive voice as the predominant clause structure in which the processes are realised. In addition to passive voice, embedded

clauses were also identified as a commonly represented clause structure. The implications for the representation of the processes and the clause structure in which the processes are realised were also discussed. It was indicated that the prevalence of the material processes implies that the functions of accountants and economic activities arise from human actions. This clearly identifies accounting as a social activity.

5.3 Relational Clauses

This section presents the findings on the representation of relational clauses. The findings show a wide representation of the processes realised through the verb *is* or *are*. Other forms of attributive and identifying processes were also found. Representation of this type of a clause covers both attributive and identifying processes. The attributive relational process assigns a quality or a possessive attribute (to a participant) that is normally realized through a nominal group (Egins, 2004). In some cases, the attribute expresses a circumstantial meaning (ibid.) as the author shows,. All the three forms of attributive descriptions are represented in the text. The identifying process, on the other hand, describes the identity of a participant, outlining the distinctive features which define what it is (Egins, 2004). According to Egins (2004), whereas an attributive process classifies and describes features, the identifying process defines a participant. Representation of these relational processes is discussed below.

The findings are that relational processes are widely represented throughout the text. Although they are common throughout the verbal text, there is a predominant representation of the relational processes in the accounting schematics. The definitions and descriptions imply a process that either classifies, sets criteria for classification, illustrates the composition or determines the function, role or purpose of the participant in question. The processes, therefore, represent the discipline taxonomic relations in which the classification and composition of entities are illustrated. The next section begins with a presentation of the findings on identification of entities.

5.3.1 Identifying relational processes.

Some of the relational clauses identified in the text illustrate processes which realise meaning by classifying or establishing the name of a thing. The processes through which the meaning is realised include *is/are*, *are known as*, *referred to as*, *called* as the clauses below show. The identified processes define a relationship between two participants who are realised by a nominal group. A detailed analysis of the findings follows.

The extract below illustrates some of the relational processes portrayed in the two textbooks. Most of these processes classify a participant by identifying a general category to which it belongs. In contrast, some of the processes identify and specify the name of a general category. Thus, whereas some relational processes identify a participant as a member of a general class, others identify the general class.

1. //The Balance sheet is also referred to as a Statement of Financial Position// (Textbook B, 2013, p. 36).
2. //Non-distributable reserves are those [[which *cannot be distributed* as dividends]] to the shareholders.// (Textbook B, 2013, p. 37).
3. //The price per share *paid* by the shareholders is known as the issue price// (Textbook B, 2013, p. 17).
4. //Similarly, in the case of a financial investment such as a fixed deposit, the amount originally invested is referred to as the 'capital' amount of the investment// (Textbook B, 2013, p. 48).

Text Excerpt – 4AB 6

In the above examples the relational processes in clauses 1 to 4 identify the name of a participant. In the clauses, the relational processes, *are*, *is known as* and *is referred to as*, specify the identity of the named participant. The identifying processes in the cited clauses identify and provide a specific name for the given category. The relational processes portrayed in the clauses in Text Excerpt – AB 6 above refer to processes that identify and name the categories. These processes, which provide and define a name were identified as processes which contribute towards building the technical vocabulary of the discipline of accounting. The section that follows presents detailed findings on the processes that identify and define accounting concepts.

The findings are that some of the identifying relational processes have been used to identify and define the technical vocabulary in accounting. These processes varied from identifying processes, that is, those indicating names and definitions of things, to those explaining procedures. For example, in reference to a balance of profits brought forward from the previous year, a relational clause expresses this in: “It is usually *called* retained profits//” (Textbook A, 2007, p. 582). This clause only states what a particular item found in financial statements is called. A relationship expressed through a definition is illustrated in a clause explaining one of the accounting concepts through the process, *implies*. The clause states that: “//Under the UK accounting standards, the **going concern concept** implies that the business will continue to operate for the foreseeable future. //”(Textbook A, 2007, p. 109). Another instance concerns a definition realised through the *be* process, as in: “//Bonus shares *are* ‘free’ shares issued to shareholders without their having to pay anything for them//” (Textbook A, 2007, p. 581).

Other instances use *means* to realise definitions of concepts. For example, the second clause in the following proposition expresses a definition of prudence through this process in:

“//Although it emphasises neutrality, //many people *feel* that the prudence concept *means* that accountants will normally *take* the figure relating to unrealised profits and gains //which *will understate* rather than *overstate* the profit (for a period)// (Textbook A, 2007, p. 110).

As indicated, *means* provides a process through which the specified accounting concept is defined. A few instances were also found in which a definition is realised through the existential process, *this is*. As an illustration, a clause defining the issued share capital expresses that: “//*This is* the total of the share capital actually issued to shareholders//” (Textbook A, 2007, p. 580).

In some cases a proposition identifies an entity while at the same time proposing a definition. An identified illustration of this type of a clause defines the *time interval concept* as: “//One of the *underlying* principles of accounting, the time interval concept, *is* that [[financial statements *are prepared* at regular intervals of one year]]//” (Textbook A, 2007, p. 109). The clause identifies the definition of the stated principle through the process *is*. The meaning is however constructed through embedded non-finite and passive clause structure identified by *underlying* and *are prepared* respectively.

Other examples illustrate different types of processes identifying a phenomenon by assigning a label or name or distinguishing it from other phenomena by defining. These are presented below. The relevant relational processes have been underlined.

1. //Accountants call it historical cost concept.// (Textbook A, 2007, p. 105).
2. //These rules have long been known as ‘accounting concepts’.// (Textbook A, 2007, p. 106).
3. //This limitation is referred to as the money measurement concept, //and it means that accounting can never tell you everything about a business.// (Textbook A, 2007, p. 108).
4. //As you know, //double entry is the name given to the method of recording transactions under the dual aspect concept.// (Textbook A, 2007, p. 109)
5. //Either the term ‘shareholders’ funds’ or ‘members’ equity’ is often given to the total of share capital plus reserves// (Textbook A, 2007, p. 586).

Text Excerpt – 4 AB 7

As the findings show, naming processes vary even though they may all be expressing a process whereby a name is assigned to an entity. It is also important to note how meaning is conceived through the clause structure illustrated in most of the examples above. The pattern implies meaning conceived through past participles such as: *have long been known*; *is referred*; *is the name given* and *is often given* shows. The past participle implies a passive clause structure. It is only in clause 1 where an assigner of the name is expressed as *accountants*. Nevertheless, the names and the definitions provide technical terms or language used to express meaning in accounting.

5.3.2 Attributive and possessive relational clauses.

Some relational clauses establish a relationship between participants through classification. One participant, normally a carrier, is explained as a member of a given class of things. The class or category in turn represents an attribute. In some cases the attributes is realised by a prepositional phrase expressing the location of the carrier. For example, in a section explaining the treatment of provisional payment of income tax in company accounts, a clause explaining the presentation of the item in the balance sheet states: “//This account will be in the Balance Sheet accounts section// as it represents a payment in advance.//” (Textbook B, 2013, p. 52). The first clause identifies the attribute of the carrier, *this account* through the

process, *will be* and the attribute of place, *in the Balance Sheet accounts section*. The carrier in the second clause referring to *it*, the payment of provisional tax, classifies the payment as a member of the *payment in advance* category.

More examples illustrating various ways in which things are classified in the accounting text are presented below. The participant roles of, *a company* and *a debenture* in the first two clauses represent a carrier. The attributes in both clauses describe these participants as members of the stated category groups, that is, a class of business enterprises and that of long-term liabilities. The statement numbered 3 represents a proposition extracted from a section covering the treatment of income tax in the financial statements. The second clause of the proposition portrays a relational clause identifying a general category in which the participant, income tax designated by the deictic *it*, fall. Therefore, although, the participant may not be classified as a member of operating expenses it belongs with those in the appropriation of profit section

1. //A company is a form of business enterprise// (Textbook B, 2013, p. 17).
2. //A debenture is a long-term liability //representing funds borrowed from the public in small amounts //and bearing interest.// (Textbook B, 2013, p. 36)
3. //Although it *is reflected* in the nominal section, //it *is not regarded* as an operating expense, but rather as an appropriation of profit// (Textbook B, 2013, p. 51).
4. //The main difference between the two types of companies is the marketability and transferability of the company's shares// (Textbook B, 2013, p. 24)
5. //Non-distributable reserves are those which *cannot be distributed* as dividends to the shareholders.// (Textbook B, 2013, p. 37).

Text Excerpt – 4AB 8

It was also found out that some clauses do not classify but provide criteria for classification. This relational meaning is realised in a definite definition that pinpoints in specific terms the identity of the token participant. Although the definition is specific, it is also general enough in order to accommodate other things that might bear the qualities specified in the definition. This clause structure is illustrated in clauses 4 and 5 above. The deictic determiners *the* and *those* opening the second element of the clauses, which is the value participant, identify the distinguishing feature of the token expressed in the first

element of the clauses. This means that, *the marketability and transferability of the company shares* identifies that which constitutes *The main difference between the two types of companies*. The defining characteristic is, however, because of its generality, also imbued with classification. Marketability and transferability of the company shares, therefore, provide criteria for classification of different types of companies. Similarly, *those which cannot be distributed as dividends to the shareholders* in clause 5 establish the identity of tokens, *Non-distributable reserves*. The general structure of this definition allows for classification of reserves while defining the referenced thing so that it is identifiable.

From the above analysis it can be deduced that whereas attributive clauses classify entities by describing the category to which a participant belongs, identifying processes single out the identity of the participant, while expressing its definition in general terms. The latter seems to be applicable in cases in which the configuration of meaning within a clause involves a generic term. The specifying general description provides criteria for evaluating whether another entity meets the requirements of the characteristics outlined in the definition or not. In other words, it provides criteria for classification. A section covering the preparation of a cash flow statement provides a comprehensive illustration of this pattern. An extract from a sub-section on operating activities identifies the concept as: “//These are the main income-earning activities of the company.//” in which the deictic *These* refers to operating activities. The generality of the identifying element, that is, *the main income-earning activities* provides the criterion for classifying activities in the process of preparing the cash flow statement. A similar pattern arises with investing activities whereby the portrayal of an identifying relational clause as: “//These are the activities *involved in funding* the infrastructure of the company//” (Textbook B, 2013: 147) denotes a criterion for classifying investing activities.

The structure of the taxonomic relations in the accounting text is that a criterion for classifying entities is first stated in the form of a definition, hence identifying relations. The subsequent sections describe or illustrate in the schematics, classifications through an identification of participants belonging to the category in question. For example, the definition of *operating activities* cited above is further developed through an attributive relational clause listing examples of operating activities. The clause is portrayed as:

//Examples of operating activities:

Buying and selling (stock)
Paying (creditors)
Receiving (payment from debtors)
Paying (all the expenses, e.g. wages, salaries, telephone,
 motor vehicle expenses.)
Paying (SARS for tax.)
Paying (the shareholders for dividends.)//
 (Textbook B, 2013, p. 147)

The clause depicts *operating activities* as a carrier while the listed items identified as examples of the concepts represent the attribute. As such the attributive clauses classify the listed examples as members of the stated category, mainly, *operating activities*; whereas the preceding section sets criteria for classifying the stated examples through a general definition of the operating activities.

The findings are that a pattern in the representation of relational processes, whereby meaning in the accounting textbook is construed through relations between things, such that the entities do not only name but also describe and define and by so doing classify things. It was also found out that the relational process encompasses other forms of relations such as possessive relationships and those describing the roles, which are presented below.

Other attributive relational clauses realise relational processes in ways that differ from the *be* form verb. Apart from the *be* form common examples identified from the text include *have/has*, *shows*, and *comprise*, as the examples below show.

1. //SARS (Income tax) could therefore have either a debit or a credit balance (on the Balance Sheet date,)// depending on whether or not the provisional tax payments exceed the income tax calculated for the year.// (Textbook B, 2013, p. 52).
2. //In the case of sole proprietorship or partnerships, the owners are automatically entitled (to the profits of the enterprise.)// (Textbook B, 2013, p. 52).
3. //If the company *is* in a sound financial position, the directors have the right to *declare and pay* interim dividends during the year.// (Textbook B, 2013, p. 52).
4. //The shareholder *registered* in the company's books on the applicable date will be entitled to receive the interim or final dividends.// (Textbook B, 2013, p. 52).
5. //The role of this body is to develop the International Financial Reporting Standards (IFRS)// which comprise statements or directives on how particular types of transaction *should be reported* (in financial statements.)// (Textbook B, 2013, p. 102).

Text Excerpt – AB 9

As the clauses show, a variety of lexis is used to realise meaning, indicating the relationship between entities. Whereas *could therefore have* in 1 identifies in explicit terms the kind of a balance found in a SARS Income tax account, the other processes are less explicit in stating the relationship between the participants. The verbal phrase, *are automatically entitled* in 2 above describes the rights of owners of the stated business units towards business profits. The specified process, *are entitled*, therefore, implies a possessive relational process. Similarly, *will be entitled* in clause 4, expresses a possessive relational process by stipulating the rights of the shareholders over the specified dividends. The second clause in 5 realises possessive relationship through the verb, *comprise*, which shows the contents of the standards. Most of the processes above identify ownership or possession of something, even if possession is realized in abstract terms. Thus, in place of *have* or *has* the relational process describing the quality is realised by, *entitled* and *comprise*.

While *entitle* refers to the possessive relation of the rights of the stated business units and shareholders in 2 and 4 respectively, *comprise* identifies the attributes of the IFRS. The latter imply compositional relationships as *comprise* identifies the components that make up an entity. A widespread representation of the possessive relational process was identified in visual images illustrating the nature and structure of accounting statements which refers to the composition of the statements, hence, a possessive relationship. A brief presentation of the findings on the possessive relationship follows. A detailed description of the findings on the processes is presented under the section on taxonomic relations in Chapter 6.

A similar process identifying a possessive relationship was identified in *cover* and *show*, as illustrated in the clauses below.

1. //For example, (IFRS) *cover* the presentation of financial statements ... and the components of the ... and (Notes which) *include* (a summary of significant Accounting policies (e.g. the depreciation rates and inventory valuation methods).)// (Textbook B, 2013, p. 102).
2. //The proceeds of a new issue of shares, the repurchase of shares and the raising (or repayment) of loans *comprise* the financing activities of a company.// (Textbook B, 2013, p. 153).

3. //The balance sheet (Statement of Financial Position) *shows* the financial position, i.e. assets, liabilities and owner's equity, (on a specific day at the end of the financial year.)// (Textbook B, 2013, p. 106).

Text Excerpt – AB 10

The process, *cover* identifies components of IFRS which are listed as shown in the clause. In clause 2, *comprise* indicates the items that make up *the financing activities of a company*, that is, the carrier. The items, therefore, constitute the attributes of the carrier. In the last clause, clause 3, *shows* may be interpreted as describing the purpose of the statement. However, incorporating the qualification under the abbreviation, *i.e.*, indicates that the process *shows* extends the description of the purpose to items that make up the statement. It is because of this qualification and other aspects which add to the meaning of *show* that it was interpreted as a possessive relational process. A more explicit illustration of the possessive relational process, *show*, is found to be explicitly represented in visual images. A portrayal of the possessive relation in visual images is depicted in an image from a section on the repurchase of shares, as illustrated below.

5.3.3 Conceptual structures in visual images.

Figure 4AB 1 represents an example of an accounting schematics portrayed in the textbook. The schematic was analysed and interpreted within the semiotic structures of a table. It is divided symmetrically into two sides, labelled *Dr* and *Cr*. If one applies structures from the social semiotic approach to analyse the image, one identifies the title and column heads as the periphery of the table. The cells constitute the body of the table. Reading the image from the orientation of the periphery, the column heads, *Dr* and *Cr*, indicate that the body, represented by the cells as a symbolic attribute, is structurally organized with some elements placed on the *Dr* side while others are on the *Cr* side.

The section illustrating entries made in relation to the repurchase states: “The ledger account would appear as follows”

(Title) Carrier

Analytic structure

ORDINARY SHARE CAPITAL Cr

20.2					20.2				
Mar	1	Bank	CPJ3	200 000	Mar	1	Balance	c/d	1 600 000
	31	Balance	c/d	1 400 000					
				1 600 000					1 600 000
					Apr	1	Balance	b/d	1 400 000

Symbolic attributes

(Textbook B, 2013, p. 65)

Figure 5 .1 Ledger Account – An illustration of Ordinary Share Capital

A further analysis of the table identifies symbolic structures as the most prominent structures shown in the image. As a symbolic feature of what the image represents, the title, **ORDINARY SHARE CAPITAL** is foregrounded through a spatial distribution, which places it at the top and centre of the image. The bold typeface of the title is another salient feature, which symbolises the identity of the image. The top centre position together with the bold typeface identifies the title as the carrier in the image. The image constitutes a table, with the cells presented as the body of the table.

The overall verbal expression of the image is: *Ordinary share capital account has a credit balance of 1 400 000*. This means that the last cell in the image, that is *Balance c/d 1 400 000* on the *Cr* side, represents the symbolic attributes of the carrier **ORDINARY SHARE CAPITAL**. The title is symbolic as a carrier while the last cell of the image establishes symbolic attributes of the carrier. I applying the language used in the analysis of verbal text, the image portrays a possessive relational process.

According to Guo (2004), the cells of a table represent the life of a table. A multimodal approach to the analysis of images indicates that each cell is separated by the framelines from other cells and realises a different meaning from that of other cells. The contents of a cell are organised to realize a unit of meaning unique to the cell in question. For example, the first cell under the Dr side shows: *Bank ... 200 000*, which identifies

representation of a relational process whereby 200 000 defines the value of *Bank*. As it is, the represented meaning is unique to this cell. An analysis of the individual cells shows a verbal text identifying a relational process, which defines an identified entity, that is, the verbal text, by assigning a value. The identifying relational process, is however, embedded in the manifest symbolic structures of the carrier, **ORDINARY SHARE CAPITAL** and its symbolic attributes.

The statement further shows horizontal bold lines above the values 1 600 000 on both sides of the statement and the double lines below the values. The bold and double lines enclosing the 1 600 000 values identify 1 600 000 on both sides of the statement as total sums, that is, an outcome of additions. A further multimodal analysis identifies a subtraction from the verbal text, *Balance c/d* on the *Dr* side of the image. The calculations were identified as material processes referred to as narrative structures in visual images. Thus, whereas mathematical symbols are used to realize mathematical operations, in accounting the structures are realized by horizontal double lines. The verbal text, *Balance c/d*, was interpreted as a meaning that implies the calculations, because balance arises in a situation where something has been taken away or when the quantity has increased. Because of their association with material processes, the calculations were identified as narrative structures realized by lines enclosing the totals. Thus, the lines define vectors in accounting statements.

A comparative analysis of the balances on the *Cr* side, shows a change from 1 600 000 on Mar 1 to 1 400 000 on Apr 1. Given that the amount of 1 400 000 is also shown on the opposite side as *Balance c/d*, the change in the opening balance arises from the entry of *Bank* 200 000 on the *Dr* side. This means that the latter, an entry on the opposite side of the initial balance of 1 600 000, affects the balance negatively. In other words the 200 000 on the *Dr* side decreases the initial balance of 1 600 000, hence the closing balance of 1 400 000.

Since *balance b/d* in general defines the overall account, both *Balance b/d* 1 600 000 and *Balance b/d* 1 400 000 represent the whole. The debit entry, *Bank* 200 000, on the other hand, represents part of the whole. The negative impact of 200 000 on the initial balance of 1 600 000 described above, defines a part-whole relationship; in other words, it defines the analytic structures. Because of the negative impact, the 200 000 defining the part was subtracted from 1 600 000 representing the whole to arrive at the closing balance of 1 400 000. This means that whether a value is added or subtracted in accounting images depends on

its position in relation to the value representing the whole. Drawing from O'Halloran's (2003) description of mathematical operations the calculations identified in accounting images were, therefore, interpreted within analytical structures as analytic operative structures.

It is important to note, though, that the increases and decreases bear a cause-effect relationship demonstrated by the change in the initial state, *Balance b/d 1 600 000* to *Balance b/d 1 400 000*, resulting in an embedded narrative structure which parallels the material clause in ideational meaning.

Other elements of the symbolic attributes are explained in terms of their relation to the whole. However, drawing from the textual or compositional meaning, each element has its own distinctive features that differentiate it from other elements. For instance, the balances, which are labelled, 'symbolic structures' represent the defining elements of the carrier; that is, it has a balance on the *Cr* side. In addition, some of the attributes, which are labelled, 'conceptual structure' impact on the balance element that defines the account. For example *bank 200 000* has changed the balance which defines the account from *1 600 000* to *1 400 000*. This implies a cause-effect relationship realized through conceptual structures. It can be concluded that the processes realised through the image express a state of being.

5.3.4 Summary.

Both the narrative and analytical structures are embedded within the overarching symbolic structures that the image projects. This means that the cells are not just possessive attributes but participants acting in a multifaceted way on the whole such that the end findings differ from the initial state. At the highest level, the cells show symbolic or possessive attributes of the carrier, that is, the *Ordinary Share Capital* account or the contents and the structural arrangement thereof. At another level, the composition illustrates analytical structures whereby the spatial distribution of the elements in relation to the whole determines the relationship between the whole and the parts. A part's position in the whole determines whether it is decreasing or increasing the whole, and therefore, whether it is added or subtracted to the whole. At the lowest level, the individual cell represents a unit of meaning realised by specified participants and identifying a relational process. The relationship between the participants is, therefore, complicated by the embedded processes of the table

described by the position of the parts in relation to the whole and the subtle effect on the balance of the account.

On the whole, it can be concluded that relational processes are widely represented in the textbook. A representation of the processes was more frequent in the texts than material clauses. In addition and as shown above, the meaning realised through relational processes is represented in different ways. From the analysed clauses, it can be interpreted that the representation of meaning involves naming, classification and composition, together with a description of the functions, roles and purposes of participants depicted in a clause. In addition since relational clauses realise meaning through the identification of relations between things, it can also be concluded that the bulk of accounting knowledge seems to consist of reporting the state of affairs rather than expressing doings or happenings.

5.4 Conclusion

From the findings presented above, it has been shown that, although other processes such as mental and verbal processes are represented, material and relational processes dominate representation in all the analysed chapters. The analysed material processes comprise processes of both creation and transformation. In addition, most of the material processes require an external initiation for them to be effected. The different ways in which these types of processes are realised were also presented, indicating a representation through both active and passive voice together with embedded clauses. The embedded clauses include both finite and non-finite clauses.

The study also finds different types of relational processes. Both attributive and identifying relations are fairly represented. The two types of relational processes identify taxonomic relations in which participants are classified and the composition of participants is identified. The different ways in which the processes are realised has been described, particularly in visual images in which both narrative and conceptual structures were also identified.

The meaning realised by the processes represented in the text was also presented. The interpretation is that most of the processes discussed above reflect actions related to buying, selling and other economic activities carried out in business and related to the formation of companies. Other processes identified from the analysed clauses reflect the accounting procedures related to valuing and recognition and those procedures that deal with financial reporting, some of which are expressed through accounting rules and standards. The identified processes indicate the participant roles required by each process in order to realise the comprehensive meaning of a clause. The findings on the representation of the participant roles are presented in the next chapter.

CHAPTER 6: REPRESENTATION OF PARTICIPANTS AND PARTICIPANT ROLES

In this section, the findings on the representation of participants in the analysed texts are presented. The transitivity model applied in the analysis of the textbooks identifies a process and complementary participants depicted by a clause to enable a comprehensive representation of meaning. The findings on the representation of processes in the analysed textbooks were presented in the previous chapter. They show a high proportion in the prevalence of representation of material and relational processes. This chapter presents the findings on the representation of participants and participant roles in material and relational clauses.

6.1 Representation of Participants.

Critical discourse analysts differentiate between human and inanimate participants (Fairclough, 2003; van Leeuwen, 2008). Furthermore, human participants may be named or classified, whereas representation of humans through institutions may be categorised as specific or generic (Fairclough, 2003). Inanimate objects, on the other hand, involve a broad category of entities ranging from objects and institutional structures to abstractions, some of which may be realised through nominalisation. Participants identified from the textbooks were analysed according to the categories suggested by Fairclough (2003) and van Leeuwen (2008). The chapter covers the findings on the participants identified in material and relational clauses as well as the classification of the participants. The classification covers both animate and inanimate participants. The presentation of the findings on the latter focuses on institutions and institutional structures, objects and abstractions while the findings on animate participants cover classified and specific participants.

The section that follows presents the findings on the participant roles encoded in material clauses. For ease of reference and identification, all participants in a clause are underlined.

6.1.1 Representation of Animate Participants.

The clause structure of the analysed textbooks realises human participants in generic terms, identifying them as accountants, board of directors, managers, auditors, shareholders, employees of the business, debtors and creditors. An extract of the analysed clauses below indicates how these participants are realised. The findings also show that only a few human participants are named except for the pseudonyms used in the exercises designed for illustration purposes.

The underlined nominal groups below illustrate the variety of participants such as *accountants*, *debtors*, *directors* and *auditors*. These participants are realised as actor/agent, goal/medium, and beneficiary, but for now the focus of the detailed discussion is on the participant roles of human participants.

1. // An accountant will not anticipate any revenue // which has not been earned (beyond all doubt.) // (Textbook B, 2013, p. 100).
2. // However, the accountant will provide for any losses // that may occur. // (Textbook B, 2013, p. 100).
3. // (For example, if a debtor is in financial difficulty, // the accountant may write his account (off) // even though the business will continue to do (everything possible) // to recover the money // the debtor owes them. // (Textbook B, 2013, p. 100).
4. // The directors are not paid salaries (as in the case of other employees). // (Textbook B, 2013, p. 99). (Textbook B, 2013, p. 73).
5. “// The auditors complete the report (after examining the books and accounts), // and, in the report, they must say, [[whether or not they agree]] // that the accounts give a true and fair view //” (Textbook A, 2007, p. 593).

Text Excerpt – 6AB 1

The participant, *accountant* in the three clauses, 2 and 3, above is encoded as an agent/actor. In the opening clause of the first sentence, the nominal, *an accountant* is realised within a mental process: *will not anticipate*, which means that the participant, *an accountant*, is an experiencer. An experiencer in the mental clause is one who engages with a

phenomenon mentally. The first clause in statements 2 and 3 also depicts *the accountant* as an agent/actor. This places the participant in a crucial role whereby he/she is endowed with the responsibility of providing for losses and writing off defaulting accounts. In the first clause of the last sentence, *the debtor* is encoded within a relational clause whereby the participant plays the role of a carrier, to whom an attribute of *financial difficulty* is ascribed. The representation of participant roles includes that of both the agent and the medium. However, the participants are only classified, with no identification of specific individuals realised in concrete terms.

There are, however instances in which human participants and their role are explicitly portrayed in an independent clause structure. For example, clause 4 represents directors as beneficiaries of the salaries paid even though the agent is missing from the clause. Clause 5 shows an example in which auditors are portrayed as agents. It may be concluded from these examples that human participants are represented in material clauses, though on a limited scale. In addition, the participants are expressed in general terms.

The representation of the human participants was also identified in the portrayal of institutions. The institutions representing human beings included professional bodies and committees. Depending on the nature of the clause, the participants are depicted as playing different roles. For example, the clause, “//The IASB issues International Accounting Standard (IASs) and International Financial Reporting Standards (IFRSs)//” (Textbook A, 2007, p. 107) encodes the IASB as an agent issuing standards. Another example explains that: “//The professional bodies such as SA Institute of Chartered Accountants (SAICA) and the SA Institute of Professional Accountants (SAIPA) issue guidelines or statements of accounting practice// which *recommended the methods that [Accountants should adopt]* (in certain situations.)//” (Textbook B, 2013, p. 103). The clause identifies two participants, the professional bodies as agents of a material process, *issue*, and the medium, *guidelines*, while accountants are identified as beneficiaries in the second clause.

These examples represent an ideal portrayal of experiential meaning expressed in transitivity whereby the agents, *the professional bodies*, are named and foregrounded. It is only with professional accountants and auditors represented as beneficiaries that the professionals are classified. It is important to note that, as indicated in the previous chapter, *issue* involves preparation and publication of the standards. This means that in all these cases

the action that the bodies are responsible for involves a dynamic action that results in the creation of the standards.

Other instances in which the bodies are represented as initiators of actions were identified in mental clauses, which represent them as perceivers. A portrayal of the representation of the bodies in a mental clause is illustrated in a section dealing with a method of drawing a cash flow statement, which explains that: “//Although the ASB *prefer* the direct method to be used, //the indirect method *is permitted* (because the cost of producing the data required for the direct method *is* likely to be greater than the benefit of doing so, in most cases)//” (Textbook A, 2007, p. 495). Another instance expresses an IASB recommendation with: “//The IASB *recommended* use of the direct method (when preparing a cash flow statement using IAS 7)//” (Textbook A, 2007, p. 495). Both bodies are identified in the clauses as agents initiating a particular disposition or orientation towards the different methods of preparing the statement in question.

Other types of animate participants represented as agents mainly include stakeholders. A representation of the latter materialises mostly in the sections covering the formation of companies and appropriation of profit. For example, a portrayal of the shareholders’ involvement in activities of a company indicates that: “//(At one of these general meetings, normally the **Annual General Meeting** or AGM) the shareholders *vote* for **directors**,// these *being* the people who *will be entrusted* with the running of the business//” (Textbook A, 2007, p. 578). The shareholders are assigned the participant role of an agent role since the voting process can only take place through their active participation in the process of electing the directors. Shareholders’ agency is also expressed through an embedded clause in another section describing a limited liability. The shareholders’ obligation with regard to the debts of a company is explained as: “//Shareholders [[who *have* only partly *paid* for their shares]] *can be forced* to pay the balance owing on the shares, but nothing else//” (Textbook A, 2007, p. 577). The clause identifies shareholders as a goal realised by the passive process, *can be forced*. However, an elaboration of the nominal head involves an embedded clause through which the shareholders realised in *who* are assigned the role of an agent responsible for payment of shares. There are instances, although a few in number, where these participants are presented as agents within a clause that is embedded in a relational or mental clause.

Summary. From the above analysis, the portrayal of human participants that emerges indicates that a number of these participants are represented in generic terms such as *accountant(s)*, *employees*, *shareholders* or *creditors*. It is only in representation of professional bodies where the participants are identified in specific terms such as *The International Accounting Standards Board* or *SA Institute of Chartered Accountants*. Meanwhile, the participant roles assigned to the participants vary according to the action involved. A few instances display the participant as a sensor, the latter being a conscious being, who either feels, sees a phenomenon or thinks about it. With the material clauses, the roles varied from agent and medium to beneficiary. It is important to note that in the preceding chapter on the types of processes the findings show the prevalent clauses to be material and relational, although material clauses involve passivisation. The findings, therefore, show that human agency is restricted to a few incidences in the text. Nevertheless the clause structure of accounting text does depict a human role in economic events.

6.1.2 Representation of inanimate participants.

Inanimate participants of a clause may take the form of objects (Eggins, 2004) or entities, as Fairclough (2003) shows in his list of types of participants. Halliday and Matthiessen, (2004) also draw from nominalisation and process nouns to explain other forms of nominal groups that may be encoded in an English clause. Realization of meaning through such nominal groups illustrates yet another form of representation of inanimate participants, namely, abstract entities. Accounting deals with the representation of economic events. These events involve human beings as well as objects. Given that the findings on the representation of animate participants have been presented above, this section presents the findings on the representation of inanimate participants.

Institutions and institutional structures participants. This category of participants, that is institutions and institutional structures, was found to be fairly represented in the text. Such representation that occurs in the text ranges from institutions such as companies, capital markets, and tax authorities to institutional structures like managements of business, Companies Acts, accounting standards and principles such as GAAP.

The findings also show the representation of institutions such as businesses as shown in: “//For instance, a company can sue one or more of its shareholders. Similarly, a shareholder can sue the company//” (Textbook A, 2007, p. 478). In another case, public limited companies

(PLCs) are presented as institutions which issue shares for sale in Stock Exchange. As the first and second clauses show in the following proposition, explaining that companies prepare statements: “// (Prior to the UK Companies Act 1981), provided it disclosed the necessary information, // a company could draw up its balance sheet and profit and loss account (for publication) (in any way that it wished) //” (Textbook A, 2007, p. 584). The example shows that *companies*, as institutions, are represented as participants, particularly agents in the clauses.

Other examples of institutional structures include accounting standards and principles. These are realised as a token in a relational clause: “// The GAAP concepts and IFRS form a general body of knowledge //” (Textbook B, 2013, p. 102). One particular clause defining the function of The International Accounting Standards Board explains in a relational clause that: “// The role of this body is to develop the International Financial Reporting Standards (IFRS) //” (Textbook B, 2013, p. 102). In these cases, the clause depicts the institutional structure as a value describing the function of the international body through the infinitive, *to develop*. It is necessary to caution that the infinitive *to develop* does not represent the actual realisation of an act; syntactically it represents the complement of the subject, the role of the body. As such it only defines the role. The findings reveal a common pattern in which most of the institutional structures are represented as either a carrier/token or attribute/value in a relational clause. They are described mostly in the terms which show, what they *cover*; that those institutions, particularly GAAP in South Africa, *differ* from those in other countries; that they (IFRS) are, complex and are *constantly evolving* and that there are statements about their mandatory status that they must be *followed*. All these processes represent a state of being, which indicates a clause structure that depicts features of the institutional structures.

