

**AN ANALYSIS OF COGNITIVE DEMAND OF ASSESSMENT TASKS
IN GRADE 12 ACCOUNTING TEXTBOOKS**

by

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**“An analysis of cognitive demand of assessment tasks in grade 12
accounting textbooks”**

I declare that this dissertation is my own work and that all sources that I have used or quoted have been indicated and acknowledged by means of complete references. I further declare that I have not previously submitted this work, or part thereof, for examination at the University of KwaZulu-Natal for another qualification or any other higher education institution.

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ABSTRACT

Textbooks remain a key teaching resource in South African classrooms. The subject of accounting in particular relies on the textbook for both content knowledge and application exercises. There is, however, limited knowledge on the quality and standard of the assessment tasks presented in accounting textbooks. The purpose of this study is to analyse the cognitive demand of assessment tasks in Grade 12 Accounting textbooks. This study seeks to establish how the cognitive demand is presented in assessment tasks of two selected Grade 12 Accounting textbooks. This study used purposive sampling to select two textbooks from the study population of all Grade 12. The assessment tasks are classified according to each level of difficulty. Certain assessment tasks in the textbook maintained a higher level of questioning. However, other assessment tasks lowered the cognitive level by using questions focusing on recall and memory. This study examines the cognitive demand of all assessment tasks by using the taxonomy suggested by Umalusi. Data was collected by means of textbook analysis. The collected data was presented, interpreted, and analysed through the use of pie charts to enable easy evaluation of the findings. The results found that the assessment questions in *New Era* and *New Generations* textbooks consisted of all levels of Bloom's Taxonomy; however, the results show that more of the questions fall under low-order thinking skills than higher order thinking skills. The conclusions from the data analysis have shown that the assessment tasks are valid and reliable.

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CHAPTER ONE: BACKGROUND AND INTRODUCTION TO THE STUDY

1.1 Introduction to Study

The purpose of this study is to analyse Grade 12 Accounting textbooks with specific reference to assessment tasks. In this chapter, background and rationale as well as the critical questions are presented, followed by a brief description of the methodology that the study applied. The chapter concludes with an overview of the entire dissertation.

The school textbook is a primary source of knowledge in South African schools. In subjects such as accounting, which have both a theoretical and a practical (application) dimension, school teachers and learners depend on application tasks to test acquired knowledge and skills. There is, however, limited research in the South African context on the quality and standard of such application exercises in accounting textbooks in particular. The classroom activities and tasks included in textbooks play a pivotal role in the realisation of educational goals and objectives as stated in the National Curriculum Statement (Botha, 2006). It is in light of this that this study seeks to analyse the cognitive demand of assessment tasks in Grade 12 Accounting textbooks.

1.2 Background of the Study

There are several factors that influence the success of education in high school and among those factors are textbooks (Botha, 2006). According to Ferguson, Collison, Power, and Stevenson (2010), textbooks play a pivotal role in education. However, excessive reliance on textbooks reduces the instructor's incentive to determine constantly what each student should learn, and if the teaching process centres on repeating textbook material in the classroom then the learning process risks becoming uninspiring to capable future accountants (Ferguson et al., 2010). However, textbooks contain both contexts and tasks (tasks with cognitive demands) that should be understood by the students (Boonstoppel, 2010). According to Silver (2000), the tasks contained in textbooks have both high and low cognitive demands.

Silver (2000) postulated that cognitive demand is defined as the kind and level of thinking required of students in order to engage with and solve a task successfully. Henningsen and Stein (1997) define cognitive demand as a thinking process that is entailed in solving the task

by the educator and the thinking processes that engage learners. These thinking processes can range from memorisation to use of procedures; including concepts, understanding, or meaning; to complex thinking and reasoning strategies such as justifying or interpreting. Smith and Stein (1998) added that tasks that ask students to perform a memorised procedure in a routine manner lead to one type of opportunity for student thinking; tasks that require students to think conceptually and that stimulate students to make connections lead to a different set of opportunities for student thinking.

- *Low Cognitive Demand Tasks* - According to Van De Walle and Bay-Williams (2012), low cognitive demand tasks involve following known procedures and solving routine problems. These tasks require minimum thinking and focus on single, concrete answers. Smith and Stein (1998) state that memorisation tasks involve answers from prior memory and information taught previously. These tasks are quick, where no procedures are used to find an answer. Memorisation tasks are straightforward because they involve the repetition of prior material. Low level cognitive demand tasks require little thinking of how to complete the task. These tasks focus on only finding the correct answer and require no explanation (Smith & Stein, 1998).
- *High Cognitive Demand Tasks* - “High cognitive demand tasks involve making connections, analysing information, and drawing conclusions” (Smith & Stein, 1998). These high-level cognitive demand tasks require students to think abstractly and make connections to accounting concepts. These tasks can use procedures but in a way that connects information and leads to building an understanding. When completing higher-demand tasks, students are engaged in a productive struggle that challenges them to make connections to concepts and to other relevant knowledge (Van De Walle & Bay-Williams, 2012).

High cognitive demand tasks place emphasis on using procedures in order to develop a student’s deeper level of understanding of accounting concepts (Bombote, 2015). These higher-level tasks require deeper thinking of a student and develop understanding (Smith & Stein, 1998) accounting requires students to comprehend and understand the content by applying their knowledge to work through the task. In order for students to complete the task they need to analyse the task, which requires cognitive effort (Smith and Stein, 1998). According to Stein, Grover, and Henningsen

(1996), cognitive demand is the level of learner thinking required when engaging in problems; cognitive demand of questions is the level of learner thinking required when engaging in teacher questions.

Problems and questions presented in textbooks and those used by teachers during instruction can be categorised into two different levels of cognitive demands: problems and questions making high-level cognitive demands on learners and those requiring low-level cognitive skills (Blumberg, Cooper, & Schindler, 2014). An accounting assessment task demanding high-level cognitive processes requires learners to recognise knowledge they have already learnt. The focus for high-level problems is on comprehension, interpretation and application of knowledge and skills. In contrast, an assessment task involving lower cognitive demands requires learners to use memory. Learners are required to reproduce or recognise information they have already seen. The focus of low-level problems is on memory and formulae. The figure below shows how accounting tasks unfold in classroom instruction.

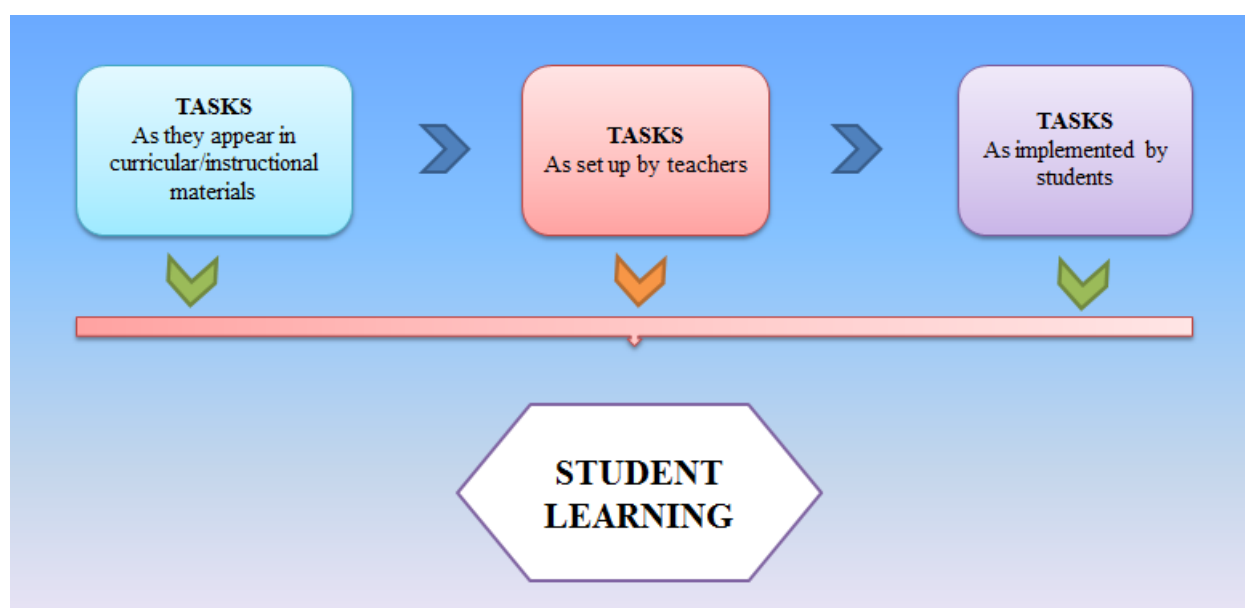


Figure 1.1: Accounting Tasks Framework.

Source: Stein and Smith (1998)

The figure above is a representation of how accounting tasks unfold during classroom instruction.

The study sought to use the Umalusi taxonomy (Appendix A) to analyse the assessment tasks found in two Accounting textbooks used in the South African education system for Grade 12.

Umalusi is a quality assurance authority in South Africa who develops an educational framework and sets the standard of assessments for general and further education and training. The analysis is performed to detect trends in the cognitive demand inherent in the assessment tasks and type of material (questions, exercises, problems, and case studies). These trends will assist in understanding the cognitive demands present in Grade 12 Accounting textbooks.

1.3 Purpose and Focus of the Study

The purpose of this study is to analyse the cognitive demand of assessment tasks in Grade 12 Accounting textbooks. Since limited research has been undertaken in South Africa, the researcher hopes that the findings of this study will inform authors (of the selected and other textbooks) and the textbook publishing industry. This study will also hopefully trigger further studies to inspire others to undertake similar research, and so add to the intellectual debate.

1.4 Rationale and Motivation for the Study

Taylor (2016) is but one researcher who has written about teacher knowledge being poor in South Africa. There is a perception that teacher knowledge is not strong in South African schools amongst South African teachers (Taylor, 2016). There is a re-emphasis on the textbook as a resource in a classroom and the state has therefore made a move to increase the number of textbooks placed in each classroom or in the hands of children. Textbooks have become important and the government has recognised the need for good quality textbooks in classrooms to support educators and learners, especially in situations where there is a perception that teacher knowledge is weak or lacking.

The government has moved to investing more money in textbooks. While this is a positive development, the difficulty lies in the fact that there is a lack of understanding with regard to the quality of the content of the textbooks. It is the researcher's aim, therefore, to investigate the quality of these textbooks, and in particular the level of cognitive demand, especially in textbook-based assessment tasks in a subject like accounting. This study could better inform the content of Accounting textbooks and even raise the standard of textbooks in other subjects. The two textbooks chosen for analysis are:

- *New Era Accounting Grade 12 Learner's Book* (Aboobaker, Hall, Singh & Woodroffe, 2013; hereinafter referred to simply as *New Era*) and
- *New Generation Accounting: Grade 12 Learner's Book*. (Brydon, Bulbulia, Chauca, Moodley, Naidoo, Patel, Sali-Ameen, & Vallabh, 2014; hereinafter referred to simply as *New Generation*).

Both of these books appear on the Department of Education's (DoE) recommended list and are widely adopted by South African high schools.

This research is conducted with a view of analysing the cognitive demand of assessment tasks in the selected Grade 12 textbooks. Some educators place a strong reliance upon textbooks to deliver the prescribed curriculum. This approach begs the question as to whether this is adequate as a sole resource. Often lessons are structured according to textbook content and little variation in source material is actually employed. This again leaves room for analysis as to whether the textbook being used by educators is able to fulfil the cognitive demands that the Grade 12 subject framework prescribes. Although many international studies on higher education phase accounting textbooks have been conducted, there is limited research on high school accounting textbooks, especially in the South African context.

The researcher presently works as an accounting teacher at a South African high school. Over the last five years, there has been a rapid decline in the number of learners at the researcher's institution who take up accounting. Colleagues and "cluster group" educators have also spoken about a similar trend in their schools. It is hoped that this study will raise awareness among authors of accounting textbooks of the crucial importance of good quality textbooks. It was also this researcher's observation through years of instruction that a gap exists between understanding and applying the prescriptions of method to solve accounting problems correctly. It was therefore undertaken to analyse the cognitive demand required by students of accounting. This study hopes to explore in detail the various gaps that exist and further refine the understanding behind cognitive demand on student learning and understanding.

This gap in the research work in South Africa presented a unique opportunity to contribute ground-breaking findings that would empower school personnel tasked with selecting accounting textbooks to make a far better, informed decision when outlaying considerable sums of money on purchasing such textbooks.

1.5 Research Questions

In order to explore the levels of cognitive demand of assessment tasks in Grade 12 Accounting textbooks, the present study wishes to seek answers to the following research questions:

1. What is the cognitive demand of assessment tasks in the two selected Grade 12 Accounting textbooks?
2. How is this cognitive demand presented in assessment tasks of the selected Grade 12 Accounting textbooks?

1.6 Research Methodology

A research methodology is a method that is scientifically used to solve the research problem of the study. Furthermore, the research methodology includes the target population, sample size, research instruments, trustworthiness, ethical considerations, and data collection and analysis (Creswell, 2012). This research is anchored on an *interpretative research design*, adopting a *qualitative* approach. A qualitative approach has been employed by several previous researchers as it helps to endorse depth of understanding of the subject in question. The qualitative approach was used in this study as it was considered to be suitable in discovering and getting a detailed understanding of the phenomena of cognitive demand.

This approach focuses on the cognitive demand of assessment tasks in two selected Grade 12 Accounting textbooks. It further investigates how the cognitive demand is presented in assessment tasks in the selected books. The adopted method of data generation is content analysis with taxonomy tools used by Umalusi (2013). This study used content analysis to analyse the content in relation to how it is presented in its context. The study extracted the essence of how content relates to its contextual form. Moreover, content analysis was applied as a framework to analyse the cognitive demand of the assessment tasks and to analyse the content in the two textbooks selected.

This study employs non-probability sampling methods, being *judgemental* and *convenience* sampling methods. Judgemental sampling entailed choosing the books to be included in the sample, based on the researcher's judgement of particular characteristics that applied to the study topic. Convenience sampling was used as the researcher selected the sample based on the availability of the books to the researcher. Therefore, this study's sample of two Grade 12 Accounting textbooks (*New Era* and *New Generation*) were purposely selected. The two

textbooks served as a representation of the whole population of study for the purpose of collection of data on the cognitive demand of assessment tasks.

This study is considered as investigative in nature; therefore, Bloom's (1956) Taxonomy was employed for the purpose of analysing the data. Bloom's Taxonomy and the adapted Umalusi instrument were used to assess the cognitive demand of the selected sample, using various levels to analyse the data. Bloom's Taxonomy consists of various levels, being *remember*, *understand*, *apply*, *analyse*, and finally, *evaluate*.

1.7 Structure of the Study

This study comprises six chapters, a reference list, and appendices. The chapters in this study and their contents are as follows:

- **Chapter 1** introduces the background to the study. The key research questions are also shown, together with the purpose of this study.
- **Chapter 2** presents the pertinent literature on the analysis of cognitive demand of assessment tasks.
- **Chapter 3** presents the research design, research methodology, and conceptual framework used to complete this study. It also discusses the research instruments used to conduct this study.
- **Chapter 4** deals with the findings and analysis of the data obtained from the New Era Accounting textbook, by reference to the appendices.
- **Chapter 5** deals with the findings and analysis of the data obtained from the New Generation Accounting textbooks, by reference to the appendices.
- **Chapter 6** is the final chapter, which presents the conclusions to this study and makes recommendations for consideration by FET-level educators and education students soon to start working in schools.

1.8 Conclusion

Chapter 1 introduced the topic under investigation: the analysis the cognitive demand of assessment tasks in two Grade 12 Accounting textbooks. The chapter also presented the introduction and background of the study, the purpose and focus of the study, the rationale and motivation for the study, research questions and the structure of the dissertation. The next chapter will present a literature review of the topic-specific variables under discussion.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The foregoing chapter provided a general background and motivation for the research. Given that textbooks form the main classroom resource in the subject of accounting, it becomes vital to investigate the cognitive demand entrenched in the assessment tasks contained at the end of each chapter. This literature review presents information on the operational concepts under consideration in this study, being the cognitive demand of assessment. This chapter will highlight the development of textbooks then discuss their role in general. Next it will investigate the study of accounting and accounting textbooks and will also look at the textbooks' assessment exercises. The cognitive demand of textbooks will be investigated, followed by empirical studies on accounting textbook assessments. Finally, information specific to Grade 12 Accounting education will be presented.