Objects and abstract participants. The findings show objects and abstractions formed through nominalisation to be the most widely represented participants throughout the text and common in material clauses. These include cash, wages and salaries, interest, issued share capital and other things that businesses deal with, as illustrated in the extracts below. Some of these participants are encoded in some of the clauses which have already been discussed. Continued reference will still be made to such clauses, particularly those in Text Excerpt – 5AB 3. These participants are also represented in visual images as well as verbal text. A focus on the latter indicates that the participants are of different forms, as it is revealed in the following clauses:

1. //The general rule *is* that, (in the Balance sheet), [[the assets are valued (at their historical cost.)]]// (Textbook B, 2013, p. 99).
2. //Land and buildings and trading stock *will be reflected* (in the financial statements) (at the original cost to the business.)// (Textbook B, 2013, p. 99).
3. //Financial statements *are prepared* (on the basis that [the business in question *will continue operating* (for the foreseeable future.)])// (Textbook B, 2013, p. 99).
4. //Firstly, the expenses and income *must be reported* (in the correct time period.)// (Textbook B, 2013, p. 99).

Text Excerpt – 6AB 2

Participants in the above clauses are realized through objects, such as *assets, land and buildings and trading stock, financial statements* as well as *the expenses and income*. These participants are realised through both material and relational processes. In clause 1, the second participant realised by the embedded material clause identifies the token, *the general rule*. Thus, clause 1 represents an identifying relational clause that defines the rule that is applied in the balance sheet when calculating the value of the assets. The term, *valued* in the material clause bears the characteristics of a material process, however, borrowing from O'Halloran's (2006) mathematical concepts, the term, *operative process*, has been adopted to designate processes that involve accounting calculations. Within the same clause, the participant, *the assets* that are being valued represents objects and therefore concrete things. Similarly, land and buildings and trading stock in clause 2 as well as financial statements in clause 3 represents concrete things. The general rule in 1, however may be classified as an institutional structure.

The participant, *the expenses and income* in clause 4, illustrates a participant that represents entities.. In all these clauses, except for the general rule in 1, the highlighted participants represent technical terms which refer to things that businesses deal with or are concerned with. In other words, they involve the property of a business together with the expenses incurred and income earned by a business. Semantically, the objects and entities are represented by the medium. Other participants of the material processes, like the agent and beneficiary, are deleted. This means that the instigator of the actions which gave rise to the things that a business is concerned with is relegated to an immaterial role in the construction of meaning in the accounting text. It is only in a few cases that an institution like *the business* in the embedded clause in 3 above, is realised as an agent.

As it can be seen in the clauses above circumstance of place time and manner illustrate another participant that was found to be widely represented. A detailed explanation and presentation of the findings on circumstantial elements is presented later in this chapter, as the participant was found to be commonly in the text.

In terms of abstraction, the representation of things varies between moderate to highly abstract entities. For example, wages and salaries, income, rent and profit and loss represent some of the entities which were found to be commonly represented in the text, especially in visual images. These terms can be identified in everyday language use. It is important to note, however, that the meaning of terms in accounting is specific. For example, the term, *wages* as a technical concept refers to the money paid to employees whose remuneration varies in certain conditions and the concept is treated as different from the salaries. In everyday use, these concepts may be used interchangeably as if they refer to the same thing. Furthermore, the level of abstraction intensifies with the terms which are formed from verbs. Thus, although, these terms refer to the things that are well known in the economic sphere, a sense of abstraction can still be detected, as some of these terms are derived from verbs. For example, loss is formed from lost, which is a verb. The level of abstraction is however moderate as the reader can still identify words such as *the loss* from everyday use.

Other abstract terms include nominal phrases and words such as *financial statements and expenses*, as it is shown in clauses 3 and 4. Both of these terms are formed from verbs. The former is a derivative of the verbs, finance and state and the latter is derived from expend. Realised as nouns instead of verbs or actions undertaken by animate beings, the meaning of the terms becomes abstract. As such, the participants are represented as abstract entities. Other examples identified from the text include *wages accrued*, *income receivable figures*, *retained income*, *dividends declared* and *stock purchases*, as the examples in the clauses below show. Only relevant participant roles have been underlined in order to highlight the roles that the participants are assigned. The nominal phrases are assigned different roles, but, as shown below, the medium is strongly a representation in this regard. The term nominal phrase is used to refer to a nominal constructed through a head noun with a post or pre modifier.

1. //For example, certain income receivable figures *may have been omitted* //and this *will be* obvious (when [[the accountant *reads* the financial statements]]).// (Textbook B, 2013, p. 106).
2. //Wages accrued *would not have had reduced* the cash flow //as they *have not been paid* (yet.)// (Textbook B, 2013, p. 146).
3. //Of this, Dividends declared in 20.6 *would have been paid* (during the current year.)// (Textbook B, 2013, p. 161).
4. //Other stock purchases *have not been sold* //yet shown (under Balance Sheet as inventories at the end of the year)// (Textbook B, 2013, p. 176).

Text Excerpt box – 6AB 3

As illustrated in the highlighted participant roles, the nominal phrases exhibit some form of a high level of abstraction. Some of them have verbs as modifiers of the head noun while others like *the financial statements* involve nominalisation. A common pattern found throughout the text involved abstractions formed through an attachment of a past participle as a modifier of the head noun. For example, in a term such as *retained income*, *income* represents the head noun and the past participle *retained* a pre-modifier of the noun. Such configuration of the participant, therefore, downgrades the whole process of retaining an income to the level of a nominal phrase. A comprehensive meaning of the material process, however, could have been realised in a complete clause but as a modifier, the meaning of *retained* is realised as an abstract entity. Equally, *dividends declared* in clause 3 connotes that someone declared the dividends. It is important to note that the concept, dividends is a nominalization from the verb divide. This means that whereas some entities are realised as nominalisations like the financial statements and the dividends, others are formed through dense nominal phrases. A brief description of the structure of the nominal phrases follows.

The nominal phrases *certain income receivable figures*, *wages accrued*, *the cash flow* and *other stock purchases* from the above extract show instances in which a verb is used as a post modifier of the head noun. For the first phrase, the verb *receive*, has been transformed into the adjective *receivable*, while in the other phrases a past participle and the present form of a verb are incorporated in the formation of the nominal phrases. Translation of the verb, *receive* into an adjective and the use of the past participle and the present verb forms illustrate an incongruent realization of the meaning which arises from the verbs that are not realised as processes but as pre and post modifiers of the head nouns. As such, the modifiers qualify the

head nouns and are, therefore, realized as aspects of the nominal phrases. The result of the qualification is that it adds more information to the concept and the additional information is not presented in a typical grammatical form, hence it is abstract and complex.

Summary. From the above presentation it has been shown that participants of both animate and inanimate things are represented in the text. In addition, the participants were identified in different roles of the material processes. However, animate things dominate a representation in agency roles while inanimate things dominate that of the medium. Moreover, the inanimate participant role of the medium was found to be more prevalent in representation than the agency roles of animate beings, especially in the passive clause structure demonstrated in the previous chapter. Since abstract entities represented as the medium dominate representation of both the participants and the participant roles, a detailed presentation of the nature of abstractness of the participants follows.

6.2 Representation of Participant Roles in Material Clauses.

According to Halliday and Matthiessen (2004) material processes take three participants and circumstantial elements. Participant roles, as already indicated in Chapter 3, represent the agent/actor, the medium/goal and the beneficiary. This section presents the findings of the study on the representation of these roles on the text. The findings begin with the representation of the medium.

6.2.1 Representation of the medium in material clauses.

Although relational processes dominate representation, , as shown in the previous chapter, the findings also show a fair representation of material processes. The processes which are commonly represented include *draw, prepare, enter, record, identify, transfer* and *adjust*. Given the nature of these processes, participant roles that can be expected include *agent/actor, goal/medium, beneficiary* and *circumstantial element*. Of these participant roles, the latter is optional as it only adds information that is related to the manner in which or the condition under which an action takes place. The participant role of circumstance was, however, found to be widely represented throughout the text. The section covering a detailed representation of the role is, therefore, presented later in the chapter. Nevertheless, material

processes are realised in a passive clause structure, as it has already been demonstrated. As a result, not all participant roles expected in the material processes of this nature have been included in this section. A widespread pattern seems to be that of a clause structure that recognises a medium and a circumstantial element of means, place and time. Examples of analysed clauses that have been extracted from the findings illustrate the way in which participant roles are represented in the text excerpt below, where participant roles have been underlined.

1. *//Financial statements are prepared (on the basis that [[the business in question will continue operating]]) (for the foreseeable future.)// and if goods have been sold, //the Sales value and the Cost of sales value must be recorded (simultaneously),// they must be matched.* (Textbook B, 2013, p. 99).
 2. *//Firstly, the expenses and income must be reported (in the correct time period.)* (Textbook B, 2013, p. 99).
 3. *//(In most cases,) [[the adjustments that affect the financial statements]] will be entered (in the General Journal)// and posted (to the ledger)// so that the books of a business agree with the financial statements.// and //The detailed financial statements can be prepared (from a number of different sources.)//* (Textbook B, 2013, p. 104).
 4. *//The Income Statement can be drawn up (from the:*
 - Trading account, Profit and loss account in the final accounts section in the General Ledger.
- OR
- Nominal accounts section in the Post-Adjustments Trial Balance.)// (Textbook B, 2013, p. 106).
 - 5. *//Cash that is generated (from cash sales, or [[cash that is used to pay wages]]) will be found (in the Income Statement.)* (Textbook B, 2013, p. 146).

Text Excerpt – 6AB 4

Most of these clauses are presented in the textbook in the sections that explain the procedures to be followed when preparing financial statements. Although the preparation of the statements requires an agent to initiate the action, a representation of the participant role was found to be scarce. Yet all the clauses specify the medium. As the findings from the above extract show, all these participant roles represent the medium. In addition, in all of the above clauses the agent is deleted. The structure of the material clauses therefore shows that the processes are realised by an agentless passive clause structure.

A similar pattern of representation of the medium and the circumstantial element and exclusion of the agent in material clauses was also found to be common in the section on the accounting concepts and principles. In this section the most prevalent participant roles were also those of the medium and the circumstantial element. In a problem formulated in order to illustrate the application of the historical cost, a concluding statement explains that: “/(Normally, using the historical cost concepts,) the assets *would be shown* (at a total value of £100,000)/”. From the clause, only the medium *assets* and the circumstantial element illustrating how the assets would be shown are presented. As in all the cases, the elements enclosed in parenthesis represent circumstantial elements which are optional. The first phrase represents an adjunct, as it explains the circumstances or conditions under which the principle would apply. Subsequent to the adjunct, the medium *the assets* is presented as the only participant role realised in addition to the circumstantial elements, as the last phrase also refers to an adjunct. Other examples with different processes and different types of participants assigned the role of a medium are presented below:

1. //This means that //accounting statements *will be distorted* //because assets *will be bought* (at different points in time) (at the price then ruling), //and the figures *totalled up* (to show the value of the assets in cost terms)// (Textbook A, 2007, p. 113).
2. //It is true //that, (in applying the prudence concept), an accountant *will normally make sure* //that all losses *are recorded* (in the books), //but that profits and gains *will not be anticipated* (by recording them before [[they *should be recorded*]])//. (Textbook A, 2007, p. 110).
3. //The cash flow *occurs* //when a debt *is paid*, //not when provisions *are made* //in case there *may be* bad debts in the future//. (Textbook A, 2007, p. 493).
4. //The trading and profit and loss account for both private and public companies *are drawn up* (in exactly the same way)//. (Textbook A, 2007, p. 581).
5. //The term debenture *is used* (when a limited company receives money on loan), //and [[certificates called debenture certificate]] *are issued* (to the lender)//. (Textbook A, 2007, p. 589).

Text Excerpt – 6AB 5

All the processes highlighted in italics represent material processes except for *will not be anticipated* in proposition 2 which represents a mental process. The mental process can take two participant roles, that of a perceiver and the phenomenon. From the passive construction of the mental clause only the phenomenon is represented. The medium

participant, *profits and gains* is underlined, even though the focus in this section is the representation of participant roles of material processes. However, as with the material clauses only the phenomenon is represented. Since the phenomenon is equivalent to the goal/medium of the material clause, it means that the agentless passive clause structure spreads across different types of processes. The process *occurs* in proposition 3, although a material process in the sense that it brings into existence the stated item is, however, represented as an intransitive verb in this case. Consequently, the process can take only one participant as reflected in the way it is conceived in the clause. Construal of meaning through processes such as *occur* represents rare cases of processes realised by intransitive verbs.

It can be concluded, therefore, that, although material processes are fairly represented in the text, the expected participant roles, particularly those of agent and beneficiary, are limited in representation. The medium on the other hand is widely represented and given a pre-eminent position through the agentless passive clause structure.

6.2.2 Agency in material clauses.

From the findings it was found that in a few instances the agent is represented in a material clause, even if as an adjunct. A few instances in which representation of the agent is realised by a prepositional phrase expressed in the passive voice are illustrated: “//*This is the total amount of share capital //which has been paid for (by shareholders)//*” (Textbook A, 2007, p. 580). In this clause the adjunct, *by shareholders* identifies an agent responsible for payment of the total share capital. Conceived ‘as an adjunct’ means that the participant *shareholders*, represents information that is optional. In another case, a clause illustrated that the origin of the treatment of corporation tax in final accounts identifies the agent through an adjunct: “//*This was established (by two legal cases) (many years ago)//*” (Textbook A, 2007, p. 583). The deictic determiner, *This* refers to a practice where corporation tax is not charged to the profit and loss account but is treated as part of the appropriation of profit. Similarly, as in the above clause, the agent, *two legal cases* is realised through a prepositional phrase assigned the role of an adjunct. There are, however, a few instances where the agent, though assigned the role of an adjunct, is identified. The findings related to other instances in which the agent is represented in the accounting text are presented below. However, the representation of agency in these clauses involves the realisation of the participant roles by inanimate participants.

Other participants presented as agents in a material clause include those representing institutional structures such as *directors* in this clause: “// (At each AGM), the directors *report* on their stewardship, // and this report *is accomplished* (by a set of financial statement for the year – the ‘annual report’) //” (Textbook A, 2007, p. 578). The reporting function involves a process whereby the directors prepare the report for the presentation to the shareholders. Realised through this function, the directors are represented as agents of the reporting function. Directors are also realised as initiators of action in the appropriation of profits as stated in: “// The directors *considers* the amount of profits // and *decide* on the amount of profits // which *are placed* (to reserves) //” (Textbook A, 2007, p. 586). Although realised as a material clause illustrated by the process, *considers* in the second clause implies a material clause resulting in a decision which eventually impacts on the amount of profits placed on reserve. The directors’ responsibility over the distribution of the profits is therefore clearly identified in this clause. These represent a few instances in which animate beings are represented as agents in an active clause structure.

As was shown in the last chapter, most of the material processes are realised in passive voice and embedded clauses. The implication of this is that some of the animate participants are represented as adjuncts in passive clauses as the clause: “// The auditors *are appointed* each year by the shareholders (at the company annual general meeting (AGM)). //” (Textbook A, 2007, p. 593)” shows. However, instances in which human agents are represented in a passive clause structure as adjuncts are few.

Non-human agents include examples like the discipline itself realised as an agent in the clause: “// Where this happens, accounting *should show* the transaction (in accordance with its real substance) // which *is*, basically, how [[the transactions *affects* the economic situation of the business]] //” (Textbook A, 2007, p. 112). The statement is an extract from a section introducing the accounting concept of substance over form. The first clause identifies *accounting* as an agent responsible for executing the expressed duty of showing the transaction as described. In another case agency is identified as the profession: “// Accounting, however, *uses* the historical concept, // which *states* that the asset *is* normally *shown* (at its cost price) //” (Textbook A, 2007, p. 113). Other phenomena realised as agents include business things referring to inanimate objects arising from business activities as in: “// The IAS *requires* // that a set of financial statements *should include* a statement of changes in

equity/'”(Textbook A, 2007, p. 593). The second clause in the proposition identifies both the agent and the medium. The agent responsible for inclusion of the statement of changes in equity is specified as *a set of financial statements*. This implies that an inanimate object can act out of its own accord, as in the case of intransitive verbs where an agent is omitted. In another case the *profits* and *losses* are also identified as agents, as indicated in, “//Profits bring a flow of cash (into business).// //Losses take cash (out of it).//” (Textbook A, 2007, p. 490).

In the clauses, *profits* and *losses* are portrayed as agents responsible for the movement of cash in and out of a business. These examples illustrate how agency in accounting is transferred from social beings to inanimate beings. The following clause presents another example that identifies inanimate things as agents, “//An increase in a sole proprietors capital, or issues of shares in a company, brings cash (in)//” (Textbook A, 2007, p. 490). The agent responsible for bringing cash into existence is realised in a complex nominal phrase infused with process nouns. Transfer of agency to entities may explain, to some extent, the high proportion in the prevalence of relational clauses when compared to material clauses in both textbooks analysed for this study. Transfer of agency removes animate beings from the field and in the end inanimate beings remain as the only entities affecting one another. Other examples include relational clauses explaining the dual concept of a transaction and the accrual concepts, in the topic on accounting concepts, depict the meaning of the concepts through an identifying relationship expressed through the equations:

$$//\text{Assets} = \text{Capital} + \text{Liabilities} //$$

$$//\text{Revenue} - \text{Expenses} = \text{Net profit} // \text{ (Textbook A, 2007, p. 109, 111)}$$

The relationship between the participants in these equations is expressed in mathematical operations. This means that the items may be interpreted as variables affecting each other without manipulation by human agency. It can be concluded that the conception of agency in terms of inanimate beings may have implications on how accountants view their role as agents in the profession.

6.2.3 Circumstantial Role in Material Processes.

The findings presented above show a representation of the medium and the agent participant roles in material clauses. It has also been noted that a common representation of the material clause is through agentless passive clause structure. Another common pattern that was found to be widespread in the representation of the material clauses in the text pertains to the representation of a circumstantial element. As already noted, the circumstantial elements are optional and their role in a material clause involves an indication of the manner or condition in which a process is realised. The circumstances under which an action takes place are realised by adverbs or prepositional phrases. The latter was found to be commonly represented in the text. The prepositional phrases were classified as circumstances of time, location and means or instrument. These are realised by the prepositional phrases structured along the prepositions *with*, *at* and *in*. Some examples of the prepositional phrases describing time, location and manner in the form of instrument or means are presented below.

1. //(Under the UK accounting standards), the going concern concept *implies* that [[the business *will continue* to operate (for the foreseeable future)]]// (Textbook A, 2007, p. 109).
2. //[[profit and gains *can only be taken* into account (when [[*realisation has occurred*]])] (Textbook A, 2007, p 110).
3. //(In the case of a bank overdraft,) the amount *will be shown* (as a separate item) (in the Balance Sheet under Current liabilities or directly on the face of the Balance Sheet.)// (Textbook B, 2013, p. 117).
5. //Cash that *is generated* (from cash sales,)// or //cash that *is used to pay* wages, *will be found* (in the Income Statement.)// (Textbook B, 2013, p. 146).
6. //The debit and credit effects of the adjustments *are entered* (in the next two columns).// (Textbook B, 2013, p. 111).

Text Excerpt – 6AB 6

Most of the above clauses have been extracted from clauses already presented in the previous chapter. As can be seen from the square brackets, some of these clauses represent embedded clauses. As material clauses, the clauses are realised through the passive voice and the agent is deleted. However, the optional element on circumstance is included, as marked by the text enclosed in parenthesis. In clauses 1 and 3, the prepositional phrases mark time over which the business will operate and the time when the profit and gains can be taken into

account. The first prepositional phrase in 4 illustrates circumstance of manner, while the second phrase in 4 and those in 5 and 6 demonstrate the circumstance of location.

Although, most of the circumstantial elements elaborate on accounting processes there are a few cases, which provide additional information on the manner of business activities. This means that circumstantial elements play a significant role in the representation of meaning pertaining to professional accounting processes.

As the phrases show, the circumstances are realised by prepositional phrases, not adverbs, which realise meaning through long phrases that may sometimes be dense, as the phrase in clause 4 shows. In addition, some of the phrases involve abstract ideas, as in clause 3 where time is realised by an abstraction, *when realisation has occurred*. All the same, the prevalence of an optional element of a clause while mandatory elements are excluded indicates the value and significance of circumstantial elements in the accounting text. Most of these circumstances describe some aspects of the professional functions such as the time at which a record is made, how and where it is to be made.

6.2.4 Summary.

So far the presentation of the findings has been confined to the representation of the actor/agent participant role within material clauses. The findings are that professional bodies issuing standards, boards of directors depicting institutional structures, institutions such as businesses and companies as well as shareholders within the category of stakeholder groups dominate the representation in this category of participant roles. Other participants, particularly professionals, are sparingly identified as the agents responsible for accounting activities. Of these, professional accountants, particularly preparers of financial statements, constitute the least mentioned category of professionals. The findings also indicate some instances in which inanimate objects are assigned the role of agents of material processes. Although the findings show a fair representation of agent/actor participant roles, these differ from the findings on the representation of material processes from the previous chapter. The findings in the previous chapter are that material clauses have a broad representation in the textbook and are almost represented as relational clauses as well, since these two were found to be the most commonly represented clauses. The discrepancy between the representation of material clauses in the last chapter and the obligatory participant role of an agent arise from the realisation of the material processes through a passive clause structure. The clause

structure allows for an option of deleting the agent while retaining the medium without any loss of meaning.

6.3 Participants and Participant Roles in Relational Clauses

The relational clauses identified in the text realise two participant roles, namely a carrier with an attribute, or a token and value for attributive and identifying clauses respectively. An attribute assigns a descriptive or a possessive quality to a participant. For example, in *Dividends are regarded as an appropriation of profit*, in clause 1 below, *an appropriation of profit* represents a quality, an attribute which is assigned to the participant, *dividends*. In the possessive relational clause, the attribute identifies qualities that a participant has. Identifying relational clause specifies the identity of a participant as the example, “//*Balance sheet – now known as the statement of financial position*//” (Textbook B, 2013, p. 95), isolates the balance sheet as the statement which shows the financial position of a business.

This section, therefore, presents the findings on the representation of participants in relational clauses. The participants represented in a clause are first identified followed by a description of the participants. The latter refers to the structure of the nominal groups realising the participants. According to Gonzaga (2011) and Neale (2002) the medium in material clauses is notably equivalent to the carrier and the identified in relational clauses. The interpretation of the findings is, therefore, based on the suggested parallel comparison of the participant roles.

6.3.1 Participant roles of attributive processes.

The study finds a wide spread representation of clauses illustrating attributive relations. An attributive process describes a possessive or an attributive relationship between participants. Most of the clauses within this category involve descriptions stating features or qualities of an entity. In some cases, the identified qualities serve as classifications of objects. Other relational clauses depict possessive attributes of an entity, thereby describing the composition of an entity. A representation of participant roles within this process, therefore,

might be expected to be realised by nominal phrases. The clauses below illustrate how the participant roles are realised in the textbook.

1. //Dividends *are regarded* as an appropriation of profit,// (Textbook A, 2013, p. 53)
2. //A debenture *is* a long-term liability *representing* funds *borrowed* from the public in small amounts and *bearing* interest.// (Textbook A, 2013, p. 36)
3. //The balance on the Shareholders for dividends account *represents* a current liability (at the year-end.)// (Textbook A, 2013, p. 53)
4. //SARS Income tax *could therefore have* either a debit or a credit balance (on the Balance Sheet date, depending on whether or not [[the provisional tax payments *exceed* the income tax calculated for the year]])// (Textbook A, 2013, p. 52)
5. //The GAAP concept and IFRS *form* a general body of knowledge that [[accountants *use* to guide them]] in their duty //when they do financial reporting// (Textbook A, 2013, p. 103)

Text Excerpt – 6AB 7

The underlined participants, *Dividends*, *A debenture* and *The balance on the Shareholders for dividends account*, *SARS Income tax*, and *The GAAP concept and IFRS* in the extract above are assigned the role of carriers within the attributive relational clauses. The attributes of the aforementioned carriers are represented by the nominal phrases, *an appropriation of profits*, *a long-term liability representing funds borrowed from the public in small amounts and bearing interest*, *a current liability*, *a debit or a credit balance* and *a general body of knowledge that [[accountants use to guide them]] in their duty*.

With the exception of the carrier in clause 3 and 4, the carriers in all the other clauses are encoded in relatively simple nominal phrase. For example, the participants in clauses 1 and 2 are realised by the nouns, *Dividends*, and *A debenture*. The carrier participant in clause 3 is realized by a long nominal phrase comprising a deictic determiner *The* in the head noun, *balance* and the post modifier, *on the Shareholders for dividends account*. The phrase therefore carries a lot of information, as it is long. Similarly, the attributes in the clauses, are expressed in long complex nominal phrases which involve nominalisation and embedded clauses. A detailed account of the findings on the structure of the nominal groups follows.

As the attributes identified above show, the nominal phrases realising the participants are long. For instance, the attribute in clause 1 involves a determiner, *a*, the pre modifier

long-term, the head noun, *liability* and the post modifier, *representing funds borrowed from the public in small amounts and bearing interest*. The long nominal has some implications on the load of information that the clause carries. It means that the clause has high information density, the number of content words per clause is a high. This means that the clauses realise meaning through densely packed information. The information load is also intensified by the incongruent realization of meaning explained below.

The above embedded non-finite phrase, *representing funds borrowed* and the present participle, *bearing*, also involve processes which, when realised in congruent terms, represent figures. As a figure, each of the processes would be represented in a clause showing the process and all the obligatory participants. The obligatory participants and all the information included in a complete clause are, however, compressed into the non-finite verbal groups. Realised as a post modifier qualifying the head noun, *liability*, the participles represent meaning through a lexically dense nominal group.

The term, *appropriation* in clause 1, also represents a lexically dense nominal as nominalisation involves a figure re-construed as a thing in the element, *appropriation of profits*. This pattern of the non-finite clause is also illustrated in *the income tax calculated*, in clause 4. In clause 5 the attribute is realised by a long nominal phrase with an embedded clause shown by the square brackets. A detailed analysis of the findings on this process follows.

The above analysis shows that a representation of participants in the accounting text varies from simple nominal groups to complex phrases. Most of these nominal groups are derived from processes realising a figure. The processes have been transformed such that they express qualities modifying the nouns in the nominal groups. In other cases, the processes are transformed to form nominalisation. This means that the meaning is compressed into a few words. Construal of the meaning in the complex nominal phrases presents knowledge in abstract terms. In addition, the phrases also add to complexity of the text as they are expressed in long dense information. The resulting meaning construed in these terms is that knowledge is presented in highly complex and abstract terms.

6.3.2 Participant roles of identifying processes.

Whereas attributive clauses describe and classify an entity, identifying relational clauses identify a defining characteristic of an entity. The participant roles are defined by the token and the value. For example, *Financing activities* is represented by a deictic determiner, *These* as a token in, “//These are the activities involved in funding the infrastructure of the company//” (Textbook B, 2013, p. 147). The value identifying the token is represented by the underlined long nominal phrase. In another example *Authorised share capital* is also represented by a deictic determiner, *This* in the clause, “//This is the total of the share capital which [[the company is allowed to issue]] to shareholders//” (Textbook A, 2007, p. 580). In the clauses the token is highlighted in bold typeface followed by the definition with the token represented by a deictic determiner. The bold typeface identifies the participants as technical terms.

In the clauses cited above, the token is realized by the nominal phrases involving the head noun, *activities* and *share capital* and the respective pre modifiers, *Financing* and *Authorised*. in the second clause. The value participants are realised through a long nominal phrase in each case. The nominal phrase in the first clause involves the deictic determiner, *the*, the head noun, *activities*, and the post modifier, *involved in funding the infrastructure of the company*. In the second clause the token is also defined in terms of a long phrase that also involves an embedded clause, as the square brackets show. The phrases therefore show that the value or the identifier defining the token is represented in long complicated phrases. The findings also show that the identifying relational clause serves many functions in the text. The functions are elaborated upon below.

The participant representing the value, not only defines the participants but also sets a criterion for classifying other things. For instance, the definition of *Financing activities* specifies qualities of activities that can be classified under this category. In other words, it must be those activities contributing towards building the infrastructure of the business. This means that identifying a relational clause identifies a token while at the same time establishing a criterion for classification of other things. The portrayal of other identifying relational clauses is illustrated in the clauses below.

In all of the clauses below, both the token and the value are underlined. In clauses 1 and 4, the token is highlighted in bold typeface and represented by the deictic determiners,

These and *This*. Thus, the tokens represented in the clauses involve, *Investing activities*, *quoted companies*, *The retained income for the year* and *Issued share capital*. The token participants are expressed in nominal groups that involve pre and post modifiers. The modifiers are expressed in present participle, *Investing* and past participles, *quoted*, *retained* and *issued*. These pre modifiers function as classifiers of the head nouns *activities*, *companies*, *income* and *share capital* respectively. The post modifier in clause 3 is realised by the prepositional phrase, *for the year* as a qualifier of the head noun, *income*.

1. //Investing activities: These *involve* the actual establishment of the infrastructure of a company in order for it to be in a position to earn income// (Textbook B, 2013, p. 147, 54).

2. //The ones [[whose shares are traded]] are known as quoted companies// meaning that their shares have prices quoted on the Stock Exchange// (Textbook A, 2007, p. 577, 580).

3. //The retained income for the year *will be* [[the net profit for the year *less* the income tax and dividends]]// (Textbook B, 2013, p. 147, 54)

4. //Issued share capital. This *is* the total of the share capital actually issued to shareholders// (Textbook A, 2007, p. 580)

Text Excerpt – 6AB 8

In the typical language use, the participles mentioned above realise processes. As processes, the participles realise a figure. The figure in turn is realised by a clause. A complete meaning of the figure would therefore show all the obligatory participants. However, used as pre modifiers, the non-finite verb forms realise the meaning of qualities, hence the incongruent realisation of meaning. This means that the token participants are constructed through a deployment of grammatical metaphors. The meaning of the clause is still retained in the pre modifier. For example, *quoted* in *quoted companies* does indicate that the companies are quoted in stock exchange even though the other information is missing. Since the processes are represented as pre modifiers, all the information pertaining to the process as a figure is compressed into one word. Thus, the meaning is represented through lexically dense nominal groups.

The value identifying each of these tokens is realized by a long nominal phrase as the underlined participants show. For example, the participant defining the token in the last clause is expressed by the phrase, *the total of the share capital actually issued to shareholders*. The nominal phrase is made up of the deictic determiner, *the*, the head noun,

share capital, the pre modifier, *the total of* quantifying the head noun and the post modifier, *actually issued to shareholders* as a qualifier of the noun. As it can be observed, the nominal group involves an embedded non-finite clause, *the share capital actually issued to shareholders*. Realization of the value participants through nominal groups involving embedded clauses is also illustrated in clauses 2 and 3 identified by the square brackets. This means that the tokens are defined through long complicated nominal phrases that may be confusing to the learner. The nominal phrases are also abstract, in that they involve nominalisation, as the nominal group realizing value in clause 1 shows.

The above analysis shows that both the token and the value in the identified relational clause are realised through complex nominal groups. Some of the nominal phrases are long involving embedded clauses and prepositional phrases. This means that the phrases are densely packed with information that may be missed by reader who is not well equipped with the knowledge of accounting. In addition, due to the pressure that the information load exerts on the working memory of the reader, readers who are not conversant with accounting may find the knowledge inaccessible.

A further analysis of the clause structure of an identifying relational process indicates that in some instances the quality of the participant is expressed through numerical identity, as portrayed in the second clause of this sentence, “//For example, if a company borrows R100 000 (at an interest rate of 12% p.a.) (on 1 March 20.1.) //the interest is R12 000 (for the year ended 28 February 20.2)//” (Textbook B, 2013, p. 46) The latter represents an identifying relational clause since it can also be represented as, ‘R12 000 is the interest’. The value, represented by, *the interest* in this clause identifies the token, R12 000 expressed in quantitative terms. A relational clause in which a token is represented by a quantitative value was found to be widely represented in the text. However, since most of these clauses were represented in the accounting schematics, a detailed presentation of the findings on the clause is covered in the analysis of visual images. The section that follows presents the findings on the analysis of the structure of the clause.

Of interest in this particular clause is the passivisation of the process, since if one replaces *is* with *represents*, the normal representation of the clause becomes *the interest is represented by R12 000*. A reconstruction of the form *the interest represents R12 000* would not make sense. Rather a normal presentation is *R12 000 represents the interest* which

translates into R12 000 as value and the interest as a token, hence, a passive representation of the event. The configuration of meaning through passivisation, illustrated above, highlights the significance of the value, *R12 000*. Thus, the passive clause structure allows for the taken-for-granted knowledge or commonly shared knowledge, that is, *the interest* to introduce the new information which, in this case is construed through a number. Nevertheless, participants realised in quantitative values were found to be commonly represented throughout the text.

Despite the wide representation noted above, realising some participants through numbers implies an objective representation of meaning. A number expresses a definite thing as it may not be easily contested. The findings therefore show that the accounting text represents meaning objectively through the pervasive passive clause structure as well as the representation of some participants by numbers. The above analysis has shown that both the token and the value are well represented in the relational clauses. The participants are, however, realised through long complex nominal phrases. In some cases, the nominal groups involve incongruent realisation of meaning through grammatical metaphors adding to the complexity of the meaning through abstraction. This section is concluded by presenting the findings on the realisation of relational participants by circumstantial roles.

6.3.3 Circumstantial role in relational processes.

In different sections of the texts, a relational clause takes a variety of participant roles ranging from a carrier or token to a descriptive or identifying role. In some cases the participant role is presented as a circumstance of time position as in the following example, ‘//The issue price *may change* (over the life of a company,)// where *The issue price*’ denotes the carrier with a relational process *may change* and circumstance *over the life of a company* as an attribute. Although temporal meaning is realised through the circumstantial attribute, the most common attribute of the circumstantial dimension was found to be that of place, as demonstrated in the extract from the findings below:

The findings show instances where the attribute expresses a circumstantial element as the clause, “//The reporting function is when [[we prepare and present the financial statements of accompany]],//” (Textbook B, 2013, p. 95) shows. The clause identifies a circumstantial attribute in terms of the time when certain financial statements pertaining to trading activities are drawn. In some cases it represents the circumstance of place indicating where a particular item in question appears, as in the following clause: “... a calculated

difference *will appear under financing activities in the Cash Flow statement.*// and //Directors fees and Audit fees *are new expenses*// that *will usually appear in the income Statement of a company.*//” (Textbook B, 2013, p. 105). In some cases the circumstantial role is realised in time as the embedded clause in this example shows: “//Cash *would not have been collected* in respect of [[the amounts *outstanding at the end of the year*]]//” (Textbook B, 2013, p. 176).

A representation of the circumstantial role was, therefore, found to be centred around place and time. The places and time are however, expressed in either simple or, in some cases, complex nominal phrases. For example, the first clause in this paragraph involves an embedded clause, *When we prepare and present...* Realised within a circumstantial role, the clause is demoted to a lower rank with the function of a nominal phrase. The second clause also represents the circumstantial role through a complex nominal embedded with the gerund *financing activities*. Construed as an entity, the nominal represents an abstract representation of meaning, implying that activities can undertake the role of human agents.

The above analysis shows that a variety of grammatical resources deployed to represent meaning in accounting textbooks. Some of the resources lead notably to long complex nominal phrases and an elided agent. An embedded clause was identified as one of the grammatical structures contributing towards the impersonal complex representation of meaning in the accounting text. The embedded phrases, particularly of the non-finite verb forms were found to be widely represented throughout the text. A detailed analysis focusing on the embedded non-finite phrases is presented below.

6.3.4 Non-finite verb forms.

As it was indicated in the section on embedded clauses, the findings show widely represented embedded clauses, mostly expressed as non-finite clauses. A non-finite clause refers to a case whereby the verb of such a clause is: “... not marked for person, number, or tense (Briton 2000, p., 238)”. According to the author the verb element of a non-finite clause may be a bare verb (wash), to-verb form (to wash), present participle (washing) and past participle (washed) (ibid.). All of these types of non-finite verb forms were identified from the text and showed a wide representation. A presentation of the findings in each type follows, beginning with the to-verb form.

Embedded non-finite to-verb form. The findings show different representations of meaning realised through the non-finite to-verb form. Some of the clauses with the infinitive express expectations or requirements and permission. Others imply obligations, responsibilities and duties. Many such clauses express the rights of professional bodies, accountants, board of directors, shareholders and companies in general. For example a clause that expresses a requirement states that: “//The Accounting Standards Board requires all but the smallest companies to include cash flow statements with their published financial statements//” (Textbook A, 2007, p. 489). The clause realises meaning through the relational process, *requires*, which expresses the powers bestowed upon the Board, hence a possessive attribute. However, the attribute is expressed in a nominal phrase that has an embedded non-finite verb and accompanying participants which eventually increase the information load of the phrase.

A section elaborating on the principle of prudence, cautions the professionals with: “//Very often [[accountants have to use their judgement]] (to decide which figure to take for an item)//” (Textbook A, 2007, p. 110). In this case, *have* evokes an expectation that in a given situation accountants must exercise their judgement, hence a relational clause. The infinitive, *to use*, projects an obligation that the accountants are expected to fulfil while *have* indicates that the accountant is mandated to do something. The same notion can be said of a relational process, *has* followed by an infinitive *to follow* in: “//However, it *does not mean* that [[the business has to follow the method]] (until the business *closes down*)//” (Textbook A, 2007, p. 110).. The underlined phrase evokes an obligation to follow the implied method. The implication of the two embedded non-finite clauses is that they increase the information load of the nominal describing the attribute of the carrier, thereby adding to the lexical density of the text.

In another instance, an infinitive clause expresses permission through the relational process, *allow*. The clause states that: “//This *is* the total of the share capital //which the company is allowed to issue to shareholders//” (Textbook A, 2007, p. 580).. The process, *is allowed* represents authorisation. Given that this process is succeeded by an infinitive, *to issue*, the clause represents only the mandate that the company has, to issue the shares. The relation of the company to the granted permission concretized in *is allowed* only describes a possessive attribute.

All the non-finite clauses above, describe a possessive attribute within relational clauses illustrated by, *is/are*, *require has/have* or *allow*. The attributes described through the infinitive to-verb form include obligations, rights, responsibilities, requirements, and authorisations. Although the infinitives imply an action, the process implied in the infinitive only states the prospects of an action or a happening. The findings also show other cases where the non-finite clause expresses the circumstantial element of purpose through a prepositional phrase. In yet other instances, the infinitive functions as a modifier of a head noun in nominal phrases. For example, in the clause: “//The desire *to provide* the same set of financial statements for many different parties, and so provide a basis for [[measurement that is generally acceptable]], means that [[objectivity is sort in financial accounting]]//” (Textbook A, 2007, p. 106). *to provide* modifies the head nouns, *The desire*.

In some cases the infinitive is realised within a circumstantial element describing an adjunct of purpose. The infinitive *to meet* in, “//‘Capital reserves’, ... [[which have to be created to meet some legal statutory requirement,]] *cannot be treated* as available for payment of dividends//” (Textbook A, 2007, p. 587), provides purpose for the activity of creating reserves in cases where they are created. A similar pattern was identified in a clause from a section on accounting concepts. The clause describes ways in which businesses determine materiality with: “//Businesses fix all sorts of arbitrary rules to determine [[what *is* material// and what *is* not]]//” (Textbook A, 2007, p. 113). In this case the infinitive, *to determine*, provides the reason for the rules that businesses formulate. These examples show ways in which infinitives are used to realise circumstantial elements of purpose that is normally realised by adverbs and prepositional phrases.

The infinitive events in these clauses, therefore only present the distinctive features of the aforementioned participants in terms of their obligations, rights, responsibilities and requirements, without exercising these abilities. As such, the infinitives only present qualities assigned to the carrier.

A non-finite clause of the present participle form. The findings also revealed that non-finite clauses of the present and past participle form are used as modifiers, complements, adjuncts and heads of nominal phrases. The non-finite clauses were, therefore, analysed as embedded clauses within nominal and prepositional phrases. As such they were identified as aspects of participants or circumstantial elements with the functions of adjuncts. In the findings

presented below, they have been divided into those non-finite clauses that function within the participant roles of adjuncts and any other nominal phrases that are conceived as agents, medium or beneficiary.

Some of the findings show non-finite clauses as part of nominal phrases with the function of agents or medium. The statement defining the matching concepts that were referred to above construct meaning through such gerunds as *Determining* and *matching* and infinitives, *used up* and *to obtain*. As already shown, the clause defines the matching concept as: “//Determining the expenses used up to obtain the revenues *is referred to as* matching expenses against revenues//” (Textbook A, 2007, p. 111). This clause represents a relational clause realised by the process *is referred to as*. However, the participants are realised by gerunds, *determining expenses...* and *matching expenses ...* Both of the gerunds together with the non-finite clauses imply material processes. The highlighted present participles represent processes which under normal circumstance would realise figures but in the incongruent realisation of meaning are conceived as nominal groups though imbued with the meaning of a process.

Another example illustrating instances in which infinitives are used to construct meaning was identified from a statement explaining the jurisdiction of the international standard setting committee, IASC. The infinitives were identified from the last clause of the statement indicating that: “//When the IASC *was founded*, //it *had* no formal authority //and IASs *were* entirely voluntary //and initially *intended* for use in countries //that either *did not have* their own accounting standards //or which *had* considerable logistical difficulty in establishing and maintaining the infrastructure necessary to sustain a national accounting standards board//” (Textbook A, 2007, p. 107). This clause was identified as a possessive relational clause from the process *had*. The prepositional phrase, *in establishing and maintaining* modifies the nominal head, *difficulty*. The –ing participles arise from transformed material processes of establish and maintain, which under normal grammatical construction would each realise a figure.

Other clauses in which the infinitive clause is embedded within a nominal as a complement or modifier of the head of a nominal phrase include:

//Anyone preparing [[financial statements which *are intended to show* a ‘true and fair view’ (i.e. truly reflect what has occurred and the financial position of the

organisation)]] *must observe* the rules *laid down* in the accounting standards// (Textbook A, 2007, p. 590).

//Accounting *does not serve* a useful purpose //if the effort of *recording* a transaction in a certain way *is not worthwhile*// (Textbook A, 2007, p. 590).

The first clause realises meaning through the perceptual process, *must observe*. The participants of the clause are however, include, the gerund *preparing* and the infinitive *laid down*. The non-finite verbs are realised as modifiers of the head of the nominal phrases *Anyone* and *the rules*. This means that, although *preparing* and *laid down* are verbs that have been used to express qualities, however, these are verbs which in a congruent representation of meaning semantically realise figures. In the second proposition, the second clause represents a relational clause realised through the process *is*. The infinitive *recording* modifies the head of the nominal *effort*. As such, the verb *recording* functions as a unit within the structure of a nominal group.

A similar high proportion of the non-finite verbs were identified in prepositional phrases realised as adjuncts. Most of these adjuncts represent circumstance of time and manner. For example, a clause justifying limited liability in companies expresses the justification with: “//(*By addressing* the need for investors *to have* limited risk of financial loss), the existence of limited liability *encourages* individuals *to invest* in these companies //and *makes* it possible *to have* both a large number of owners and [[a large amount of capital *invested* in the company]]//” (Textbook A, 2007, p. 577). The element of the first clause placed in parenthesis represents the circumstance of manner and it is realised by a prepositional phrase. The phrase has embedded within it the non-finite phrase, *By addressing the need*, which implies a mental process. Another example illustrating the adjunct circumstance of manner involves a clause explaining that: “//We also *show* what the assets, capital and liabilities *are* (at a given date) (by *drawing* up a balance sheet)//” (Textbook A, 2007, p. 488). The latter also illustrates a circumstance of manner realised through a prepositional phrase with an embedded non-finite verb, *drawing*. The infinitive implies an activity of creation since drawing involves bringing into existence the balance sheet. Realised through the adjuncts, the non-finite verbs function as units within a structure of a nominal yet because they imply an activity initiated by an external source, the meaning of a process is preserved within the nominal or the prepositional phrase.

The findings also show instances in which a non-finite verb form of a gerund realised as an aspect of an adjunct expresses the circumstance of time. The prepositional phrase in parenthesis in: “// (In *determining* the aggregate amount of each asset or liability), the amount of each individual asset or liability *should be determined* (separately from all other assets and liabilities) //” (Textbook A, 2007, p. 111) illustrates a circumstance of time. Although the prepositional phrase expresses an activity during which assets and liabilities are calculated, the meaning represented denotes time. Similarly, the phrase in parenthesis in the clause: “// Other exceptional items *should be credited or charged* (in *arriving* at the profit or loss on ordinary activities) (by inclusion under the heading to which they *relate*) //” (Textbook A, 2007, p. 591) also indicates a process during which profit or loss is determined. However, the first prepositional phrase realises meaning as an adjunct of time. In both cases, a temporal question, *when?* can be raised in relation to the adjuncts. The two circumstantial elements are realised through grammatical metaphors since the gerunds function as units in the structure of elements denoting time, that is, the prepositional phrases.

In addition, within the broader context of the discipline, the determination process is normally undertaken at the time when financial statements are prepared. As this process also implies a stage of the accounting process, the prepositional phrases were interpreted as referring to a time position, as realised by the non-finites, *In determining* and *in arriving*. A more explicit example illustrating meaning construed simultaneously through time and position expresses that: “// This *is* because (in *preparing* company financial statements) many subjective estimates and judgements *affect* the figures //” (Textbook A, 2007, p. 590). The infinitive, *in preparing* refers to the context or a stage in which the activity is carried out. It also implies time since there is a requirement that the statements be prepared at regular intervals, hence an adjunct of time position. All the non-finite verb forms referred to above are embedded within prepositional phrases which are assigned the role of a circumstance. It is in this sense that the non-finite verb forms were analysed within the functional role of a nominal or prepositional phrase. However, because they involve transformed material processes they also imply activities and, therefore, suggest the form of a grammatical metaphor.

A few other prepositional phrases with embedded non-finite verbs represent circumstances of reason as in the case of: “// A number of accounting concepts *have been*

applied //ever since financial statements *were* first *produced* (for external *reporting* purposes) //” (Textbook A, 2007, p. 108). The gerund, *reporting*, forms part of a prepositional phrase denoting an adjunct of reason. Within the context of accounting as a discipline, *report* which is presented as a gerund, *reporting*, refers to a process of preparing financial statements according to the set standards and regulations for publication purposes. As such, it was analysed as a material process, however, as an aspect of a prepositional phrase it is construed as a constituent within the structure of a group that realises the meaning of a circumstance of reason. The gerund modifies the noun purposes with the prepositional phrase, hence a grammatical metaphor.

Summary. The non-finite verb phrases presented above function as constituents within the structures of nominal phrases or prepositional phrases. This means that the embedded phrases represent participant roles of agents/actor, medium or adjuncts. The non-finite verb phrases, however, imply material, relational and, in a few cases, mental processes, which illustrate an incongruent realisation of meaning. Material processes were found to be the most prevalent of these implied processes. These could be identified from phrases such as *capital invested*, *rules laid down*, *values calculated*, *profit made*, *figures adjusted*, *amounts owing*, or from gerundial phrases like *determining profits or expenses*, *preparing or drawing up financial statements*, *recording transactions*, *applying rules and reporting financial findings* and *to invest*, *to issue*, *to show*, *to determine*, *to decide*, *to meet*, *to encourage* and others, all of which imply dynamic actions referring to accounting processes only realised as constituents within the structure of nominal phrases.

6.3.5 Representation of participant roles in visual images.

A substantial amount of text in accounting is presented in the form of visual images. As already explained, a model drawn from systemic functional grammar has been used to analyse the visual images found in the textbooks. The findings from visual images reveal similar patterns in the representation of participant roles to those of verbal text. The abstract representation of participants was found to be common in the visual images also. An extract from the analysis of journal entries below illustrates how participant roles are represented in visual accounting images.

GENERAL JOURNAL OF AMI LTD – JUNE 20.3

No	D	Details	Fol	Debits	Credits
JV6		Bad debts	N8	500	
		Debtors control (A.Jones)	B8/D1		500
		Bad debts written off			
JV8		Rent income	N9	1 000	
		Deferred income	B18		1 000
		Rent received in advance at year-end			
		Appropriation account	F3	13 530	
		Retained income	B2		13 530
		Transfer of retained income after appropriations			
		Packing materials	N11	300	
		Consumable stores on hand	B15		300
		Reversal			

(Textbook B, 2013, p. 76)

Figure 6.1 The Journal Entries

The accounting schematic above is made up of cells, separated one from the other by framelines. Each of the cells contains a verbal text and a corresponding value towards the left side of the image. The reading implies connections between the verbal text and the value. This means that the value is an attribute of the verbal text. For example, in the first cell the text was analysed as, *Bad debts* is 500. As such the values on the right were identified as the identifier of the verbal text on the left hand side. This means that the verbal text represents the identified, which Gonzaga (2011) and Neale (2002) equate with the medium.

Drawing from the multimodal approach, the head columns, *Debit* and *Credit* were identified as narrative structures. The verbal interpretation of the cellular text was therefore interpreted as, *Bad debts are debited with 500*. This means that the value is an attribute realized by a circumstantial element of instrument, which is the means by which the medium, *Bad debts* is debited. Since all the elements portray the same structure, it means that all verbal entities represent the medium and the values represent an attribute of instrument.

An analysis of the schematic indicates that the medium is realised by complex nominal phrases. The phrase, *Appropriation account*, *Consumable stores*, *Deferred income* and *Packaging materials* involve nominalisations and participles construed as pre modifiers of the head nouns. The realisation indicates abstractions. The findings also show that the concepts are represented regularly throughout the text. As such, the concepts were identified as technical terms. The attributes, on the other hand, imply an objective representation of meaning because they are realised by a number.

6.4 Conclusion

The findings show a fairly widespread representation of the participant roles that relational processes take, although the medium was found to be more prevalent in visual images than in verbal text. However, participant roles in the relational processes are realised by long nominal phrases which reflect complex representation of meaning. There is a relatively high proportion of material processes, but participants that accompany the processes are not all equally represented. The medium is well represented, in comparison with the agent. The medium is represented by concrete as well as abstract entities, although the degrees of specificity and generality differ from one entity to another within a given context. In addition there are some instances where the medium is realised by complex nominal phrases with embedded clauses as well as phrases. Participants realised by phrases represented in grammatical metaphors and nominalisation are also wide spread across the text. The latter has implications for the representation of meaning, which tends to be abstract and general. The implications of these are covered in the next chapter in greater detail.

CHAPTER 7: REPRESENTATION OF ECONOMIC EVENTS

In the previous two chapters which present the findings on the representation of processes, participants and participant roles were presented. The findings identify material and relational processes as the widely represented processes in the textbooks. It is also shown that a representation of participants and participant roles differs between the two processes. While participant roles involved in relational processes are well represented, those realised in material processes show that the agent is deleted in most clauses. It has also been noted that for both processes obligatory roles are realised by nominal phrases and that the phrases vary widely across the text. The focus in this chapter is on the implications of the aforementioned representation of processes and participant roles in realising meaning about economic events. The chapter is organised around themes, which include, technical vocabulary, taxonomic relations, generalisations, abstraction and complexity. These themes are introduced with a brief outline of the theoretical analysis of the nature of the scientific language.

7.1 Theoretical basis of the scientific language

Scholars in linguistics (Christie, 2004, Halliday, 2004, Halliday & Matthiessen, 2004) identify the difference in perspectives as the cause for the abstract subject matter in the school curriculum. As Halliday (2004) and Halliday and Matthiessen (2004) observe, the way in which reality is represented linguistically reflects the way in which the world is viewed. In other words the representation shows the way in which the kind of events or happenings and the concomitant participants that is the worldview of the presenter, are construed. The portrayal of theoretical perspectives in the selected accounting textbooks was therefore identified as a way through which abstraction in financial accounting can be studied.

According to the scholars (Christie, 2004, Halliday, 2004, Halliday & Matthiessen, 2004), the language used in everyday social activities differs from the scientific language used in disciplines of knowledge. Halliday (2004) suggests a view that postulates that the

difference between the two languages arises from the difference in perspectives. The basis of the assertion emanates from the author's view that describes language as a theory of human experience. According to the author, scientific language evolved to build theories in disciplines of knowledge (ibid.). As such, the language differs a great deal in perspectives from that used in everyday life activities and the meaning arising from the different uses of the language tends to be presented in generalising abstract terms. Linguists such as, Fang (2001), Schleppegrel (2004) support this argument, indicating that language in school texts is used to build technical vocabulary, to facilitate a discursive flow of the argument while at the same time ensuring precision and concision. Consequently, as the linguists observe, the meaning arising from such linguistic structures is not only abstract but it is also complex (Schleppegrel, 2004, Fang, 2001, 2004). It is against this theoretical background that the results in this chapter are presented. The section begins with the technical vocabulary identified from the selected accounting textbooks.

7.1 Technical vocabulary in accounting

From the previous two chapters it was found out that the relational clause, presents meaning in terms of providing definitions and descriptions of the token and the carrier/possessor respectively. The definitions identify participant roles as concepts, which constitute technical vocabulary in the discipline. Some of the examples identified from the text include: expenses payable/receivable, accrued expenses, purchases, cost of sales, operating expense, Income receivable or accrued, current asset, dividends, expenses, debtors, debit, credit balance, adjusting entries, issue price and authorized share capital. Some of these concepts were identified in the clauses defining them in the previous chapter. Other concepts were identified in accounting statements, while others are described in some text extracts, as items found in accounting statements.

For the technical terms which were identified from the accounting statements, only the concepts which regularly appeared in the accounting schematics were classified as technical terms. These are concepts, which have been used to construct the records of the economic transactions, that is, accounts and journal entries and also used to prepare financial

statements. The concepts were identified as technical vocabulary. The following section presents the findings on the representation of the technical vocabulary in accounting textbooks. The section begins with technical terms identified from accounting statements.

7.1.1 Representation of Technicality in Accounting Schematics.

In these extracts, the concepts identify accounting processes, objects and classes of things in general. Examples of clauses containing some of these concepts are listed below. The relevant concepts have been underlined.

Clause 3 below is a journal entry illustrating a record of outstanding audit fees. An analysis of the clause identifies the items making up the entry as technical concepts. The technical terms, *Audit fees* and *Expenses payable or Accrued expenses* refer to specific names of the accounts. The concepts, *DEBIT* and *CREDIT* refer to professional accounting processes which are specific and unique to accounting only, hence the technical terms. The term *The adjusting entries* is also unique to the discipline, as accounts and entries are phenomena associated with accounting. The pre-modifier, ‘adjusting’, is construed as a classifier identifying the type of entries among a general category of entries in the field.

1. //It is shown in [[a separate asset account called Income receivable or accrued]].//
(Textbook B, 2013, p. 73, 137)

2. //Although, it is reflected (in the nominal section,) //it is not regarded as an operating expense,// but rather as an appropriation of profit/

3. //(The adjusting entries) will be:

[[DEBIT	Audit fees]]
[[CREDIT	Expenses payable or Accrued expenses)]]//

(Textbook B, 2013, p. 73).

4. //In the case of a bank overdraft the amount will be shown as a separate item (in the Balance Sheet under Current liabilities or directly on the face of the Balance Sheet.)//
(Textbook B, 2013, p. 177)

5. //Cost of sales = Opening stock + Purchases + Carriage on purchases – Closing stock// (Textbook B, 2013, p.137).

Text Excerpt – 7AB 1

The text describing the underlined concepts also identifies the items as entities found in accounting statements. In clause 1, *Income receivable or accrued* is identified as a name of an account, while in clause 4 both, *a bank overdraft* and *Current liabilities* are identified as items shown, *in the Balance Sheet*. Clause 2 refers to the treatment of *Income tax*, which is explained as *an appropriation of profit* and not as *an operating expense*. Construal of the latter indicates that *an operating expense* is a technical term used to refer to a class of things, which are shown as stated, *in the nominal section*, while *an appropriation of profits* classifies the *Income tax* represented in *it*. It is within the context of names used in reference to a general category of things that *operating expense* and *appropriation of profits* were identified as technical terms.

The last clause refers to a statement illustrating the calculation of the *Cost of sales*. Although decoded as a clause, because of the = sign the statement represents a formula. All the items are depicted in accounts preceding the formula. The accounts are drawn to illustrate a perpetual inventory system. Thus, the items making up the formula were identified as technical terms.

The above clauses illustrate how some of the technical terms were identified from the analysed text. Some of the technical terms were identified from relational clauses defining the concepts while others provide a description of the entities. A few examples illustrating technical terms realised in relational clauses are presented below.

7.1.2 Technical vocabulary in relational clauses.

A section explaining the specimen of a set of financial statements used as an exhibit, identifies an item in one of the statements with; “//It is usually *called retained profits*//” (Textbook A, 2007, p. 583). This clause only states what the item found in financial statements is called. As such, the clause identifies an example of ‘retained profits from the statement, hence the technical term identified through a relational clause.

Another definition explains one of the key concepts in the conceptual framework of the discipline as: “//Under the UK accounting standards, the **going concern concept** implies that the business will continue to operate for the foreseeable future.//” (Textbook A, 2007, p.109). Once again, the clause illustrates an accounting technical term. Another clause identifies a technical term with: “//Bonus shares are ‘free’ shares issued to shareholders without their having to pay anything for them//”(Textbook A, 2007, p.581). These clauses illustrate a portrayal of technicality in accounting through an identifying relational clause.

Whereas the clauses above establish technicality in accounting through identifying relations, the other category of the relational process describes qualities. Examples of the latter are listed below.

1. //Dividends *are regarded* as an appropriation of profit,//
2. //Preference shareholders *may be entitled to* a fixed dividend related to the value of the preference share.// (Textbook B, 2013, p. 36).
3. //A debenture *is* a long-term liability *representing* funds *borrowed* from the public in small amounts and *bearing* interest.// (Textbook B, 2013, p. 36).
4. //Distributable reserves *represent* those [[amounts of profit which *may be distributed* to the shareholders]]// (Textbook B, 2013, p. 36).
5. //‘Capital reserves’, [[which *will include* revaluation reserve on property and land, also some reserves ...]] [[which have to be created to meet some legal statutory requirement,]] *cannot be treated* (as available for payment of dividends).// (Textbook A, 2007, p. 587).
6. //The retained income for the year *will be* the net profit for the year less the income tax and dividends.// (Textbook B, 2013, p. 36, 54).

Text Excerpt – 7AB 2

Some of the clauses describe accounting processes which are identified technically in the specified technical term. For example, in clause 1, ‘dividends’, like income tax referred to in Text Excerpt - 7AB 1 above, is described as items which have to be taken into consideration when profits are appropriated. Clauses, 2, 4 and 5 are not just descriptions of qualities of the identified concepts, but have implications for items that are to be taken into consideration in determining the amounts due to shareholders. Clause 3, on the other hand, identifies items with which the named entity is to be classified. The qualities that are being described have implications for accounting processes. This means that the concepts: “preference shareholders, debenture, distributable reserves and capital reserves”, identified

with these qualities, represent technical labels with some implications for professional accounting processes. The last clause also describes the attribute of the carrier, ‘retained income’, in terms of calculations determining its value. As such, the description implies accounting processes.

7.1.3 Summary.

Although the technical terms above are encoded in material as well as relational clauses, most of the terms are encoded in the latter through a representation of the carrier and a token. The nominal phrases realising the participants are encoded in abstract concepts, as the underlined concepts show. The value identifying the token and the attribute describing the carrier/possessor are realised by long, complex nominal phrases involving embedded clauses as well as nominalised processes. For example, the double square brackets in clause 4 above indicate that the nominal phrase describing the quality of ‘Distributable reserves’ involves the embedded clause, ‘amounts of profit [[which *may be distributed*]] to the shareholders’. In addition, some of the technical terms also illustrate features of the incongruent realisation of meaning. Detailed findings on long nominal phrases and nominalised processes are presented later in the chapter.

7.2 Taxonomic relations

Taxonomic relations indicate the relationship, among the technical terms of a discipline. The relationship may be expressed through classification of entities or the composition of an entity. The latter describes a part-whole relationship among entities. The following section illustrates a representation of these categories in the accounting text.

The classifications and the composition of the entities were identified in relational clauses as well as in accounting schematics. Some of the relational clauses identifying classes or describing the composition of a participant have been presented in the previous two chapters. For example, the clause: “//The balance on the shareholders for dividends account represents a current liability (at the year-end)//” (Textbook B, 2013, p. 53) from the chapters identifies the owing dividends as a member of the class of current liabilities. This means that when accounting entities are the classified, the dividend due to the shareholders will appears

under the category of the class so mentioned. Another example states that: “// (In the case of a bank overdraft,) the amount will be shown (as a separate item) (in the Balance Sheet under Current liabilities or directly on the face of the Balance Sheet.)//” (Textbook B, 2013, p. 117). In the clause, a member of the class is identified by the process, *will be shown*. In other cases the classification of entities is realised by the process of being, as in: “Corporation tax is not an expense, it is an appropriation of profits//” (Textbook A, 2007, p. 583). The latter identifies the *appropriation of profits*, a category to which *Corporation tax* belongs, and therefore how the tax is classified when financial statements are prepared.

Several other types of relational processes were identified from the texts showing different ways in which the accounting entities are classified. The most common processes involved, identification of where a participant is found, charged or appears, indicating an account or statement where an item is shown. Most of these relational clauses, however, only describe a classification of individual entities. A comprehensive classification of the participants was found in visual images, the findings of which are presented below. A brief outline of the findings on the representation of composition of the entities is presented first.

While the processes realising the classifications identified class members to which an entity belongs compositional relations provide an overall picture showing the relationship which makes up a whole among the participants. In other words, the portrayal identifies part-whole relationships. The relational processes realising taxonomic relations within this structure involved *show*, *consists* or *reflects*, relating to what the participant in question portrays. For example, the following clauses describe the composition of the specified participants through the processes, *comprise*, *are often given* and *shows*.

1. //Either the term ‘shareholders’ funds’ or ‘members’ equity’ is often given to the total of share capital plus reserves// (Textbook A, 2007, p. 586).
2. //The proceeds of a new issue of shares, the repurchase of shares and the raising (or repayment) of loans comprise the financing activities of a company.// (Textbook B, 2013, p. 106).

3. //The balance sheet (Statement of Financial Position) *shows* the financial position, i.e. assets, liabilities and owner's equity, (on a specific day at the end of the financial year.)// (Textbook B, 2013, p. 153)

Text Excerpt – 7AB 3

In the above relational clauses, the attributes list the components of the participants being described. In other words, the clauses identify the possessive relations of the carrier and the attributes. As such, the relations describe the part-whole relationship.

In some cases the composition, as the findings show, is realised by examples. A section on cash flow statement explaining the procedure for drawing the statement begins by listing the contents of the statements. One of the listed items involves “operating activities”. A clause explaining the activities illustrates the entity with examples stated as:

//Examples of operating activities:

- Buying and selling (stock)
- *Paying* (creditors)
- *Receiving* (payment from debtors)
- *Paying* (all the expenses, e.g. wages, salaries, telephone, motor vehicle expenses.)
- *Paying* (SARS for tax.)
- *Paying* the shareholders for dividends.)// (Textbook B, 2013, p.147)

Through the listing, it is clear what the components of the participant, ‘operating activities’ are. An analysis of the text shows the representation of the compositional meaning that was commonly represented throughout the text. The representation takes place through examples of an entity, as illustrated above or through a description of the possessive attributes stating, in most cases, what an account shows and does not show. Otherwise the composition was found to be dominant in visual images.

As with a taxonomic classification, a vivid illustration of the composition of the accounting entities was, however, found in visual images. The findings on the latter are presented below, beginning with a brief introduction of the analytical instrument used to analyse the images.

An analysis of the images identified in the textbooks shows that different structures are well represented in most of the images. Both conceptual and narrative structures were found to be well represented throughout the text. However, as is the case with verbal text, conceptual structures which parallel the relational clause in verbal text, dominate

representation. Since the focus in this section is on the representation of taxonomic relations, an analysis of the images is restricted to the realisation of the structures in relation to the representation of taxonomies in the field. The representation of taxonomies in accounting is studied through an analysis of an example of a balance sheet presented below.

7.2.1 Compositional and classification relations.

The image below illustrates the format of a balance sheet described in the text as: “Exhibit 45.7. The accounting schematic features a title written in bold on top with a frameline that runs across the width of the page. The frameline separates the title from the rest of the body and identifies it as a unified element. The placement on top, the centering and bold typeface of the title represent the salient features of the image. These salient features identify symbolic structures, in particular, a symbolic carrier realised by the title. In other words the title represents a symbol for the whole image. The whole is parallel to the carrier of the possessive attributive relationship in a verbal text. The whole image is, therefore, defined by the title: “Balance sheet as at 31 December 20X7” (Textbook A, 2007, p.586).

The body of the schematic is realised by cells. Each cell comprises a verbal text and a corresponding value placed at the far end of the right hand side of the margin. The analysis of the schematic shows some calculations or narrative structures. The calculations involve additions and subtractions, as the horizontal total lines and the process, *Less*, show.

The additions mentioned above imply that the participants corresponding to such values are connected. Other values are subtracted implying disconnectedness. For example, the magnitude of *13,000* indicating the outcome of the calculation of the current assets implies an addition. The addition in turn identifies a relation of connectedness; in other words, the participants belong together. However, the participant, *Less Current liabilities*, refers to the subtraction of *(6,000)* from *13,000* for the current assets, hence the difference of *7,000*. An explanatory note from the text indicates that, *a subtraction in accounting is normally shown by a number in parenthesis*. Since *(6,000)* represents current liabilities and *13,000* current assets, the subtraction implies that the categories are disconnected.

Symbolic structures

Balance sheet as at 31 December 20X7

	Cost	Depreciation to date (b)	Net book value
<i>Fixed assets</i> ← (a)	£000	£000	£000
Goodwill	15,000	5,000	10,000
Building	15,000	6,000	9,000
Machinery	8,000	2,400	5,600
Motor vehicles	4,000	1,600	<u>2,400</u>
			27,000
<i>Current assets</i> ←			
Stock		6,000	
Debtors		3,000	
Bank		<u>4,000</u>	
		13,000	
Less Current liabilities ←			
Proposed dividend	1,000		
Creditors	3,000		
Corporation tax owing	<u>2,000</u>		
		<u>(6,000)</u>	
<i>Net current assets</i> ←			<u>7,000</u>
			34,000
Debtures loans			
Six per cent debentures: repayable 20X9			<u>(8,000)</u>
			<u>26,000</u>
Financed by:			
Share capital ←			
Authorised 30,000 shares of £1 each (c)			<u>30,000</u>
Issued 20,000 ordinary shares of £1 each, fully paid (d)			20,000
Reserves (e)			
Share premium			1,200
General reserve			3,800
Profit and loss account			<u>1,000</u>
	(f)		<u>26,000</u>

(Textbook, A, 2007, p. 586)

Figure 7.1. An illustration of a Balance Sheet

Key
Classification structures ←

The subtraction of current liabilities from current assets also means that current liabilities are excluded from the value defining, *Net current assets* represented by 7,000. The

latter is added to 27,000 for *Fixed assets*. The value for *Debentures loans* is also subtracted shown by the parenthesis and decreased value of 34,000 to 26,000. Once again, the decrease in magnitude shows disconnectedness between this particular element and the rest of the other superordinate participants describing the carrier. The enclosure of 26,000 in framelines with the bottom double line means that the 26,000 value is a total, hence a cut-off point. Since the cut-off point is displayed within the schematic, it was interpreted as the end of a section.