2.2 The Development of Textbooks

Textbook development can be traced back to ancient Egyptian civilisation, where scrolls were used to record information in the form of symbols (Doering, Pereira, & Kuechler, 2012). The old textbooks were in question-and-answer form as there were few teachers and this was meant to enhance understanding and easy learning (Dicello, 2011). However, in the modern era, textbooks are used to store information that learners should recall and enhance understanding (Dicello, 2011).

Dragana (2017) defines a textbook as a book that is regarded as a standard information source for formal studies and an effective learning or teaching instrument. It can be referred to as a text produced and intended to be used for educational purposes (Wikman & Horsley, 2012). It is considered as an orientation and the basic framework for drawing up an effective lesson by teachers. Given such a role, it is considered as the fountain of security and confidence for even the most experienced teachers (Wikman and Horsley, 2012).

The evolution of textbooks has now reached the point where end-of-chapter exercises are characterised by higher-order questions that foster deeper levels of thinking. They can now be found in electronic or hard copy format (Doering et al., 2012). The electronic textbooks (commonly known as *e-textbooks*) are often supplemented by material such as links to related

sources and carry the added benefit of being eco-friendly (McGowan, Stephens, & West, 2009). They are further preferred by an “e-generation” that possess several smart gadgets as they are considered more handy, quick to retrieve, economic, and easily accessible (Jamali, Nicholas & Rowlands, 2009; Turner, 2005).

There are divergent views regarding the importance of textbooks as some teachers take them to be the blueprint that requires only minor changes, causing them to be over-reliant on textbooks. Others scrap the worth of textbooks and in so doing make substantial changes to the information contained in the textbooks. It should be noted, however, that not all textbooks have all the content that is required by teachers and learners and it is therefore imperative that teachers master skills on how to use textbooks (Dragana, 2017).

2.3 The Role of the Textbook

The textbook is considered to be the intermediary tool that links educational programmes, such as disciplinary practices and knowledge, with students (Bruillard, 2011). It occupies the gap between the intended and the sanctioned syllabus (Benavot, 2011). This makes them authentic and vital inputs in the educational setting (Park, 2011; Yang & Sianturi, 2017). Yang, Wang, & Xu (2015) agree that textbooks are basically everywhere in learning and teaching processes, as they clarify an explicit line of thought. Students can master content, values, beliefs, methodology, and skills that are behavioural and cognitive in nature, diffused in the textual content as well as assessment tasks.

Well-structured textbooks facilitate teacher–pupil interaction, course lesson plans and homework assignments stemming from their design, workload organisation, and detailed teaching procedures (Pingel, 2010). They further define the students’ expected achievements, thereby providing a foundation for assessment tasks (Davila & Talanquer, 2009). Textbooks further stand out as a relatively economic medium that reinforces learning and allows flexibility. In addition to the importance of textbooks in the pedagogical process, they underpin societal and cultural values (Kannan & Kenthapadi, 2011). Bodies of knowledge are preserved over the years with confirmed factual status and facts that provide a universal appeal. The stories that characterise textbooks form the core cultural knowledge that is vital for future generations and they anchor socio-political beliefs (Pingel, 2010). In this light, Benavot (2011) explains that textbooks are used by teachers to reinforce and disseminate political, cultural, and ideological forms.

Kannan & Kenthapadi (2011) argue that textbooks are important where a teacher has partial or limited access to documents relating to the curriculum, sometimes making it the sole resource to substantiate classroom explanation. At home they are instrumental to first-learning and knowledge reference and promote educator–student communication. Green and Naidoo’s (2008) study regards recent textbooks (such as a new science textbook) to give better scientific knowledge for current learners than previous groups. On the other hand, in apartheid South Africa, textbooks were used as a disruptive tool to brainwash black students into accepting the system (Subreenduth, 2013).

The South African Department of Education (DoE) considers textbooks to be the core resource, source of inspiration, source of supplementary material, and the actual curriculum (DoE, 2018). The Department argues that textbooks are instrumental in managing a lesson, saves on time, gives direction, and makes teaching easier and more convenient (DoE, 2018). To the learner, a textbook can be useful in organising learning, even at home, and allows quick mastery of concepts as they are reinforced with examples. Textbooks also contain questions aimed at assessing the comprehension level and knowledge gained by learners. Through attempting these questions, learners master necessary cognitive skills as required by tasks and prescribed by the curriculum, which is the underlying research problem. This indicates that textbooks are an effective tool that links the learner to the subject and the teacher, as illustrated in Figure 2.1 below.

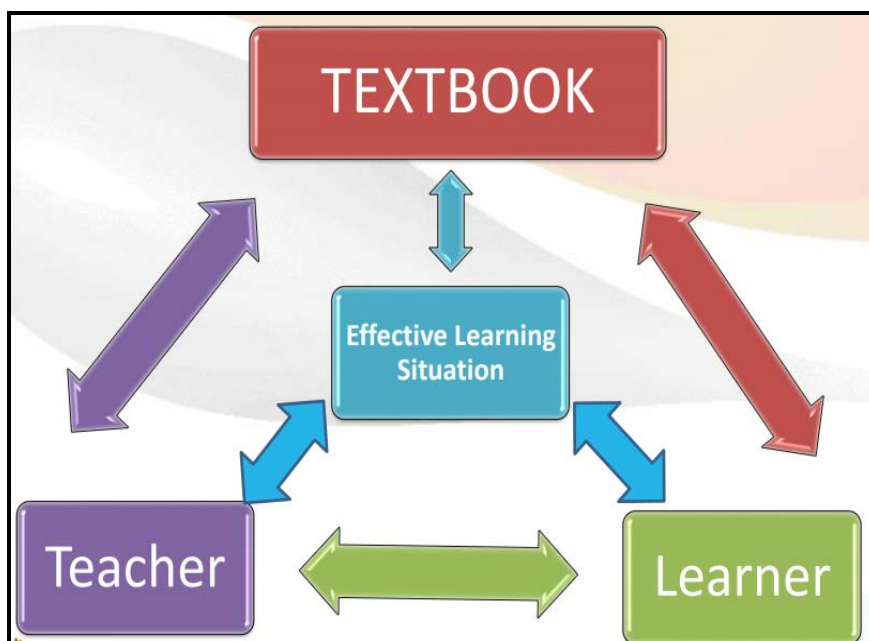


Figure 2.1: The Link of Textbooks
Source: Department of Education (2018).

Therefore, textbooks need to be meritoriously used in class to allow maximum learning outcomes. Textbooks are central for employing pre-reading strategies: walking through the textbook outline with learners and allowing them to master the structure can enhance learner recollection and comprehension; graphic learners are also well prepared for learning material. More importantly, there can be roadblocks that can hinder effective comprehension (DoE, 2018). These may include unfamiliar acronyms, and it is key to locate such areas and acronyms.

On the other hand, Benavot (2011) points out that some textbooks in developing countries have content that is not perfectly aligned to curriculum guidelines, given the high costs of producing textbooks and weak regulatory structures. This has caused several scholars to condemn the clarity of language, quality, and adequacy of information, as well as outdated content (Adeoye & Olabiyi, 2011). The aforementioned attribute these shortcomings to the failure of authors to work with reputable publishers, owing to cost constraints. This weakens the effectiveness of the school, as opined by Bharath (2015), who found that educational institutions performed better in examinations when textbooks were available. It is thus imperative that students and educators employ quality textbooks that engage vital cognitive skills, as intended to be confirmed by this study.

2.4 The Study of Accounting and Accounting Textbooks

The end of the apartheid regime in South Africa brought about changes in the area of accounting as a subject in schools. Since the first democratic elections in 1994, there has been a shift from the emphasis of mastering formulae and procedures to understanding of principles and analysis, as well as interpretation of financial information (Ngwenya, 2012). It is this new conceptualisation of the subject that necessitated changes in the way the subject was taught, assessed, and presented in the academic textbooks (Ngwenya, 2012). The subject now calls for qualified teachers with a firm background of the subject as it is not as widely covered in a lot of books as other subjects, such as economics and business studies (Modise, 2017). However, the studies conducted by these authors mainly focused on teachers of Accounting and not the subject per se, which is the central focus of this research.

In general, approximately 80% to 90% of learning time goes to studying textbooks, particularly for foreign or second language students (Sherman, 2010). This situation applies to the discipline of Accounting; in most cases reliance on Accounting textbooks approached

100% for the content of the Accounting course (Davidson & Baldwin, 2005). Similarly, Stevenson, Ferguson, and Power (2014) observed that textbook-reading took the first place when they investigated out-of-class learning methods. The foregoing statement highlights the significance of textbooks within the Accounting discipline. It can therefore be argued that textbook materials are instrumental in the development of diverse cognitive qualities and help to consolidate learning.

In South Africa the teaching of Grade 12 Accounting is primarily based on academic Accounting books (Davidson & Baldwin, 2005). They play a pivotal role in ensuring that students master basic Accounting principles and perform complex Accounting tasks (Barac, 2012). The academic textbooks are an integration of theory and practice, which varies from one source to the other (Blocher, 2017). Educators can use textbooks to identify and develop student outcomes, and to enhance learning. The textbook is a basis of inquiry that actively scaffolds the process of learning and fosters students' participation in genuine assessment activities. In this light, textbooks transmit knowledge and foster active learning in a constructivist system, thereby expanding cognitive skills development.

However, with regard to accounting academic textbooks there is a need for further integration of theory and practice, and the need to increase content (Blocher, 2017). There is also the need for a representation of content that is not biased (Arek-Bawa, 2018). Because academic textbooks with deeper context and strong integration between theory and practice have the capability to meet all the concepts of Bloom's Taxonomy (Brewer, 2014). According to Arek-Bawa and Dhunpath (2017), only a few studies have been conducted using Bloom's taxonomy to assess the extent to which end-of-chapter cognitive skills materials in textbooks are in line with the requirements of professional bodies. The results showed that the end-of-chapter materials do not fully focus on the cognitive skills at higher levels, so they do not prepare the students sufficiently to meet the requirements of professional institutions (Arek-Bawa & Dhunpath, 2017). Bloom's Taxonomy was employed in reviewed learning objectives across the Accounting curriculum (financial, managerial, intermediate, auditing, advanced, and cost accounting) (Ballantine, 2017). After reviewing 24 academic textbooks, it was found that the verbs used to describe the objectives were pitched mainly at the lower (75%) levels of cognition (Ballantine, 2017). This may imply that the Grade 12 Accounting subject employs lower levels of cognition to foster understanding of the students.

End-of-chapter practice activities in Accounting textbooks contribute to the cognitive development of the learner in different ways. The impact of the use of academic textbooks in

helping students to develop graphical skills was explored and noted to play a pivotal role in developing students' graphical skills (Blocher, 2017). Moreover, the impact of using illustrations in academic textbooks was observed to assist students in comprehending concepts taught in class (Blocher, 2017). Illustrations in textbooks attract the attention of the learner, facilitate the retention of the concept, and create interest in the concepts that are being taught (Ballantine, 2017).

Pingel (2010) identified that modern textbooks integrate methods and materials that stir learners to interrogate and explore ways of attempting the questions. In remote areas of South Africa and under-resourced environments where libraries are stocked with outdated resources, teachers find textbooks indispensable (Asiyai, 2013). Therefore, notwithstanding their limitations, textbooks are the chief method of passing on knowledge to learners. This is further echoed by the majority of accounting textbooks in developing countries such as South Africa being more focused on cognitive demand issues for tasks assessment, thereby providing the research justification.

The overall textbook structure should increase the cognitive ability of the student through the content and the end-of-chapter tasks that should be structured in a manner that promotes increase in knowledge and student ability (Brookfield, 2016). Similarly, Arek-Bawa and Dhunpath (2017) concluded that the accounting programme aims to equip the students with high cognitive qualities in line with professional bodies' requirements. To add to this, the structure of the end-of-chapter tasks (which tend to summarise the content learnt in the chapter) is critical not only to evaluate the knowledge gathered, but the level of application, comprehension, and analysis of the concepts learnt in class (Blocher, 2017). This makes end-of-chapter tasks a significant component of textbooks used in teaching Grade 12 Accounting and this study will inspect the selected books for existence of these tasks.

Grade 8 to 12 Accounting students in South Africa are assessed differently as they progress in their education: through in-class tests, end-of-chapter tasks, periodical examinations, and as lessons progress (Modise, 2017). These forms of assessment have a bearing on assessing student knowledge and progress as they are being taught. The periodical examinations are used to determine the cognitive levels in students. The cognitive demands of Accounting examinations were investigated and found to focus mainly on the lower levels of Bloom's Taxonomy (Ngwenya, 2012). It is in this light that this study focuses mainly on the end-of-chapter tasks that are often used in Accounting education and how they contribute to the

cognitive development of the learner. However, Arek-Bawa (2018) insisted that it is not ideal for educators and examiners to extract questions from textbooks for tests for summative purposes as she argued that the assessments in textbooks can only serve as a way of enhancing learning and practising for formal assessments.

It is worth noting that over-reliance can be damaging to the learning process. Textbooks can become outdated and are sometimes restrictive as they fail to cover some topics comprehensively (Arek-Bawa, 2018; Mahadi & Shahrill, 2014). Ferguson et al. (2014) criticised over-reliance on Accounting textbooks, arguing that less experienced academics have turned out to be textbook facilitators. The downside of such tendency is that the learning process becomes uninspiring to students, which causes brilliant students to view classroom activities as a mere waste of time (Stevenson et al., 2014). Drawing on this weakness, Mahadi and Shahrill (2014) advocate for flexibility and balance in employing textbooks, as well as increased teacher development initiatives.

2.5 The Conceptual Framework

This study focuses on examining the level of cognitive challenge of assessment exercises in school Accounting textbooks. The analytical framework applied in this study is adapted from the Umalusi framework that was developed for analysing Grade 12 Accounting examination papers. This study focused specifically on ascertaining cognitive levels only and not levels of difficulty. Anderson and Krathwohl's cognitive levels formed the main basis for the analysis. The associated key concepts are explained on pages 14 – 18.

2.6 Textbook Assessments

Textbook assessments are regarded as the principal medium of ascertaining scholar learning. Thus, in some incidences, textbooks are selected based on the task assessments that test student learning and how students have mastered the concepts taught (Barac, 2012). At the same time, teachers observe that quality schooling is considered more in terms of anticipated effects rather than what students have been taught (Weaver, 2017). This gives room to the teacher to adopt any method which yields the anticipated effects by the textbook on students. Task assessment offers the opportunity for the teacher to measure the degree to which students understood what they were taught, the knowledge, and skills mastered (Jones, 2013). To add to this, students that have understood what has been taught should be able to express a high level of understanding, analysis and application (Zietlow, 2014). As such, the teaching

and learning process is designed to include assessment activities that will verify the extent to which the preferred outcomes have been attained (Barac, 2012). This implies that through assessments, it can be ascertained if the learning outcome has been achieved.

According to Benavot (2011), assessment is the primary means of ascertaining student learning. In the 21st century, quality education is demonstrated through expected outcomes against inputs that facilitate learning. Jones (2013) considers the assessment process as the systematic use of collected information to enhance students' learning experience. Ngwenya (2012) categorises assessment goals as assessment for learning. Assessment for learning (formative assessment) is analytical in nature and is intended for further learning. They form part of the teaching process that is more corrective as they gather information during the learning process (Jones, 2013).

This study relates to textbook assessment tasks that facilitate the development of several cognitive attributes. Expected outcomes are statements that express students' accomplishments on finishing the unit of instruction, whereas learning outcomes relate to skills, knowledge, and attitudes (Bezuidenhout & Alt, 2011). They further express the level of thinking that students are required to attain, that is, behavioural attributes and cognitive skills. These tasks both prepare learners for formal examinations and aid learning and teaching. Thus, learning activities are intended to integrate desired outcomes for cognitive attributes through assessment activities, making it possible to determine attainment of learning.