The calculation in the lower part of the schematic with the heading, *Financed by* are done separately, which means that they are not part of the upper section. Although, the elements in the lower section are different from those of the upper section, the outcome for both sections is the same, as the value 26,000 shows. The two distinct sections were identified as classification structures realised at the first highest level of the schematic. This means that the schematic as a whole is described by the two major categories which involve, *Fixed assets* plus (*Net current assets Less Current liabilities*) less *Debtenture loans* and *Financed by* and the corresponding value, 26,000 for each participant. These categories were identified as a symbolic attribute.

As the above analysis shows, the attribute is realised through complex relations among the elements determining the calculations, which ultimately realise the 26,000. Thus, within these major categories there are other classifications and compositional meaning describing in detail the structure of each category. These sub-classifications and the compositional meaning were identified as embedded structures. The findings on the latter are presented below.

7.2.2 Embedded structures.

A further analysis of the image shows that the individual cells constituting the body are represented in classified categories. Since the categories indicate clear sections into which the schematic is organised, the cellular text was identified as symbolic attributes through which the composition of the categories is also realised. The categories are identified by a heading displayed at the beginning of listed items and highlighted in italics. The sections are separated one from the other by a blank space. Thus, there are five sections with the headings, *Fixed assets*, *Current assets*, *Less current liabilities*, *Net current assets* and *financed by*. The headings were identified as superordinate labels for the classifications

within these subsections. The labels realise the classifications of the cellular texts, which, in turn, realise the composition of each superordinate. In the social semiotic language, the symbolic attributes listed below each heading provide a symbol of the category in which it is classified.

An analysis of the cellular text indicates that each cell comprises a verbal text and a corresponding value that defines the verbal text. For example, the item, *Net current assets with a value of 7,000* implies a symbolic structure whereby 7,000 represents a symbolic attribute that defines the carrier *Net current assets*. The cellular text represents a complete unit of meaning that is separated from the other cells by thin framelines. Since the cellular text was first analysed as a symbol realising the composition of the superordinate label for the categories at the level of the individual cells the text was identified as a structure embedded within the compositional structures. This means that the compositional meaning is not realised by participants, but by the larger meaning representing a relational clause.

An analysis of the first section of the schematic with the heading, *Fixed assets*, shows that the verbal text is, in this case, described by three consecutive values in a row. The values are defined by the column heads as, *Cost*, *Depreciation to date* and *Net book value*. The relationship between the values is such that the last column indicates a difference between the first two values. For example, the value in the last column corresponding to *Goodwill* is 10,000 which is a difference between the two preceding values, that is, 15,000 and 5,000. The relationship implies subtraction, identified as operative processes of vectors. These changes in values were also identified as embedded structures. The vectors are, however, not explicitly shown, they are deduced from the meaning of the column heads and the changes in values.

The superordinate and the classified attributes above realise the taxonomic relations in the form of the classifications and composition of the accounting schematic. Realised at the second level of the taxonomic relations, the structures were analysed as embedded structures. For now, the focus of the findings is on the discussion of the implication of the analysed taxonomic relations on the kind of meaning that the conceptual structures realise.

7.2.3 Generalising concepts in taxonomic relations.

The clause explaining operating activities above illustrates an outstanding feature that needs to be elaborated upon. Notably, the difference among the listed examples needs to be highlighted. The cited examples are completely different from each other. For instance, stock is neither creditor, nor expense, nor tax, nor dividend. Each of them has distinct qualities yet they are classified under a general label because they all involve receiving or paying money, which is the cash flow. The example illustrates a generalisation in the accounting text, since disparate entities are cited as examples of a superordinate concept, *operating activities*, hence the generalising concept. Nonetheless, the clause illustrates the manner in which the accounting text realises compositional relations.

In addition to the above example, an analysis of the accounting schematic above, shows classification structures in which different entities are grouped together under a generalising concept. The degree of generality was found to be different among the various entities. The superordinate concepts show the highest form of generality. Since grammatical metaphors have been deployed for the formation of these entities, they are not only construed in abstract terms but they also denote a high level of generality. For instance, *fixed assets* as a concept expresses a broad category that covers a wide variety of things. As the statement shows, the entities range from the buildings and machinery to goodwill. What holds for each of these entities is that, each entity is fixed in the sense that the intention is not to change its form through selling them for cash in the immediate future, for example.

As superordinate the sectional headings the schematic show, are expressed in general terms broad enough to accommodate all the attributes identified as members of the class. As the findings show, under each superordinate the symbolic attributes illustrate participants that are subsumed under the general concept. Although different, the attributes share common characteristics, defined by the superordinate. For example, the concept, *creditors* is defined under notes in one exhibit as: “Only items payable within one year go under the heading” (Textbook A, 2007, p. 585). This means that the participants under the heading, *current liabilities* that is, *proposed dividend*, *creditors* and *corporation tax owing* are payable within one year. Thus, the verbal text and the schematics complement each other in realising the meaning of the text.

The above analysis shows that the classification in each category is specific, indicating participants that belong to the category. Similarly, the composition indicates, particularly through the calculations, items that make up an entity. For example, the schematic shows that, *Reserves* consists of, *Share premium*, *General reserve* and *Profit and loss account*. The analysis, therefore, shows that the composition of a participant is explicit, indicating in specific terms what forms part of a participant and what is excluded.

Although clear, specific and broad, the classifications together with the composition realise meaning that is not only abstract and general, but is also complex. As already indicated the categories are realised in multi-level classification structures. This means that the symbolic structures illustrate composition at the level of the schematic as a whole as well as the level of the classified categories. The symbolic attributes describe the quality of the schematic while at the same time representing a symbol of the category in which it has been classified. The embedded mathematical operations which are not stated in explicit terms add to the complexity and abstract manner in which meaning is represented.

The participants representing the superordinate were identified as technical terms. The terms are expressed in abstract general terms. For instance, *Fixed assets* and *current assets* refer to technical concepts formed through an attachment of a pre modifier to the noun in accounting. The pre modifiers involve a re-construed verb, *fix* and the adjective, *current*, which realise an epithet in the nominal phrases. The re-construed meanings are, therefore, a result of a deployment of grammatical metaphors. The noun head, *assets* is also a technical concept that realises meaning in general terms since it does not specify the type of an asset. The broad general meaning accommodates different classes of things belonging to each category.

The symbolic structures listed under each category are realised in both concrete and therefore less abstract terms. Examples illustrating concrete items include *motor vehicles*, *machinery* and *stock*. Though concrete, the terms are expressed in general terms. For instance, *stock* does not identify the kind of stock the concept represents. Also, *debtors* or *creditors* do not refer to specific individuals or business entities.

Some degree of abstraction was also identified in some of the terms representing the composition of the superordinate. For example, the participant *goodwill* realises meaning in abstract terms. The concept involves a favourable attitude shown by the value of the entire business that is over and above the worth of its assets and liabilities. It, the concept, may also be considered a dead metaphor as it implies a construct from a combination of good and will. In addition, other symbolic structures such as *proposed dividend*, *general reserve* and *authorised share capital* are constructs arising from the deployment of grammatical metaphors. The participant realised by, *Bank* involves some abstraction because a bank is an institution yet in this representation it realises the meaning of the balance of funds at the bank. Nevertheless, the symbolic structures are less abstract and general than the superordinate that they describe.

From the above analysis of the structure of the symbolic carrier, it can be concluded that the grammatical metaphors and nominalisation are functional in accounting. The grammatical resources have been used to create categories for classifying the entities identified in the accounting textbooks. Through the resources, the taxonomies delineating a line of demarcation between entities are set. The taxonomies establish in clear terms what can and cannot be included within a given category, while at the same time being general enough to accommodate a variety of entities.

The above analysis shows that the taxonomic relations are realised through the conceptual structures as well as calculations. It was also indicated that the calculations realising the classification not only define what belongs together but also disconnects some categories or participants from others, which make up the whole. The exclusion of some of the participants from a total defining the whole, while other participants are included was identified as a part-whole relationship that realises analytical structures. The analytical structures realised by the operative processes were identified as the designated analytical operative structures. A detailed presentation of the analytical operative structures follows below.

7.2.4 Narrative and analytical structures.

Although the conceptual structures coordinate to realising the taxonomic relations, mainly symbolic and analytical structures realise the composition of the accounting entities. The analytical structures are, however, realised through the calculations or narrative

structures. This section presents the findings on the relationship between the narrative and analytical structures and the meaning that the two figures realise. The presentation, though, begins with a brief description of the vectors realising the narrative structures.

The calculations among the values describing the verbal texts are realised by the horizontal framelines inserted between or enclosing some values. In addition to the framelines, changes in the values and parentheses were also identified as indications of the vectors, through which narrative structures are realised. The analysis, therefore, identifies the framelines, parentheses and the changes in some values as vectors realising the narrative structures. The vectors were commonly found to be embedded within symbolic structures defining the composition of an entity. Thus, the relationship between the analytical structures and the vectors realising the narrative structures is analysed within the composition of the schematics.

The symbolic structures defining the composition of the schematics embed both analytical structures and vectors identified in the schematics. The visual image below presents the composition of an accounting entity identified as, *RETAINED INCOME*. The entity is introduced with a caption that reads: “COMPLETE ILLUSTRATIVE EXAMPLE OF YEAR-END PROCEDURES OF COMPANIES”. The entity is represented as illustrated below.

The diagram shows a T-account for 'RETAINED INCOME' with various annotations. Arrows point from labels to specific parts of the account: 'Debit side' to the left column, 'Credit side' to the right column, 'symbolic carrier' to the title, 'Classification structure' to the classification codes (GJ6, CPJ6, c/d), 'Vectors' to the horizontal lines separating entries, and 'Symbolic attribute' to the date and month entries.

Debit side					symbolic carrier					Credit side				
					RETAINED INCOME					B2				
20.3					20.2					20.3				
June	30	Appropriation	GJ6	120 000	July	1	Balance	b/d	120 000	June	30	Appropriation	GJ6	133 530
		Bank	CPJ6	14 000										253 530
		Balance	c/d	119 530										
				253 530										
					20.3									
					July	1	Balance	b/d	119 530					

Fig. 6 AB 2

(Textbook B, 2013, p. 85).

Figure 7.2. Ledger Account - An illustration of Retained Income

Figure 7.2 above shows a schematic with the title, *RETAINED INCOME*. The title was identified as a symbolic carrier. The carrier is described by, *Balance b/d 119 530* with the date, *20.3 July 1* at the bottom of the schematic, as a verbal text from the textbook identified the entity with, *it can be seen from the account that retained income account has a balance of R119 530 after the appropriations*. The participant, *Balance b/d 119 530* was therefore identified as a symbolic attribute defining the symbolic carrier, *RETAINED INCOME*.

The schematic is divided into two sides by the double vertical frameline identified as a classification structure. Some participants namely, *Appropriation GJ6 120 000* and *Bank CPJ6 14 000* are placed on the left side while *Appropriation GJ6 133 530* is on the right side. The two sides are normally referred to in accounting as debit side and credit side respectively. The balance of the account at the beginning, shown by the date, *20.2. July 1* is shown as, *Balance b/d 120 000* and on 20.3 July 1, *Balance b/d 119 530*. The change in the balance from *120 000* to *119 530* realise vectors which imply calculations. Other calculations are also indicated by the double and bold lines enclosing *253 530* on both sides of the statement.

The type of calculations undertaken in the image is not specified. The analysis of the enclosed totals of *253 530* on both sides indicates that the listed participant values on each side have been added. The calculations result in the new value in, *Balance b/d 119 530*. The latter also appears on the debit side as *Balance c/d 119 530*. In accounting the term, balance c/d refers to a balancing figure. In other words, an amount by which the total of the smaller side is made to be equal to that of the bigger side. As a balancing value, *119 530* is the difference between the total of the credit side, that is, *253 530* and that of the debit side excluding the balancing figure. This means that *Appropriation GJ6 120 000* and *Bank CPJ6 14 000* have been subtracted from the total *253 530*.

The above analysis shows that while participant value, *133 530* on the same side with the entity that defines the carrier is added, *Appropriation GJ6 120 000* and *Bank CPJ6 14 000* on the opposite side to where the defining attribute is, has been subtracted. Since the balance represents the whole, the analysis shows that addition or subtraction of a participant value depends on its placement in relation to the value describing the whole, that is, the

balance. This means that the narrative structures are determined by a part-whole relationship or the analytical structures. In other words whether a participant value is added or subtracted depends on its position in relation to the symbolic attribute.

The relationship between the analytical structures and the operative processes is such that the subtractions and the additions respectively imply a negative and a positive effect on the whole. In other words, because a participant opposite to the whole is subtracted, it means that such a participant reduces the whole. A reverse order of the relationship holds for the additions. This means that the increases or decreases of the participant value describing the whole are explained in terms of the spatial relation of a participant to the whole. It is because of the spatial relationship that the accounting schematics portray, that the narrative structures were re-construed as analytical narrative structures.

Given the increase in value findings in additions and decrease in subtraction the above analysis was identified as an indication of the cause effect relationship. The relationship is such that some participants decrease or increase the whole, resulting in the additions and the subtractions. For example, given that *Bank CPJ6 14 000* on the opposite side to the balance is subtracted, it means that it decreases the balance, which is the symbolic attribute that describes the carrier. Participants on the same side with the balance like *Appropriation GJ6 133 530* increase it and, therefore, the value, *133 530* is added to the balance. The separation, defined by the vertical double frameline therefore draws a line of demarcation between participants which affects the symbolic carrier *RETAINED INCOME* negatively and are subtracted and those that affect it positively are added.

The above analysis and interpretation of the accounting schematic means that the cause and effect are embedded in the narrative and conceptual structures. The conceptual structures are encoded in the symbolic structure that embeds the classification, analytical and narrative structures. At a superficial level the schematic shows a figure with two sides identified by the symbolic carrier, *RETAINED INCOME*. Since the *Balance b/d* as a participant describing the symbolic carrier changed from *120 000* to *119 530*, it is the other participant values that have changed the balance. However, a portrayal of these participants only identifies their classification with some on the debit side while others are placed on the credit side. The vectors realised by the horizontal framelines only indicate that there have been some calculations on each side of the schematic. The structures which resulted in the

change of balance, that is, 119 530 are hidden, and can only be inferred from the meaning of *c/d*, being carried down in *Balance c/d*.

Thus, the figure does not explicitly identify the participant values which have been subtracted. According to the grammar or structures realising meaning in the accounting schematics additions and subtraction are realised by the lexis add and less, framelines, change in values and enclosure of values in parenthesis. The realisation of the calculations by balance *c/d* mean a deviation from the typical structures that realise calculations, resulting in the meaning that is realised in incongruent or metaphoric structures. Identifying the subtracted participant values by *Balance c/d* implies grammatical metaphors.

The cause effect relationship, as can be seen, is realised through complex abstract structures, which are not explicit to the reader. Whereas, vectors realised by the horizontal framelines and changes in the values of the balances are explicit, those pertaining to the subtractions of the other participants are not explicitly communicated. An interpretation of the schematics also creates challenges for the reader as the calculations, typically realised by, add/+ or subtract/- are realised in visual images by vectors within narrative structures. In addition, the cause and effect relationships are embedded in the classification and realised by analytical structures. Thus, even though the vectors realised by the horizontal framelines enclosing the totals and change in the symbolic attribute value imply calculations, the subtractions are not explicitly stated.

7.2.5 Cause effect relationship.

The widespread representation of meaning through the passive clause structure, not only contributes to the meaning expressed in generalising terms but also in explaining cause. It is noted that the passive representation of the meaning shifts emphasis from the initiator and instigator of the process, namely, the agent, to the medium and the process. As such, the clause promotes an ergative model in which the cause for action is identified in the medium. The analysis of the text indicates that through the passive voice and nominalisation more emphasis is placed on the economic entities than on the agent in establishing cause for the economic activities.

It was explained in chapter 3 that the medium is central in explaining cause in the ergative model. This means that a cause for an action is explained from the perspective of the

medium through which the action is carried out. As such, the model identifies the medium as the cause for economic events. For example, *a debt is paid* is embedded in the circumstantial element of the proposition: //The cash flow *occurs* (when [[a debt *is paid*, not when provisions *are made*]]) //in case *there may be* bad debts in the future// communicates meaning with a focus on debt as the issue of concern. Deletion of the agent in the embedded clause implies a process whereby the *debt* is foregrounded. Foregrounding the medium implies that the entity is identified as a cause for the action realised in *is paid*. In other words there would be no payment if there were no debt to be paid. The presence of the debt necessitates the action of paying.

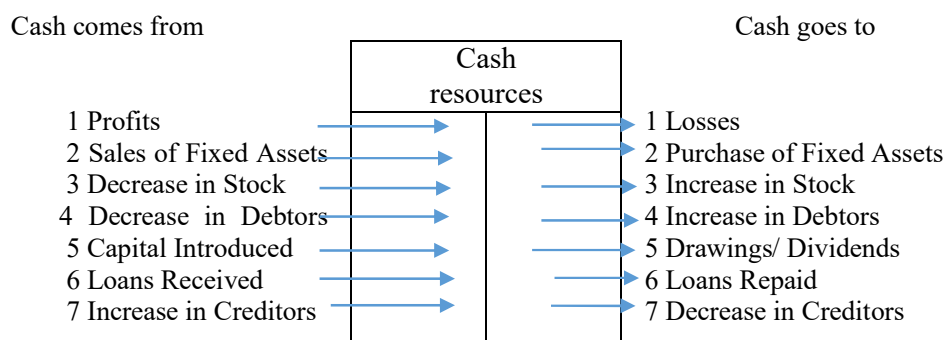
It can be argued that foregrounding the medium shifts the emphasis from social agents to inanimate agents in relation to the cause of events. In other words, the debt has caused payment to be undertaken. It is important to note that in order to explain the effects of the event arising from the debt, the process, pay, is turned into a nominal, payment. The nominal is, in turn, used to explain the event expressed at the beginning of the proposition that is encoded in, *The cash flow occurs*. In other words, the debt payment affects cash flow. It is this flow of argument that is achieved through passive voice and nominalisation which also allows for the conception of the events in terms of the cause-effect relationship between the things or entities arising from economic activities. It is the effects of entities, such as the payment that ultimately leads to the subtractions and additions that are manifest in individual accounts as well as the financial statement.

Another clause from a section on adjustments on final accounts also illustrates the impact of passivisation on the representation of economic events. The clause is encoded as: //For example, certain income receivable figures *may have been omitted* //and this *will be* obvious (when [[the accountant *reads* the financial statements]])//. In the same manner, foregrounding *income receivable figures* identifies the medium as a cause for the omission, as in the case above. If there were no figures representing income receivable, the omission would not have arisen. Once again, a cause for the undertaken economic activity is attributed to an inanimate being. The omission in turn affects the total figure for income receivable, hence inclusion and/or addition of the omission in the financial statements.

The above two examples of debt and income receivable illustrate the effects of passivisation. Through passivisation, an agent is deleted and the medium is foregrounded,

portraying a view that explains a cause for an event from the perspective of the medium. The portrayal implies a transfer of agency from animate beings to things as the presence of the medium raises cause for events to happen. The transfer of agency was identified in clauses wherein things behave like animate beings, receiving and giving other things. For example, a clause explaining non-cumulative preference shares with: //These *can receive* a dividend up to an agreed percentage each year//. In this example, shares receive a dividend. In another example, profits bring cash while losses take cash out. A complete illustration is in the diagram showing the contents of a cash flow statement. The portrayal of the diagram is as shown below. A statement introducing the diagram states that:

Basically a cash flow statement *shows* where the cash resources came from, and where they have gone to. Exhibit 39.1 shows details of such cash flows.



(Textbook A, 2007, p. 490)

Figure 7.3. Cash flow illustration

The listed items in the diagram are accompanied by a verbal text explaining each of the numbered entities. For instance clauses explaining numbers 2, 5 and 6 read:

1 //The cash received from sales of fixed assets *comes* into the business.
 //A purchase of fixed assets *takes* it out// (Textbook A, 2007, p. 490)

2 //An increase in a sole proprietor's capital, or issues of shares in a company, *brings* cash in. Drawings or dividends *take* it out//
 (Textbook A, 2007, p. 490)

3 //Loans received *bring in* cash, //while their repayment *reduces* cash/
 (Textbook A, 2007, p. 490)

Text Excerpt – 6AB 4

The processes highlighted in italics refer to material processes that are normally undertaken by animate beings. However, the portrayal of meaning in the clauses depicts things which *come*, *take*, *bring* and *reduce* cash as animate beings would do. The last material process, *reduce* illustrates a wide spread relation between the entities whereby one entity increases or decreases another. The relationship is shown in a clause explaining the effect of an increase in debtors on the cash flow, portrayed as, //If the debtors *increase*, there *will be* a negative effect//. Thus, the negative effect shows that the increase in debtors reduces cash flow. These decreases and increases lie behind the additions and the subtractions identified in the accounting schematics.

Despite the effect of the entities on each other the fact that the material processes are represented as being undertaken by inanimate beings shows that the meaning is realised in abstract terms. Besides, the increases and decreases arise from the action of human beings, as it is the case when the sole proprietor invests more money in the business in clause 5. However, realised through the nominalised process, *An increase*, the focus shifts from people who cause things to happen to things that affect one another as they increase and decrease. The increases and the decreases noted in the findings above show that the entities affect one another, resulting in cause and effect relationships. The relationships, in turn, are mostly presented in the accounting schematics.

It is important to note that the changes in the medium arise from the actions that are typically undertaken by the agent. However, through the passive voice, grammatical metaphors and nominalisation, the agent is deleted and the meaning of the process is retained in the change associated with or implied in the medium. Through nominalisation, a dynamic action is transformed into an event thing and is related to other things through a cause and effect relationship or a relational process. For example, the debt that is cited above gives rise to the payment which affects the cash flow; the amount of profits retained leads to availability of profits for the distribution which results in distributable reserves.

The cause effect relationship is explained through increases and decreases, manifest in accounts and the calculations identified in the financial statements. Some of the clauses which show the cause-effect relationship are presented below.

1. //The income retained by the company *will increase* shareholders' equity, //the net worth of the company therefore *increases*, //and consequently the value of the ordinary shares also *increase*// (Textbook B, 2013, p. 54).
2. //Also the company *will have* more funds at its disposal //and the utilization of these funds *could lead* to increased profits in the future// (Textbook B, 2013, p. 54).
3. //The retained income for the year *will be* [[the net profit for the year *less* the income tax and dividends]]// (Textbook B, 2013, p. 54).

Text Excerpt – 7AB 5

In some cases, the relationship is expressed in the clauses which incorporate equations. The relations between entities are expressed through additions and subtraction. One such equation illustrates one of the accounting principles, the accrual concept. The clause presenting the equation is specified in:

“//The **accrual concept** says that net profit is the difference between revenues and the expenses incurred in generating those revenues, i.e.

Revenue – Expenses = Net profit	//”
---------------------------------	-----

(Textbook A, 2007, p. 111).

In this equation, the relationship between the participants illustrates how the net profit is calculated. From the subtraction sign, it can be deduced that expenses reduce the net profit while revenue increases it. Explaining the relationship between the participants in terms of the effect of an increase and that of a decrease once again demonstrates an emphasis on the cause effect relationship.

7.3 Portrayal of technicality in accounting

Exclusion and inclusion of participant roles. Material processes carry the agent, medium and beneficiary, as already indicated. However, the findings in the previous chapter indicate that the medium dominates a representation of participant roles throughout the analysed text. The other two participant roles are omitted. A variety of strategies have been used to suppress or omit agency in the material clauses. Apart from a restrictive

representation in visual images, passivisation, embedded clauses as well as nominalisation were found to be the most common methods through which agency is deleted.

The findings also show that portrayal of the material clause in the textbooks, not only realise meaning through a passive voice but also delete the agent. The agentless passive clause structure leaves only the medium, the process and the circumstantial element for the construction of the meaning to the economic events. An analysis and presentation of the findings in this chapter, therefore, examines the ways in which meaning is represented through reconfiguration and restructuring of the remaining elements of the clause. A detailed analysis of the representation of meaning through the three elements of the clause in the accounting text follows.

7.3.1 Generalising representation of economic entities.

In chapter 4 it was indicated that most of the material processes illustrate the construal of economic activities businesses engaged in and accounting processes undertaken by the professionals in the field. The findings also show that there are a few instances in which the agent is mentioned, particularly for material processes concerned with the economic activities. The medium was, however, found to be fairly represented in almost all of the material clauses. The removal of the agent responsible for the process results in an impersonal representation of the meaning. A detailed interpretation of the representation follows.

With the removal of the agent, the remaining elements of the clause, namely, the medium and the process, present the economic event as an impersonal event. The impersonal representation portrays the event as a typical economic activity that can be experienced by any business. For example, the phrases *profits that are generally retained* or *distributable reserves are set up* expresses a normative in the business world. The agentless passivisation turns a concrete experience unique to one particular company into a typical event. In other words, it presents a view that in businesses profits are retained and/or distributable reserves also tend to be set up.

Through the process of presenting the events as a typical phenomenon, agentless passivisation allows for such events to be conceptualised as broad categories under which specific events experienced by individual business become integrated into a model of

generalising economic events. For example, if a business is selling fodder or any farm feeds and another one is selling building material, both of these specific economic activities are classified as sales. When a business pays for rent, electricity, and stationery that it will use in the business, the activities are classified as expenses. The impersonal representation of the economic events therefore provide for generalisation.

The events are represented as existing over and beyond the individual company that physically experienced them. The events are projected as a reality which confronts business entities as an external fact, as in the case of profits which are ‘retained’ and ‘reserves’ which are set up. A vivid example illustrating the impact of passivisation in the representation of economic events involves a concrete experience of a company which publishes its financial statements in the public media. Through passivisation, the event is presented as being typical under the broad category of, “//Financial statements are prepared, copied and circulated ...//”. In this way, the clause represents an objective fact which most businesses if not all face. Different ways in which generalisation is represented in the accounting textbooks follows.

The findings in the previous chapter also show that the agent in material clauses is represented in a generalised form. No specific names of the agents in the form of the name of an accountant or a specific name of a company could be identified from the text. Human agents are referred to in generic terms like shareholders, creditors, accountants or auditors. Only pseudo names of companies used in exhibit exercises were identified. In a few incidences, specific names like those of institutions and professional bodies were identified as agents in material clauses. Apart from these few cases, the agents are mentioned in generalising terms such as board of directors, without an indication of which board the text is referring to. In some instances, as it was shown in the previous chapter, institutions such as a company or a business are identified as agents of concrete actions.

In addition to the generalising terms of agent/actor participants discussed above, the text also realises the medium, which is widely represented, in generalising terms. For example, *liabilities* in, “//Similarly, liabilities should not be shown at values that are too low//” is expressed in general terms as it neither identifies which liabilities the text refers to nor the type of liabilities that these are. In cases where the type of liability is specified as Figure 7.1 above, *current liabilities*, the entity is expressed in general terms. Within these classificatory schemes, the specific type of a liability is still given in general terms, like

creditors with no indication of who the creditors are. Other instances include entities like expenses, which the findings show that they may be classified, as in accrued expenses, but without identification of what the expenses in concrete terms are or how they were incurred and by whom.

In a similar manner to the generalising terms above, *financial statements* in, “//Financial statements are prepared, copied and circulated ...//” is general with no indication of the company to which the statements belong. This means that the meaning is anonymous and impersonal, implying an objective representation of the economic events. Further illustrations include relational clauses such as:

//Examples of Financing activities:

- New issue of shares
- Repurchasing or buying-back of shares
- Raising a loan
- Repayment of loan// (Textbook B, 2013, p. 147).

The clause expresses the meaning of both the carrier and the attributes in general terms. Each of the cited examples represents an economic activity that could be undertaken by a specific company. Identified as examples of *Financing activities* the examples express the meaning in general terms. In other words, specific instance of companies issuing issues or borrowing money is referred to as *Financing activities*. In an instance of customers buying goods from a shop and a business manager buying goods, the activities are depicted as *operating activities* in the non-finite clause, “//[[The cash *generated* by operating activities]]”. Thus, the daily activities of buying and selling in a business are generalized into operating activities.

The entities are expressed in terms which cover a broad category of things and therefore identify entities with similar features arising in a different economic entity or business. For example if one business is buying furniture for purposes of selling it and another one buys cars with an intention of selling them, accountants identify the two instances as operating activities. In addition, both the items bought are considered from the point of view of each business as stock. The generic terms identifying the agent and the medium indicate that meaning in the selected textbooks is presented in generalising terms which cover broad categories of things.

7.3.2 Abstraction in accounting.

Grammatical metaphors and accounting terminology. The above section presented the findings on the technical terms identified from the text. The findings illustrate different ways in which technicality in accounting is constructed. An outstanding feature of the text illustrates that the omission of the agent leaves the remaining elements of the clause as the only grammatical elements through which meaning in the accounting text is constructed. The remaining elements are restructured and reorganized in order to reconfigure the representation of participants. Grammatical resources deployed to reconfigure the participants involve grammatical metaphors, inclusive of nominalisation. The following section presents the findings on the portrayal of the discipline technical terms. The portrayal illustrates ways in which the grammatical resources are deployed to construct meaning in the accounting text.

The technical terms encoded in the clauses in Text Excerpt – 7AB 2 above, illustrate some of the ways in which the grammatical resources have been deployed to construct technical vocabulary in accounting. For instance, *Preference shareholders* in clause 2, *distributable reserves* in clause 4 and *retained income* in clause 6, all represent nominal phrases which realise meaning through grammatical metaphors. The phrases consist of the noun with a pre modifier as an epithet construed as a classifier of the entity represented by the noun. For example, *retained* in *retained income* represents a process that realises the meaning of a quality. The latter realises meaning in metaphoric terms since *retained*, encoded as an attribute typically represents the meaning of a verb.

In clause 5 below, the underlined entities realised within a circumstantial element, provide more examples illustrating an incongruent realisation of meaning that the textbooks portray. The post modifiers *receivable* and *payable* realise meaning of a quality, hence grammatical metaphors since *receive* and *pay* realise processes. The lexical items are represented as post-modifiers of *amounts*. The concept, *financial statements* found in the same clause, illustrates another instance where *financial* is represented as a classifier of the *statements* in question. The concept, *financial* also represents another example of a nominalised process from the verb, *finance*. Other examples of nominal groups with the verb and the adjective encoded as a post modifier include, *income accrued*, *price issue* and *wages accrued* as shown in the previous chapter.

The grammatical structure of the technical terms shows a pattern whereby through rank-shifting a process functions as an element in the structure of a group or phrase. For instance, in the above example, the process *retained* realises a figure in typical grammar but, in the phrase, *retained income*, the lexis functions as a constituent of an element. The technical terms formed through grammatical metaphors were identified as metaphoric terms. A further analysis of the findings indicates that most of the metaphoric terms refer to economic entities.

An analysis of the findings in Chapter 6 showed that the participles used as pre-modifiers function as classifiers of the head noun. As the above examples show, the participle, *retained* identifies a subclass, *retained income* of a general category, which in this case is income. It was also shown in the same chapter that participants represented in the accounting schematics are defined in numeric terms. From this analysis, it can be concluded that the accounting text emphasises the viewpoint that looks at the end result of an event. In other words, the focus is on the transformed entity as a new subclass of a general category to which a numerical value can be assigned. For instance, through the process *issue* a new category of *issued shares* is created. The new category becomes a member of a general class of *shares*. As an entity, issued shares can be assigned a value, through which its relation with the general class can be shown by addition or subtraction.

There were also instances in which the findings show abstract entities realised by process nouns. The process nouns identified include: “purchase, use, reserve and transfer. Some of the clauses below illustrate a portrayal of these process nouns.

1. //Similarly, the purchase of a cheap metal ashtray *would also be charged* as an expense (in the period it was bought) //because it *is* not a material item, //even though it may in fact *last* for twenty years.// (Textbook A, 2007, p. 112).
2. //Shareholders *obtain* their reward in the form of [[a share of the profits known as a dividend]].// (Textbook A, 2007, p. 578).
3. //[[The cash received from sales of fixed assets]] *comes* into the business.// (Textbook A, 2007, p. 490).
4. //The use of accounting standards *does not mean* that two identical business *will show* exactly the same revenue, expenditure and profits (year by year) (in their financial statements)// (Textbook A, 2007, p. 107).

In the above clauses, the underlined elements of nominal phrases represent elements of the phrase realised by nominalisation. Portrayal of the concepts, *reward*, *sales* and *The use* in the clauses above, illustrates process nouns construed as technical vocabulary. The concepts, particularly *purchases* and *sales* were identified in some of the accounting schematics as participants to which values are assigned. It can be concluded that nouns transform the process, creating an economic entity so that it can be defined in numeric terms.

Although grammatical metaphors were found to be widely used in the formation of metaphoric terms representing economic entities, nominalisation, as the findings show, has been deployed to build technical terms referring to accounting processes. A detailed presentation of the findings on the role of nominalisation in the formation of technical vocabulary in the accounting textbooks follows.

Nominalisation and accounting terminology. The findings show different forms of nominalisation. Some of them include the transformation of the verb with a –ion or –ment suffix. Other formations involve process nouns. All these types of nominalised processes were found to be widely represented in both textbooks. The presentation on the portrayal of the nominalised processes with the suffix –ion and –ment follows.

The findings on the portrayal of some of the discipline technical vocabulary are presented below. As shown by the processes, most of the clauses highlighted in italics represent relational clauses. It is only in the last but two sentences in which material clauses are represented. As expected of relational processes, participant roles thereof are represented by nominal phrases.

1. //The appropriation account *shows* how the net profits are to be appropriated, i.e. how the profits are to be used.// (Textbook A, 2007, p. 582).

2. //The consistency concept *says* that when [[a business *has* once *fixed* a method (for the accounting treatment of an item,)] [it *will enter* all similar items that follow (in exactly the same ways)] (Textbook A, 2007, p. 110).

3. //The realisation concept *holds* to the view that [[profit and gains can only be taken into account (when [[realisation *has occurred*]]) //and that //realisation *occurs* only when the ultimate cash realised *is* capable of *being assessed* (i.e. determined) with reasonable certainty]] (Textbook A, 2007, p. 110).

4. //The recognition of profits at an appropriate time *has long been recognised* as being in need of guidelines //and these *have long been enshrined* in [[what *is known* as the realisation]] (Textbook A, 2007, p. 110).

5. //As result, the financial statements *are* 'contaminated' (by the adjustments for accruals and prepayments, amounts receivable and payable.)// (Textbook B, 2013, p. 145).

Text Excerpt – 7AB 7

The underlined elements of the nominal phrases above illustrate instances in which a verb is turned into a noun by adding a suffix, -ion or -ment to a stem. For example, 'appropriation' in '*The appropriation account*', in clause 1 and '*prepayments*' in clause 5 show examples of technical terms formed by adding a suffix to appropriate and prepay respectively. Meanwhile, *consistency* in clause 2 represents a noun derived from the adjective, *consistent*. Most of these examples illustrate a common representation of nominalisation through the attachment of the suffix -ion. It is also important to note that the concepts, consistency, realisation and recognition form part of the conceptual framework in accounting. The implication of the representation of meaning through the nominalised processes, particularly with reference to these key concepts, is discussed in detail below under reification.

Although, the nominalized processes pervade the analysed text, nominal groups realised in the congruent form are also common, as it can be seen from, *Debenture*, *dividend* and *profits*, also cited in the clauses above. The findings also show a wide representation of *debit* and *credit* throughout the text which refers to the accounting processes of recording the economic events. Thus, the terms also illustrate technical terms realised in congruent terms.

Summary. The examples presented above show the different ways in which grammatical metaphors and nominalisation are used in accounting to build the vocabulary in accounting. It was found out that some technical terms are formed by attachment of the suffix, -ion or -ment. In other cases, the findings are that the nouns are formed by the attachment of a past participle or adjective as a pre or post modifier of a noun. The process nouns represent the last category of nominalised processes. Some of the highlighted, nominalised concepts in these clauses represent technical language used in the discipline. As it will be shown later, many of these abstract entities are incorporated in the discipline as the core building blocks of visual images, which constitute a substantial body of accounting knowledge.

It has also been shown that, through nominalisation, the processes are transformed and changed into abstract entities deprived of elements that would have concretized the

events as lived experiences. This means that through the process of nominalisation a whole clause worth of information is compressed into one word, which results in abstraction. The processes are therefore represented, like other technical terms, as abstract entities.

7.3.3 Complex nominal phrases.

The reconfiguration and reconstruction of the participants also has implications for the language that is used to realise meaning, especially in relational clauses. Most of the participants defining and describing the token and carrier are realised in long nominal phrases. Although, textual meaning is not the focus of this study it has been shown, however, that continuous prose in the text is maintained through the deployment of nominalisation, which also allows for brevity. Though brief, the text was also found to be precise in identifying a referent. The latter is achieved through lengthy nominal phrases used to realise the meaning of participants in relational clauses. The section that follows presents the findings on the structure of the phrases.

Information density. All of the above examples indicate different ways in which meaning is represented in abstract terms within the text. Meanwhile, the transformation of material processes into nouns condenses information. For example, the two propositions below illustrate the way in which information is compressed through nominalisation in the text.

//The proceeds of a new issue of shares, the repurchase of shares and the raising (or repayment) of loans *comprise* the financing activities of a company//” (Textbook B, 2013, p. 153).

//The reporting function *is* when we *prepare and present* the financial statements of accompany,// after which analysis and interpretation of the findings *takes place*// so that the directors, shareholders and other stakeholders *can make* informed business decisions// (Textbook B, 2013, p. 95).

Text Excerpt – 7AB 8

Most of the underlined text indicates instances in which the participles realise meaning of an entity, a thing or a quality. Elaboration on the nominal phrases follows.

When represented as an action *repurchase* in the first proposition would indicate the capital market where the transaction was initiated, the parties involved, either stockbrokers or businesses, undertaking to transact with one another. However, as it is, all this information is condensed into a nominal phrase, ‘repurchase of shares’. Deprived of the context specific

elements, the event is represented as an abstract entity through nominalisation. In other words, concrete experiences undertaken by social beings are theorised into abstract entities.

Similarly, *raising or repayment of loans* represents an abstract entity which exists only in words. The same analysis holds for *financing activities*, which is more complex since it involves two forms of nominalization. The gerund, 'financing', modifies activities which also involves a nominalized process, 'act'. Written in typical grammatical structures, both processes would include participants involved in the actions. However, construed as a nominal group, all the necessary information is lost. It is also important to note that although the phrase realises the meaning of an entity, the meaning of a process, particularly, financing is preserved in the nominal. Through nominalisation, the linguistic structure of the text shifts focus from actions to names. Such configurations result in clauses in which a lot of information is packed into a few words, hence information density.

The second statement in the above cited proposition presents *reporting* as a pre-modifier of another nominalisation, *function*. Realised in a congruent representation, *reporting* and *function* would be encoded within a clause which identifies an agent responsible for preparing and communicating the financial statements. Similarly, *analysis and interpretation* when encoded in concrete terms that illustrate lived experiences of the professionals in the field would indicate an agent who analyses and interprets the findings. As nominalised processes, the whole information that would be included in a complete clause is condensed into four words. As such, the meaning is represented in abstract complex terms.

A highlight that needs to be noted from these findings is that the technical terms, *reporting*, *analysis* and *interpretation* of the financial statement are regarded as the basic function of the profession in the field. This means that the core functions of accountants are represented as abstract entities through nominalisation. It was also indicated in Chapter 5 that the key processes which form the bedrock of the theory of accounting *matching concept* and *historical cost* are also represented in abstract terms in the discipline.

Most of the information in the above clause is condensed into a few words through a deployment of grammatical resources and nominalisation. The following section presents the findings on the long and complex nominal phrases because of embedded clauses.

Embedded clauses. In the Text Excerpt – 7AB 2 above, a carrier, *debenture* is described through a long phrase stated as: *a long-term liability representing funds borrowed from the public in small amounts and bearing interest*. In this element, the head noun, *liability* has a classifier, *a long-term* and a long qualifier with embedded gerunds, *representing* and *bearing* and the non-finite phrase, *funds borrowed*. The qualifier describes in detail the nature of the liability that the author is referring to in the clause, in order to avoid ambiguity. For instance, to understand that the money is borrowed from the public and that it has interest, the embedding has to be unpacked; otherwise this key information is lost to the student. It is important to note that the definition also has implication for accounting processes. The interest is calculated and charged to the income statement at the time of preparing financial statements, and all this important information is buried in the embedded phrases. Thus, despite the precision, the embedded non-finite verbs contribute towards the densely packed information.

Clause 6 in the same excerpt represents a unique case in that the attribute of *retained income* is described through a nominal phrase that denotes a formula, as it involves calculations. The attribute involves an embedded clause realized by the process ‘less’. Participants of the latter are realised by *the net profit, income tax* and *dividends*. In addition, the head noun, *net profit*, is qualified by the prepositional phrase, *for the year*. All these elements contribute towards the long nominal phrase that is densely packed with information, while at the same time relegating the information that is crucial for understanding the accounting processes to just an additional information that may be considered to be optional.

In a section on the periodic inventory system, a clause explaining the advantage of the system reads: “//The advantage of the periodic inventory system is that [[*there is* no time and cost involved in recording the cost of sales for each sale]]//” (Textbook B, 2013, p. 137). This is a relational clause with the underlined section specifying a carrier and the rest of the clause a defining attribute. The attribute is, however, realised by a complex and abstract nominal phrase. Realisation of the phrase involves three embedded clauses, namely: an existential clause realised by the process, *there is*; the non-finite phrase, *cost involved* and the two prepositional phrases, *in recording the cost of sales* and *for each sale*. Though precise, the meaning hides the implication that the periodic inventory system has for the accounting

process of recording the cost of sales. As such, it might be difficult for the learner to decipher this significant element because of the information load.

There are instances in which the embedding involves finite clauses. It is important to note, though, that the embedded non-finite phrases were found to be widely represented throughout the text. Instances in which embedded clauses involve finite clause mean that the whole clause is downgraded to a function of an element or component within the structure of a group/phrase. This means that the meaning is realised metaphorically since the expression deviates from prototypical grammar. In addition, the embedding down-plays valuable information that is crucial for understanding accounting because it has an implication for accounting processes.

To illustrate the grammatical metaphors referred to above, the embedded clause is identified by square brackets in the clause: “//The general rule *is* that, in the Balance sheet, [[the assets are valued (at their historical cost.)]]//” (Textbook B, 2013, p. 99). The clause is embedded within an attributive relational clause where the attribute is realised by a circumstantial element of place. The circumstantial element is realised by the prepositional phrase, *in the Balance sheet* The prepositional phrase embeds the clause that indicates that the value of the assets is determined. It is realised as an aspect of a nominal phrase. In addition, the prepositional phrase highlights the significance of the place where the value is determined, whereas the valuation of the assets is equally important. More examples illustrating the structure of the nominal phrases, as represented in the text, are presented below.

In the clauses presented below, the attributes describing the specified concept are realised in long nominal phrases with embedded clauses which, in some cases involve non-finite verbs. For instance, the attribute in clause 2 is made up of the head noun, *balance*; the deictic determiner, *The*; the classifier, *on the shareholders* and the qualifier, *for dividends account*. In this phrase the information that is equally important, like the account in which the balance is reflected as buried in the preposition phrase, *for dividends account*. The structure therefore represents a complex phrase packed with a lot of information in order to ensure that a full description of what is being identified is provided. More examples below illustrate the features.

1. //[[Shareholders of a limited company *obtain* their reward]] in the form of a share of the profits, *known as a dividend*// (Textbook A, 2007, p. 578).
2. //The balance on the shareholders for dividends account *represents* a current liability (at the year-end)// (Textbook B, 2013, p. 53).
3. //The ones [[whose shares *are traded*]] *are known* as ‘quoted companies’ //meaning that their shares *have* [[prices *quoted* (on the Stock Exchange)]]//. (Textbook A, 2007, p. 577-578).
4. //As you know, //double entry *is* the name *given* to the method of recording transactions (under the dual aspect concept)// (Textbook A, 2007, p. 109).
5. //The recognition of profits at an appropriate time has long been recognised as *being* in need of guidelines //and these *have long been enshrined* in [[what *is known* as the realisation]]// (Textbook A, 2007, p. 110).

Text Excerpt – 7AB 9

The technical terms identified above are defined and described in precise and unambiguous terms. The findings, however, show that even though the explanations are accurate, the embedded clauses increase the information load of the phrase. These definitions and descriptions embed clauses and phrases which contain important information crucial for understanding the key accounting concepts and processes that make up the knowledge of accounting. The phrases are underlined in the extract presented above.

In clause 1, the nominal phrase describing the carrier, *dividend*, is represented by a long phrase with an embedded clause, as the square brackets show. The head noun, *Shareholders*, is qualified by along phrase containing the embedded clause, *shareholders ...obtain their reward*, while, *of a limited company* classifies the head noun. The defining concept of the carrier, *dividend*, is profit. However, the concept is buried in the prepositional phrase, *in the form of a share of the profits*, realised as a word that qualifies *reward* in the embedded clause. Thus, to decipher that dividend is a share of profits allocated to shareholders would require unpacking the long complex nominal phrase.

Similar to the above clause, the nominal, *quoted companies*, in clause 3 is also explained through a phrase with an embedded clause, *whose shares are traded*. The embedded clause in the latter functions as a qualifier of the head noun, *The ones* in reference to the companies being described. Consequently, the embedded clauses contribute towards the realisation of meaning that is dense, as it is packed with information. The embedded

clauses would, in everyday language be represented as independent clauses, complete with the process and obligatory participants, hence accessible to the learner. However, because it is packed into a nominal phrase, some of the information is lost, resulting in the meaning that is realised in complex terms. The findings also show that in addition to embedded clauses the phrases also contain, abstractions as well as nominalised processes as *reward* in clause 1 and *prices quoted* in 3 show. The latter also contribute to the already abstract and complicated text.

The long phrases are also represented in clauses 4 and 5. In the latter, the head nouns, *the method* with the classifier, *of recording transactions* and *The recognition* classified by *of profits* already presents complex long phrases. The complexity arises from the embedded gerund in 4 while in 5 the meaning is realised through the nominal, *recognition* and an embedded clause realised by the process, *has long been recognised*. In addition to the already long head nouns, the prepositional phrases, *under the dual aspect concept* and *at an appropriate time* also contribute toward the dense information through which meaning is represented. The embedding in these last clauses involves fundamental accounting processes, which, because they are not explicitly explained, are hidden in the nominal phrases as mere qualifiers.

The long complex phrases were not only found in statements identifying an entity or those describing an attribute but were also found in prepositional phrases describing circumstantial elements. Some of the prepositional phrases are described in simple terms, following the structure of everyday language, others involve complex phrases with embedded clauses. For example, in Text Excerpt – 6AB 5 above the source of principles guiding the recognition of profits is identified by the prepositional phrase, *in [[what is known as the realisation]]*. As it is, the phrase embeds a clause, identified by the square brackets, thus, portraying a complex phrase because of the information load and atypical grammatical structure. A detailed analysis of the findings on the portrayal of circumstantial elements follows.

Circumstantial elements. Circumstantial elements are realised by an adverb or prepositional phrase. In the presentation of the findings, the focus is on the latter. A typical structure of a prepositional phrase includes the preposition at the beginning of the phrase, followed by a nominal group. For instance, from the Text Excerpt 7AB 5 above, *at the year-end* in clause 2

involves the preposition, *at* and the phrase, *the year-end* specifying the time at which the liability is recognised. In clause 3, *on the Stock Exchange* also follows the same structure of a preposition, *on* and the phrase, *the Stock Exchange*. The latter realises a circumstance of place, while *under the dual aspect concept* in 4 represents a circumstance of manner, since it specifies the concept guiding the method of recording. The phrase is also coded within the same structure of a preposition and a nominal. The analysis also identified some instances in which the nominal is phrased differently. More examples from the findings follow.

A representation of the circumstantial element was found to be common in material clauses, especially in instances where meaning is realised through a passive clause structure. Participant roles representing the circumstantial elements were found to be realised by prepositional phrases, some of which embed non-finite phrases. The latter was found to be commonly represented in both textbooks. For example, a section on retained income explains the concept as: “//These profits *are generally retained* (in order to finance future expansion)//” (Textbook B, 2013, p. 36-37). The prepositional phrase describes a circumstance of purpose. The circumstantial element is realised by a phrase in which the nominal group is configured through the infinitive, *to finance* and a post modifier encoded in temporal framework. The post modifier adds to the information load of the phrase and therefore to the complexity of the text.

A similar structure in which an agent is deleted in the same section states: “//Distributable reserves *might be set up* (for various reasons)//” (Textbook B, 2013, p. 37). These clauses indicate, through the prepositional phrases, a circumstance of purpose. There were other instance in which the circumstantial element was found to be describing manner, time and place. For instance, an example illustrating accounting procedures includes a clause that reads, “//The company *is registered* (with an authorised share capital of 250 000 ordinary shares)//” (Textbook B, 2013, p. 34). The prepositional phrase describes a circumstance of means or instrument, indicating the amount of shares by which the company is registered. The abstraction, *authorised share capital* represents a technical term, illustrating further the complex nature of the text.

Other types of circumstantial elements illustrating a representation of different circumstances under which processes take place are shown in the text below.

1. //It is shown (in [[a separate asset account *called* Income receivable or accrued]])// (Textbook B, 2013, p. 48)
2. //Income tax *is incorporated* (into the books of a company) (by means of a journal entry)// (Textbook B, 2013, p. 51).
3. //The directors *may decide* //that some of the profits *should not be included* (in the calculation of [[how much should be paid out]] as dividends)//
4. //[[Cash that *is generated* from cash sales,]] or [[cash that *is used* to pay wages,]] *will be found* (in the Income Statement.)// (Textbook B, 2013, p. 146).
5. //(When this is done) //the amount written off *should be shown* (in the appropriation account and not in the main profit and loss account)// (Textbook A, 2007, p. 582).

Text Excerpt – 7AB 10

A representation of the roles in these clauses illustrates instances in which the prepositional phrase describes the location or place where an item is found or shown. Through these descriptions, the circumstantial elements indicate a place where the items are recorded, hence a circumstance of place. In clause 2, the second prepositional phrase illustrates the circumstance of manner. In clause 3, the circumstantial element suggests a circumstance of time, even though a circumstance of manner is implied. The prepositional phrase refers to when the calculations are undertaken. The significance of the prepositional phrases in construal of meaning in the accounting text is that they specify the manner in which the accounting processes are executed. In other words, the circumstantial element constitutes an importance aspect of the accounting processes.

There are instances in which the prepositional phrases are encoded in complex language. The complexity arises from post- and pre-modifiers of the head noun of the nominal group coded in embedded clauses and the technical terms constructed through abstractions. For example, in addition to the pre modifier, *a separate*, the head noun, *asset account* in clause 1 is qualified by the technical term conceived in abstract language, *Income receivable or accrued*. In clauses 3 and 5 the phrases involve embedded clauses or nominalised processes. The later findings are in phrases that are densely packed with information, which adds to the complexity of the meaning that the text generates. In clause 4, however, the prepositional phrase is relatively simple, although *statement* involves the nominalised process, state.

Other examples involving complex embedded clauses, which describe various circumstances under which accounting processes take place, are presented below. In the first proposition, the prepositional phrase represents a circumstance of means, in other words, it represents the means by which the amount is calculated. The phrase may as well be interpreted as a circumstance of manner as it describes the calculation process. The two alternatives are coded in phrases, which involve long complex post modifiers of the head noun, *half*. The modifier in the first alternative embeds two prepositional phrases, *of the taxable income* and *for the previous accounting period*. The embedded phrases add more information that the clause carries. The modifier for the second alternative is conceived in equally long and abstract terms as it involves an incongruent realisation of meaning in, *the estimated profits* as well as a prepositional phrase, *for the current year*. As it is, the densely packed information lead to a complex representation of meaning.

1. //The estimated amount *is based* (on half of the taxable income for the previous accounting period or half the estimated profits for the current year)// (Textbook B, 2013, p. 51).
2. //The market price *is dependent* on the deals //which *are concluded* (on the buying and selling of shares between members of the public)// (Textbook B, 2013, p. 34).
3. //We also *show* what [[the assets, capital and liabilities *are* (at a given date) (by drawing up a balance sheet)]]// (Textbook A, 2007, p. 488).
4. //(In determining the aggregate amount of each asset or liability,) the amount of each individual asset or liability *should be determined* (separately from all other assets and liabilities)// (Textbook A, 2007, p. 582).
5. //it is true that, (in applying the prudence concept,) an accountant *will* normally *make sure* that all losses *are recorded* (in the books,) //but that profits and gains *will not be anticipated* (by recording them before they should be recorded)// (Textbook A, 2007, p. 582).

Text Excerpt – 7AB 11

In the second proposition, the prepositional phrase construes the time and place within which *the deals* are concluded. However, the spatial temporal dimension is conceived through a nominal phrase with a head noun encoded in the gerund, the *buying and selling*. As such, the abstraction presupposes a world composed of things called *buying and selling of shares*. In everyday language, however, the phrase ‘buying and selling’ refers to actions where the members of the public buy and sell shares to each other. It is these transactions

between the members of the public which determine the price of the shares. However, construed as an abstraction all this information is compressed into the nominal phrase.

In the second proposition, *By drawing up* suggests the means by which the stated items are shown. This means that the gerund, *drawing up*, grammatically realises the meaning in abstract terms and the concept refers to an accounting process, not a nominal. This means that a complex process in which an accountant determines the values of the mentioned items and presents the items in a classified manner in accordance with the format of the balance sheet is presented in a compact form as a nominal phrase. As such, the representation leaves out information that is necessary for the learner's accessibility to meaning and comprehension. Clause 3 portrays a similar structure in realising the meaning in abstract terms.

The prepositional phrases in clauses 4 and 5 realise circumstance of time position. The time position is realised by the preposition, *in*, indicating the time and stage in the process of carrying out the accounting processes, that is, when the statements are drawn. The configuration of the nominal phrase involves the non-finite phrases with, *determining* and *applying* as head nouns and the post modifiers, as complements of the gerunds. The meaning of the time and stage is therefore not realized by a noun indicating time in the moment when an activity is carried out. Rather the meaning is represented in abstract terms, which in the congruent structure of language do not refer to time or stage. Grammatically, both *determining* and *applying* refer to processes, which realise figures, hence the time position is realised in abstract terms.

Notwithstanding the above analysis illustrating an incongruent realisation of the meaning, in other cases circumstances are represented in congruent terms. The prepositional phrase in clause 5 specifies the place, *in the books*, in congruent terms.

The above analysis indicates instances where the nominal within the structure of a prepositional phrase is realised congruently by a nouns specifying a place, time or manner in which an action is carried out. In other cases, the circumstances embed non-finite verb forms. Despite the fact that the base of all the non-finite verbs implies material processes and therefore action, embedding the non-finite verbs within the prepositional phrases disengages them from the requirements of a material clause. Through the embedding, the processes

function as elements in the structure of a nominal group yet in typical grammar the processes realise a figure. As such the meaning is realized in abstract terms. The latter not only represents meaning in abstract terms but it also contributes to lexical density, which add to the complexity of the text.

Summary. In all of the above analysis, the findings show that some of the grammatical participants and the circumstantial elements are realised in long complex nominal phrases. It has previously been shown that the complexity arises from the information load packed in the nominal phrases. Some of the information involves embedded clauses used mostly as post modifiers of the head nouns while others involve the realisation of meaning through nominalisations. Although the embedded clauses refer to accounting processes, most of the clauses describe business activities. The above-embedded clauses show that the technical terms being described by the long phrases arise from activities undertaken in businesses. In other words it is the business activities that engender the formation of the terms.

The embedded clauses, particularly non-finite clause and the nominalised processes, also mean that a lot of information is compressed into a few words contributing towards the dense representation of meaning. It was also noted that the realisation of meaning through such grammatical structures buries the key accounting concepts and processes in the general meaning of the nominal phrase.

7.4 Theoretical perspectives in the accounting textbooks

Linguists, such as, Christie (2004), Fang (2004) and Halliday (2004), explain that presenting the meaning in a passive clause structure brings into focus the medium and the process. The preeminent position assigned to the two participant roles highlights the significance of the roles in meaning making in the accounting text. The findings show that foregrounding the medium and the process results in two outstanding features concerning the representation of economic events. First, the meaning resulting from agentless passive structure leaves the medium, the process and circumstantial elements as the major elements through which meaning in the accounting text is constructed. Secondly, representation of the process without the agent leads to an impersonal generalising representation of meaning. The

findings on the latter have been presented in the above paragraphs. The following section presents the findings with regard to the three elements of the clause employed to construct the accounting knowledge, when the agent is deleted.

7.4.0 Objective representation of the economic entities.

The findings in Chapter 5 indicate that the material processes represented in the textbooks construe business activities and professional accounting processes. The pervasive representation of the processes through the passive clause structure means that the business managers carrying out the business activities and the accountants responsible for the recording the business activities and preparing financial statements from the records are deleted. The presentation of the findings above indicates that the meaning constructed from the remaining elements of the clause involves a reconfiguration of the process to realise the meaning of a quality or a nominal group. Each re-construed meaning is elaborated upon in terms of the construction of technical terms in accounting below.

The findings show that foregrounding the medium and the processes while suppressing agency shifts the focus to the medium and the process. The shift in focus highlights the significance of the things and objects represented by the medium in the construal of economic events. It identifies the things and objects, that is the expenses, income, assets and liabilities as the most important element of a clause which must be given due consideration in an analysis of the activities of a business. The cause or agency which gives rise to these things is relegated to a secondary status with no material effect with regard to reality in the business world. It is therefore the things and the objects, which constitute the essence of the economic activities of a business.

Whereas some entities are represented in general terms, as the above examples show, other entities are realised in abstract terms through the deployment of the grammatical metaphors and the nominalisations. Through the deployment of grammatical metaphors, the re-construed meaning of the process realises an epithet or a qualifier. As an epithet, the re-construed process is used as a pre- or post-modifier of a head noun to form a technical term. Thus, structure of the technical term involves a combination of the medium and the process, hence the metaphoric term. This structure of the constructed terms implies a creation of a new entity or changes in an already existing entity brought about by the material processes of transformation and creation.

The above findings also show that most of these terms refer to objects and things that a business deal referred to in this study as business or economic entities involved in and arising from business activities.

The representation of meaning depicted in the above analysis indicates that the focus of an accounting text in meaning-making is on the medium and the changes that might arise from processes in which the medium is involved. This means that in accounting, the economic events are represented from the perspective of the changes in the economic or business entities arising from a business' economic activities or transactions. The perspective therefore reflects a retrospective or the end result view of the transactions. In other words, it reflects the end results of an activity in terms of the entities for which the activities were undertaken. Nevertheless, the wide representation of meaning through the nominal phrases connected by the relational 'be' process, establishes the thing hood and facticity of the entities, hence a standard for objective reality.

7.4.1 Objective representation of the accounting processes.

In the case of nominalisation, the re-construed meaning realises a nominal group that represents technical terms referring to the professional accounting processes. Whereas business activities refer to actions undertaken by managers of a business, accounting processes refer to the functions of accountants. As the interpretation of the findings in Chapter 5 indicates, the functions involve a preparation, an analysis and an interpretation of financial statements. The proposition cited in the analysis of the findings above provides a succinct description, stating that: “//The reporting function is when we *prepare and present* the financial statements of accompany, // after which analysis and interpretation of the findings takes place// so that the directors, shareholders and other stakeholders *can make informed business decisions*//” (Textbook B, 2013, p. 95).

The function involves translating the information about business activities into useful data that is used to make financial decisions. The accountants prepare the statements according to the set rules and principles of the profession. The principles are expressed in the Generally Accepted Accounting Standards (GAAP). The former, that is, GAAP includes the conceptual framework of the discipline. The following section presents the findings on the representation of the aspects of the framework in the text.

Some of the other nominalised processes like the matching concept and realisation concept form part of the theory of financial accounting as the findings show. The text excerpt below shows technical concepts referring to the principles that guide practice in the profession.

1. //The recognition of profits at an appropriate time has long been recognised as *being* in need of guidelines //and these *have* long *been enshrined* in [[what *is known* as the realisation]]// (Textbook A, 2007, p. 110).
2. //Determining the expenses used up to obtain the revenue *is referred* to as matching expenses against revenues// (Textbook A, 2007, p. 111).
3. //The consistency concept *says* that when [[a business *has* once *fixed* a method (for the accounting treatment of an item,))] [[it *will enter* all similar items that follow (in exactly the same ways)]] (Textbook A, 2007, p. 110)

Text Excerpt – 7AB 12

The underlined technical concepts represent key concepts and principles that guide professional practice. The terms are represented in abstract terms involving nominalisation. The nominalisation process constitutes one of the strategies through which the agent is deleted. The nominalised processes therefore indicate that the text foregrounds the process not the accountant who performs the duties. In other words, the event is represented from the point of view of the action involved in the accounting processes and not the agent.

Despite the nominalised processes on which the edifice of the accounting processes is built, the meaning of the economic events is mainly represented by the medium. The medium is, in turn, realised by a nominal group in which the process is re-construed to participate as an element in the group. The process of realisation begins with the omission of the agent by representing the meaning of the events through the passive clause structure. The omission of the agent is followed by the re-construal of the process to function as a pre or post modifier in the nominal group, resulting in the formation of metaphoric terms. The terms, together with other technical terms realised by congruent nouns, represent the medium, which construe business entities. The process is represented in the diagram as shown below.

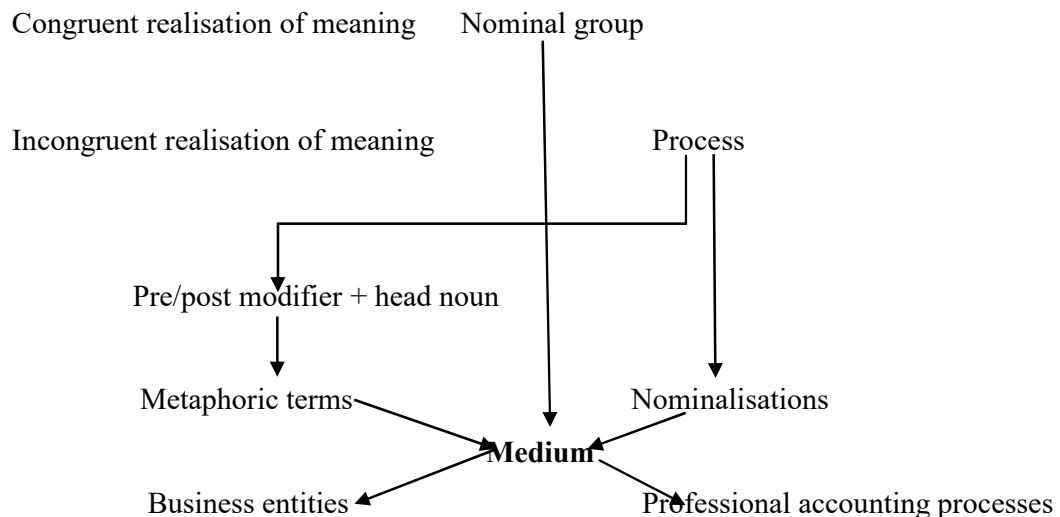


Figure 7.4 The medium and representation

The above diagram illustrates how the medium is foregrounded in the accounting text leading to the representation of the business entities. In addition, the accounting processes are also represented by terms constructed through nominalisation. The incongruent realisation of the meaning results in an objective representation of the economic events.

7.5 Conclusion

The findings on linguistic features of the accounting text covered in this chapter include the passive representation of material processes, deployment of grammatical resources and nominalisation. The latter realises meaning in incongruent terms. It has been shown that material processes are systematically represented in the passive voice, resulting in an impersonal and therefore objective representation of meaning. The findings on the representation of meaning through nominal phrases densely packed with information, particularly embedded clauses were also presented.

The findings in this chapter also show an incongruent realisation of meaning and the wide spread passive clause structure in an objective meaning realised in abstract general terms. The long nominal phrases leading to information density result in a complex

realisation of the meaning. The chapter is concluded with reification, as portrayed in the textbook and showing that some of the concepts arising from some of the linguistic features form the basic or fundamental structure of the discipline, while others have been turned into topics.

The chapter also covered an interpretation of the findings, which shows that the grammatical structures and resources that realise meaning in the text, serve a specific purpose. It has been shown that, although, the meaning is realised in abstract general terms the grammar enables the formation of technicality and taxonomic relations of the technical concepts. Various ways of building technicality in the discipline have been presented, together with the representation of both classification and a compositional relation of the discipline concepts. Other aspects of the meaning realised in the text include cause effect relationships.

The next chapter discusses the findings as presented in this chapter and in Chapters 4 and 5. The findings are discussed with the literature reviewed in chapter 2.

CHAPTER 8: DISCUSSION OF THE FINDINGS

This study focuses on the portrayal of theoretical perspectives in the selected accounting textbooks. The perspectives were examined through the study of the representation of meaning in selected texts from the textbooks. As was shown in Chapter 3 the representation is studied through the analysis of a clauses. Perspectives within a clause are illustrated through the representation of participants. Clausal participants are, in turn, determined by the process of the clause in order to answer the research questions:

What elements of economic events are represented in the selected accounting textbooks?

How are the elements of the economic events represented in the selected accounting textbooks?

The findings on the representation of processes and participants were respectively presented in Chapters 4 and 5. The findings on the last research question (that is, why are the elements of economic events represented in the way they are in the selected texts?) have been presented in Chapter 6. This Chapter discusses the findings in the light of the reviewed literature. The discussion begins with the findings on the representation of processes.

8.1 Representation of meaning material processes

The findings in Chapter 4 show that relational and material processes dominate the representation of processes in the textbooks. Both material processes of creation and transformation were found to be equally presented throughout the text. In addition, it was shown that material processes are presented through a passive clause structure. These processes describe activities undertaken in businesses in the form of economic transactions and accounting procedures. The latter represents processes through which accountants interpret and represent the economic transactions.