To assess student progress, teachers use task assessments. Task assessments are techniques and data used to evaluate higher appreciation for learning activities by students and influences selection for academic considerations (Weaver, 2017). Task assessment is considered to be a process for using systematically amassed facts to improve on the academic journey of students (Jones, 2013). In the subject of Accounting, textbooks provide tasks that are employed by teachers for these assessments. From these tasks, it is intended that the teacher will be in a position to see if the students are making progress or not. This is important in that the teacher can alter the teaching method if assessments reveal that students are still lagging behind in their appreciation of subject areas.

According to Burns (2015), textbooks play key roles in each summative and formative evaluation task. Formal textbook tests are typically used in conjunction with classwork and homework to assess students' progress and development. Assessment for gaining knowledge

is referred to as formative assessment, for it is diagnostic in nature aimed at furthering the learning process (Jones, 2013). This is the use of systematic assessment processes, curriculum construction, teaching, and understanding the cause, for improving learning (Kennedy, 2017). Such assessments are part of a teaching method that is deliberate in providing corrective moves and improving studying (Airasian, 2014). Assessments are concerned with gathering facts about learning so that modifications can be made to the directions to promote further understanding. Assessments are also used to elicit higher order thinking among students and to give students the opportunity to evaluate themselves (Kennedy, 2017). Several scholars have attested to the effectiveness of formative assessments in the learning procedure (Burns, 2015). Evaluation of over 250 articles via other researchers concluded that formative assessment practices in the lecture room can elevate the standard of learning (Black & Williams, 2014). This may explain the existence of formative assessment practices in Accounting textbooks for Grade 12.

Assessment tasks from textbooks can be used by teachers to perceive gaps in the learning system so that essential remedial intervention can be taken to close such gaps (Zietlow, 2014). In general, most textbooks make provision for classwork and homework as sections of the studying procedure to aid the internalisation of the content taught. Accounting textbooks are no exception. Each textbook has different tasks and therefore there is a need to assess those tasks to determine the level of cognition that is required from the students in order to complete them successfully. The Bloom's Taxonomy can be employed for this purpose. Azzam (2013) posits that when students undertake a precise assessment task, they are exposed to new concepts embedded in the text. The assessment tasks direct learners to aspects entrenched within specific content, these aspects make and stipulate the thinking and learning process. Furthermore, the learning outcomes constitute the leading source of assurance for the achievement of the educational objectives and the inclusive cognitive attributes (Jones, 2013). However, the assessment tasks should be designed to provoke higher-order thinking and active involvement of students so as to appraise their own learning. In this light, the current research endeavour is to ascertain the degree to which these assessment activities help students to master anticipated cognitive attributes.

2.6.1 Assessment and Learning

Biggs (1996) explains the "backwash consequence" prompted by learners' perception of the assessment and its demands. Learners endeavour to comprehend the subject matter through

preparing for assessments, believing the way they think they will address the requirements. The test context influences their understanding; for instance, a task assessment based on true or false stimulates a distinct comprehension from journalising. Thus, assessment expectations trigger comprehension that influences students' reconstruction and interpretation of the content, thereby inducing growth in related cognitive skills. In this light, assessment drives learning.

Furthermore, individuals' learning conception influences the learning approach; for instance, surface learning, which means understanding the author's explicit point or recollection of facts; and deep learning, which refers to higher-order reasoning and attempting to comprehend the author's intentions (Momsel et al., 2013). Learning becomes more difficult for learners as they progress from the quantitative to qualitative phase (Biggs, 2011). This is viewed as a strategic approach (Momsel et al., 2013). Thus, anticipating questions makes learners adopt a deep or surface learning strategy to frame the content in order to achieve the required understanding (Biggs, 1996). In summary, learners respond to assessment task demands, thereby instilling the cognitive skills required.

Even though the assessment of learning is important, most assessments remain pitched at levels that deprive students of the thinking and conceptual understanding required (Momsel et al., 2013). Nevertheless, within the African context the degree to which the Grade 12 assessment tasks further develop the required cognitive attributes is still undocumented, which prompted this study.

2.6.2 Assessment and the Curriculum

Usually the pedagogical process should be dictated by the demands of the curriculum. There is a need for a constructively aligned education system, where learning and teaching are integrated to attain the curriculum aims (Biggs, 2003). This is facilitated by slotting into the teaching system the learning outcomes, thereby making students engage with the learning specifications embedded in the curriculum. The teaching system commences by outlining the planned learning outcomes from the teacher's standpoint (Van Rooyen, 2016). From the learner's standpoint, assessment is the vehicle that communicates the discipline. Brock-Utne and Aliduo (2011) echo that students learn skills and behaviours measured through assessment, and not curriculum. In conclusion, the key to developing learners' cognitive abilities is the assessment task. Thus, the educator assessments are at the end of the learning process, whereas for learners they are at the beginning. Figure 2.2 below illustrates the

educator and student assessment standpoints. For the educator, assessment comes at the end, and for the learner, at the beginning.

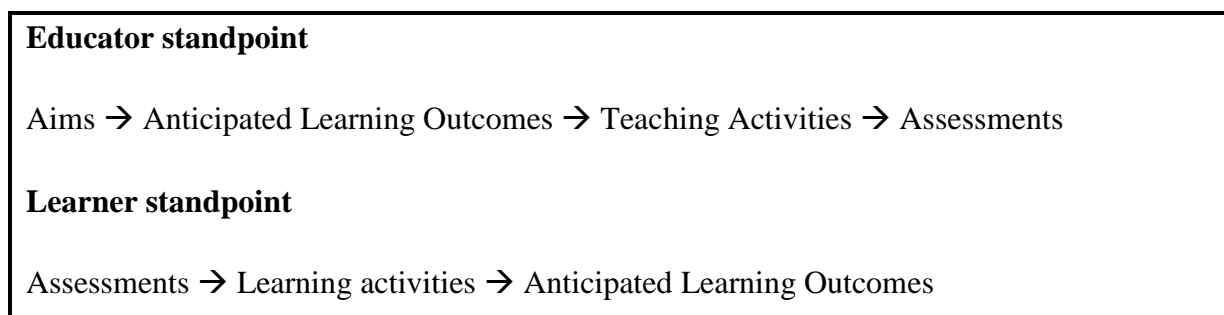


Figure 2.2: Educator and student assessment standpoints

2.7 The Cognitive Demand of Textbooks

The cognitive demand (CD) is the level of thinking required in conducting a task (Jones, 2013). It is defined as the thinking method involved in resolving an evaluation task (Brandstrom, 2005). CD is also viewed as the quantity of mental skills and demands that should be expressed by the one who is undertaking the task (Weaver, 2017). CD is a mental engagement – the amount of mental effort that a scholar ought to exert to work on or resolve a problem effectively (Barac, 2013). From these definitions, it seems that there is a consensus that the term cognitive demand relates to thinking or a mental act or reasoning when completing a task. To be involved or engaged in a cognitive undertaking will not solely entail a kind of thinking but will also require time and effort. Indeed, in ordinary terms, a task is considered stressful if it takes greater effort, ability, skill or persistence (Chambers, 2014).

2.7.1 Assessment and Cognitive Demand

The fundamental basis of a sound academic system is to channel all learning, teaching, and assessment processes to the development of a learner's high cognitive skills. According to Bezuidenhout and Alt (2011), in a student-centred environment, assessment should both test learners' ability to comprehend and recall disciplinary concepts and open the window to foster critical thinking relating to complex concepts. Students develop varied cognitive skills by attempting textbook problems (Francis, 2013). Textbook tasks have different levels of complexity. Cognitive complexity is the degree to which an individual is outfitted to deal with ambiguity in processing information (Barac, 2013). Cognitive complexity relates to

one's integrative potential or the capacity to discriminate or discern information on the one hand and the potential to differentiate facts on the other (Davidson, 2016).

The degree to which the assessment activities in Grade 12 Accounting textbooks foster required cognitive skills are not fully explored, especially in Africa, giving a solid impetus for this undertaking. The next section discusses assessment and cognitive demand for other fields.

2.7.2 Assessment and Cognitive Demand in other Disciplines

Various studies have been conducted to investigate the cognitive demands of textbook tasks. However, most of the assessment of cognitive demands has been done in the field of mathematics, as opposed to other disciplines. Research results of studies done using mathematics textbooks is useful in this study as in some incidences mathematics and accounting subjects are related. Mathematics and Accounting are two separate fields of study, though accounting uses basic mathematic functions and requires an understanding of mathematics. On the other hand, the mathematics field can be pursued independently of accounting (Birkett & Evans, 2005).

The cognitive demands of mathematics tasks, using Bloom's Taxonomy, was investigated by Smith (2015). The study was conducted in South Africa and investigated cognitive demands for mathematic exercises on probability over a period of ten years and found that the cognitive demands had been increasing over the period and that this trend would continue to increase its intensity. Jones and Tarr (2007) investigated probability in mathematics textbooks and observed an increasing trend towards higher-order thinking skills. This was consistent with the findings of Bayazit (2013) in Turkey, who noted that newer mathematics textbooks for all grades enhanced the development of mathematical thinking at high levels. On the other hand, a comparative study on the cognitive demands of mathematics tasks of American and Korean mathematics textbooks was conducted by Ovid (2017). The study found that American textbooks exhibited more cognitive demands than those used in North Korea. It was observed that 67% of American mathematic tasks demanded analysis, evaluation, and creation, while only 55% of the Korean mathematic tasks requested application, analysis, and evaluation (Ovid, 2017). Yang and Sianturi (2017) also noted that Singaporean textbooks were characterised by higher cognitive levels when contrasted against Indonesian books.

In China, the cognitive tasks of mathematics textbooks was explored by Park (2015). The study found that Chinese mathematics textbooks were increasingly demanding analysis from students but most of the tasks remained on the understanding and comprehension level of Bloom's Taxonomy. Turkish mathematics textbooks addressed low-thinking levels in the Bloom's Taxonomy (Kaya, 2016). The investigation also found that only in the Turkish end-of-year mathematics examinations were higher-level thinking skills questions asked. Furthermore, the trends in these examinations showed an increase towards *evaluation* and *creation* cognitive demands (Fortune, 2014). This has been a result of deliberate effort by the examiners to increase the competitiveness of the students and the quality of the examinations (Fortune, 2014).

In Nigeria, the cognitive tasks in secondary school mathematic textbooks was explored by Okuchu (2015). The investigation found a progression towards higher-level cognitive demands in Nigeria, but also noted that it was slower in comparison to the cognitive demands in mathematic textbooks in Cameroon (Okuchu, 2015). The study recommended that Nigerian mathematic tasks should move towards *evaluation* and *creation* cognitive demands, as per Bloom's Taxonomy, which are predominant in mathematics tasks in Cameroon.

In Kenya, the cognitive demands of mathematic tasks revealed that Kenyan textbooks increase the cognitive demands as textbooks progress into the 5th and 6th chapters (Mwangi, 2015). However, some of the textbooks demanded *creation* thinking skills only in the last chapters. Three mathematics textbooks in Kenya, Tanzania and Democratic Republic of Congo were investigated by Mwangi (2015) and compared for cognitive demands of mathematic tasks. Generally, the Tanzanian textbooks were rated average for most skills; whilst those in the DRC were rated high. The study found out that textbooks in Kenya were rated highest in the *remembering* and *evaluating* skills, with 60 and 49 problems respectively. DRC textbooks were found to be rich in *understanding* (71), *creative* (45), and *analysis* skills (43). In the area of *application*, both Kenya and Tanzania were rated equal with 72 and Tanzania the lowest with 67. In *creative* skills, Kenya was the lowest with 29. The DRC mathematics textbooks call for more low-level thinking skills than Kenya and Tanzania. Overall, the study found that the mathematic tasks reduced in quantity when it came to higher-level thinking skills.

A Zimbabwean study of 13 mathematics textbooks used from Form 1 to Form 4 noted that mathematic tasks increased progressively to higher-level thinking requirements from Form 1

to Form 4 (Matinenga, 2017). The research found that these textbooks are structured consistently because they were written by the same panel of authors and therefore progressively increased the cognitive demands. The updated taxonomy revealed that mathematic tasks that ask high-level thinking skills in Form 1 and 2 were fewer when compared with the mathematics textbooks that were used in Form 3 and 4 (Matinenga, 2017). Matinenga (2017) also explored two mathematics textbooks that are used in grade 12 studies in South Africa and Form 6 studies in Zimbabwe. It was observed that there is an average percentage difference of 12% in all higher-level thinking skills found in the end-of-chapter tasks in the Zimbabwean textbooks. The study also found that some topics specifically called more for higher-level thinking skills than other topics.

A review of the studies listed above shows that most of the mathematic tasks lacked higher level thinking skills. The mathematics tasks lacked questions asking students to analyse, evaluate, and create. The studies also indicated that the cognitive demands of mathematics tasks increasingly called for higher-level thinking skills (Smith, 2015) and that some countries do have textbook tasks that call for high-level thinking skills (Matinenga, 2017; Ovid, 2017; Park, 2015). The abovementioned studies also show that mathematic tasks in secondary school textbooks fall largely within the mid-level of cognitive demands (Fortune, 2014; Okuchu, 2015).

In science, the United States end-of-course (EOC) chemistry materials had assessment tasks pitched at the middle cognitive level, since they were narrowly focused (Davila & Talanquer, 2009). In China, Yang, Wang, and Xu (2015), using the Bloom's Taxonomy, uncovered increased emphasis at analysis level on assessment tasks than on the comprehension level. In Turkey, Tarman and Kuran (2015) showed that the assessment tasks in social studies textbooks mostly addressed low-level thinking skills from the Bloom's Taxonomy perspective. Bharath (2015) observed that history textbooks used in South African secondary schools were moving towards higher-order engagement for assessment tasks in the higher grades. High school English texts were observed to emphasise more comprehension skills and average coverage of evaluation and analytical skills, whereas application and remembering skills received minimal attention (Assaly & Smadi, 2015).

2.8 Empirical Studies on Accounting Textbook Assessments

There are limited studies that investigated the cognitive demands of Accounting textbooks (Brookfield, 2016). Most of the studies investigated various variables in the field of Accounting. For example, the number of students at pre-university levels that took Accounting as a subject were investigated by Campbell (2013). This study compared five European and five African countries and found that levels of African students undertaking Accounting were 13% lower than their European counterparts. The study also found that African students had relatively higher grades compared to their European counterparts.

Van Rooyen (2016) observed that there is limited research on assessment in the discipline of accounting. Toerner (2009) explored EOC material use in intermediate Accounting textbooks and noted that learners focused more on computational materials useful for technical competency and focused less on conceptual cases that foster communicative and critical thinking skills. This was consistent with the findings of Palm and Bisman (2010) in Australia, who noted that prescribed introductory accounting texts had more technical content and assessment was mainly through tests.

Van Rooyen (2016) observed that for tertiary level accounting, the focus was on alignment of the learning objectives as spelled out in the module, as well as examination papers in management accounting. Different authors classify higher order skills differently; for instance, Bezuidenhout and Alt (2011) consider *apply* and *analyse* as middle-level skills, whereas Van Rooyen (2016) considers higher cognitive skills to be *analyse*, *create* and *evaluate*. The current undertaking is based on the Grade 12 assessment tasks for cognitive demand in prescribed textbooks, where there is limited research.

Gordon (2011) laments the dearth of theory in most textbooks of Accounting courses. Financial Accounting texts were considered to cover ethical issues to limited degrees in response to financial scandals (Gordon, 2011). Milner and Hill (2008) concur, observing that textbooks offered little for students to develop graphical skills. This is a significant limitation, based on the findings of Phillips, Alford, and Guina (2012), who consider more learning to occur when images follow relevant text. Similarly, Phillips and Phillips (2007) argue that introductory Accounting textbooks should foster understanding for even the academically weak students who depend on images to reduce anxiety.