The prevalence of the material processes was interpreted as an indication that the economic activities and the accounting processes arise from human actions, thereby identifying accounting as a social activity. As it was explained in Chapter 4, the processes illustrate dynamic actions that can only be initiated by human beings. The findings, however, show agentless passive voice as the predominant clause structure in which the processes are realised. In addition to the passive voice, embedded clauses together with nominalisation were also identified as common features of the text. The grammatical features also include an elided agent. With the agent deleted, the economic events were found to be represented through the medium, the process and the circumstantial element. As it was explained in Chapter 6, deleting the agent shifts emphasis in the construal and representation of the economic events to the medium and the process.

8.1.1 Representation of meaning through passive voice.

The findings are that the passive clause structure and other structures in which the agent has been deleted pervade the text. It has been shown in Chapter 6 that the omission of the agent leads to an impersonal objective representation of the meaning. In particular, the omission removes aspects of the clause that identifies the clausal meaning as a specific instance of the economic activities. This means that the remaining elements of the clause, that is the medium, the process and the circumstantial elements can be experienced by any business. The elements therefore represent a general category of things through which similar events can be interpreted and explained. In addition, deleting the agent leads to the transfer of agency. The findings in Chapter 5 illustrate a number of instances in which inanimate beings undertake activities of human beings. Thus, the generalising feature of the text and transfer of agency are achieved through the passive clause structure.

The findings on the representation of participants in the accounting text were also found to be similar to those indicated in the literature cited above. Most of the human participants mentioned in the text represent classified persons, institutions and institutional structures and things. Even though the human participants are classified, animate participants are mentioned only in a few instances where the functions and roles of participants such as professional bodies are explained. It is important to note that the latter were mostly identified within a relational clause with the functions and the roles realised by a dependent non-finite clauses. The functions are, therefore, presented as potential eventualities, not actual events. The bulk of the representation of participants was found to be that of inanimate objects and

abstract things. Such a representation of participants was also found to be abstract, as meaning is represented in abstract entities or objects participating with one another within the clause structure of the accounting text.

It was also noted from the literature that in science nominalisation is used to turn events into things, that is, static events, so that the processes can be studied and reports be made thereof (Halliday, 2004). The focus in science is, therefore, to study natural cause, hence elided human agency. In contrast, as scholars compare the function of nominalisation in science with that in the social sciences, human agency is important in history and literary arts as the interest is in studying cause as it arises from human actions (Shanahan & Shanahan, 2008). Although human agency is included in literary arts, in history it is mentioned sparingly, with the participants mentioned as classified not specific human agents (Achugar & Schleppegrell, 2005, Fang, 2006, 2010, de Oliveira, 2010). Agency in the history text is assigned to institutions, things and classified persons not specific individuals. As Achugar and Schleppegrell (2005) show, it is only in cases where the text highlights a hero or an event that is considered to be a positive achievement, that the participant is specified.

The literature reviewed for this study also identified meaning realised through the passive form as a common feature of academic text (Schleppegrell, 2006, Fang, 2006, de Oliveira, 2010). Because of the suppression of agency in research activities, the findings in the sciences are attributed to the experiments and not the scientist conducting the experiments (Schleppegrell, 2006). An impersonal presentation of the findings projects an objective knowledge resulting from the research activities. The objective knowledge in turn presents a view of things which happen naturally without human agency. In explaining the representation of cause in history texts, Achugar and Schleppegrell (2005) indicate that the passive voice, ergative verbs and nominalised processes combine to presents historical events as unavoidable occurrences arising from the action of social actors.

Foregrounding the medium and the processes in material clauses referred to above relegates the agent to an immaterial optional participant while at the same time highlighting the centrality of the medium in realising meaning in the accounting text. Although the omission of the agent foregrounds both the process and the medium, it is the medium that structures the construction of knowledge in the accounting text. The findings in Chapter 6 show that the preference text assigns to the medium and identifies the participant as the

reason for economic activities. Ultimately, the cause is attributed to the medium, as the detailed discussion of the findings on the cause-effect relationships below shows. This means that the medium is central to the interpretation of the economic activities. Within the model, the process also changes to realise meaning in a different way from the prototypical structure of a clause.

8.2 Representation of meaning through relational clause

In the case of relational processes, the study finds a high proportion in the prevalence of the representation of both the identifying and attributive relations. As the findings show, the identifying relational clause identifies an entity through a definition. In the case of an attributive clause, the relationship between the entities was found to be described through various means, which included identifying a location of an entity; a description of a quality; classifying and identifying possessive relations. The participants are realised by long complex, and in some cases, abstract nominal phrases. As the findings in Chapter 5 show, nominalisation and deployment of grammatical metaphors were identified in the structure of nominal groups realising the token and the carrier. Long densely packed nominal phrases together with prepositional phrases characterise the structure of the nominal phrase realising the meaning of the value and the attributes in most the relational clauses.

A review of the literature also shows that relational clauses dominate the representation of clauses in an academic text (Halliday & Matthiessen, 2004). The findings from other scholars have shown a representation of both identifying relations whereby a technical term in science is defined or identified as a member of a general class (Fang, Schleppegrell & Cox, 2006). Some studies identified possessive relations between entities in Biology (Schleppegrell & Fang, 2008). The literature also identified a complex representation of meaning through relational clause in various subjects (Martin, 2007, Fang & Schleppegrell, 2010).

An interpretation of the findings in Chapter 6 indicates that the relational clause has been used to build technicality and taxonomic relations in the accounting text. The findings

on the representation of participants of relational processes are discussed within the two categories, beginning with technical terms identified from the accounting text.

8.2.1 Technicality in scholarly text.

From the findings it was found that technicality in accounting consists of concepts which are unique to the discipline, and used to express specific meaning in the field. An analysis of the findings in Chapter 6 illustrates that some of the concepts refer to the accounting processes while others identify economic entities, the things that the businesses deal with. Accounting processes such as debit and credit were identified as unique concepts with Latinate origin. Other technical terms identified as concepts with specific meaning in accounting include asset, liability, profit, balance sheet and account. Although expressed in general terms, most of these technical terms have a referent in the physical world of business. The concepts are exclusively associated with accounting. As such, the terms identify the discipline of accounting, like science as unique and different from other fields of specialisation. The concepts also add authority to the knowledge of accounting and in Bernstein's (1999) terms display hierarchically structured discourse patterns.

In agreement with the findings from the accounting text, technical terms that are unique and specific to a field of specialisation were also identified by Fang (2006), Schleppegrel and Fang (2008) and Martin (2007) in science and history texts. The literature reviewed in these studies show that some of the technical terms in science and mathematics are of Latin and Greek origin (Fang, 2006, Veal, 1999) whereas most of the technical terms found in history are borrowed from other disciplines of knowledge (Schleppegrell & Fang, 2008). Fang (2006) identified: 'photosynthesis', 'compression', 'micro-organism', and 'protostar' in science as technical terms derived from Latin and Greek. The findings from the study undertaken by Schleppegrel and Fang (2008), however, show that history borrows terms such as productivity and profit from economic history. Given that the findings in this study also show that profit is portrayed as a technical term in accounting, it can be argued that accounting also borrows some terms from economics.

Accounting also shares some of the technical vocabulary with everyday knowledge. The findings show that the technical terms borrowed from everyday language include: *drawing up, prepare, enter or record, issue* and *show*. These terms, as it was shown in Chapter 4, refer to specific accounting processes and economic activities that business

managers engage in. The meaning of the terms is therefore specific to the field, describing various accounting processes that accountants undertake in execution of their duties. A similar pattern in mathematics shows that some words, particularly mathematical processes such as, ‘find, simplify, reduce, integrate, get’ are also found in everyday language (Lemke (1999), Veel (1999). As it is the case with the technical terms identified in the accounting textbooks, which refer to accounting processes, these mathematical terms also refer to mathematical processes.

Although, the above accounting concepts are shared with everyday knowledge, the meaning of the terms, as shown in chapter 4, is different, specific and encompasses more aspects than it is the case with the everyday meaning. A comprehensive understanding of the concepts requires an awareness and understanding of embedded processes. For instance, in relation to the preparation of financial statements analysis and classification of expenditure, they follow a set criteria of capital and revenue expenditure. A thorough examination of the terms is therefore necessary in order to assist learners grappling with the meaning of the concepts. The examination helps to identify embedded meaning and how the terms differ from their counterparts in their everyday language use in details.

The meaning of technical terms identified by the researchers and scholars in other fields arises from commonly used words yet it differs markedly in the disciplines of knowledge. The different meaning attached to the accounting terms resembles Fang’s (2006) findings on discourse patterns in science texts. Fang (2006) identified the process nouns used as technical concepts in science. The researcher also highlights differences between everyday use of the meaning of, ‘findings, flower, school’ and ‘fault’ and that of science. Although, the unusual use of the science technical terms identified by Fang (2006) arises from nominalised processes, the difference in meaning from everyday use of the words compares with the discourse patterns in the accounting text.

There is a considerable difference between the way *enter* and *prepare* are used in accounting and in everyday language. Given that in accounting the meaning also arises from the everyday use of the concepts, the different ways in which the words are used in accounting imply the difference in perspectives. The meaning of the accounting and science technical terms is completely different from the way in which the terms are used in everyday

language. Teachers need to draw students' attention to the difference so that students may differentiate between the everyday meaning and the scientific one.

8.2.2 Technicality: accounting processes and nominalisation.

Other technical vocabulary identified from the textbooks involves technical terms formed through the incongruent use of grammar and nominalisation. The examples included technical terms such as preparation, realisation, matching concept, allotment of shares, appropriation of profit account, retained income, issued shares and year-end adjustments, cash flow statement, purchases, sales. Most of these terms were analysed in details in chapters 5 and 6. The examples show that different strategies are adopted to form accounting terminology. As the interpretation of the findings in Chapter 6 indicates, some of these terms refer to economic entities, while others indicate accounting processes and the discipline theoretical concepts. Discussion of the findings in this section is based on these categories.

The nominalised processes whereby -ion or -ment suffix is attached to the base form of a verb, were found to be prevalent in technical terms referring to accounting processes. It has been indicated that nominalisation in the accounting text is used to construct technical terms imbued with the meaning of an action while technically referring to a thing. While the identified technical terms like *preparation of financial statements* and *appropriation of profits* refer to accounting processes, *realisation of income and expenses* refers to a concept that forms part of the theoretical concepts. In particular, the findings in Chapter 6 point to the fact that the key concepts within the discipline's conceptual framework involve the nominalised processes. It was also indicated that the nominalised processes which concern accounting processes constitute the major topics in accounting.

The accounting processes which form main topics in accounting together with the theoretical aspects of accounting realised by nominalisation echo Lemke's (1999) notion of reification in mathematics. Through nominalisation an everyday word such as prepare has been transformed into a complex accounting process, namely, *preparation of financial statements*, which constitute the core business of accounting.

Other examples show that the technical concepts are formed through grammatical metaphors in which the past participle modifies a noun while other terms involve modification of the head noun by the present participle, as it is the case with matching

concept. Most of the technical terms formed through the deployment of grammatical metaphors whereby a past participle modifies a head noun seem to refer to economic entities. Details of the latter are discussed under taxonomic relations below. For now, the focus is on the general discussion of the findings on nominalisation, grammatical metaphors and construction of technicality in the accounting text.

8.2.3 Technicality: economic entities and grammatical metaphors.

The findings in Chapter 5 indicate that the discourse patterns of the accounting text expresses meaning in clear unambiguous terms. The meaning is not only clear but it is also concise and precise. The findings in Chapter 6 show that the clarity in meaning is realised through complex and abstract terms. The complexity arises from the use of technical terms that are different from those found in everyday language use. In addition, it was also indicated that the long nominal phrases describing the technical terms contribute to the complexity of the text. The phrases show a high information load that is demanding to the memory of the reader and may pose a challenge for comprehension. In addition to the dense nominal phrases, the technical terms were also found to be abstract. Each of these aspects is discussed in relation to the pertinent literature below.

Notably one of the outstanding features of the meaning represented in the accounting text involves generalising technical terms. In the previous chapter it was shown that one of the widely represented features in the text involve realisation of meaning in generalising terms. The terms were identified as being technical and formed through nominalisation or deployment of grammatical metaphors. To reiterate the findings from Chapter 6, a term such as prepayments is used to refer to payments of expenses made in advance. The expenses may differ widely but they are grouped together as prepaid expenses or prepayments. Detailed examples of operating activities, current and fixed assets, as generalising technical terms have been presented in the previous chapter. A similar discourse pattern was identified in history whereby the reviewed literature shows that in history nominalisation is used to unite different, though related events (Martin, 2013, de Oliveira, 2010).

The abstract representation of knowledge in this study was identified not only in nominalisation but also in nominal phrases involving grammatical metaphors, as the last examples above show. Deployment of the grammatical resource involves nominalised processes and adjectives used as pre modifiers of an identified head noun. As was shown in

Chapter 6, the pre-modifiers identify in specific terms the referent in question in order to avoid ambiguity. In addition, the analysis in Chapter 6 showed that the technical terms formed through the pre modifiers identify an umbrella term under which other entities are classified.

Although serving a valuable function, the grammatical resources referred to above present knowledge in abstract terms. The nominalised processes highlight the effects of the undertaken processes on the economic entities, in particular the accounts. The effects identify with certainty through a classification of the accounts as, for example, of all the shares or income of a business that the cited examples refer to those which have been respectively issued or retained, hence classifying entities. In addition, this special deployment of the grammatical resource in the construction of accounting terms suggests a generalisation, as other concepts like *bad debts* or *prepaid expenses* also show. The generalising function of the grammatical resource in accounting is similar, although in different ways, to that of history in which de Oliveira (2010) shows that the nominalisation is used to unite disparate events.

The findings also show that nominalisation allows for values to be assigned to the nominalised processes, as the analysis of the visual images showed. The technical terms formed through process nouns such as *purchases* and *sales* provide for the construction of generalising technical terms as well as terms to which values can be assigned. In the previous chapter, instances were shown in which values are attached to entities like *sales* and *purchases* in some of the accounting schematics. This means that nominalisation provides for the numerical values to be attached to the processes re-constructed as entities. The findings suggest a similar pattern identified in economics and mathematics texts (Wignell, 2007, Veel, 1999). Concepts like ‘rate of change’ and ‘Exchange value’ are transformed and quantified through nominalisation as the researchers reported (*ibid.*). Other nominal groups identified from the findings bearing the same qualities of quantification include *depreciation*, *year-end adjustments*, *prepayments* and *accruals*.

Although there are similarities between the findings in this study and those presented in the literature review, there are aspects in which the findings differ. The unique technical terms with Latin origin, those shared with everyday language together with accounting processes arising from nominalisation, indicate similarities between accounting and the disciplines of science and mathematics. As a social science, accounting also displays

discourse patterns similar to those identified by text analysts in history and political economy. Put together, the discourse features identify accounting as a distinct discipline with its own vocabulary for reference to economic entities, business activities as well as the technical processes.

8.2.4 Taxonomic relations in visual images.

The technical terms identified in the accounting text are also organised according to the taxonomic relations, as it was shown in Chapters 5 and 6. The relations are mostly represented through accounting schematics. As it was shown in Chapter 6, the schematics present the relational meaning through composition, classification as well as the cause-effect relationships are realised in one schematic. The taxonomic relations are discussed below.

As the findings show, classification is realised by specific categories within the whole as well as by the calculations connecting and disconnecting categories or entities. In addition, the classifications are stratified and organised in levels, which indicate major categories and subcategories. The categories are identified by superordinate concepts which are represented by the sub-headings in the schematics suggesting generalising technical terms. From the analysis, it was concluded that one of the functions of the grammatical metaphors in the accounting text is generalisation. While the technical terms form part of the building block for the construction of knowledge in the field, they also establish criteria for the analysis and classification of the accounting entities.

The outstanding feature of the schematics showed symbolic attributive relations with the whole representing the carrier and the parts as the attributes, hence the composition of an entity. The composition was found to be realised by the whole and its parts. However within the composition, embedded part-whole relations realising cause effect relationship were also identified. The location and the function of a part within the whole is defined by the calculations, illustrating whether a category or an entity increases or decreases the whole. However, the cause effect relationship is implicit since it is determined by the location of an entity within the whole and is realised by the calculations. This means that the schematics realise meaning in complex abstract terms. Nonetheless, the schematics are specific and comprehensive as the findings in Chapters 5 and 6 indicate.

The findings from the representation of meaning through the accounting schematics are consistent with previous research, as shown by Martin (2007) and Martin and Rose (2008). The findings from the statements show that the technical terms are arranged in an order that suggests classificatory and compositional relationship. As the findings by Martin (2007) and Martin (2013) show, the classificatory schemes are clear and elaborate with distinct items in each of the categories. The compositional meaning also provides a detailed illustration of the components of the image and their function within the whole, as findings by Martin (2007) and Martin (2013) illustrate.

It has been indicated that the sub-headings identifying the general category of the entities represent technical terms, as shown in Chapter 6. The terms are, however, realised in abstract terms constructed through the deployment of grammatical metaphors. The findings therefore show that the grammatical resource not only constructs technical vocabulary but also enables an accurate analysis and classification of accounting entities. A study undertaken by McKenna and Graham (2000) confirms the findings showing that the nominalised process allows for the term to be analysed and classified. Nevertheless, the grammatical structure in which a verb is used to express a quality, presents knowledge in abstract terms. The grammatical structure is different from the structure of everyday language which students have acquired from real life experiences. Within the latter events express human agents and their actions on things. In contrast, the academic text turns these events into entities and relations. The latter explain Shanahan and Shanahan's (2011) assertion that nominalisation alienates students.

The above discussion shows that the taxonomic relations in accounting are as specific and elaborate as the literature in other studies shows. The classification and composition of entities is, however, more complex in accounting since it involves a long chain of implicit relations. Firstly, the composition of an entity is realised by the parts arranged and classified in specific elaborate categories. Secondly, the classifications are stratified showing different levels of classifications. Thirdly, classifications and the composition are determined by the implied part-whole relationship. Lastly, embedded within these relations are the cause effect relationships realised by the calculations. The latter is, in turn, defined by the location of an entity within the whole indicating whether the entity increases or decreases the whole, thereby implying a cause-effect relationship. Thus, in identifying the composition of the

whole, the location and the function of an entity embeds an implicit cause-effect relationship. Consequently, the taxonomic relations are realised by long complex structures some of which, as already shown are hidden.

The complex hidden structures realising meaning in the schematics is in line with the findings from the analysis of mathematics text in which Schleppegrell (2007) identified implicit complex mathematical operations. Drawing from other scholars, the researcher does show how solving mathematical problems involves a chain of reasoning in which implicit principles, operations laws and axioms are applied (Schleppegrell, 2007). It is these assumed and explicitly stated underlying principles which were found to be commonly represented in the accounting schematics. But, as Schleppegrell (2007) attests, a thorough comprehension of the text requires learners to unveil and decipher the meanings of these relational constructions.

The long complex structures identified in the schematics compare with long nominal phrases identified in the verbal text, as it was shown in the previous chapter. The following section discusses this aspect of the findings.

8.2.5 Long nominal phrases.

In addition to the abstract meaning through which the taxonomic relations are represented, the findings also show that some grammatical participants representing accounting entities and processes are described in long complex nominal phrases. The lengthy phrases arise from deictic determiners, pre and post modifiers meant to identify with certainty the entity being described. A further analysis of the findings showed that the modifiers, particularly the post-modifier meant to describe a referent in question in clear precise terms, involve embedded finite and non-finite clauses as well as nominalisation. Thus, the grammatical resources provide the means through which ambiguity is avoided. It was also noted that the pre-modifiers function as classifiers of the entities. Although valuable, it was however, indicated that the grammatical elements increase the information load of the text, thereby posing a challenge in terms of comprehension.

The high information density found in the accounting text is broadly in line with earlier work by Fang (2004, 2006), Fang, Schleppegrell and Cox (2006) and Fang and Schleppegrell (2008) in which the researchers analysed history and science texts. These

researchers explain that the lengthy phrases are a result of the description of entities through lengthy nominal phrases, which incorporate prepositional phrases and/or embedded clauses (Fang, 2006, Fang, Schleppegrell & Cox, 2006). Within these phrases more information is provided in order to describe, in specific terms, a referent in question (Fang, Schleppegrell & Cox, 2006, Fang & Schleppegrell, 2008). For instance, the nominal, *The debit and credit effects of the adjustments*, found in the accounting textbook is similar to long nominal phrases identified by Fang (2004) and Fang, Schleppegrell & Cox (2006) in science, mathematics texts and literary arts.

The findings also show that complex nominal phrases, particularly post modifying phrases involve embedded clauses. In most cases the embedded clauses describe in explicit terms the accounting concepts and processes. In some cases the embedded clauses describe the function, role, or purpose of the financial statements. The embedded clauses, though realized mostly through material processes, provide a structure that does not need an agent, as is the case in mathematics. Thus, without an agent, the embedded clauses within the long nominal phrases present an objective view of the financial events.

In support of the above findings on the embedded finite and non-finite clauses Fang (2004) shows that the high information density in science arises from a head noun modified, among others, by prepositional phrases and/or embedded clauses. As it was shown in chapter 6, the long prepositional phrases and embedded clauses are used in phrases describing accounting processes, qualities of a carrier or, in some cases, defining a token.

The long dense nominal phrases involving embedded clauses were also identified by researchers analysing scholarly texts, as the findings of O'Halloran (2007), Fang and Schleppegrell (2010), Fang, Schleppegrell and Cox (2006), Schleppegrell (2007) show. O'Halloran (2007) indicates that long nominal phrases in mathematics are a result of embedded clauses formed through mathematical symbols used in conjunction with generalised participants. Schleppegrell (2007) confirms this observation indicating that the abstract quantifiable head noun is usually preceded by a classifying adjective followed by a qualifier, which is realised by a long phrase with embedded clauses. In agreement Fang and Schleppegrell (2010) add that the long phrases are also used to construct complex mathematical problems that may be challenging to students. In science and other disciplines, embedded clauses which result in long nominal phrases are used to define or describe

biological processes or the discipline's technical terms (Fang & Schleppegrell, 2008). The findings in this study also show long nominal phrases with embedded clauses as shown above.

The findings in this study also show that the lengthy nominal phrases result from prepositional phrases, which have been used to describe accounting processes. The prevalence of prepositional phrases places emphasis on the circumstantial element of a clause. Within the field of accounting, the circumstantial elements mostly describe where a given accounting entity appears or is to be shown in the books of accounts or financial statements, and when and how it will be treated within the specified setting. Within this grammatical structure, the foregrounding of the process and the circumstantial element suggest the construal of the meaning of the economic events in terms of accounting processes. The long prepositional phrases clarify in unambiguous terms the method of presenting information about the economic events, that is, how, when and where an entity is to be presented.

The use of prepositional phrases describing accounting processes, as explained above, is in line with the findings by Fang and Schleppegrell (2010) in which the researchers analysed, among others, a mathematical text. As shown in the reviewed literature these researchers found that prepositional phrases contribute towards the complexity and length of prepositional phrases used to describe mathematical processes. The attempt to modify the head noun enables precision and accuracy, which, as Martin (2007) explains, are the goals of expository text in formal knowledge forms.

In summary, the long nominal phrases formed through embedded clauses and prepositional phrases describe accounting processes. Notably, the embedding and the prepositional phrases allow for the representation of the processes without specifying the accountant responsible for executing the professional duties. Thus, both the nominalisation process and the information density contribute towards the presentation of the detached view of the accounting phenomenon since the grammatical patterns allow the author to eliminate the need to specify the agent.

The foregoing paragraphs indicate similarities and differences between the findings from the literature reviewed and those of the present study in terms of the information density

of a nominal phrase in scholarly texts. The highlights indicate high information density as a common feature of the analysed scholarly texts, drawn from various disciplines. Specific functions of the long phrases in the accounting text were also explained together with their impact on the representation of meaning. It was noted that although the high density contribute towards the precision of the text, some information is obscure and thus leads to complexity of the text.

8.2.6 Summary.

The above discussion of the findings identifies the findings from this study in relation to other studies analysing formal and scholarly texts from different forms of knowledge. Although, different in some ways, the discussion shows a similarity between the findings of the current study and of the literature reviewed in Chapter 2. The discussion shows that academic texts realise meaning through complex lexicogrammatical structures, including technical vocabulary, passive clause structure, grammatical metaphors and long complex nominal phrases. Notwithstanding other similarities such as taxonomic relations and the cause-effect relationship, it was noted that the structures result in an impersonal objective as well as an abstract representation of meaning.

It has been shown, however, that the deployment of the grammatical resources in the construction of meaning in accounting differs from those in other subjects. The major difference is in the construction of the technical terms of the discipline and the cause and effect relations. The latter, as it has been indicated, are mostly embedded in taxonomic relations showing the part-whole relation within the composition of an entity. It has also been noted that the preeminent role that the circumstantial element plays in the description of accounting processes creates a unique function of the grammatical element in the accounting text.

In support of the above findings, the literature reviewed identified various ways in which textbooks present abstract complex knowledge. The major finding is that abstract representation of meaning arises from the deployment of grammatical resources, mainly nominalisation for the construction of knowledge (Fang 2006, Martin & Rose 2008, Fang & Schleppegrel, 2008). In addition, the literature also identified long nominal phrases as aspects of grammar, which contribute towards the complex abstract meaning in textbooks (Fang, Schleppegrel & Cox, 2006, Fang 2006, Fang & Schleppegrell, 2008). The findings also show

a transfer of agency to inanimate beings to be part of the factors, which contribute towards abstraction (Achugar & Schleppegrell, 2005, Fang, Schleppegrell & Cox, 2006, de Oliveira, 2010).

8.3 Theory building in the accounting text

The findings show that the representation of the meaning of the economic events is mainly through economic entities. In addition to the entities, the representation also covers accounting processes which focus on the analysis, interpretation and reporting of business economic activities. The findings further show that both the entities and the processes are represented in abstract general terms. The section that follows explains the representation that the text displays.

8.3.1 Cause-effect relationship.

The findings in Chapters 4 and 5, particularly the analysis of the accounting schematics, identify relational processes in which the entities are assigned numerical values. Since financial accounting focuses on the financial aspect of the economic events, the omitted agent in the text allows for re-construal of the processes in order to construct new entities. The re-construed processes turn concrete economic experiences into abstract economic entities. For example, when: a board of directors retains income, such income is transformed into an entity called, *retained income*; when a company manager does not pay the wages, and such wages becomes *wages accrued*. As nominal groups, the new entities provide for an allowance to be quantified in terms of being assigned numerical values. This means that, as things or objects, the entities can be valued. That is, they are defined in monetary terms.

The quantified business entities are then related to each other through the behaviour pattern of quantities. That is, the increases and decreases of numbers, as the findings from the analysis of the schematics show. The increases and decreases were identified as cause-effect relationships. The relationships are realised by narrative structures of calculations. Meanwhile the narrative structures imply a part-whole relationship, which is, in turn, buried in compositional meaning. As the above findings also show, the taxonomic relations that the accounting schematics depict are determined largely by the cause-effect relationships.

According to Fang (2004), nominalisation theorises by turning concrete life experiences, which involve actions undertaken by animate beings into abstract entities. The entities bearing numerical values described above indicate that accounting theorises concrete business activities into abstract entities so that the entities can be assigned values. The strategy, as shown in the discussion of the findings above, is similar to the nominalisations, which transformed processes for purposes of creating quantifiable phenomenon in mathematics and economics (Veel, 1999, Wignell, 2007). In the accounting text, however, the purpose of assigning values is to establish the cause effect relationship between disparate phenomena. Assigning the values to the entities is therefore important in financial accounting since the focus in the discipline is on the financial aspect of the economic events.

According to O'Halloran (2003) mathematical operations do not take an agent. As the researcher explains, the operations take the medium in the form of generalised participants (ibid.). The focus of financial accounting on the financial aspects of the economic events explains the omitted agent throughout the text. The omitted agent, particularly in clauses construing business activities enable construction of meaning that focuses only on the quantifiable medium. The quantities in turn enable calculations through which the cause-effect relationships are effected. In the accounting schematics, which represent the accountant's interpretation and representation of the economic events, the agent is completely obliterated. The schematics illustrate the relation among the economic entities in which the cause-effect relationships are expressed. Meanwhile the entities are themselves expressed in a generalised and in some cases abstract form.

Summary. The findings of the study also indicate that emphasis in the construal of meaning of the economic events is on the technical terms and the cause-effect relationships embedded in and realised through the taxonomic relations. This means that the argument in the accounting propositions is constructed from the consequences arising from the economic activities undertaken in business, not from the actions of the business managers. The removal of aspects, which attribute the medium and the processes to a specific business in time and space, allows the event to be generalised to other businesses. Thus, through the passive clause structure it becomes possible to draw generalisations such that the incurred expense and income earned in business are considered as entities, which are common in business.

8.3.2 Reification.

In addition to the construction of economic entities described above, the process of nominalisation turns a dynamic action into a constant phenomenon. This means that a concrete specific instance of an economic event is presented in generalising abstract terms through nominalisation. The generalising concept implies a widely applicable function or process in all businesses. As such, the function can be studied in varied business contexts in order to build on the theory of the discipline.

It can also be concluded that the process of holding a dynamic process constant suggests strategies adopted in order to pursue the research agenda in the field for purposes of building theories. The entity is stabilised so that it can be examined as an object of study. When the entity ceases to be an action undertaken by a specific agent, it inherits qualities that warrant a study of its behaviour as an independent entity existing outside an initiator. For instance, the behaviour of 'distributable reserves' or 'provision for bad debts' in varied business entities can now be studied. Similarly, the accounting processes are rendered objects of study through nominalisation.

The above analysis identifies nominalisation and the deployment of grammatical metaphors as being significant for research in accounting. The grammatical resources, however, also change the structure of knowledge because as entities, the nominalised processes are raised to the level of a topic in the discipline. For example, one of the textbooks chapters has the title: *Company Financial Reporting*. Succeeded by another topic with the title, *Analysis and Interpretation of Financial Statements*, the topic indicates that the nominalised processes together with similar concepts like *preparation of financial statements*, have been turned into complete units of study within the discipline.

It can also be argued that whereas the technical terms for entities are organised into taxonomic relations, those referring to the processes form part of the key concepts for the conceptual framework in accounting. The key concepts are covered in an independent topic in one of the textbooks. The title of the topic is stated as *Accounting concepts*. Other nominalisations which were identified in the text include *appropriation account* and *retained income account* and they identify designations for some of the accounting schematics. As titles of the schematics the nominalisations signify a concrete object that is construed as a phenomenon in and of itself, independent of the maker.

The identification of the nominalised processes as topics establishes and substantiates their existence as concrete real phenomena. The processes are no longer recognised as products of human creation, but rather exist as the phenomena that unfold naturally from the economic activities undertaken in business or activities of the accountant. The purpose of the nominalisations, as indicated in the findings, is to generalise the accounting processes to other businesses. The generalisation enables the study of the economic performance of different types of business as long as the business falls within the same category of industry. As generalised processes, they are established as a common practice followed by all accountants in different businesses. Established as common practice, the processes acquire the status of a topic. This is why they are reified as being worthy of an independent complete unit of study.

Although serving a specific purpose in accounting, the nominalisations lead to abstract representation of the meaning. Through nominalisation the subject matter becomes distanced from the everyday life experiences which students have been exposed to and are familiar with, prior to the encounter with the school curriculum. In everyday interactions, emphasis in construal of concrete life experiences is placed on who does what to whom or what (Prasithrathsint, 2014). The accounting text, however, does not construct the accounting argument from the point of view of an animate being involved in the action. The focus shifts to the business entities and the accounting processes. The abstract entities explain the criticism of an alienating school curriculum that some curriculum theorists (Rogers 1997) have raised against the rational curriculum perspective. As Halliday (2004) observes meaning presented in scientific language is represented in abstract generalising terms.

8.4 Conclusion

The findings in this research identified linguistic features of the accounting text. This shows how meaning is represented in the two accounting textbooks selected for this study. A discussion of these findings indicates that some of the findings were confirmed by the literature reviewed for this study. Differences between the findings in this study and those

identified in the reviewed literature in terms of the way in which language is used to construct meaning were also highlighted. Given the key question guiding the research in this study, the findings highlight an objective representation of meaning as an outstanding feature of the accounting text. It was noted, however, that an objective representation of meaning leads to abstraction and reification. The chapter has been concluded with reification, as portrayed in the textbooks showing that some of the concepts arising from some of the linguistic features form the basic or fundamental structure of the discipline, while others have been turned into topics. The section that follows focuses on the ways in which these findings answer the question posed for this study.

CHAPTER 9: SUMMARY, CONCLUSIONS AND IMPLICATIONS

This study was undertaken in order to investigate theoretical perspectives that the two selected accounting textbooks from Lesotho and South Africa project. In Chapter 1, the statement of the problem identified abstract subject matter knowledge in school accounting as the major concern for this study. The theory guiding the study highlights theoretical perspectives as a contributing factor to the abstract subject matter of the school knowledge. As explained in the theory, theoretical perspectives change throughout the school life of a child.

According to Halliday and Matthiessen (2004), language is functional in the sense that discourse in any given text is structured to serve the needs and purpose of the situation for which the text is constructed. Whereas everyday language construes experience through actions that are undertaken by animate beings, the scientific language construes experience more as a relationship between things than actions. Thus, a child interprets experience differently from the way in which it is interpreted in school through the scientific language, hence the difference in perspectives.