The perceptions of students when it comes to the relevance of Accounting subjects in their future employment prospects were reviewed by Levesque (2014). This study found that 50% of the Accounting students who were included in the study were of the view that Accounting would assist them to have a financial appreciation in their post of duties and 45% wanted to pursue further studies in Accounting. It was found that 78% of the students were willing to pursue financial accounting than cost accounting and that 80% of the students were of the view that financial accounting was easier to study than cost accounting (Hartley, 2016).

Corcoran (2017) investigated five subjects and their order of preference by high school students, namely mathematics, accounting, biology, chemistry, and physics. The research showed that Accounting was the most preferred subject (34%), and chemistry was the least preferred subject (2%). Mathematics was rated 23%, biology 28%, and physics 13%. These findings indicate that students preferred accounting and biology, compared to mathematics, physics and chemistry.

The cognitive skills in end-of-chapter materials available in 41 British Accounting textbooks were studied using the Bloom's Taxonomy (Stokes, 2008). The study found that the end-of-chapter tasks increased the level of cognitive demands of students as they progressed into the textbooks. Thus, most of the end-of-chapter tasks in the first few chapters concentrate mainly on the first three levels of the taxonomy (Stokes, 2008). In addition, the study found that 9% of the end-of-chapter tasks asked for *evaluation* as a cognitive demand, 62% asked for *analysis*, and 29% *knowledge* and *comprehension* (Stokes, 2008).

The cognitive skills of 16 secondary school textbooks (Grade 10–12) showed that the learning objectives were at the lower (*knowledge* and *comprehension*) levels of the cognitive domain and written at cognitive levels different from the end of chapter materials (Brookfield, 2016). The highest level of congruency was a 33% match in the managerial Accounting textbook, where most of the end-of-chapter items were at *application* and *analysis* level (Brookfield, 2016).

The similarity of the end-of-chapter tasks in American Accounting textbooks were investigated by Brewer (2014). It was found that 73% of the end-of-chapter tasks concentrated on the first four levels of Bloom's Taxonomy. The end-of-chapter tasks mainly addressed middle-levels skill (69%), followed by lower-order skills (20%), and lastly, *synthesis* and *evaluation* at 11%.

The studies described above focused on the end-of-chapter tasks in American and British textbooks. What can be noted from these studies is that they did not investigate most of the topical tasks and examples that are contained in the textbooks. It is with this view that this study seeks to analyse the cognitive demand of assessment tasks in Grade 12 South African Accounting textbooks.

2.9 Grade 12 Accounting

Studies have focused on the effectiveness of teachers of Grade 12 Accounting. There is dearth of literature, however, on textbooks for Grade 12 Accounting in South Africa. Most studies investigated students at pre-university levels that did Accounting as a subject (Campbell, 2013). This limited literature is set against findings that indicate the students' preference for accounting and biology, compared to mathematics, physics, and chemistry (Corcoran, 2017).

Accounting studies that has been conducted at introductory level revealed that learning objectives and end-of-chapter exercises tended to the lower levels of the Bloom's Taxonomy (Stokes, Rosetti, & King, 2010). This was corroborated by Gupta and Marshall (2010), who found that selected introductory accounting textbooks focused more on lower (20%) and middle (69%) cognitive skills, with less focus on behavioural skills (*evaluation* and *synthesis*, 11%). William (2011) found that assessment activities are mostly incorporated within the lesson to aid understanding and explanation for the Accounting discipline, where concepts are reinforced by assessment tasks and examples for learners to fuse the concepts learnt. Stokes et al. (2010) noted that intermediate Accounting textbooks provided the foundation for consequent academic success. At Grade 12, learners should master the basic principles which are critical for forthcoming studies (Philips & Hall, 2012).

Accounting focuses on evaluating organisational financial performance, processes, and communicating financial information regarding an economic entity. The Grade 12 Accounting syllabus focuses on standardised presentation, interpretation, and reporting on financial information (Modise, 2017). Grade 12 Accounting students are taught Accounting principles that prepare them to perform basic accounting processes (Ornstein, 2014). In South Africa, the Accounting curricula are guided and designed by the National Curriculum Statement for Accounting. Curriculum design refers to the way the curriculum is conceptualised and how its major components are arranged, to provide direction and

guidance on what students should master (Ornstein, 2014). This is important for ensuring uniformity in the evaluation of Grade 12 performance. All topics in the CAPS Accounting curriculum are organised under the three main topics of Financial Accounting, Managerial Accounting and Managing Resources, which are the main concepts that are covered in Accounting textbooks (Hall, 2014).

The paucity of scholarly work on Grade 12 Accounting textbooks in Africa, specifically for assessment tasks, justifies this undertaking. This research intends to fill this void, by highlighting the significance of school textbook assessment tasks.

2.10 Conclusion

In this chapter, the textbook is shown to be an important pedagogical tool in the area of education globally, based on reviewed literature for textbook research. The importance of the textbook for developing countries such as South Africa was shown as a main instrument to enhance quality of education. The educators were found to use textbooks extensively to teach in various disciplines, including Grade 12 Accounting. The chapter discussed the school curriculum, Grade 12, and empirical studies of the end-of-chapter tasks. Textbooks were found to drive student learning. Based on views of seminal scholars, the bond between student learning, curriculum, and assessment was established. The literature review found that different tasks carry different cognitive demands and that there is a need for a blend of low- and high-level cognitive tasks in Accounting. The chapter concluded by highlighting the meagreness of scholarly work on the cognitive demand of assessment tasks in Grade 12 Accounting textbooks. The next chapter will present the methodology for this study.

CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

Chapter Three presents the research methodology used to gather and analyse the research findings. Wright (2015) asserts that a well-structured research methodology is necessary for an effective research study. Thus, this chapter seeks to describe and justify the research methodology used in this study. The research philosophy, research design, sampling strategy, ethical considerations, dependability, and transferability will be discussed in this chapter.

3.2 Research Design

The following sections explain the concept of the research paradigm and then discuss the particular research paradigm used in this study. The qualitative study approach will also be discussed.

3.2.1 Interpretive Paradigm

Fletcher (2015) opine that a *research paradigm* is a word that is applicable to both research approach and design.

The qualitative research plan is interpretative in nature. This approach requires designated observation and explanation, and assumes that it is not possible to define exactly what elements are necessary (Shaw, 2014, p. 43). It argues that validity is essential, rather than trying to outline precisely what is being discovered when addressing the research problem (Shaw, 2014, p. 43). It tries to learn about the total state of affairs to consider the complexity and make sure that the conclusion takes account of standard as well as each special factor (Fletcher, 2015, p. 132).

3.2.2 Qualitative Approach

The study used content analysis to analyse the texts, using an instrument that is an adapted analytical tool. This analytical framework will draw on elements from Bloom (1956) and Umalusi (2013). The qualitative approach is suitable for this study since it seeks to discover and gain a detailed understanding of the phenomena of cognitive demand as represented in Grade 12 Accounting textbooks in South Africa.

Qualitative research, as defined by Creswell (1994) is the use of distinct methodological principles of investigation that evaluate social or human problems. This is achieved by understanding and employing tools that build a complex but holistic picture to analyse words and produce a detailed summary of observations. According to Denzin and Lincoln (1994), qualitative research is a process of examining various phenomena in their natural setting and understanding the meaning that people associate with these phenomena. The interpretative paradigm is concerned with understanding the world as it is from experiences (Reeves & Hedberg, 2003).

The study adopted a qualitative perspective. The rationale is that the current study involves interpretative and naturalistic elements. Moreover, the study resorted to the qualitative method since it seeks an in-depth knowledge and understanding of the topic at hand. The foregoing argument is corroborated by Creswell (1994) who contends that the qualitative approach places emphasis on the value and depth of information. This undertaking seeks to get an in-depth understanding of cognitive demand in task assessment and how it is represented in the selected Grade 12 Accounting textbooks in South Africa. This approach was therefore found suitable for the study as it is aligned with the manner in which the research questions are phrased.

3.3 Method of Data Production

The methodology adopted in the study is content analysis. Content analysis is a method of research that is used to analyse content critically in relation to its context; that is, the specific aspects of texts or elements (Buttler, 2014). It is concerned with extracting and understanding the content. Moreover, the approach attempts to identify patterns of words or concepts within a set of texts (Saunders, 2016). This enables researchers to qualify words and patterns as well as their meanings within texts.

Stead (2012) explains that this method attempts to identify inherent patterns of words, themes, character, and the counting of words. Content evaluation can be used as an effective investigative device to determine, from the content material of a message, sound inferences regarding the attitude of the speaker or author (Shaw, 2014). It has been employed as a descriptor of various investigative techniques used systematically to collect, analyse, and make inferences (Saunders, 2016).

Qualitative content analysis classifies processes and identifies themes and patterns in the process of analysing data (Hsieh & Shannon, 2005, p. 84). Mayring (2000, p. 132) explains that the procedures of quality content analysis are to be followed in the category development and application. This should follow the use of step-by-step models and content analysis coding rules. Patton (2002, p. 32) describes content analysis as an attempt to make sense and simplify data by analysis to identify core consistencies and meanings. These three definitions underscore the fact that qualitative content analysis involves speech or texts and their specific contexts. They also reveal that content analysis does not involve mere counting of words or observation of patterns and themes that may manifest but allows researchers the opportunity to explore and comprehend social reality.

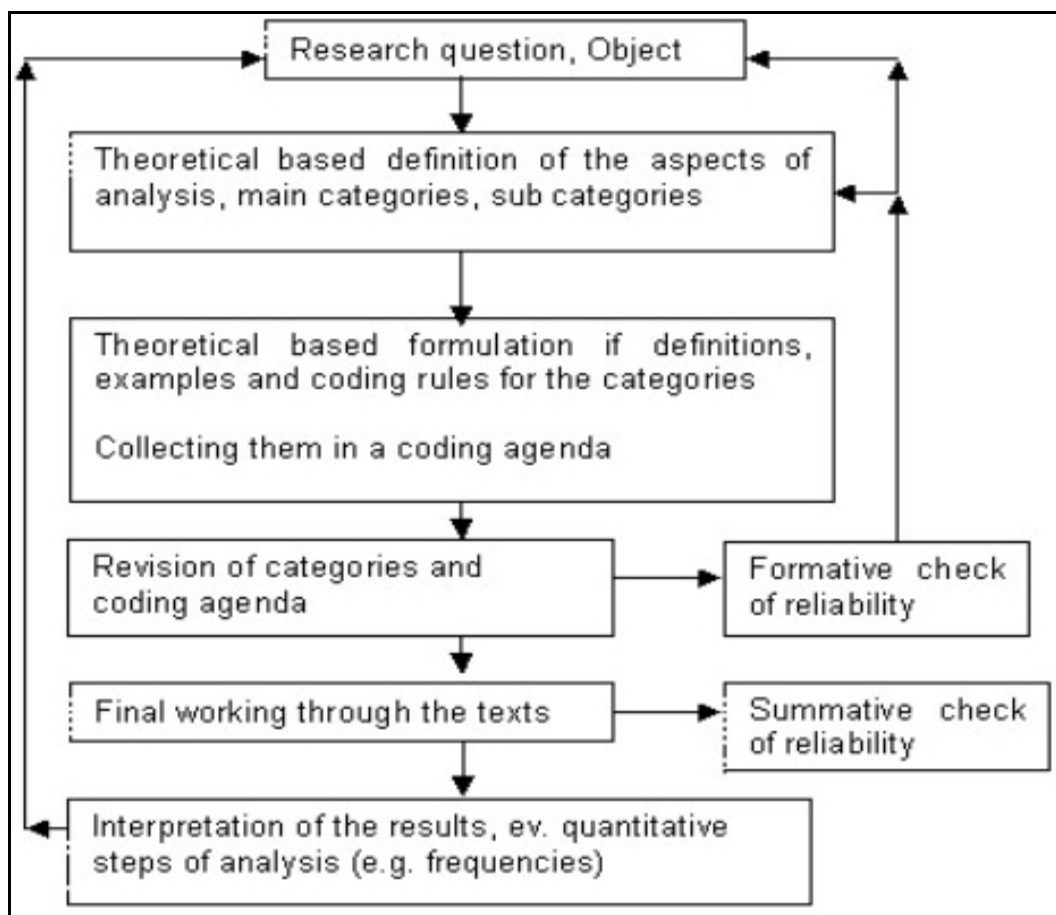


Figure 3.1: Content Analysis Model

Source: Mayring (2000, p. 14)

This study used content analysis to analyse the content in relation to how it is presented in its context. The study extracted the essence of how content relates to its contextual form. Moreover, content analysis was applied as the framework to analyse the cognitive demand of the assessment tasks. Content analysis was instrumental in understanding the cognitive

demand of various assessment tasks and their effectiveness. Therefore, the analytical framework used by Umalusi (2013) was used to analyse the textbooks in this study.

Appendix A shows the instrument used by Umalusi (2013) to analyse the cognitive demand of the final Grade 12 examination papers. This study used the same instrument and applying it to textbooks. Umalusi is a South African quality assurance body that oversees the standards for examination papers, including the Grade 12 accounting papers across the country. This motivated the choice to use Umalusi's instrument as it has already been tested in the South African context of this study.

According to Buttler (2014, p. 43), deductive category application is based on determining what the critical questions are. It focuses on deriving deductive categories from literature through searching the data to see where they feature and how they manifest.

3.4 Target Population

Target population is the highest conclusive number of possible research units from which the research data can be gathered (Hamilton, 2014, p. 231). Eight Grade 12 Accounting textbooks were used as the target 'population'. Due to their size, time, and costs involved, not all eight books could be investigated and therefore sampling strategies were employed to select two textbooks that will be studied in this study. Grade 12 determines the final year of school. Matric results are highly rated. Personally, I am on the panel of provincial editors for the New Generation Accounting textbooks for Grade 10 and 11 thus resulting in conflict of interest. The choice of Grade 12 textbooks is justified.

3.5 Sampling Strategy

3.5.1 Non-Probability Sampling Strategy

Non-probability sampling denies the members of the target population the same chance to be part of the research (Fletcher, 2015, p. 98). This study preferred the non-probability sampling strategy as compared to probability sampling. Several non-probability sampling strategies could have been used in this study, such as:

- Quota sampling – the research sample should be in proportion to the target population (Fletcher, 2015, p. 86).
- Convenience sampling – readily available members of the target population are selected to be part of the study (Williams, 2013, p. 88).

- Purposive sampling – the selection of the sample members is dependent on the sound and professional judgement of the researcher (Fletcher, 2015, p. 69).

This study made use of the convenience sampling technique in selecting the two books used in the study. Fletcher (2015, p. 67) suggests that convenience sampling, chooses the research elements based on their availability to be included in the study. The two Grade 12 books were selected based on their availability to the researcher and on the notion that they are most widely used Grade 12 Accounting books.

A purposive, judgemental sampling strategy was employed, whereby the researcher hand-picks the cases to be included in the sample, based on judgement of their typicality or possession of the particular characteristic being sought (Cohen, Manion, & Morrison, 2011, p. 156). Thus, in this study, a sample of 2 Grade 12 Accounting textbooks (being *New Era* and *New Generation*) were purposely selected through the use of a non-probability sampling strategy. The main purpose of this was to establish the representation of the cognitive demand of assessment tasks in each of the textbooks. The final analysis was therefore based on these two textbooks alone.

3.6 Data Analysis

Data analysis is when systematic and logical methods are employed to describe, illustrate, condense, recap, and consider information (Bennett, 2016, p. 102). This investigative study employed the Bloom's Taxonomy. I adapted Umalusi (2013) instrument and used the cognitive levels of demand only to assess the assessment tasks in Grade 12 Accounting textbooks.

3.6.1 Bloom's Taxonomy

There are several taxonomies that have been developed over time; this study uses Bloom's (1956) to assess the cognitive demands of Grade 12 Accounting textbooks. Bloom's Taxonomy was created in the 1950s in a bid to structure various levels of reasoning skills that are required in classrooms (Barac, 2013). The taxonomy outlines six levels, with each requiring a higher level of abstraction than the previous. Thus, according to the Bloom taxonomy, it is the responsibility of the teacher to move students from lower levels of the taxonomy to the highest level during teaching (Antony, 2013). The Bloom taxonomy argues that the teacher should create thinkers, not re-callers of information at the end of any

academic course – that is, students should be at the highest level of the taxonomy (Clinton, 2017).

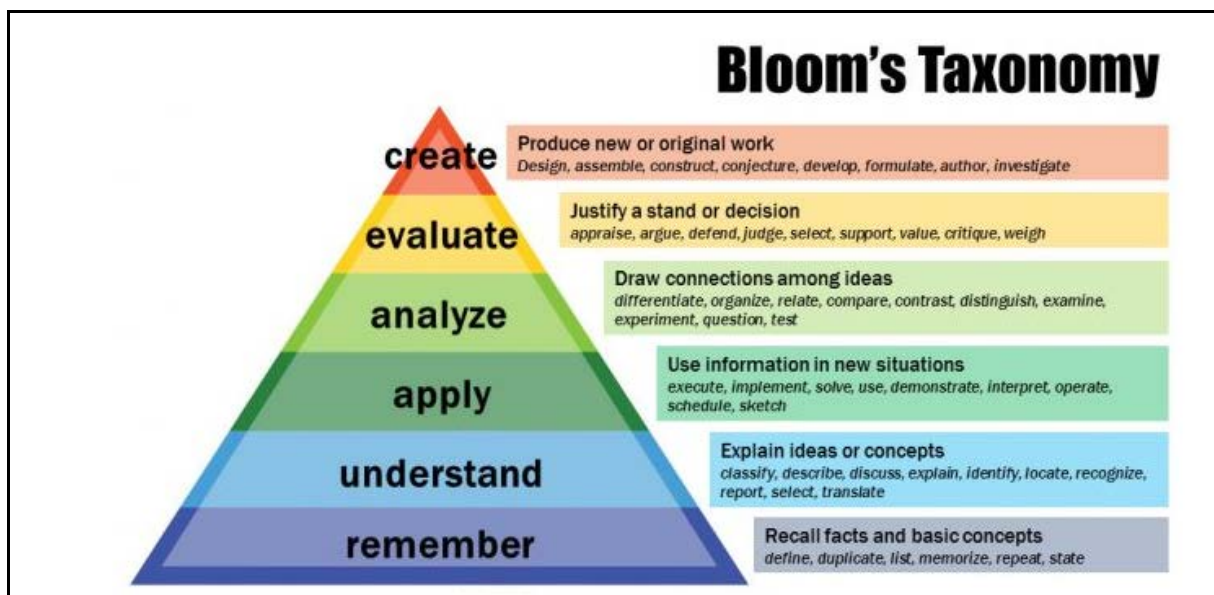


Figure 3.2: Levels of Bloom's Taxonomy

Source: Berkett and Evans (2005)

Figure 3.2 shows the various levels of Bloom's Taxonomy, which are: *knowledge*, *comprehension*, *application*, *analysis*, *evaluation* and *create*. The levels of the Bloom taxonomy are explained below.

3.6.2 Low and High Order Thinking Skills

Bloom's Taxonomy can also be viewed in terms of cognitive process dimensions. The cognitive process dimension represents a continuum of increasing cognitive complexity from the first stage to the last. There are 19 specific processes that further clarify the bounds of the six categories (Anderson & Krathwohl, 2001).

Lower order thinking skills			Higher order thinking skills		
Remember	Understand	Apply	Analyze	Evaluate	Create
recognizing (identifying)	interpreting (clarifying, paraphrasing,	executing (carrying out)	differentiating (discriminating, distinguishing,	checking (coordinating, detecting,	generating (hypothesizing)
recalling (retrieving)	representing, translating)	implementing (using)	focusing, selecting)	monitoring, testing)	planning (designing)
	exemplifying (illustrating, instantiating)		organizing (finding, coherence, integrating, outlining, parsing, structuring)	critiquing (judging)	producing (construct)
	classifying (categorizing, subsuming)		attributing (deconstructing)		
	summarizing (abstracting, generalizing)				

Figure 3.3: Lower and Higher Order Thinking Skills

Source: Anderson and Krathwohl (2001).

The above diagram shows the various characteristics of the main levels of the Bloom taxonomy.

1. *Remember* – at this level, the student should gain knowledge on specific information that has been taught in the lesson (Anderson & Krathwohl, 2001). For example, the students can memorise dates, places, and names of people (Bloom, 1956). End-of-chapter tasks that require student knowledge use words such as *tell*, *list*, *label*, or *name*.
2. *Understand* – at this level of the taxonomy, students are expected not only to recall facts and dates but to understand information (Anderson & Krathwohl, 2001). Students are expected to interpret facts and the reasons behind things and statements (Bloom, 1956). The end-of-chapter tasks that promote comprehension include words such as *describe*, *contrast*, *discuss* and *predict* (Ornstein, 2014).
3. *Apply* – at the application stage, the students are required to apply and use the knowledge that they have learnt in school and come up with a solution. Students can be asked to use a model to answer specific problems (Bloom, 1956). The end-of-

chapter tasks that seek application in students contain words such as *complete, solve, examine, illustrate, and show*.

4. *Analyse* – this stage of the taxonomy, students are expected to go beyond knowledge and application but see patterns that can be used to analyse the problem (Anderson & Krathwohl, 2001). For example, a teacher may ask students to give reasons behind why certain accounting procedures are done in the way they are done. Thus, the students are expected to analyse the accounting procedure in relation to other procedures and come up with a conclusion based on the analysis (Bloom, 1956). The end-of-task questions that promote analysis among students contain words such as *analyse, explain, investigate, or infer*.
5. *Evaluate* – this is a level taxonomy, which demands that students assess information and come to conclusions such as its value or the bias behind it (Anderson & Krathwohl, 2001). The end-of-chapter tasks that require evaluation contain question such as *judge, debate, or recommend*.
6. *Create* – at this stage, students are asked not only to apply given facts and information but to come up with theories and make future predictions (Bloom, 1956). The students are required to gather facts, knowledge, and insights not only from the subject but from other areas of study and come up with a conclusion (Anderson & Krathwohl, 2001). The end-of-chapter tasks ask questions such as *invent, imagine, create, or compose*.

The Bloom Taxonomy can also be presented using the action verbs that are used in accounting questions. It is these action verbs that are used to investigate the cognitive demands of Accounting textbooks in this study.

Definitions	I. Remembering	II. Understanding	III. Applying	IV. Analyzing	V. Evaluating	VI. Creating
Bloom's Definition	Exhibit memory of previously learned material by recalling facts, terms, basic concepts, and answers.	Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions, and stating main ideas.	Solve problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way.	Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations.	Present and defend opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria.	Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions.
Verbs	<ul style="list-style-type: none"> Choose Define Find How Label List Match Name Omit Recall Relate Select Show Spell Tell What When Where Which Who Why 	<ul style="list-style-type: none"> Classify Compare Contrast Demonstrate Explain Extend Illustrate Infer Interpret Outline Relate Rephrase Show Summarize Translate 	<ul style="list-style-type: none"> Apply Build Choose Construct Develop Experiment with Identify Interview Make use of Model Organize Plan Select Solve Utilize 	<ul style="list-style-type: none"> Analyze Assume Categorize Classify Compare Conclusion Contrast Discover Dissect Distinguish Divide Examine Function Inference Inspect List Motive Relationships Simplify Survey Take part in Test for Theme 	<ul style="list-style-type: none"> Agree Appraise Assess Award Choose Compare Conclude Criteria Criticize Decide Deduct Defend Determine Disprove Estimate Evaluate Explain Importance Influence Interpret Judge Justify Mark Measure Opinion Perceive Prioritize Prove Rate Recommend Rule on Select Support Value 	<ul style="list-style-type: none"> Adapt Build Change Choose Combine Compile Compose Construct Create Delete Design Develop Discuss Elaborate Estimate Formulate Happen Imagine Improve Invent Make up Maximize Minimize Modify Original Originate Plan Predict Propose Solution Solve Suppose Test Theory

Figure 3.4: Bloom's Taxonomy Action Verbs

Source: Anderson and Krathwohl (2001)

Figure 3.4 highlights the various verbs that are used in tasks related to each thinking skill of the Bloom taxonomy variables. For example, if the accounting question requests students to remember, the verbs that could be used are *define*, *choose*, *when* or *select*. Questions asking the student to understand structure could include verbs such as *classify*, *summarise* and

rephrase. Questions asking students to apply would use verbs such as *apply*, *build* and *utilise*. Questions asking for analysis as a cognitive demand would use verbs like *simplify*, *list* and *inspect*. Questions asking for evaluation use verbs such as *compare*, *justify* and *prove*, while questions asking for creation as a cognitive demand have verbs such as *modify*, *design* and *create*.

3.6.3 Criticisms of Bloom's Taxonomy

Bloom's Taxonomy of 1956 is criticised for its neutral stance on learning philosophies of overlooking the inclusion of a class *understanding*, a prime purpose of education; the disregarding of epistemologically flawed content; the strict peculiarity of the *cognitive* and *affective* domain that was considered theoretically impossible; the cumulative order where some alleged that appraisal is embedded in synthesis; and the professed downgrading of lower-level competencies (Barak, 2013).

On the other hand, others believe that it is a helpful instructional device as a model for conveying greater and lower-order cognitive behaviours (Angelides, 2015). The Bloom's Taxonomy remains the "best-known and used taxonomy in education" (Barak, 2013). Despite the flaws associated with the simplicity of the taxonomy, it is the same simplicity that makes it effortless to use (Anderson & Krathwohl, 2001). The hierarchical shape of the framework was discovered to be attractive as it is easy (concrete getting to know precedes extra sophisticated and creative learning), elegant, and versatile (can be utilised to all stages of training and disciplines) (Calderhead, 2016). Even after 60 years, Bloom's seminal taxonomy remains an incredible, most renowned and broadly stated work in schooling (Fortune, 2014).

The supposed flaws in the taxonomy resulted in the development of a range of diverse models. These consist of the Structure of Observed Learning Outcome (SOLO) taxonomy, which consists of five tiers progressing quantitatively and then qualitatively (Biggs and Collis, 1982). A four-category taxonomy with distinctive reference to mathematics was described by Doyle (1983), and the two-tier RECAP model used for both coursework and assessment is the work of Imrie (1984). Based on the categorisation supplied, with the aid of Doyle (1983), Stein et al. (1996) developed a framework of four categories that is widely used by researchers in mathematics (Fortune, 2014).

The cognitive dimension of the revised taxonomy and depth of knowledge (DOK) was integrated to derive a cognitive rigor matrix used to analyse students' assessment tasks in

mathematics and English to achieve a wider scope of cognitive demand (Hall, 2014). However, it ought to be stated that the DOK already incorporates questioning tactics that the cognitive dimension of the revised taxonomy addresses. A two-dimensional taxonomy, combining three levels of complexities with three categories representing three orientations of arithmetic, was developed by Berger, Bowie, and Nyaumwe (2010) (Angelides, 2015). It is used for inspecting the South African National Senior Certificate (NSC) examination papers. In science, a two-dimensional framework traversing science content and practice with cognitive demand was initiated by Tekkumru-Kisa, Stein, and Schunn in 2015 (Fortune, 2016).

In response, Bloom further developed the original taxonomy to incorporate new developments in cognitive demands of academic questions. The revised Bloom taxonomy is the most widely used taxonomy in assessing cognitive demands (Fortune, 2014) and that is the reason this study applies this taxonomy.

3.7 Trustworthiness Issues

Winter (2000, p. 43) postulated that trustworthiness is critical to a study and should be maintained through credibility, transferability, and dependability; these issues were all considered. Trustworthiness is used in qualitative research to assess the worth of the research. It is the extent to which the data and data analysis is authentic and honest (Denzin & Lincoln, 1994). The trustworthiness of qualitative inquiry is essential in determining the value of research (Guba & Lincoln, 1994). To ensure trustworthiness of information, one needs to know how the data was collected and how the conclusions were attained.

- Validity in qualitative research is addressed through the integrity, intensity, richness, and extent of the information gathered (Winter, 2000).
- Reliability in qualitative research is found from the stability of observations, parallel forms, and inter-rater reliability (Denzin & Lincoln, 1994).
- Authenticity is regarded as a characteristic unique to naturalistic inquiry (Schwandt, 2001). It is demonstrated when the researcher presents all value differences, outlooks, and disagreements (Mertens, 2005).

3.7.1 Credibility

Credibility refers to how the study is related to the truth (Bennet, 2016, p. 78). Chambers (2013, p. 25) states that a credible research has outcomes that are believable and that its effects are rich in satisfactory evidence as an alternative to quantified facts.

3.7.2 Transferability

Transferability is the level to which the research findings apply to other case studies – not only applicable to the case study at hand (Chambers, 2013, p. 24). Transferability was ensured using a structured research approach and comparing the research results obtained in this study with those from other case studies.

3.7.3 Dependability

Chambers (2013, p. 88) postulates that dependability is the level to which research stakeholders can rely on the research findings. Dependability also refers to the rate at which research findings can be duplicated or repeated (Bryman & Anis, 2013:39). This qualitative study ensured dependability through structuring the research methodology, upholding the research ethics, and explaining the way in which the study was conducted.

3.7.4 Confirmability

Bennett (2016, p. 101) intimates that confirmability refers to the level at which other empirical studies support and substantiate the study at hand. This study ensured confirmability through comparing past research findings with the current research findings.

3.8 Limitation of this study

The limitations faced in this study are that the study focused on only two Accounting textbooks. Moreover, the study does not focus on theory or content but focuses exclusively on assessment tasks. According to the District Official, these textbooks (*New Era* and *New Generation*) have been prescribed for Grade 12 Accounting studies. They are the two most commonly used textbooks in KwaZulu-Natal's Pinetown district.

3.9 Ethical Considerations

Mowen (2016, p. 65) postulated that making ethical considerations is critical to ensure the quality of the study. Ethics is defined as a set of moral principles by an individual or group that offers rules and behavioural expectations relating to conduct of individuals (Mowen,

2016, p. 34). The ethical issues do not apply to this study as it deals with prescribed textbooks that are readily accessible by the general population Grade 12 was chosen because it is an exit level examination. The two textbooks and publishers were chosen because they are popular in schools and on the Department of Education's prescribed list.

3.10 Chapter Conclusion

Chapter Three presented the research design and methodology for the study. The study is an interpretative study that adopts a qualitative approach. This approach focuses on the cognitive demand of assessment tasks in two selected Grade 12 Accounting textbooks. It further investigates how the cognitive demand is presented in assessment tasks of the selected textbooks. The adopted method of data generation is content analysis according to taxonomy tools used by Umalusi (2013). The sampling technique used was purposive and the use of two textbooks forms the research limitation as acknowledgement of areas that can affect the credibility of the study. The next chapter will focus on data presentation and analysis.

CHAPTER FOUR: PRESENTATION AND DATA ANALYSIS (*NEW ERA*)

4.1 Introduction

This chapter present the research findings obtained from analysing two Accounting textbooks used in Grade 12 in South Africa. The Umalusi (2013) instrument was adapted and used as a framework for the study. The end-of-chapter tasks from the textbooks were identified, presented, and analysed using Bloom's Taxonomy. The data presented and analysed in this chapter are collected from the *New Era* and *New Generation* books. The research findings are presented according to the levels of Bloom's Taxonomy. I adapted the six levels of the Umalusi (2013) instrument (Appendix A) and analysed each assessment task of every chapter in the textbook as shown in Appendix B. The values that are shown in Table 4.1 under each level for every chapter are obtained from the totals of each level in Appendix B. The values under each level per chapter are added and the sum is entered in the total column in Table 4.1. The percentages that were derived in Table 4.2 were calculated by the value of each level of every chapter in Table 4.1 and divided against the totals in the total column in Table 4.1. Data is presented in tables and graphs.