The basic assumption in this study rests on Halliday's (2004) assertion that language is a theory of human experience. Thus, to study the theoretical perspectives, the textbooks project methodology of discourse analysis was found to be appropriate for the study. As Fawcett (1997) argues the perspectives in a text are best studied through representation of participants. Although the focus of the study is on the representation of the participants, the text was analysed for the representation of meaning in order to include abstraction as the major concern in this study. Since accounting is concerned with the financial aspects of economic events, the analysis of the accounting textbooks focused on the way in which the meaning pertaining to the accounting phenomenon is represented. The representation was studied through the following research questions:

- What elements of the accounting phenomena are represented in selected accounting textbooks?
- How are the elements of the accounting phenomena represented in the selected accounting textbooks?
- Why are the elements of the accounting phenomena represented in the way they are in the selected texts?

9.1 The school curriculum structure

The textbooks form part of the program of study, the curriculum developed for the children in the selected countries. Studying the portrayal of the theoretical perspectives in the two accounting textbooks therefore identifies the structure of the school curriculum as the context in which and perhaps for which the text books are authored. The debate on the structure of the content of the school curriculum and the history of the school curriculum contributed to the background of this study. An analysis of the school curriculum in the two countries selected for this study identified the following important aspects.

The structure of the school content knowledge at secondary level is such that the curriculum is organised into separate and independent areas of knowledge referred to as subjects. Each subject draws from the related discipline of knowledge offered in universities for the selection of the subject matter. This means that although different, the school subjects share some features with the parent discipline. In addition an individual subject is treated as a distinct area of specialisation.

An analysis of the accounting syllabus showed that the content is presented in segmented units of meaning identified as separate topics. A further analysis of the syllabus aims and objectives illustrated that each topic is treated as an independent unit of meaning, taught and examined separately.

School activities designed to realise the structured curriculum are arranged according to a scheduled timetabled periods of 40 to 45 minutes duration. Each area of the subject is allocated a set number of periods per week. This means that the subjects are taught separately

as distinct areas of knowledge. Accounting, the focus for this study, is allocated four periods per week in South Africa and five periods per week in Lesotho.

An outstanding feature of the above structure, as noted in chapter 1, is described as the fragmentation of knowledge at both the general level of school curriculum and the subject specific level. It was noted that the curriculum structure has implications for what is to be included in instructional materials designed to facilitate the teaching and learning of the subject matter. It was also indicated that the structure has implications for the organisation and presentation of the content in the textbooks.

9.2 Summary of the findings

The underlying theoretical perspective of the accounting textbooks was studied through an examination of the ways in which language has been used to construct meaning in the accounting textbooks. The study of the use of language in the construction of meaning involved an analysis of the accounting text for the representation of economic events as a phenomenon that the discipline of accounting is concerned with. In order to address the objective, a transitivity discourse analysis model, based on Halliday's systemic functional linguistics (Egins 2004, Halliday & Matthiessen, 2004)) was applied in the analysis of the textbooks.

The elements of the economic events were identified as represented grammatically by the processes, participants and participant roles and circumstantial elements within the structure of a clause. The findings of the study are summarised below.

Representation of the processes and participants: the study finds that all the elements of a clause are represented in the clause structure of the accounting text. However, material and relational processes pertaining to economic events were found to be widely represented throughout the text. In relation to participants and participant roles, the medium, the general or classified participants as well as abstract entities were found to have a high representation than all the other types of participants and participant roles. The circumstantial elements were also found to be fairly represented.

Representation of elements of the economic events: The findings illustrating how the elements of economic events are represented and presented through the three elements of a clause:

- The findings show that material processes describing economic activities in businesses and accounting processes are predominantly represented through an agentless passive voice. The passive voice foregrounds the medium and circumstantial elements. The medium construes things and objects that the businesses deal with. The circumstantial elements, on the other hand, construe the circumstances under which the accounting processes take place. Thus, whereas the medium represents the technical vocabulary that pertains to economic entities, circumstantial elements describe, in most cases, accounting processes.
- Parallel to the material processes described above narrative structures, particularly mathematical operations, were also found to be fairly represented in the accounting schematics. These are renamed analytical operative structures, borrowing from O'Halloran (2005).
- Both identifying and attributive relational clauses together with the obligatory participants were found to be fairly represented in the text. The core participants are represented in generalising or abstract concepts constructed through the grammatical metaphors, which include nominalisation. In addition, the nominal phrases describing or identifying the identified/carrier participants are constituted through long complex nominal phrases resulting in high information density.
- Some of the relational processes were identified in the accounting schematics. Using language from the social semiotic approach, these were identified as conceptual structures, which involve, classification, symbolic attributive and a part-whole relationship. The conceptual structures realise taxonomic relations illustrating classification of the technical terms and the composition of some of the terms. The part-whole relationship realises, in particular, the cause effect relationship identified in the additions and subtractions of values attached to the technical terms listed in the schematics.

Purpose served by portrayal of the elements of the economic events: A further analysis of the findings indicates that the identified linguistic features serve different functions in building the knowledge of accounting.

- The grammatical metaphors and the generalising terms serve a specific function in the construction of the subject matter knowledge in accounting. The grammatical resources enable a construction of the discipline technical terms by theorising from concrete business activities in order to rename and reclassify the economic entities that businesses deal with. The grammatical metaphors, particularly nominalisation, are also used to build technical terms pertaining to processes through which professionals in the field execute their duties and the underlying theories of accounting. The long phrases were found to be valuable in ensuring precision and concision.
- It is noted that the passive voice that pervades the text contributes towards an impersonal objective representation of meaning. In addition, nominalisation, finite and non- finite clauses embedded within the long nominal phrases describing relational participants are also instrumental in constructing an objective and authoritative meaning.
- Although serving a specific purpose in the construction of accounting knowledge the features results in an abstract and complex representation of meaning.

9.2.1 Relationship to previous research.

In terms of the first research question the findings are in line with the research analysing school textbooks in other subjects which indicates that academic text is dominated by relational clauses (Halliday, 2006). The analysis of the participants and participant roles also shows that the medium representing the business things are well represented in the text while the agent is deleted. All the obligatory participants of relational clause were found to be well represented. The findings therefore build on the work of other researchers, as shown in Chapters 2 and 8.

The relational clause that dominates the representation of processes in the text is also confirmed by studies undertaken by other scholars. A number of these researchers show that

the pervasive relational clause found in academic text is used to build technical vocabulary and taxonomic relations in the field (Martin, 2007, Martin & Rose, 2008). A similar pattern was identified in the accounting text. In addition, the taxonomic relations are presented in visual images, the accounting schematics. The latter ring true of the findings by Martin (2007) and Martin and Rose (2008). The reviewed literature also indicates that the passive clause structure presents an objective view of the meaning portrayed by the text (Fang, 2004).

In relation to the second research question the findings also build on and are congruent with earlier research. The material clauses, as it has already been indicated above, are presented in the passive voice. The participants in relational clauses are realised by abstract nominal groups formed through nominalisation and long phrases with a high information density which arises from post- and pre- modifiers. Some of the phrases involve embedded clauses while other participants are realised by long prepositional phrases, which also add to the dense information found in the nominal phrases. The representation of the taxonomic relations, particularly the classification, was found to be multi-layered, while composition embeds cause effect relationships. Some of the reviewed studies for example, Fang (2004), Fang and Schleppegrell's (2010), Martin and Rose (2008) and de Oliveira (2010) also identified similar features in different subjects.

In relation to the last research question, the concepts borrowed from the literature and theory, namely objectivity and generalisation explain the representation of the meaning in the accounting textbooks. It is noted that nominalisation has been used in the text to build technicality, while the long nominal phrases provide precise and concise definitions and descriptions of the terms. The long dense nominal phrases, as other scholars such as Fang and Schleppegrell (2008) note, lead to the findings of complex representation of meaning. The construction of the technical terms through nominalisation and long nominal phrases identified in the accounting text echoes Fang and Schleppegrell's (2010) observation from the analysis of history and science texts.

It was also indicated that the specific way in which nominalisation is used in the accounting text to build vocabulary results in generalising and classifying concepts. The latter and the representation of objective, authoritative meaning were identified as the consequences of the meaning that is represented through technical concepts. It is also noted

that, although nominalisation presents an objective view of the economic events, the representation results in abstraction (Fang, 2004) and reification Veel (1999).

9.3 Contribution to knowledge

The findings of the study indicate that the two accounting textbooks project an objective view of the accounting reality. The objective view arises from the relation that the participle in the passive clause structure denotes. Contrary to the transitivity model, the relation that the participle denotes is not viewed from the perspective of the agent as an initiator of an action, but it is viewed from the medium. Consequently, the point of departure of the past participle in question cannot be the agent but that of the medium. In other words, the past participle is grounded on the medium because it establishes a relation more from the point of view of the medium than that of the agent. Thus, the deletion of the agent and foregrounding of the medium establishes the latter as a participant that engenders the action.

The medium is represented by the expenses, income, liabilities and assets of a business, in other words things and objects. Foregrounding the medium in the representation of the economic events has implications for the orientation or perspective from which the activities of a business are analysed. The findings show that the business activities are analysed from the point of view of the things or objects through which a business functions, not from the point of view of a human being initiating the business activities. In other words the things or objects constitute the essential feature from which the nature and structure of a business is observed and examined. The objective representation of the meaning, however, as Halliday (2004) observes results in an abstract representation of meaning that alienates the students.

It was indicated in chapter 1 that to the researcher's knowledge, no study has been undertaken in order to identify linguistic features of an accounting text. The study has, therefore, contributed not only in identifying theoretical perspective in accounting but also in the ways in which language has been used to construct meaning in the textbooks. The study contributes towards knowledge in that, like all other studies that analyse school textbooks, it explains the sources and nature of abstraction in school textbooks. This is valuable

information for purposes of addressing alienating curriculum that arises from the abstract and complex subject matter.

Through the analysis of the visual images, the study also contributes in a unique way towards understanding of the way in which taxonomic relations and cause and effect relationships are constructed in the accounting text. The finding may help to enhance the teachers' understanding of the struggles that students go through as they learn how to draw and prepare the statements.

9.4 Limitations of the study

The analysis of the accounting text in this study was restricted to transitivity model only. This means that the logical meaning, that is, meaning between the clauses, as an aspect of experiential meaning was not addressed. In addition, other aspects of Halliday's systemic functional grammar, the interpersonal and textual meaning, was also not addressed. The study focused only on the meaning within the clause, as it was explained in Chapter 3. This has a limitation in the sense that a comprehensive view of aspects, like cause in a study on the representation of meaning, would involve a study of meaning between the clauses. This means that a complete application of the experiential meaning, including the logical meaning, as it is drawn in systemic functional linguistics, would have shown how cause is realised in the accounting text. Therefore, although cause, as it is realised within the clause has been presented in the findings, the presentation is limited to the realisation of the meaning within the clause only. This means that it does not present a complete picture of how cause is realised in the accounting text.

In addition, the findings refer to the sections of the textbooks, which were selected for analysis in this study. The findings cannot be generalised to the whole text of the two textbooks. Only two textbooks used at senior secondary level in the two countries were selected for this study. The findings from the two textbooks cannot be applied to all accounting textbooks used in secondary education. The contextual factors, as described in Chapter 1, delineate the context within which these two textbooks function. These factors have to be taken into consideration before the findings from this study are applied.

One of the themes emerging from the findings in this study was identified as an abstraction. It is noted that through suppression of agency, nominalisation, embedded clauses and high information, the density identified in the accounting text represents meaning in abstract and complex terms. It was also indicated that students find the abstract meaning as presented in the textbooks alienating because it is presented in a language that they are not familiar with (Schleppegrell, 2004, Fang, 2006, Moje, 2008). Thus, the text poses comprehension challenges for the students. It would be interesting to find the teachers and learners' views about the representation of meaning in the textbooks and how they use the instructional material at classroom level. It was not possible, due to the limited resources, to find the views of the textbook users about the representation of meaning in the text.

9.5 Model on theoretical perspectives in accounting

This study originated from the researcher's concern about abstraction in the accounting curriculum at senior secondary level of education. It focuses on theoretical perspectives, as portrayed in financial accounting textbooks. The selected text was analysed in order to identify the processes and the participants involved in each clause. The analysis also included the portrayal of the processes and the participants. Halliday's transitivity model was therefore adopted for the analysis of the accounting text. However, from the findings in this study the model was extended to include the analysis of the structure of the elements realising the participants. The suggested model is presented below.

9.5.1 Suggested framework for text analysis in accounting.

The transitivity model was extended to include the ergative model. As Halliday and Matthiessen (2004) observe the analysis of a clause from the standpoint of the ergative model provides an opportunity to match the functions of the elements of the clause between the two models. The findings show that the functions of the participants in the accounting text match those identified by Halliday and Matthiessen (2004) as Table 9.1 below shows. While the medium is identified as the key figure in a clause, it is in the ergative model where the

medium is considered pivotal in providing means through which the process comes into existence (Halliday & Matthiessen, 2004). Elaborating on the value of the medium the authors explain that the participant is obligatory in the choices that text produces make in the construction of meaning (ibid.). The accounting text confirms Halliday and Matthiessen's assertion because, although some participants are deleted, the medium is well represented in most of the clauses, as the findings show.

Table 9.1

Functions of participants in transitive/ergative model

	Ergative model	Transitivity model
Material process	Medium	Goal
	Agent	Actor
Attributive relational process	Medium	Carrier/Token
Identifying relational process	Agent	Attribute/value

Since the participants in Table 9.1 are realised by grammatical elements, which include nominal phrases, the representation of the participants included the analysis of the structure of the phrases. From the findings of this study, it is suggested that a comprehensive study of abstraction should include an analysis of the structure of the nominal phrases realising the participants, as it is shown in the suggested framework in **Table 9.2** below. It is assumed in the model that anyone process takes the participants which may be equivalent to the actor/agent or goal/medium.

The model indicates that a participant may be realised in specific/generic and concrete/abstract terms. In addition, the nominal phrase may be simple in the sense that the noun may be formed through the deictic determiner and a noun head. In other cases, the nominal phrase may be complex because it is formed through pre- and post-modifiers. The

pre-modifier may include, in addition to the deictic determiner, the classifier and an epithet attributing a quality to the head noun. The post-modifier may be formed through a qualifier, which may involve embedded clauses, nominalisations or prepositional phrases. Thus, the pre- and post-modifiers increase the lexical density of the phrase leading to a complex and abstract representation of meaning.

Table 9.2

Representation of accounting perspectives

	Lexicogrammar		
Semantics		Nominal groups	
Agent/Actor	Specific	Generic	Simple
Medium/Goal	Concrete	Metaphoric/ Nominalisation	Compound/complex
Circumstantial element	-	-	Simple
	-	-	Compound/complex
Representation of meaning	Comprehensible	Abstraction Generalising	Complexity (Information density)

9.5.2 Theoretical perspectives in accounting

The findings of the study show that the accounting phenomenon is represented from the point of view of the effects of a process and the medium. The text foregrounds the medium and the end result of a process, not the agent who initiates the action. Since the medium describes the things that a business deals with and also refers to the accounting

schematics arising from the activities of an accountant, the representation of meaning in the text is populated by things. As the transitive/ergative model in **Table 9.1** above indicates whereas the transitivity model identifies the actor as the initiator of the business activities and the accounting process in material processes the ergative model identifies the medium as the participant without which these events cannot take place. Given the importance of the pervasive role that the medium plays in the accounting text, it is suggested that both the ergative model and the transitivity model explain the theoretical perspectives from which economic events are analysed in accounting. The perspectives are elaborated upon below.

Foregrounding the medium and the process while deleting, the agent presents an objective view of the economic reality. Since accounting represents an academic field of study, the objective view was interpreted as a scientific objectivity in this study. The representation of the theoretical perspectives in the textbooks is identified as an objective scientific view of the economic reality, as the diagram below shows. In addition, omission of the agent presents meaning which is generalizable to similar situations, whether they are economic events or organisations. The meaning realised in impersonal or anonymous terms also results in generalising the representation. The observation explains the suggestion for the analytical framework depicted in **Table 9.2** above.

As it has already been indicated, the business activities and the accounting processes are transformed through nominalisation and grammatical metaphors into entities. The re-construed meaning of the business activities into things results in entities to which values can be attached. Since financial accounting deals with the financial aspects of the economic transactions, it is these entities that are defined in terms of the attached values that ultimately constitute the content of the schematics. The accounting processes undertaken by the professionals in the field are also re-construed into things in order to generalise as well as to build accounting theories. Although serving a specific purpose in accounting the re-construal results in the representation that is abstract, hence abstract representation as the model below shows.

Long nominal phrases describing the entities were also identified as some of the outstanding linguistic features of the text. The length of the phrases arises, as shown, from pre- and post-modifiers of the head noun. Some of the modifiers involve embedded clauses, as the framework, **Table 9.1** above, shows. The embedding enables an accurate unambiguous

identification of a referent, hence the meaning realised in precise and concise terms. The precision and concision, however lead to a complex representation. The generalising, abstract and complex representation of meaning are all depicted in the model below.

Representation in Accounting Perspectives

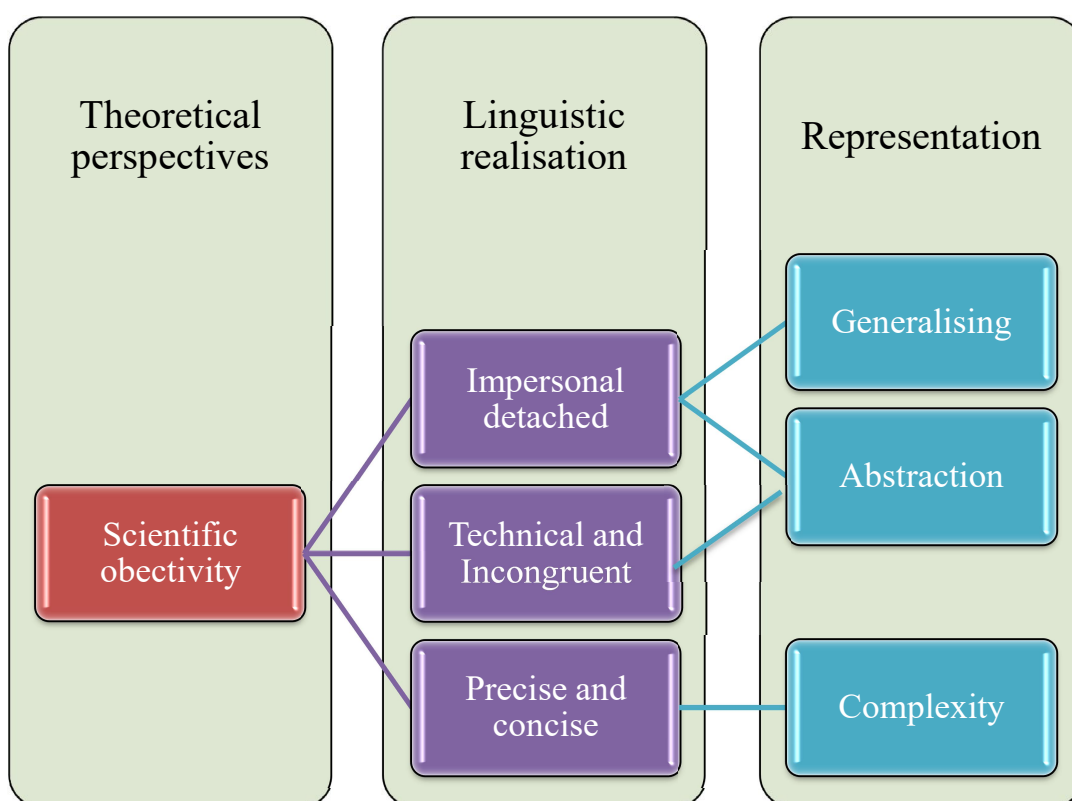


Figure 8.1 Illustration representation perspectives in accounting textbooks

The above model shows the objective view of the economic reality. Therefore the findings indicate a generalising, abstract and complex representation.

9.6 Implications

The findings in this study have implications for teacher education programmes as well as for pedagogical practice in the field of accounting education. In addition, decisions on curriculum policy, programmatic curriculum like the textbooks are also implicated by the findings of this study. Through the analysis of the textbooks the study has identified the theoretical perspective projected by the accounting textbooks. Although the emphasis of the study is on the theoretical perspectives that undergird the discipline of accounting, the study has also contributed to the already existing literature through an identification of the linguistic features of the accounting text. The findings are valuable in two ways elaborated upon below.

9.6.1 Implications for teacher education programmes.

The study supports an argument that the development of disciplinary literacy is important for effective learning of the subject matter of a discipline. With the linguistic features identified from the accounting text, language based teacher education programmes that meant to create an awareness of the structure of the accounting text can be designed. The programmes also equip the student teachers with skills, which have the potential to enable them to deconstruct and reconstruct the meaning that is realised in textbooks. The latter simplifies the text, thereby addressing the problem of abstraction.

Equipped with the literacy skills, teachers can incorporate the teaching of the literacy skills in their teaching of the subject matter knowledge. The development of disciplinary literacy skills enables the students to study on their own through an independent reading of their textbooks.

It was shown in chapter 1 that some scholars argue that the school curriculum presents knowledge that is far removed from the life of the students. The findings in the current study have, in turn, shown that the human element is removed from the text. As it has been shown through the deployment of grammatical resources and embedded finite and non-finite clauses, human beings are replaced with things, which ultimately results in the transfer of agency. The behaviour of animate beings, which is transferred to things, adds to the complexity and abstract knowledge of the text. Reconstructing the text in order to bring the agent back in to

the reality of economic activities of a business might add life and relevance to the text, in such a way that students can identify with the content of the subject.

9.6.2 Implications for curriculum policy.

The findings of this study also have implications for policy in the sense that textbooks, as already indicated, represent a programmatic curriculum. As some of the literature in Chapter 1 illustrate, textbooks play a key role in structuring the day-to-day lessons in schools (Bakker, Eskell-Blokland & Ruane, 2010, Palm & Bisman, 2012). Palm and Bisman (2012) show that accounting textbooks determine, to a large extent, the knowledge that the students acquire in schools. Given, the critical role of textbooks in the curriculum, the nature and structure of the expository written scholarly text have to be taken into consideration when decisions about selection and recommendations of textbooks are made.

In addition, the identified linguistic features provide a glimpse of the nature of knowledge in accounting in the school curriculum as well as the knowledge of accounting as a subject drawn from the disciplinary knowledge offered in universities. The portrayal of knowledge in the accounting textbooks illustrates specific functions and purposes of the identified linguistic features in the construction of meaning about economic events. The specific purpose of language in the construction of the discipline has implications for the curricular policy and for the selection and organisation of the knowledge of accounting. Since financial accounting as a discipline of knowledge represents the parent discipline from which the subject matter of the school curricular is drawn, decisions on the structure of the school curriculum has to take the nature of the disciplines of knowledge into consideration.

The findings provide valuable information with regard to the structure and nature of accounting which are important to consider before curriculum policy-makers classify the subject as being vocational or practical subjects, which equip learners with practical skills, as it is the case in Lesotho. In addition, the findings show unique ways in which cause-effect relationships are realised and unique technical vocabulary and taxonomic relations which have implications on the extent to which one subject can be integrated with other subjects. A

policy on an integrated curriculum, as it is the case with Business Education⁵ in Lesotho, requires a serious consideration even if the subjects are related to accounting, as other business subjects are.

9.6.3 Recommendations for further research.

This research project was carried out on a small scale because of the limiting factors which are beyond the control of the researcher. The findings are, however, valuable in illuminating the areas which require the teachers, teacher educators and policy makers' attention concerning the structure of the accounting text. Because of the limited scale on which the research was undertaken, it is hoped that further research will be undertaken in this area, particularly with regard to the logical meaning or the meaning between the clauses, in order to identify other aspects of the accounting textbooks which need scholars' as well as researchers' attention.

Research on teachers' and students' views about the structure of the accounting text as well as how the textbooks are used at the classroom level is also necessary. These research activities may indicate the strategies that teachers adopt in simplifying the text. It is also important to examine the extent to which the teachers and the students find the text as being abstract, as the analysis in this study indicates.

9.7 Autobiographical reflection

Undertaking this study has helped me gain a lot of experience in research. I have learned that a research process is demanding and that it is not straight forward and linear. I noted that on reflection as I progressed and gained more knowledge and experience in research I often realised the errors that I made in the preceding stages. The reflections on the stages required revisiting work already done and making the necessary changes. This can be quite discouraging, especially when it requires having to rework a whole chapter. However, I

⁵ Business education is an integrated subject offered in Lesotho at junior secondary level. The subject integrates financial accounting, management accounting,, management, economics and commerce.

gained knowledge and experience through the process. The major insights that I noticed were that research involves forward and backward movement, even though this may be tedious. I also noted that research requires more critical thinking than just reading, while at the same time reflecting on self in order to adjust some of the decisions and actions undertaken under inadequate reflections. Reflexivity was, therefore, helpful in enabling me to critic my work as I progressed.

The study has also been of benefit to me professionally. I am now aware of some of the factors, which contribute towards abstraction. I am particularly aware of the impact of language on representation of knowledge. The study has, therefore, enabled me to question my assumptions about the teaching profession and the nature of the subject matter knowledge. The findings have provided me with some guidelines for possible changes to my own future practice. In addition to adopting some of the recommendations made above, I intend to examine other aspects of accounting textbooks, since I am now aware of the impact that the structure of a text might have on teaching and learning. The changes will probably have to be taken on board with other intended studies to examine teachers' and learners' views about the text, while studying afresh the extent to which the teachers attend to linguistic features in their attempts to simplify the subject matter knowledge.

Above all these lessons, I have learned to question my assumptions and some of my colleagues' assumption that incorporating everyday knowledge into formal school knowledge is a straight forward procedure. I am beginning to question the strong belief which I held that it is possible to develop financial literacy within the teaching and learning of accounting. I am now aware of the limits of the possibility of infusing a practical aspect of everyday knowledge into a subject matter knowledge drawn from a discipline of knowledge. The awareness has caused me to shift my assumption about the nature of knowledge and the way of knowing in education. I am beginning to look somewhere, perhaps to critical research, for possible answers to some of the questions raised about the school curriculum.

9.8 Conclusions

The key question that was posed at the beginning of the study has been addressed. It has been shown that the accounting text presents an objective view of the economic reality. The meaning pertaining to the economic events is presented as a universal factual truth. It has also been indicated that the accounting phenomenon is viewed and analysed from the point of view of the medium represented by the things and objects that a business deals with. The agent is relegated to the background and, therefore, does not feature in the representation of economic events. The deleted agent contributes towards a representation of an objective, though abstract, meaning.

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APPENDICES

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APPENDIX A EXTRACT FROM LESOTHO SYLLABUS (LGCSE)

**LESOTHO GENERAL CERTIFICATE
OF SECONDARY EDUCATION**

Lesotho General Certificate of Secondary Education
Syllabus

Accounting

0187For examination in November 2015

National Curriculum Development Centre
in collaboration with
Examinations Council of Lesotho



1. Introduction

The Lesotho General Certificate of Secondary Education Accounting syllabus is tailor-made to instil entrepreneurial culture in the learners and to form a sound base for further learning in the Commercial field.

2. Rationale:

This syllabus is intended to prepare and expose learners to the global business world faced with economic challenges and recurring economic recessions. Products of this syllabus should be able to find their rightful place in the business world, contribute and participate meaningfully. Learners are to develop a good appreciation of the accounting principles and practices internationally so as to become competitive in a dynamic business environment. The syllabus further encourages learners to develop analytical attributes and entrepreneurial skills to be able to evaluate various business scenarios and make informed judgements. Products of this syllabus are to demonstrate high numeracy, literacy, research skills to enhance recording, accounting and decision-making

3. Assessment at a glance

For Lesotho General Certificate of Secondary Education (LGCSE) in Accounting, candidates take two compulsory components: Paper 1 and Paper 2.

Candidates take:

Paper	Description	Duration	Marks
1	This is a structured question paper with 12–15 multiple choice questions and short answer questions. There are usually between 4 and 5 questions based on topics from the whole of the syllabus. All questions are compulsory, and candidates answer on the question paper. <i>Weighted at 33.3% of the total marks</i>	1hr 15 mins	50

AND

Paper	Description	Duration	Marks
2	This is a structured question paper. There are usually 4 to 6 questions based on topics from the whole syllabus. All questions are compulsory, and candidates answer on the question paper. <i>Weighted at 66.6% of total marks</i>	2 hrs	100

Paper availability

This syllabus shall be examined in the May/June examination sessions and the *October/November* examination series. It is also available to private candidates.

4. Syllabus Aims

The aims of Lesotho General Certificate of Secondary Education Accounting syllabus are to:

- develop knowledge and understanding of the principles and purposes of accounting for individuals, businesses, non-trading organisations and society as a whole
- develop knowledge, skills and attitudes to establish businesses that are environmentally friendly
- develop an understanding of accounting principles, procedures, techniques and terminology
- develop skills in preparing and interpreting accounting information
- develop skills of numeracy, literacy, communication and enquiry
- encourage attitudes of accuracy, orderliness, logical thought and an appreciation of professional ethics
- develop an excellent foundation for advanced study
- develop some appreciation of information and communications technology in accounting.

Teachers are expected to relate the content of the syllabus to local and national events. It is important that learners understand the importance of accounting in the daily lives of individuals and in the running of businesses.

5. Assessment Objectives:

5.1 Knowledge with understanding (AO1)

Learners should be able to:

- demonstrate knowledge and understanding of facts, terms, principles and techniques appropriate to the syllabus
- demonstrate understanding of knowledge through numeracy, literacy, presentation and comprehension
- apply knowledge and information to various accounting situations and problems

5.2 Analysis (AO2)

Learners should be able to:

- select, analyse and present data in an appropriate accounting form

5.3 Evaluation (AO3)

Learners should be able to:

- interpret and evaluate accounting information and draw reasoned conclusions

8.6 Preparation of financial statements

8.6.1 Sole traders

- explain the difference between a trading business and a service business
- prepare income statements and statements of financial position for trading businesses in vertical format
- prepare income statements and statements of financial position for service businesses in vertical format
- make adjustments for provision for depreciation using the straight line (equal instalment), diminishing (reducing) balance and revaluation methods
- make adjustments for accrued and prepaid expenses and accrued and prepaid income
- make adjustments for bad debts and provision (allowance) for doubtful debts
- make adjustments for goods, services and cash taken from the business by the owner for personal use

8.6.2 Partnerships

- explain the advantages and disadvantages of forming a partnership
- outline the importance and contents of a partnership agreement
- explain the purpose of an appropriation account
- prepare income statements, appropriation accounts and statements of financial position in vertical format
- explain the uses of and differences between capital and current accounts
- draw up partners' current and capital accounts in both the ledger form and as part of a statement of financial position
- show the treatment of interest on partners' loans, interest on capital, interest on drawings, partners' salaries and the share of profits or losses
- make simple entries for the formation of a partnership via capital contribution by each partner in cash and/or non-cash assets
- make adjustments to financial statements as detailed in 8.6.1

*There will be **no** questions set on the admission of a new partner amalgamation of sole traders or on partnership dissolution*

8.6.3 Limited liability companies

- explain the following terms: limited liability, authorised capital, issued capital, called up and paid up share capital
- explain and distinguish between authorised, issued, called up, paid up share capital (preference shares and ordinary shares) and loan capital (debentures)
- explain the capital structure of a limited company comprising preference share capital, ordinary share capital, general reserve and retained profits and how it appears in a statement of financial position
- prepare statements of changes in equity

Learners are not required to have an awareness of cumulative and non-cumulative preference shares, deferred, founders', participating, redeemable "A" shares, rights issue, bonus issue, share premium or capital redemption reserve.

Learners do not need to record the issue of shares, make entries for corporate tax or to know about accounting requirements of the Companies Acts.

8.6.4 Clubs and societies

- distinguish between receipts and payments accounts and income and expenditure accounts
- prepare receipts and payments accounts
- prepare accounts for revenue-generating activities, e.g. refreshments
- prepare subscriptions accounts
- prepare income and expenditure accounts
- prepare statements of financial position
- make adjustments to financial statements as detailed in 8.6.1
- define and calculate the accumulated fund

8.6.5 Manufacturing accounts

- distinguish between direct costs and indirect costs
- define the following terms: direct material, direct labour, direct expenses, prime cost, factory overheads and cost of production
- make adjustments for work in progress
- prepare manufacturing accounts, income statements and statements of financial position
- make adjustments to financial statements as detailed in 8.6.1

8.6.6 Incomplete records

- prepare opening and closing statements of affairs
- calculate profit or loss from changes in capital over time
- calculate sales, purchases, gross profit, trade receivables and trade payables and other figures from incomplete information
- prepare income statements and statements of financial position
- make adjustments to financial statements as detailed in 8.6.1
- apply accounting techniques of mark-up, margin and inventory turnover to arrive at missing figures

Questions on incomplete records will only relate to sole traders.

8.7 Analysis and Interpretation**8.7.1 Financial relationships**

- compute and explain the importance of rate of inventory turnover, gross profit/ revenue (sales), profit for the year/revenue (sales), profit for year/capital employed (ROCE), working capital ratio (current ratio) and quick ratio (acid test ratio)
- explain the relationship of gross profit and profit for the year to the valuation of rate of inventory turnover, expenses and equity
- recognise the importance of valuation of inventory and the effect of an incorrect valuation of inventory, on gross profit, profit for the year, equity and asset valuation
- relate the working capital to the liquidity of a business
- prepare and comment on simple statements showing comparison of results for different years
- make recommendations and suggestions for improving profitability and working capital

8.7.2 Users of accounting information

- discuss the use of accounting information by the following interested parties for decision-making: owners, trade payables, investors, managers, banks, club members, governments etc.