Table 4.1: Data Analysis by Chapter (by Number) - *New Era*

	Recall	Reorganise	Complex / complicated	Analyse/ Interpret	Synthesise / Problem solve	Evaluate	Total
Chapter 1	49	25		21		1	96
Chapter 2	10	10	6				26
Chapter 3	40	40	57	52	11	1	201
Chapter 4	70	70	3	72		1	216
Chapter 5	33	32		19			84
Chapter 6	12	12		44	10		78
Chapter 7	6	6	15	37	2		66
Chapter 8	15	15	4	4			38
Chapter 9	19	19		28	16		82
Chapter 10	39	39	1	21	3	1	104
Chapter 11	7	7	24	33	6	2	79
Chapter 12	23	23	2	8	1		57
Chapter 13	43	43		45	11	3	145
Chapter 14	37	37		45	6	4	129
Chapter 15	29	21	65	78	9	3	205
Chapter 16	13	12	16	34	7		82

Total	445	411	193	541	82	16	1688
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Table 4.2: Data Analysis by Chapter (by Percentage) - *New Era*

	Recall	Reorganise	Complex / complicated	Analyse/ Interpret	Synthesise / Problem solve	Evaluate	Total
Chapter 1	51%	26%	0%	22%	0%	1%	100%
Chapter 2	39%	38%	23%	0%	0%	0%	100%
Chapter 3	20%	20%	28%	26%	5%	1%	100%
Chapter 4	33%	32%	3%	33%	0%	1%	100%
Chapter 5	39%	38%	0%	23%	0%	0%	100%
Chapter 6	15%	15%	0%	57%	13%	0%	100%
Chapter 7	9%	9%	23%	56%	3%	0%	100%
Chapter 8	39%	39%	11%	11%	0%	0%	100%
Chapter 9	23%	23%	0%	34%	20%	0%	100%
Chapter 10	37%	38%	1%	20%	3%	1%	100%
Chapter 11	9%	9%	30%	42%	8%	2%	100%
Chapter 12	40%	40%	4%	14%	2%	0%	100%
Chapter 13	30%	30%	0%	31%	7%	2%	100%
Chapter 14	29%	29%	0%	35%	4%	3%	100%
Chapter 15	14%	10%	38%	32%	4%	2%	100%
Chapter 16	16%	15%	19%	41%	9%	0%	100%
Total	26%	24%	11%	32%	5%	1%	100%

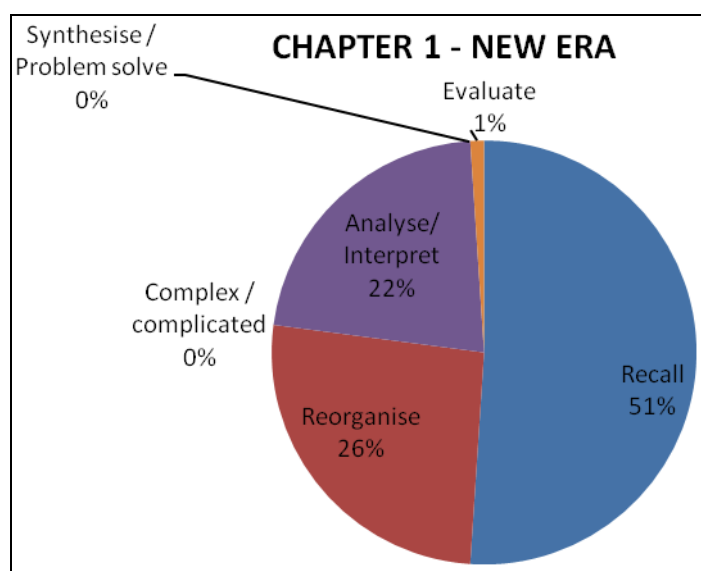


Figure 4.1: New Era Chapter 1

The findings shown above obtained from the analysis of Chapter 1 of the book *New Era*. The results show that the *recall* level comprises the largest section (51%) followed by the *reorganise* level at 26%, followed by *analyse* or *interpret* level at 22%, and lastly, the *evaluate* level, which has only 1% representation in this chapter.

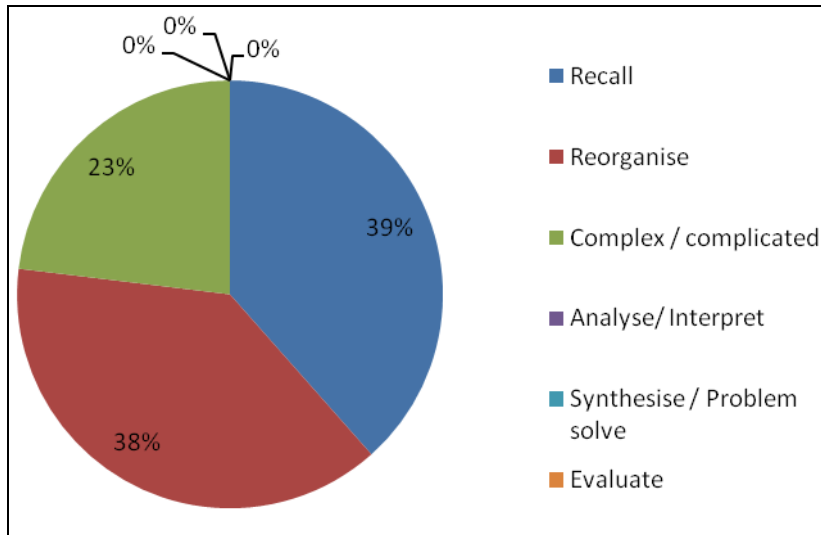


Figure 4.2: *New Era* Chapter 2

The pie chart in Figure 4.2, shows the results found in chapter 2 of *New Era*. The highest section constituted by the *recall* level at 39%, followed by the *reorganise* level, which has 38%, and lastly, *complex* or *complicated* level at 23%. The results indicate that the chapter does not have any *analyse/interpret*, *synthesise/problem-solve*, or *evaluate* levels.

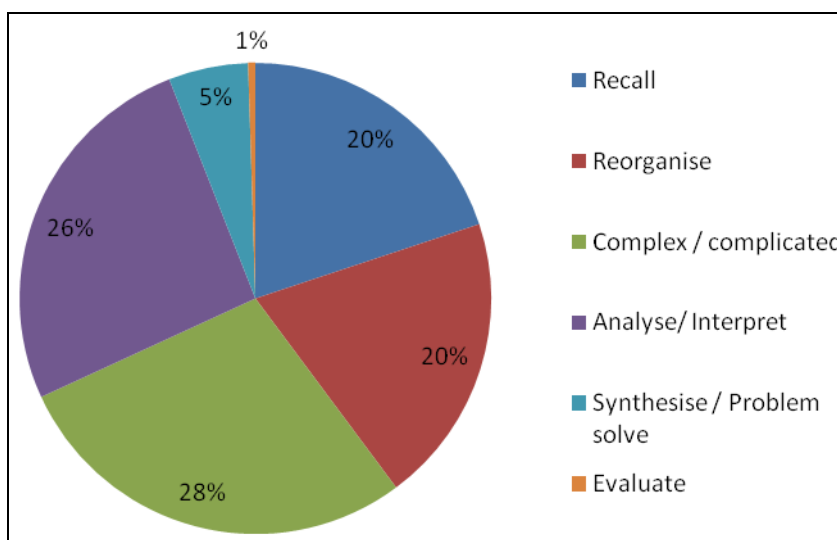


Figure 4.3: *New Era* Chapter 3

The results represented in the pie chart above indicate a fairly even distribution of the levels of taxonomy in the assessment questions at the end of the *New Era* Chapter 3. As shown in Table 4.2, *complex/complicated* level has the highest percentage of 28%, followed by 26% of *analyse/interpret*, followed by 20% of both *recall* and *reorganise* levels of taxonomy; Lastly only 1% is made up of *evaluate* cognitive demands. The results show that the chapter has a balance of low-order and higher-order thinking skills.

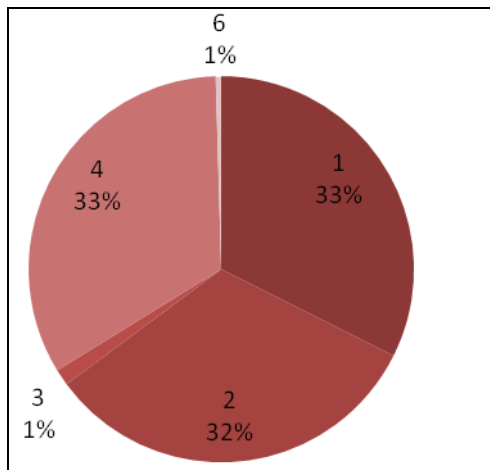


Figure 4.4: *New Era* Chapter 4

The pie chart above shows the findings of the assessment tests in Chapter 4 of *New Era*. As shown in Figure 4.4 above, both *recall* and *analyse/interpret* levels of taxonomy constitute the highest percentage at 33%, followed by *reorganise*, making up 32%, and lastly, both *recall* and *reorganise* levels constituting only 1% each. The results show that there are no questions that fall under *synthesise/problem-solve* level of taxonomy. The results also indicate that there are more questions that require low-thinking skills as compared to the questions which require high-thinking skills.

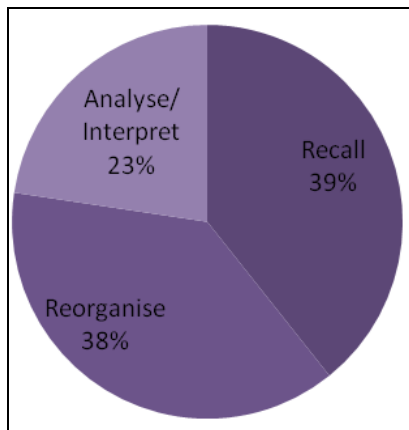


Figure 4.5: *New Era* Chapter 5

Figure 4.5 above represents the results obtained from Chapter 5 of the *New Era* book. The results show that the *recall* level of taxonomy constitutes the highest percentage at 39%, followed by *reorganise* level, which constitutes 38%, and the lowest is the *analyse/interpret* level of taxonomy, which constitutes 23%. The results indicate that a higher percentage of the assessment questions in this chapter need low-order thinking skills and a minority of the questions require higher-order thinking skills.

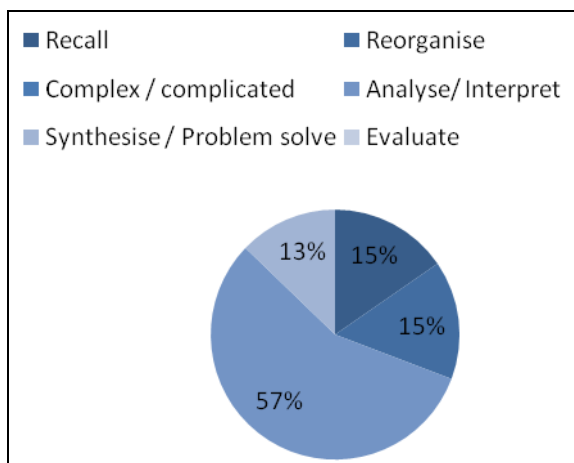


Figure 4.6: *New Era* Chapter 6

Figure 4.6 above shows the findings of the results found in Chapter 6 of the textbook. The results show that the *analyse/interpret* level of taxonomy constitutes the highest percentage at 57%, followed by both *recall* and *reorganise* levels, each 15%. Lastly, at only 13%, is the *synthesise/problem-solve* level. The results obtained show that a higher percentage of the questions fall under higher-order thinking skills|.

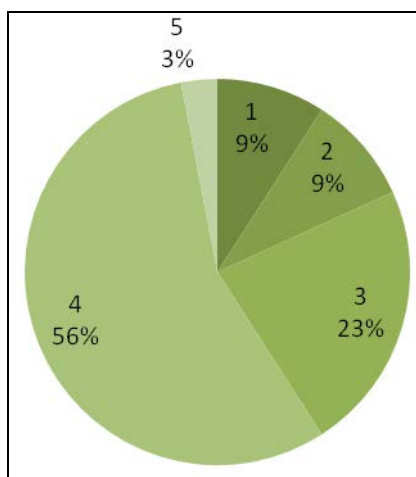


Figure 4.7: New Era Chapter 7

The findings in Figure 4.7 above show that the *analyse/interpret* level of taxonomy constitutes more than half of the assessment questions in Chapter 7 of *New Era* accounting for 56% of the problems in the textbook. This is followed by the *complex/complicated* level at 23%, then by 9% for both the *reorganise* and *recall* levels. Lastly, only 3% are *synthesise/problem-solve*. The majority of the assessment questions, however, may be categorised under higher-order thinking skills.

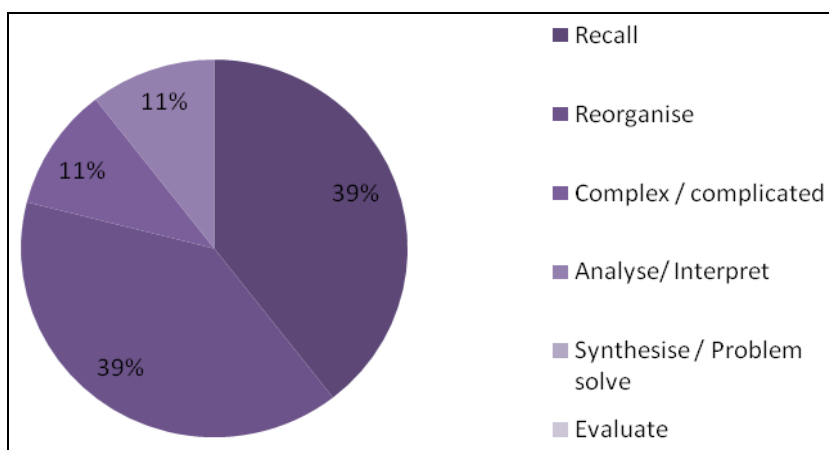


Figure 4.8: New Era Chapter 8

The results represented in Table 4.2 and Figure 4.8 above show the levels of taxonomy in the end-of-chapter questions of *New Era* Chapter 8. The results show that recall and reorganise levels of taxonomy have the equal highest percentages of 39% each, followed by equal levels of both *analyse/interpret* and *synthesise/problem-solve* which have 11%. The findings show

that the number of questions that require higher-order thinking skills is greater than those that fall under low-order thinking skills.

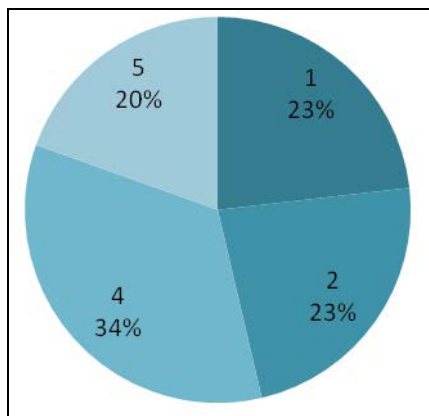


Figure 4.9: *New Era* Chapter 9

Figure 4.9 above shows the results from Chapter 9 of *New Era*. The highest percentage (34%) of the assessment questions fall under the *analyse/interpret* level. Both *recall* and *reorganise* levels constitute 23%, and lastly, 20% is constituted by *synthesise/problem-solve*-level questions. There is no evidence of *evaluate* or *complex/complicated* assessment questions in this chapter.

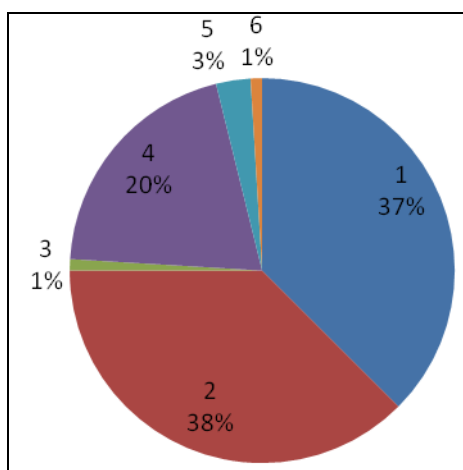


Figure 4.10: *New Era* Chapter 10

The findings in Figure 4.10 represent the taxonomy levels of assessment questions in Chapter 10 of the *New Era* textbook. The results indicate that 38% fall under *recall*, 37% under *reorganise*, 20% of an *analyse/interpret* level, only 3% of *synthesise/problem-solve* and just 1% of both *complex/complicated* and *evaluate* level. The results clearly show that most of the

questions in this chapter fall under low-order thinking skills and only a few questions under higher-order thinking skills. The majority of the assessment questions asks the students to *recall* and to *reorganise*.

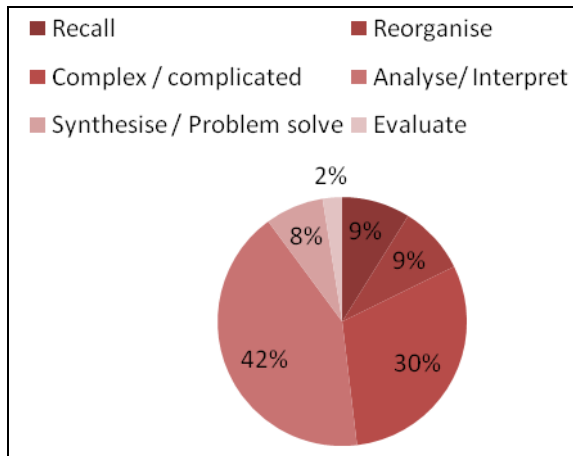


Figure 4.11: New Era Chapter 11

The results in the pie chart above show that about 42% of the assessment questions require the student to *analyse/interpret*, followed by 30% of questions that fall under a *complex/complicated* level of taxonomy. Both *recall* and *reorganise* levels constitute 9% each, followed by 8% of *synthesise/problem-solve*, and lastly, the *evaluate* level which constitutes only 2% of the assessment questions. The findings in Chapter 10 represent a balance of questions falling under higher-order and low-order thinking skills.

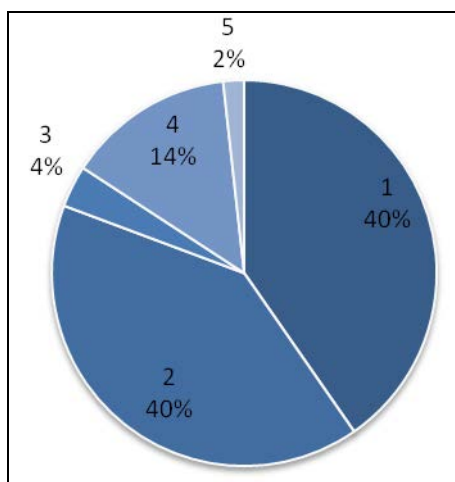


Figure 4.12: New Era Chapter 12

The pie chart in figure 4.12 above represents the findings of the assessment questions in Chapter 12 of the textbook. According to the results, this chapter contains 40% of both *recall*

and *reorganise* levels of taxonomy, followed by 14% of an *analyse/interpret* level, followed by 4% of *complex/complicated*, and lastly 2% of *synthesise/problem-solve* level. The results clearly show that more of the questions in Chapter 12 fall under low-order thinking skills and only a few questions fall under higher-order thinking skills.

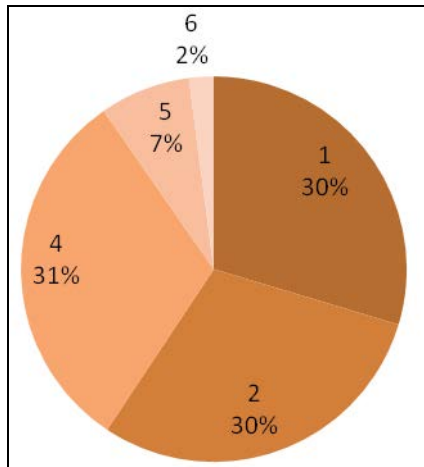


Figure 4.13: *New Era* Chapter 13

Figure 4.13 represents the analysis results of Chapter 13 of the book. As shown by the pie chart, 31% of the questions fall under the *analyse/interpret* level of taxonomy. Both recall and reorganise levels each constitute 30% of the assessment questions, followed by 7% of *synthesise/problem-solve*, and lastly 2% constituted by the *evaluate* level. The results clearly shows that in this chapter students are being tested more on lower-order thinking skills, whilst only a few questions ask for higher-order thinking skills.

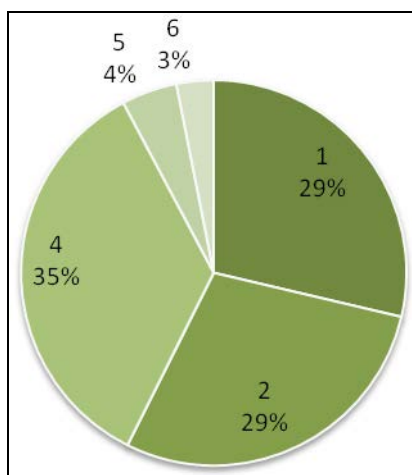


Figure 4.14: *New Era* Chapter 14

Fig 4.14 above presents the findings of chapter 14 of the book *New Era*. The results show that the most questions (35%) constitute *analyse/interpret*. Both *recall* and *reorganise* levels of taxonomy have the next highest percentage of 29% each, followed by 4% of *synthesise/problem-solve*, and lastly 3% of the *evaluate* level of taxonomy. The results indicate that more of the questions fall under lower-order thinking skills and only a few questions demand higher-order thinking skills.

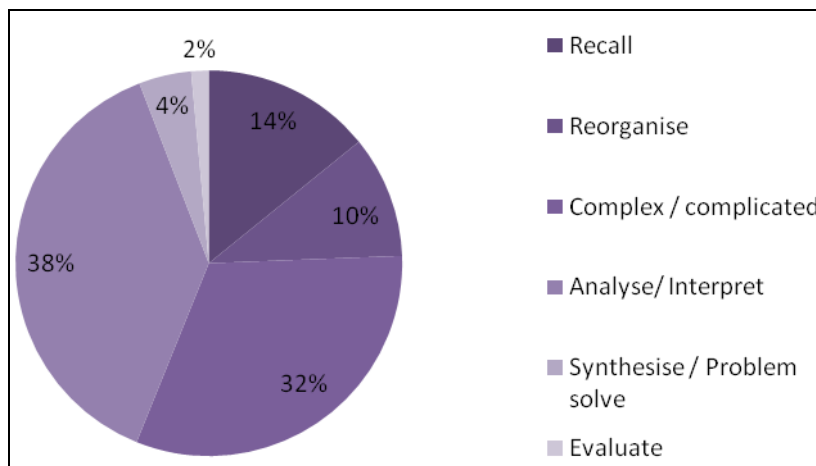


Figure 4.15: *New Era* Chapter 15

Figure 4.15 above represents the findings of Chapter 15 of the book *New Era*. *Analyse/interpret* constitutes a large percentage (38%) of the questions, followed by the *complex/complicated* level, which constitutes 32%. Next, 14% of assessment questions fall under the *recall* level, followed by 10% of *reorganise* level, with 4% of *synthesise/problem-solve* and the lowest, the *evaluate* level, constituting only 2% of the questions. In general, the results show that more of the questions in this chapter fall under lower-order thinking skills.

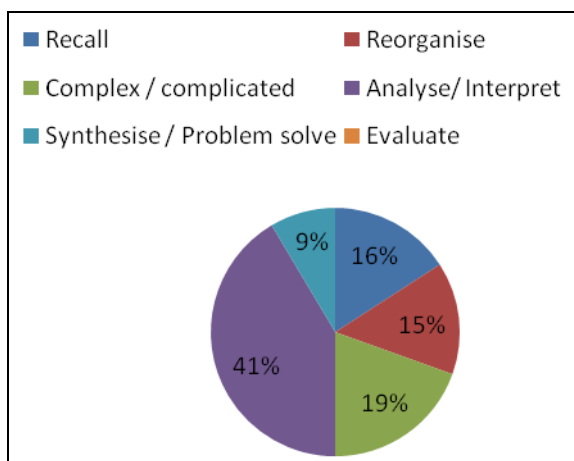


Figure 4.16: New Era Chapter 16

The results presented in the pie chart above show the findings from Chapter 16 of the *New Era* textbook. The findings show that the *analyse/interpret* level constitutes the highest percentage at 41%, followed by *complex/complicated* level at 19%, followed by the *recall* level at 16%. *Reorganise* accounts for 15% of the questions and the least is *synthesise/problem-solve*, which constitutes only 9%. There are no questions that falls under the *evaluate* level in this chapter. Generally, the results indicate a 50/50 balance between higher- and lower-order thinking skills.

4.2 Level One: Remembering

In this section, three typical examples of level one questions are presented.

4.2.1 Definitions

The first example (Table 4.3 below) asks students to match terms with their definitions. The example below shows how the students were asked to remember the concepts learnt in class by aligning the correct answer with its question.

Table 4.3: Example: Matching Questions and Answers

No:	CONCEPT		DESCRIPTION
1.	Shareholders	A	The person who expresses an opinion on the reliability of the financial statements.
2.	Directors	B	The amounts earned by the independent auditor.
3.	Independent auditor	C	The amounts earned by shareholders when profits are distributed by a company.
4.	Directors' fees	D	The people appointed by the shareholders to run the company.
5.	Audit fees	E	The owners of a company (shareholders) cannot be asked to settle the debts of the company.
6.	Shares	F	A company is owned by shareholders, but it is run by directors.
7.	Dividends	G	The owners of the company who provide capital.
8.	Companies Act No. 71 of 2008	H	The document which sets out the basic rules for how a company is to be run.
9.	Limited liability	I	All companies must be registered with this organisation.
10.	Separation of ownership from control of a company	J	This means of dividing up of the capital of a company amongst the providers of the capital.
11.	Memorandum of Incorporation	K	The amounts earned by directors.
12.	Companies and Intellectual Property Commission	L	The law passed by Parliament which applies to companies in South Africa.

Table 4.3 is an example of a level one (*remember*) cognitive demand. A list of concepts and the descriptions are presented. The learner must identify the concept and align the concept to its appropriate description. It is level one because it requires the learner to recall from memory what each of these concepts means. Very distinct clues are presented to the learner—the answers are given, which makes it a level one question. The learner does not have to recall the description outright and is expected simply to select the correct letter of the alphabet. It requires some level of thinking yet it is not a high-level question, making it therefore a low-level recall. This type of example is typical across the 16 chapters in the *New Era* textbook.

The type of knowledge or content being tested is basic introductory concepts. The time taken to do the task is quick but does need some time to sift through. The kinds of words used to denote is a level one question is that it stipulates match the concept in the first column with the correct description in the second column.

4.2.2 Sequences

In this section, the study noted that the students were required to recall and remember concepts learnt in the classroom. The exercise asked the students to recall the sequence of the accounting cycle. The end-of-chapter task instructed students to place the following steps in the accounting cycle in the correct sequence by placing a number from 1 to 6 in the column provided.

Table 4.4: Example: Accounting Cycle

STEPS IN THE ACCOUNTING CYCLE	SEQUENCE
A Trial Balance is prepared from the ledger.	
The ledger accounts are totalled or balanced.	
Documents are entered journals.	
Financial statements are prepared from the Trial Balance	
Transactions are entered on documents.	
Journals are posted to the ledger.	

Table 4.4 shows the end-of-chapter task asking the learners to identify the correct sequence of the accounting cycle. They must recall the accounting cycle and match it with the steps given in the left side of the table.

This is another example of a level one cognitive demand. It is level one because the learner is expected to place the steps in the correct sequence. Furthermore, what makes this question a level one question is that the steps are given to the learner and he or she must simply place a number from 1 to 6 in the column provided to denote the sequence. The learner must reflect on the steps in the accounting cycle (which is basic, introductory content) and arrange them in the correct sequence. The response time for the learner will be quick, though the learner also needs some time to read through the steps. The wording used will also show that this is a level one question.

4.2.3 Table Completion

In this example, the textbook exercise asks learners to complete a table by listing the main differences between a Partnership and a Close Corporation, as shown in the example below.

The learners are expected to identify partnerships and close corporations and identify the areas of difference between the two.

Table 4.5: Example: Table Completion

PARTNERSHIP	CLOSE CORPORATION

This is the last example of a level one cognitive demand. This question is level one because it requires the learner to recall facts from memory from the content that was taught. There is no sequence that is expected in answering this type of question. The knowledge that is being tested is basic introductory content. The learner's response should not be lengthy and is simply identifying the differences by means of recall. The words used to show it is a level one question may include *list* or *indicate* (the differences). Therefore, it requires some level of thinking but is not a high-level question. This type of example is also typical across the 16 Chapters.

4.3 Level Two: Understanding

In this level of taxonomy students are expected not only to recall facts and dates but to understand information (Anderson & Krathwohl, 2001). Students are expected to interpret facts and the reasons behind things and statements (Bloom, 1956). The end-of-chapter task that promotes comprehension includes words such as *describe*, *contrast*, *discuss* and *predict* (Ornstein, 2014). Various end-of-chapter tasks were identified that contain aspects of level two Bloom's taxonomy elements (*understanding*).

4.3.1 Understanding Debit and Credit

In this example of the end-of-chapter task, the learners are required to complete the following table to indicate the account to be debited and credited, as well as the effect on the accounting equation.

Table 4.6: Example: Understanding Debit and Credit

No:	DETAILS	DEBIT	CREDIT	A	O	L
1.	A trading stock deficit has been identified.	Trading stock deficit	Trading stock	-	-	0
2.	Packing materials counted at the end of the year.					
3.	An insurance premium expires three months into the next accounting period.					
4.	Amount owed for advertising.					
5.	The provision for bad debts must be increased.					
6.	Commission income receivable.					
7.	Interest owed by the bank on the fixed deposit. The interest is capitalised to the fixed deposit.					
8.	Interest on the mortgage loan is capitalised to the loan.					
9.	Bank charges reflected on the bank statement but not yet recorded in the books. The bank balance is positive.					
10.	The independent auditors are owed their fees at the year end.					
11.	A final dividend has been declared but not yet paid.					
12.	The full amount of tax for the year has not been entered (this is lower than the provisional payments made).					

This question falls under the *comprehension* cognitive domain, which is level two. This example assumes that learners have mastered basic concepts and are able to recognise treatment of each transaction. It qualifies under level two question as it requires the learner to summarise and interpret the transactions into precise words (credit or debit) by reflecting on

the knowledge grasped. It requires the learner to recall and apply the content of what was taught. The learner is expected to demonstrate understanding of facts and ideas by organising, comparing, and interpreting the statements given, and presenting answers in the correct format. In addition, the learner is expected to analyse the accounting equation, identify (name) the accounts to be debited and credited, and to show the increase or decrease under the elements of the accounting equation. The learner must identify whether the transactions to be analysed are accrued or prepaid. The responses of the learner need to be precise and accurate. The kinds of words that denote it to be a level two question are *complete* (the table) and *indicate* (the account to be debited and credited) as well as *show the effect* (on the accounting equation). The learning being tested here is essentially the ability to comprehend the meaning of the transactions and noting the effects of each entry to assets, capital, and liabilities.

4.3.2 Understanding Published Financial Statements

This end-of-chapter task is an example of questions asked in level two of Bloom's Taxonomy.

Example Question: *You are provided with extracts from the published financial statements of The SPAR Group Limited for the year ending 30 September 2012. The SPAR Group is well known across the country, mainly for selling food, but they are also branching out into other activities.*

(a) What is the difference between the work performed by the Chairman of the Board and the CEO?

(b) How many directors does SPAR have? How many of them are executive directors? How many of them are non-executive directors? Why is it necessary for a public company such as SPAR to have these two types of directors?

This task falls under the *comprehension* level. The learner is expected to have grasped the roles performed by people at the organisation, with specific emphasis on the Chairman of the Board and CEO. Moreover, there is need to differentiate the two roles and the number and types of directors of SPAR (executive and non-executive) and the roles of these directors at the organisation. The learner should distinguish the work of the CEO and the Chairman and this can be tabulated for part (a) of the question. The second question requires the learner to name the number of directors and then explain clearly the rationale for the company's having

executive and non-executive directors. The knowledge being tested from the learner is the ability to interpret the question by recalling, classifying roles, comparing roles of the CEO and Chairman and to explain the usefulness of the directors to an organisation. This response is of average length for part (b), although part (a) should be short and precise. The words that are used in the question are: what is the *difference*, *how many*, and *why*? *Differentiating* is classifying, and *how many* requires translating the material to numbers. *Why* requires explanation of the reasons behind the case at hand. The learner's memory and ability to recall various functions played within the organisations is tested. There is need to demonstrate his or her ability to explain the roles of each organisational position and compare the two effectively.