8.7.3 Accounting principles and policies

- explain and recognise the application of the following principles in the compilation of financial statements:
 - business entity, going concern, historical cost, money measurement, accounting period, matching/accruals, prudence, materiality, consistency and dual aspect
- recognise the influence of international accounting standards in narrowing areas of difference and variety of accounting practice, improving comparability; relevance, reliability and understandability of accounting information

*Questions will **not** be set on specific international accounting standards*

8.8 Payroll accounting

8.8.1 Payroll records

- state the uses of the following: clock card, time sheet, payroll register, wages sheet, payslip
- explain and calculate pay using time basis and piece work basis
- explain and calculate overtime
- explain and calculate statutory deductions for income tax (pay as you earn – PAYE) and pension
- explain and calculate voluntary deductions for pension contributions, subscriptions, charitable donations etc.
- explain and calculate gross and net pay

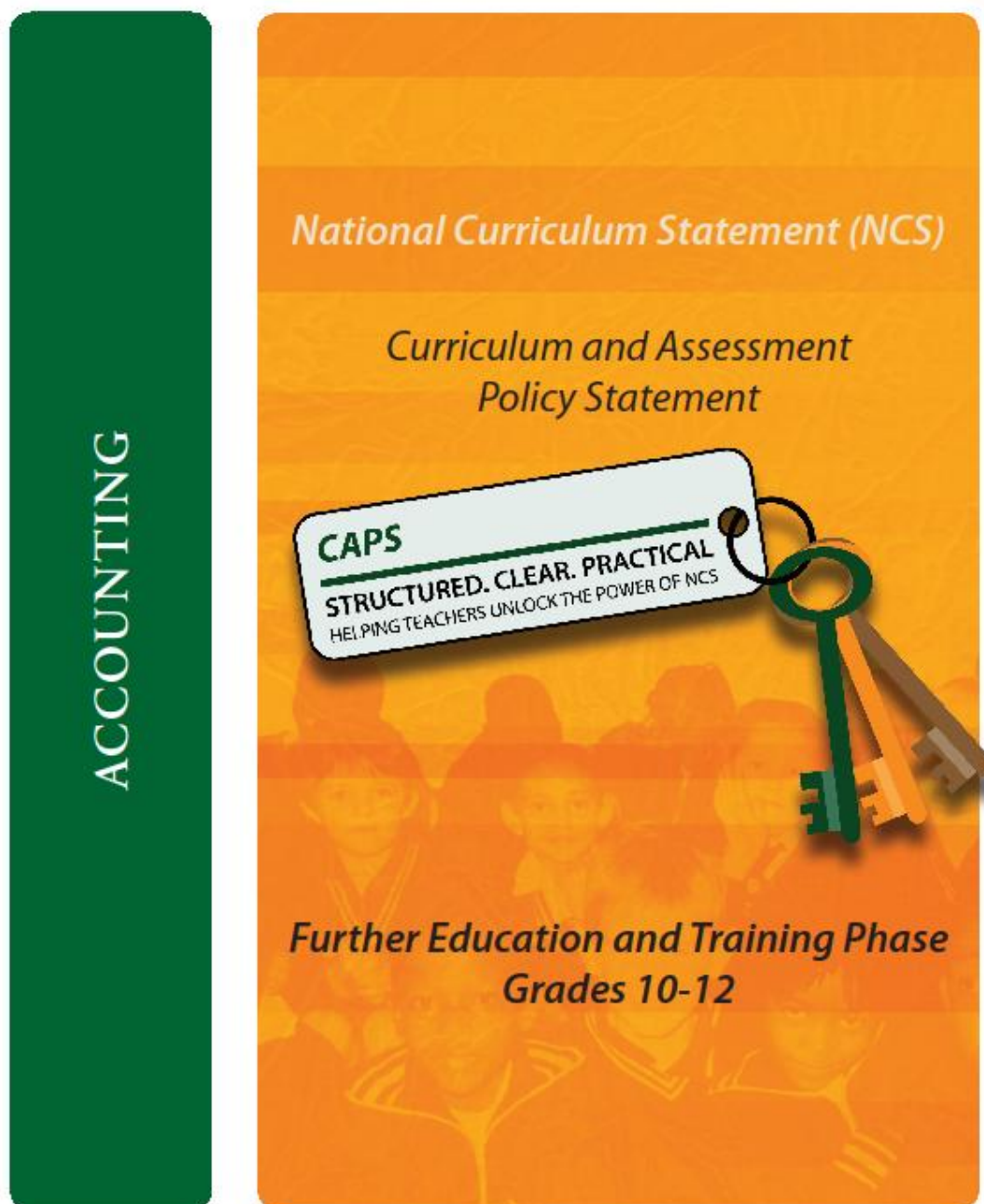
*Knowledge of bonus schemes, tax tables and other tables is **not** required*

8.7 Analysis and Interpretation

8.7.1 Financial relationships

- compute and explain the importance of rate of inventory turnover, gross profit/ revenue (sales), profit for the year/revenue (sales), profit for year/capital employed (ROCE), working capital ratio (current ratio) and quick ratio (acid test ratio)
- explain the relationship of gross profit and profit for the year to the valuation of rate of inventory turnover, expenses and equity
- recognise the importance of valuation of inventory and the effect of an incorrect valuation of inventory, on gross profit, profit for the year, equity and asset valuation
- relate the working capital to the liquidity of a business
- prepare and comment on simple statements showing comparison of results for different years
- make recommendations and suggestions for improving profitability and working capital

APPENDIX B Extracts from South African Syllabus (CAPS)



basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA



**CURRICULUM AND ASSESSMENT POLICY STATEMENT
GRADES 10-12**

ACCOUNTING

SECTION 1

INTRODUCTION TO THE CURRICULUM AND ASSESSMENT POLICY STATEMENTS FOR ACCOUNTING GRADES 10-12

1.1 Background

The *National Curriculum Statement Grades R-12 (NCS)* stipulates policy on curriculum and assessment in the schooling sector.

To improve implementation, the National Curriculum Statement was amended, with the amendments coming into effect in January 2012. A single comprehensive Curriculum and Assessment Policy document was developed for each subject to replace Subject Statements, Learning Programme Guidelines and Subject Assessment Guidelines in Grades R-12.

1.2 Overview

- (a) The *National Curriculum Statement Grades R-12 (January 2012)* represents a policy statement for learning and teaching in South African schools and comprises the following:
 - (i) *Curriculum and Assessment Policy Statements for each approved school subject;*
 - (ii) *The policy document, National policy pertaining to the programme and promotion requirements of the National Curriculum Statement Grades R-12; and*
 - (iii) *The policy document, National Protocol for Assessment Grades R-12 (January 2012).*
- (b) The *National Curriculum Statement Grades R-12 (January 2012)* replaces the two current national curricula statements, namely the
 - (i) *Revised National Curriculum Statement Grades R-9, Government Gazette No. 23406 of 31 May 2002, and*
 - (ii) *National Curriculum Statement Grades 10-12 Government Gazettes, No. 25545 of 6 October 2003 and No. 27594 of 17 May 2005.*
- (c) The national curriculum statements contemplated in subparagraphs b(i) and (ii) comprise the following policy documents which will be incrementally repealed by the *National Curriculum Statement Grades R-12 (January 2012)* during the period 2012-2014:
 - (i) *The Learning Area/Subject Statements, Learning Programme Guidelines and Subject Assessment Guidelines for Grades R-9 and Grades 10-12;*
 - (ii) *The policy document, National Policy on assessment and qualifications for schools in the General Education and Training Band d, promulgated in Government Notice No. 124 in Government Gazette No. 29626 of 12 February 2007;*
 - (iii) *The policy document, the National Senior Certificate: A qualification at Level 4 on the National Qualifications Framework (NQF), promulgated in Government Gazette No.27819 of 20 July 2005;*

ACCOUNTING GRADES 10-12

- (iv) *The policy document, An addendum to the policy document, the National Senior Certificate: A qualification at Level 4 on the National Qualifications Framework (NQF), regarding learners with special needs, published in Government Gazette, No. 29466 of 11 December 2006, is incorporated in the policy document, National policy pertaining to the programme and promotion requirements of the National Curriculum Statement Grades R-12; and*
- (v) *The policy document, An addendum to the policy document, the National Senior Certificate: A qualification at Level 4 on the National Qualifications Framework (NQF), regarding the National Protocol for Assessment (Grades R-12), promulgated in Government Notice No. 1267 in Government Gazette No. 29467 of 11 December 2006.=*
- (d) The policy document, *National policy pertaining to the programme and promotion requirements of the National Curriculum Statement Grades R-12*, and the sections on the Curriculum and Assessment Policy as contemplated in Chapters 2, 3 and 4 of this document constitute the norms and standards of the *National Curriculum Statement Grades R-12*. It will therefore, in terms of section 6A of the *South African Schools Act, 1996 (Act No. 84 of 1996)*, form the basis for the Minister of Basic Education to determine minimum outcomes and standards, as well as the processes and procedures for the assessment of learner achievement to be applicable to public and independent schools.

1.3 General aims of the South African Curriculum

- (a) The *National Curriculum Statement Grades R-12* gives expression to the knowledge, skills and values worth learning in South African schools. This curriculum aims to ensure that children acquire and apply knowledge and skills in ways that are meaningful to their own lives. In this regard, the curriculum promotes knowledge in local contexts, while being sensitive to global imperatives.
- (b) 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 the knowledge, skills and values necessary for self-fulfilment, 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 the workplace; and
 - providing employers with a sufficient profile of a learner's competences.
- (c) 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, rather 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;

ACCOUNTING GRADES 10-12

- Human rights, inclusivity, environmental and social justice: infusing the principles and practices of social and environmental justice and human rights as defined in the Constitution of the Republic of South Africa. The National Curriculum Statement Grades R-12 is sensitive to issues of diversity such as poverty, inequality, race, gender, language, age, disability and other factors;
 - Valuing indigenous knowledge systems: acknowledging the rich history and heritage of this country as important contributors to nurturing the values contained in the Constitution; and
 - Credibility, quality and efficiency: providing an education that is comparable in quality, breadth and depth to those of other countries.
- (d) The National Curriculum Statement Grades R-12 aims to produce learners that are able to:
- identify and solve problems and make decisions using critical and creative thinking;
 - work effectively as individuals and with others as members of a team;
 - organise and manage themselves and their activities responsibly and effectively;
 - collect, analyse, organise 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 recognising that problem solving contexts do not exist in isolation.
- (e) Inclusivity should become a central part of the organisation, planning and teaching at each school. This can only happen if all teachers have a sound understanding of how to recognise and address barriers to learning, and how to plan for diversity.

The key to managing inclusivity is ensuring that barriers are identified and addressed by all the relevant support structures within the school community, including teachers, District-Based Support Teams, Institutional-Level Support Teams, parents and Special Schools as Resource Centres. To address barriers in the classroom, teachers should use various curriculum differentiation strategies such as those included in the Department of Basic Education's *Guidelines for Inclusive Teaching and Learning* (2010).

ACCOUNTING GRADES 10-12

SECTION 2

2.1 What is Accounting?

Accounting focuses on measuring performance, and processing and communicating financial information about economic sectors. This discipline ensures that principles such as ethical behaviour, transparency and accountability are adhered to. It deals with the logical, systematic and accurate selection and recording of financial information and transactions, as well as the compilation, analysis, interpretation and communication of financial statements and managerial reports for use by interested parties.

The subject encompasses accounting knowledge, skills and values that focus on the **financial accounting**, **managerial accounting** and **auditing** fields. These fields cover a broad spectrum of accounting concepts and skills to prepare learners for a variety of career opportunities.

The table below indicates the three main topics and corresponding topics in Accounting curriculum.

Weighting of curriculum	Topic
<i>Financial Accounting</i> (weighting 50% to 60%)	1. Accounting concepts
	2. GAAP principles
	3. Bookkeeping
	4. Accounting equation
	5. Final accounts and financial statements
	6. Salaries and wages
	7. Value-Added Tax
	8. Reconciliations
<i>Managerial Accounting</i> (weighting 20% to 25%)	9. Cost accounting
	10. Budgeting
<i>Managing Resources</i> (weighting 20% to 25%)	11. Indigenous bookkeeping systems
	12. Fixed assets
	13. Inventory
	14. Ethics
	15. Internal control

2.2 The purpose of Accounting

Accounting learners will be able to:

- record, analyse and interpret financial and other relevant data in order to make informed decisions;
- present and/or communicate financial information effectively by using generally accepted accounting practice in line with current developments and legislation;
- develop and demonstrate an understanding of fundamental accounting concepts;
- relate skills, knowledge and values to real-world situations in order to ensure the balance between theory and practice, to enter the world of work and/or to move to higher education, and to encourage self-development;

ACCOUNTING GRADES 10-12

1.4.3 Senior Phase

- (a) The instructional time in the Senior Phase is as follows:

SUBJECT	HOURS
Home Language	5
First Additional Language	4
Mathematics	4,5
Natural Sciences	3
Social Sciences	3
Technology	2
Economic Management Sciences	2
Life Orientation	2
Creative Arts	2
TOTAL	27,5

1.4.4 Grades 10-12

- (a) The instructional time in Grades 10-12 is as follows:

SUBJECT	TIME ALLOCATION PER WEEK (HOURS)
Home Language	4.5
First Additional Language	4.5
Mathematics	4.5
Life Orientation	2
A minimum of any three subjects selected from Group B <i>Annexure B, Tables B1-B8</i> of the policy document, <i>National policy pertaining to the programme and promotion requirements of the National Curriculum Statement Grades R-12</i> , subject to the provisos stipulated in paragraph 28 of the said policy document.	12 (3x4h)
TOTAL	27,5

The allocated time per week may be utilised only for the minimum required NCS subjects as specified above, and may not be used for any additional subjects added to the list of minimum subjects. Should a learner wish to offer additional subjects, additional time must be allocated for the offering of these subjects.

ACCOUNTING GRADES 10-12

SECTION 3

3.1 Overview of topics

GRADE 10	
Term	Topic
1	Indigenous bookkeeping Ethics (introduction) GAAP principles Internal control (introduction) Bookkeeping of sole trader: recording of cash transactions (CRJ, CPJ, PCJ); General Ledger, Trial Balance; Accounting equation Bookkeeping of sole trader: recording of credit transactions (DJ, DAJ, CJ, CAJ, GJ); Ledgers, Debtors' and Creditors' lists, Trial Balance; Accounting equation Bookkeeping of sole trader: recording of cash and credit transactions (combined)
2	VAT Salaries and wages Final Accounts - sole trader: year-end adjustments, General Ledger including Final Accounts Section, Trial Balances
3	Financial statements - sole trader Adjustments, closing transfers, General Ledger, Income Statement, Balance Sheet, Notes to financial statements Analysis and interpretation of financial statements and notes
4	Cost accounting: manufacturing concepts Budgeting
GRADE 11	
Term	Topic
1.	Reconciliations Fixed assets Partnerships: adjustments, General Ledger, Accounting equation, final accounts, financial statements
2.	Partnerships: analysis and interpretation Clubs: concepts, Ledger, Statement of Receipts and Payments
3.	Cost Accounting: calculations, General Ledger Budgeting: Projected Income Statement, debtors' collection, creditors' payments, Cash Budget Inventory systems
4.	Value Added Tax (VAT)

ACCOUNTING GRADES 10-12

GRADE 12	
Term	Topic
1.	Companies: unique transactions Companies - final accounts, financial statements and notes (Income Statement, Balance Sheet, Cash Flow Statement) Companies - analysis and interpretation Companies - analysis of published financial statements and audit reports
2.	Ethics Fixed assets Close corporations Internal control Inventory systems Reconciliations Value Added Tax (VAT)
3.	Cost Accounting: Production Cost Statement with notes Trading and Profit and Loss Statement, unit costs, break-even Budgeting
4.	Revision and examination preparation

3.2.5 Summary of Annual Teaching Plan Grade 12

GRADE 12

Term 1										
	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10
Topic	Companies: unique transactions		Companies - final accounts, financial statements and notes (Income Statement, Balance Sheet, Cash Flow Statement)					Companies - analysis and interpretation		Companies - analysis of published financial statements and audit reports
Assessment	Written report		Informal		Test					
Term 2										
	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10
Topic	Ethics Fixed assets	Close corporations Internal control	Inventory systems		Reconciliations		Value Added Tax		Examinations	
Assessment	Project		Informal		Midyear examination					
Term 3										
	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10
Topic	Cost Accounting: Production Cost Statement with notes, Trading and Profit and Loss Statement, unit costs, break-even			Budgeting			Revision		Examinations	
Assessment	Test		Case study		Trial examinations					
Term 4										
	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10
Topic	Revision and examination preparation				Examination					Admin and planning for the following year
Assessment	Informal						Final examination			

ACCOUNTING GRADES 10-12

3.2.6 Grade 12 Annual Teaching Plan

GRADE 12

TERM 1

Week/Hour	Topic	Content	Recommended Resources
2 weeks (Weeks 1-2)	1. Financial accounting of companies - concepts and unique ledger accounts	Definition and explanation of accounting concepts unique to companies: <ul style="list-style-type: none"> • companies - public and private • Companies Act • Registrar of Companies - Registration certificate • Memorandum of Incorporation • income tax/provisional income tax • dividends • shares • issue price • earnings • shareholders • directors • auditors • limited liability • separation of ownership from control • retained income • authorised share capital • issued share capital • Johannesburg Securities Exchange (JSE) 	Textbook Accounting stationery
	GAAP principles	Definition and explanation of International Financial Reporting Standards (IFRS) and Generally Accepted Accounting Practice (GAAP) Definition and explanation of the following specific GAAP principles: <ul style="list-style-type: none"> • historical cost • prudence • materiality • business entity rule • going concern • matching 	

ACCOUNTING GRADES 10-12

Week/Hour	Topic	Content	Recommended Resources
	Bookkeeping of companies	<p>Accounting cycle for a company:</p> <ul style="list-style-type: none"> • journals • ledger accounts • Trial Balance <p>Transactions include:</p> <ul style="list-style-type: none"> • issuing of shares at issue price (note that par value and share premium no longer exist in terms of the Companies Act) • buying back of shares • loans and interest (note: interest on a mortgage loan is capitalised) • income tax • dividends • directors' fees • audit fees. 	
5 weeks (Weeks 3-7)	2. Financial accounting of companies - preparation of final accounts and financial statements	<p>Preparation of final accounts and detailed financial statements of a company taking into account yearend adjustments.</p> <p><i>Year end adjustments:</i></p> <ul style="list-style-type: none"> • trading stock deficit/surplus • consumable stores on hand • depreciation (on cost price/straight line, on diminishing balance methods) • bad debts • bad debts recovered (Including receipts from solvent estates) • correction of errors/omissions • accrued income (receivable) • income received in advance (deferred) • expenses prepaid • accrued expenses (payable) • provision for bad debts • adjustments related to income tax • adjustments related to the payment and declaration of dividends. <p><i>Final accounts:</i></p> <ul style="list-style-type: none"> • Trading account • Profit and Loss account • Appropriation account <p><i>Reversal of certain adjustments, i.e. accruals, income received in advance, and prepayments</i></p>	Textbook Accounting stationery

ACCOUNTING GRADES 10-12

Week/Hour	Topic	Content	Recommended Resources
		<p><i>Financial statements and notes:</i></p> <ul style="list-style-type: none"> • Income Statement • Balance Sheet • Cash Flow Statement <p>Analysis and indication of the effect of transactions on the accounting equation of a company; all transactions affecting a company up to financial statements</p> <p>Integration of reporting and control of fixed assets</p> <p>Integration of ethical considerations relating to companies - roles of shareholders and directors, manipulation of share prices, corporate governance, etc.</p> <p>Integration of internal audit and control processes relating to companies</p> <p>Application of GAAP principles and IFRS</p>	
2 weeks (Weeks 8-9)	3. Financial accounting of companies - analysis and interpretation of financial statements	<p>Analysis and interpretation of Income Statement, Balance Sheet and Notes</p> <p>Revision of the following financial indicators:</p> <ul style="list-style-type: none"> • gross profit on sales • gross profit on cost of sales • net profit on sales • operating expenses on sales • operating profit on sales • current ratio • acid test ratio • stock turnover rate • stock holding period • average debtors' collection period • average creditors' payment period • solvency ratio. <p>Introduction and coverage of the following financial indicators:</p> <ul style="list-style-type: none"> • debt-equity ratio (gearing) • return on shareholders' equity • return on total capital employed • net asset value per share • dividends per share • earnings per share 	Textbook Accounting stationery

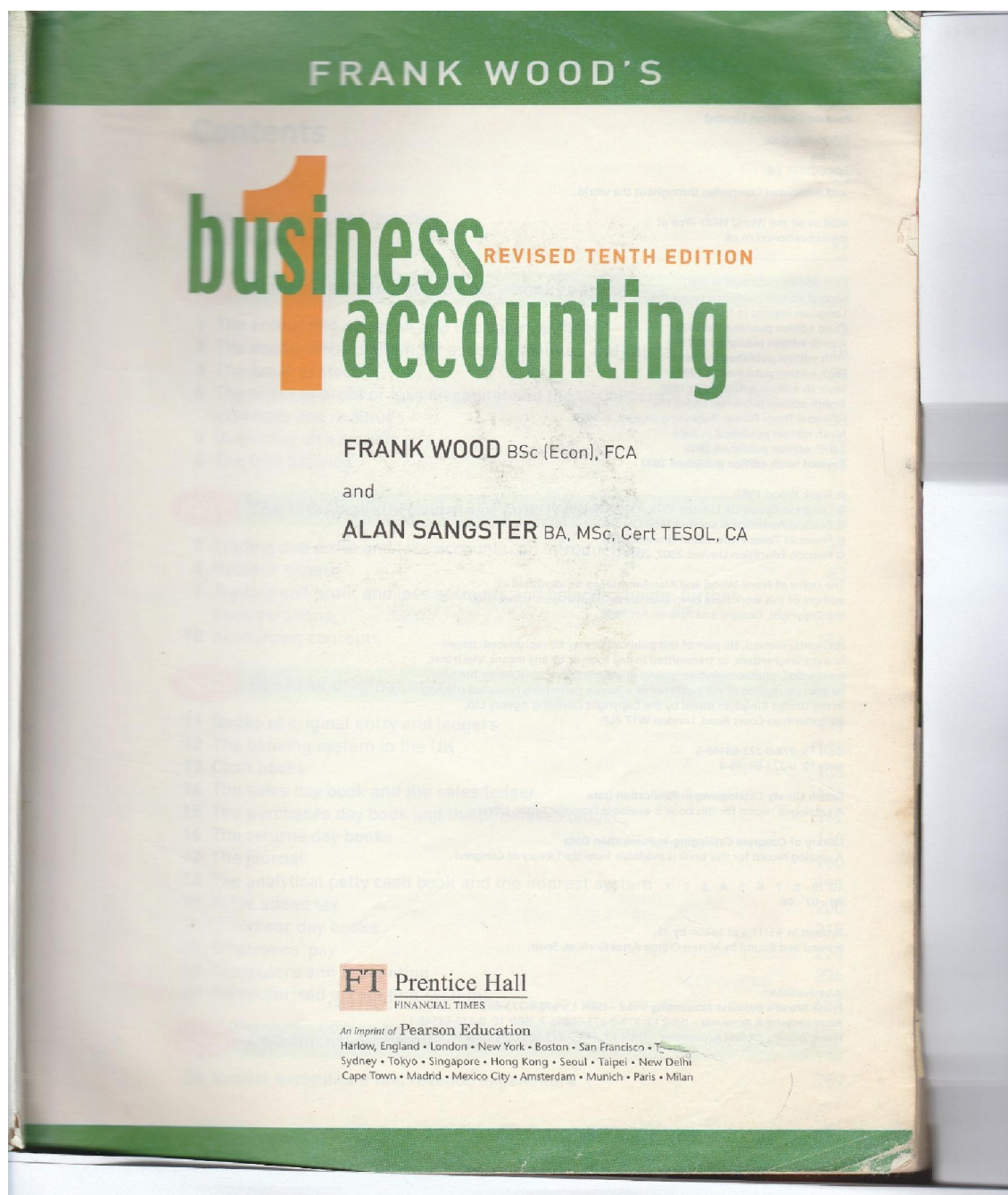
ACCOUNTING GRADES 10-12

GRADE 12

TERM 2

Week/hour	Topic	Content	Recommended resources
½ week (Week 1)	1. Ethics	<ul style="list-style-type: none"> Understanding the role of professional bodies, e.g. South African Institute of Chartered accountants (SAICA) and South African Institute of Professional Accountants (SAIPA) Discussion of disciplinary and punitive measures that are applied for non-compliance with the Code of Professional Conduct Understanding the policies governing ethical behaviour in the financial environment, viz. King Code III Understanding the legislation governing companies: <ul style="list-style-type: none"> Basic principles in Companies Act, i.e. directors' performance evaluation, remuneration policies, dispute resolution, business rescue, conflict of interests, responsibilities of directors <p><i>This topic should be consolidated, having been integrated with other topics.</i></p>	Textbook Case studies/ scenarios Companies Act SAICA and SAIPA Codes King Code III (overview only)
½ week (Week 1)	2. Tangible/fixed assets	Interpretation and reporting on the movements of fixed assets: <ul style="list-style-type: none"> age of assets replacement rate life span of assets. Integration of GAAP principles relating to fixed assets Integration of ethical issues relating to fixed assets Integration of internal audit and control processes relating to fixed assets	Textbook Accounting stationery Newspaper adverts and articles
½ week (Week 2)	3. Financial accounting of close corporations	Definition and explanation of accounting concepts unique to close corporations: <ul style="list-style-type: none"> close corporation founding statement members loans to members loans from members distribution to members. Identify differences in the financial statements of companies and close corporations, particularly with regard to terminology.	Textbook

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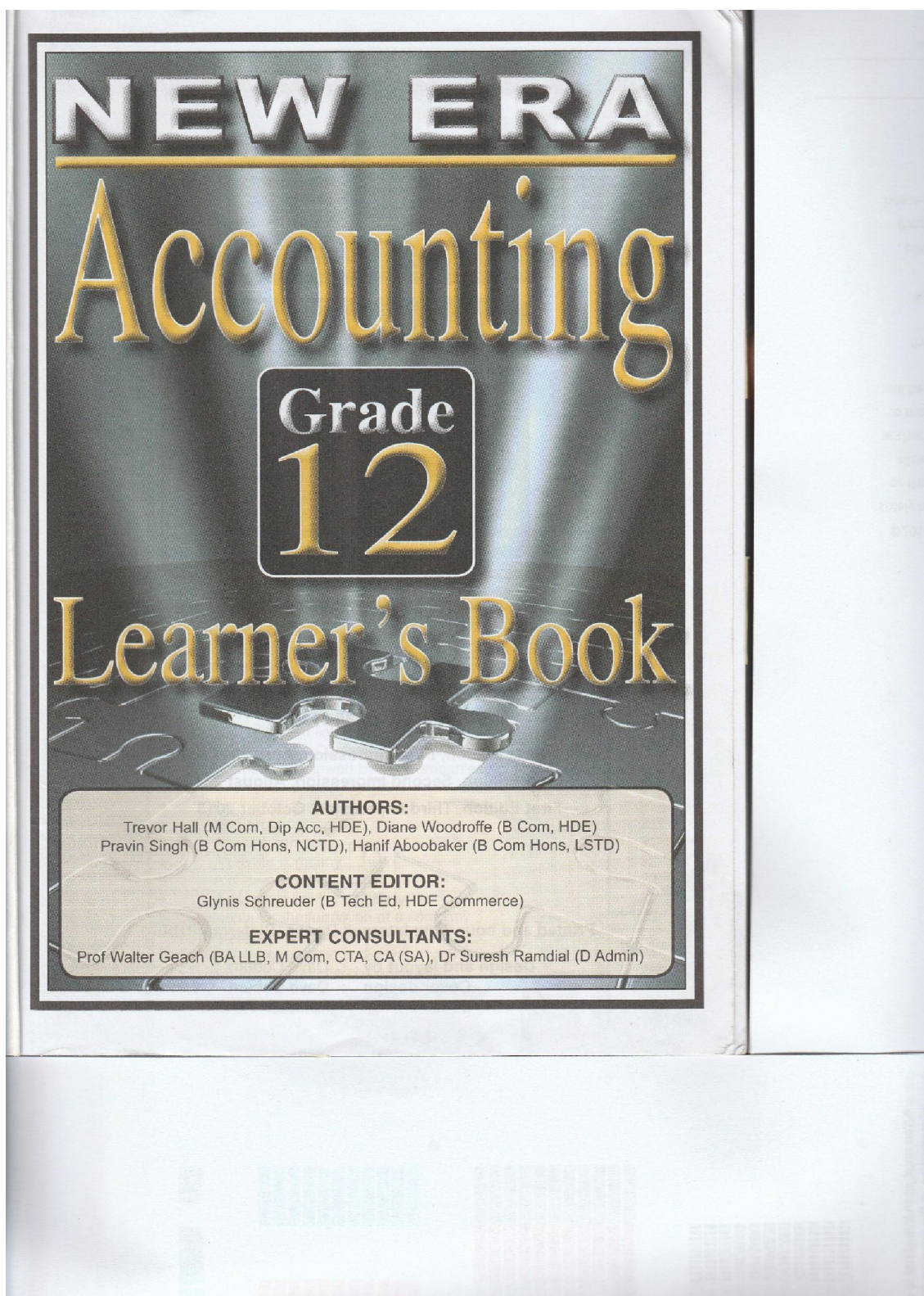
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APPENDIX E SAMPLE TEXT ILLUSTRATING ANALYSIS OF CLAUSES IN DATA GENERATION

Textbook A Page 108

//A number of accounting concepts *have been applied* //ever since financial statements *were* first *produced* for external *reporting* purposes//.

//By *addressing* the need for investors *to have* limited risk of financial loss, the existence of limited liability *encourages* individuals *to invest* in these companies //and *makes* it possible *to have* both a large number of owners and [[a large amount of capital *invested* in the company]]//.

There are two classes of company, the **public company** and **private company**.

//‘Capital reserves’, [[which *will include* revaluation reserves on property and land, //also some reserves (which you have not yet met) which *have to be created* to meet some legal statutory requirements,]] *cannot be treated* as available for payment of dividends.//

Transfers to reserves. //The directors *may decides* that [[some of the profits *should not be included* (in the calculation of [[how much *should be paid out* as dividends.]])]//

//The appropriation account *shows* how the net profits are to be appropriated, i.e. how the profits are to be used.//

//The share capital and reserves *should be totalled* //so as to show the book value of all the shares in the company.//

We also *show* [[what the assets, capital and liabilities *are* (at the given date) (by drawing up a balance sheet)]]//”.

Textbook B Page 78

//*There are* two approaches available under both these standards:// the ‘direct’ method, which *shows* the operating cash receipts and payments //summing to the net cash flow from operating activities – //in effect, it *summarises* the Cash Book; //and the ‘indirect’ method, which *identifies* the net cash flow via a reconciliation to operating profit.

//As the reconciliation *has* also *to be shown* //when the direct method *is used*, //it *is* hardly surprising //that the indirect method *is* the more commonly adopted.//

//Accounting standards *are drafted* //so that they *comply* with the laws (of the United Kingdom and the Republic of Ireland)//.

//Purchased goodwill and intangible assets (e.g. patents, trade marks, etc.) *should be capitalised* as assets//.

//Where assets *have been revalued* //there *may be* a material difference (in the results shown in the accounts using such revalued figures,) //which obviously *affects* depreciation//.

APPENDIX F CERTIFICATE OF ETHICAL CLEARANCE



7 April 2014

Mrs Banane Motebang 213568715
School of Education
Edgewood Campus

Dear Mrs Motebang

Protocol reference number: HSS/0230/0140

Project title: **Theoretical perspectives in Accounting textbooks: The case of Lesotho and South Africa**

Full Approval-No-Risk

In response to your application dated 17 October 2013, the Humanities & Social Sciences Research Ethics Committee has considered the abovementioned application and the protocol has been granted **FULL APPROVAL**.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment /modification prior to its implementation. In case you have further queries, please quote the above reference number. Please note: Research data should be securely stored in the discipline/department for a period of 5 years.

The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter Recertification must be applied for on an annual basis.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully

Dr Shenika Singh (Chair)
Humanities & Social Sciences Research Ethics Committee

/pm

cc Supervisor: Dr S Maistry
cc Academic Leader: Professor Pholoho Morojele
cc School Administrator: Mr Thabo Mthembu

Humanities & Social Sciences Research Ethics Committee

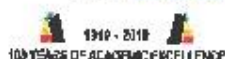
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APPENDIX G TURN-IT-IN REPORT

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APPENDIX H EDITORS LETTER



Department of Educational Foundations
National University of Lesotho
P O Roma 180
Roma
27 November 2017

To whom it may concern

School of Education
University of Kwazulu-Natal
Durban

Re: Copy editing of PhD Thesis titled *Theoretical Perspectives in Accounting Textbooks: The case of Lesotho and South Africa* by Mrs Bonane Motebang, January 2017

I had the honour and privilege to copy edit the above name thesis by Mrs Motebang. The thesis had few mistakes not errors which I thought when attended to the work would be ready for submission. The work itself in my humble opinion is scholarly, logical and academically sound.

I do hope this letter will meeting your expectations.

Sincerely yours

Tankie Khalanyane (Mr)
Senior Lecturer, EDF