4.3.3 Understanding Terminology

The study found another example of end-of-chapter tasks where learners are expected to understand accounting terminology.

Example Question: *Provide the equivalent words/terminology that would be used in the books of ABC Ltd and XYZ CC.*

Table 4.7: Example: Understanding Terminology

No:	TERMINOLOGY USED IN THE BOOKS OF ABC LTD	TERMINOLOGY USED IN THE BOOKS OF XYZ CC
1.	Ordinary Share Capital	?
2.	?	Accounting Officer's salary
3.	?	Undrawn profits
4.	?	Distributions payable to members
5.	Ordinary share dividends	?
6.	?	Members' interest
7.	Income tax	?
8.	?	SARS (Income tax)
9.	Ordinary Shareholders' Equity	?

This example is part of the *comprehension* cognitive domain. It requires learners to translate the terminology from one form to another. In this end-of-chapter task, the learners are expected to identify the terminology used by two different organisations (ABC and XYZ Ltd). The learner is expected to understand the various terminology used in the accounting books of various business organisations. There is need to go through the financial statements of both companies and compare the terminologies used. The sequence of operations includes identifying terminology used for one company and then predicting the term applicable to the other. The common terminology is *translate* or *provide*, used in this case. The learner is expected to complete the task in a short period of time since the task does not require higher-order cognitive demand. All in all, the learners are being tested on procedural knowledge – their level of understanding and applying the various skills learnt in the classroom to the case at hand.

4.4 Level Three: Applying

According to the Bloom taxonomy, at level three learners are expected to apply and use the knowledge that they have learnt in school and come up with a solution.

4.4.1 Trial Balance Adjustment

This example of end-of-chapter tasks sought learners to make applications of the concepts learnt in the classroom through adjusting the trial balance. The example question is presented below.

Table 4.8: Example: Thulo (Pty) Ltd: Pre-Adjustment Trial Balance on 30 June 2012

<i>Balance Sheet Accounts Section</i>	<i>Fol</i>	<i>Debit</i>	<i>Credit</i>
<i>Ordinary share capital (150 000 shares)</i>			1 260 000
<i>Retained income</i>			195 800
<i>Loan from Lowveld Bank</i>			210 000
<i>Loan from Westfin Bank</i>			60 000
<i>Land & buildings</i>		1 086 000	
<i>Equipment</i>		160 000	
<i>Accumulated depreciation on equipment</i>			32 000
<i>Vehicles</i>		550 000	
<i>Accumulated depreciation on vehicles</i>			95 000
<i>Trading stock</i>		280 000	
<i>Debtors control</i>		52 000	
<i>Provision for bad debts</i>			2 080
<i>Bank</i>		20 460	
<i>Cash float</i>		2 000	
<i>Petty cash</i>		500	
<i>Creditors control</i>			43 400
<i>SARS (Income tax)</i>			9 800
<i>Consumable stores on hand</i>		1 200	
<i>Expenses payable (accrued)</i>			3 600
<i>Prepaid expenses</i>		2 500	
<i>Deferred income (received in advance)</i>			5 000
<i>Income receivable (accrued)</i>		5 300	
<i>Shareholders for dividends</i>			30 000
<i>Creditors for salaries</i>			20 500
<i>Pension Fund</i>			3 980
<i>Medical Aid Fund</i>			2 100
<i>Nominal Accounts Section</i>			
<i>Sales</i>			1 761 000
<i>Debtors allowances</i>		31 000	
<i>Cost of sales</i>		870 000	
<i>Salaries & wages</i>		220 000	
<i>Pension contributions</i>		17 500	
<i>Medical Aid contributions</i>		12 100	
<i>Directors' fees</i>		160 000	
<i>Audit fees</i>		39 000	
<i>Interest on loan</i>		25 200	
<i>Bad debts</i>		12 000	
<i>Rent income</i>			78 000
<i>Commission income</i>			47 000
<i>Interest on current bank account</i>			600
<i>Interest on overdue debtors</i>			300
<i>Packing materials</i>		14 600	
<i>Insurance</i>		23 900	
<i>Sundry expenses</i>		17 600	
<i>Dividends on ordinary shares</i>		66 000	
<i>Trading stock deficit</i>		14 000	
<i>Depreciation (on: vehicles R57 000, equipment R12 800)</i>		69 800	
<i>Provision for bad debts adjustment</i>			800
<i>Income tax</i>		108 300	
		3 860 960	3 860 960

Additional Information:

- 1. The authorised share capital comprises 200 000 ordinary shares.*
- 2. The loan from Westfin Bank is to be repaid in full in December 2012. The loan from Lowveld Bank is to be repaid in December 2015.*
- 3. The following Trial Balance reflects the final figures after the following had been recorded:*
 - 40 000 new shares were issued during the current year at R10 each.*
 - A delivery vehicle was bought for R265 000 on the last day of the financial year, and extra land costing R300 000 was bought during the financial year.*
 - No fixed assets were sold.*

Required:

- 1. Income statement (Statement of Comprehensive Income)*
- 2. Balance Sheet (Statement of Financial Position)*

This question is a level three *application* question. It tests the ability of the learner to apply of the concepts learnt to the concrete situation of generating a statement of comprehensive income and of financial position. The learners are expected to demonstrate a higher level of understanding by knowing the rules and methods of preparing final accounts. This includes accounting for adjustments, such as depreciating assets and accounting for the issuing of shares during the trading period. The knowledge being tested is conceptual in order to assess the learner's familiarity with methodology and application of principles taught. The learners are expected to take considerable time to generate the financial statements, which should be at least an hour. The learner should prepare the final accounts by initially drafting the structure, for instance the trading account, income, and expenses sections, then labelling columns where respective entries will be posted, making relevant entries after adjusting additional information, and finally sum the subtotals. This third level question makes use of words such as *required* and *compute*. These words indicate to the learner that there is need to come up with a comprehensive answer to the problem. Overall, the learner is being tested on application of principles, ability to break down the question into appropriate structure, and connecting related amounts to come up with meaningful statements.

4.4.2 Completion of Ledger Accounts

In this question, the learners are expected to make applications of the classroom concepts by completing basic ledger accounts. The question is an application question and is presented below.

Example Question: *Barney Baby Shop is owned by B. Baby and sells a wide range of baby clothes and accessories. They have a business vehicle which is used for deliveries of the baby furniture and bigger items. Required: Complete the following ledger accounts on 28 February 20.3:*

- *Vehicles*
- *Accumulated depreciation on vehicles*
- *Asset disposal*
- *Depreciation*

Information: The following balances, inter alia, appeared in the books of Barney Baby Shop on 28 February 2013:

<i>Land & buildings</i>	<i>R1 080 000</i>
<i>Vehicles</i>	<i>390 000</i>
<i>Equipment</i>	<i>174 000</i>
<i>Accumulated depreciation on vehicles (01.03.20.2)</i>	<i>108 000</i>
<i>Accumulated depreciation on equipment (01.03.20.2)</i>	<i>42 000</i>

Additional information:

- 1. Additional equipment was bought on 31 August 2012 for R40 000 and has been recorded.*
- 2. An additional storeroom was built during the year for R120 000 but was inadvertently entered under repairs in the general ledger.*
- 3. A vehicle was sold on 31 December 2012, but no entry has been put through.*

Details of the vehicle sold are:

Cost price *R90 000*

Accumulated depreciation (on 28 February 20.2) *R36 000*

Selling price (sold on credit) *R51 750*

4. Depreciate all vehicles at 20% p.a. on cost and equipment 15% p.a. on the diminishing balance method.

The question is of level three application cognitive domain. It entails that students have mastered methods and concepts of preparing ledger accounts. In this question, the students are expected to complete the ledger accounts, being *vehicles*, *accumulated depreciation on vehicles*, *asset disposal* and *depreciation*. The learner is expected to draft ledger accounts by incorporating balances given and any additional information. The knowledge being tested is conceptual skills, which is ability of the learner to apply concepts in preparing ledger accounts and adjusting for additional information. There is need to establish the effect of each transaction on the ledger accounts, for instance the effect of disposed vehicles to the asset ledger, accumulated depreciation, and disposal account, and then calculating the final balance of each ledger account. The learner is expected to take an average of 15 minutes in preparing each of the ledger accounts. The taxonomy word or signal phrase used in this end-of-chapter task is *complete the following*. In essence the question is testing the higher-level understanding of applying class material to the scenario.

4.4.3 Reconciliation Statements

This is an example of an *application* question, whereby students are expected to prepare reconciliation statements. The question is presented below.

Example Question: *Berg Traders has received a statement from a creditor, Acme Manufacturers at the end of June 20.8. The balance on the statement does not agree with that in the Creditors' Ledger of Berg Traders. Required: Prepare a Creditor's Reconciliation Statement on 30 June 20.8 to calculate the correct amount owing by Berg Traders to Acme Manufacturers.*

ACME MANUFACTURERS			DEBTOR'S STATEMENT	
<i>Berg Traders</i>				
<i>PO Box 36</i>				
<i>Nelspruit</i>			<i>Statement date: 25 June 20.8</i>	
Date	Details	Debit	Credit	Balance
01-Jun	Brought forward			R7 650 Dr
03-Jun	Invoice 2460	R5 300		R12 950
07-Jun	Receipt 377		R3 000	R9 950
12-Jun	Invoice 2618	R4 885		R14 835
15-Jun	Credit Note 126		R500	R14 335
23-Jun	Invoice 2632	R2 740		R17 075

CREDITORS LEDGER OF BERG TRADERS

ACME MANUFACTURERS

Date	Details	Dr	Cr	Balance
01-Jun	Balance			R7 650 Cr
03-Jun	Invoice 2460		R3 500	R11 150
05-Jun	Cheque 1223	R3 000		R8 150
05-Jun	Discount	R300		R7 850
12-Jun	Invoice 2618		R4 885	R12 735
15-Jun	Debit Note 35	R750		R11 985
23-Jun	Invoice 2632		R2 740	R14 725
27-Jun	Cheque 1367	R5 000		R9 725
27-Jun	Discount	R500		R9 225

Additional Information:

- *Berg Traders have made the error in processing Invoice 2460.*
- *Acme Manufacturers should have granted 10% discount on 5 June.*

- *There was a disagreement on the goods returned on 15 June. Berg Traders cannot prove that Acme Manufacturers are incorrect.*

In this end-of-chapter task expects the learners to prepare the reconciliation statements after incorporating the additional information provided in the task. The cognitive demand of this end of task is *application*. The learner is expected to apply knowledge taught of the effect of each of the additional items provided in the final accounts. There is a need to structure the creditor's reconciliation statement and post every item to the relevant side or column; for example, credit or debit, and increase or decrease on the creditor's balance. It also requires comparisons of entries appearing under the creditor's ledger and debtor's ledger. The learners are expected to display understanding of the relationship between debtors' and creditors' statements from the perspective of each business in the case and to come up with the reconciliation statement. They are also expected to take an average amount of time (about 20 minutes) in calculating the final balances and making the reconciliations. The word used in this end-of-chapter task is *prepare*. Therefore, the question is testing the ability to apply principles of treating ledger balances from the debtor and creditor perspective, as well as making adjustments of discount and returns.

4.5 Level Four: Analysing

In level four-type questions, the learners are expected to go beyond knowledge and application but see patterns that can be used to analyse the problem (Anderson & Krathwohl, 2001). For example, a teacher may ask students to give reasons behind why certain accounting procedures are done in the way they are done. Thus, the students are expected to analyse the accounting procedure in relation to other procedures and come up with a conclusion based on the analysis (Bloom, 1956). The end-of-chapter questions that promote analysis among students contain words such as *analyse, explain, investigate, infer, contrast* and *question*. Examples of questions found to have the cognitive demand in level four are presented below.

4.5.1 Analysing Financial Statement

Example Question: *You are provided with figures extracted from the financial statements of Solly's Stationers (Pty) Ltd:*

<i>Sales</i>	<i>One-fifth on credit</i>	<i>R 1 050 000</i>
<i>Cost of sales</i>		<i>R 850 000</i>
<i>Trading stock</i>	<i>At beginning of year</i>	<i>R 44 000</i>
	<i>At end of year</i>	<i>R 26 000</i>
<i>Trade debtors</i>	<i>At beginning of year</i>	<i>R 16 000</i>
	<i>At end of year</i>	<i>R 20 000</i>
<i>Trade creditors</i>	<i>At beginning of year</i>	<i>R 42 000</i>
	<i>At end of year</i>	<i>R 38 000</i>
<i>Cash on hand</i>	<i>At beginning of year</i>	<i>R 11 000</i>
	<i>At end of year</i>	<i>R 12 000</i>

Required:

Calculate and comment briefly on the following:

- 1. Current ratio*
- 2. Acid-test ratio*
- 3. Rate of stock turnover*
- 4. Period for which enough stock is on hand*
- 5. Debtors average collection period*
- 6. Creditors average collection period*

This question qualifies as a level four (*analysis*) cognitive domain. It requires grouping of entries to calculate relevant ratios. There is an aspect of identifying which entry to use in computing the ratio, from principles taught. In this end-of-chapter task, the learners are expected to come up with the formulae, identify the figures applicable for each formula, calculate the ratio, and briefly comment on the answer obtained. This is a higher-level skill that is expected from learners as they are expected to remember, understand, apply, and make an analysis of the topic at hand. This reflects the need for students to demonstrate the ability

to understand content and the material's structural form. The question will require on average half an hour to complete, including brief comments on the results. The common words for this level require the learner to *appraise*, *examine* and *question* the problem, and in this case words that are used are *calculate* and *comment*. In short, the learner is being tested on a high intellectual level to compute and analyse the results from ratio principles learnt.

4.5.2 Making Analysis of Actions Done

The example question has been reproduced as Appendix D.

The question requires identification of component parts, relationships, understanding content, and application of accounting principles, making it a level three analysis question. Learners are required to examine the activities at an organisation so as to appraise the action taken by the company and auditors. The learner is further required to have an appreciation of accounting standards and the duties and obligations of auditors so as to criticise the company or audit actions taken, and make appropriate comments in relation to the given question. The question requires demonstration of high-level understanding of the basic accounting framework and the ability to discriminate lawful actions. The question requires average time (half an hour) in order to make a thorough analysis. The taxonomy words used are *why*, *what* and *in your opinion*. The learners are being tested on their skills to examine, appraise, and criticise the case so as to ascertain why the auditors are unhappy – that is, to provide reasons for the satisfaction level of the auditors.

4.5.3 Analysis of Provided Information

The example question has been reproduced as Appendix E.

In this question, learners are required to apply their knowledge in making judgements and giving a line of thinking that justifies the opinion they give. The question is mainly about analysing the different parts of the budget so as to support the option. It is clear that the question is of a higher intellectual level than simply comprehension and application. The learner is tasked with making an analysis of the problem and giving a logical reason to justify opinion. There is need to identify parts of the budget and their relationships; for example, favourable surplus for the month of R14 495 from shortfall of R32 550 the previous month, which can be used as a line of argument to justify the salary increase. This implies that the knowledge being tested is the ability to analyse component parts and their possible implications on the other items of the budget. Considerable time is expected from the learner

to come up with a reasoned analysis, evaluation and justification for the answers, which may average half an hour in this case. The taxonomy words used in this question are *do you think*, *comment*, *provide*, *explain* and *refer*. Overall, the question asks for higher-order cognitive abilities to analyse component parts of the question, supported with some lower-level cognitive abilities such as identifying and explaining the parts of the question.

4.6 Level Five: Evaluating

At this level learners are assessing information and come to conclusion such as its value or the bias behind it (Anderson and Krathwohl, 2001). The end-of-chapter tasks that require evaluation contain question such as *judge*, *debate*, and *recommend*. Examples of end-of-chapter tasks that require evaluation are presented below.

4.6.1 Problem Evaluation

The example question has been reproduced as Appendix F.

This question is categorised as drawing on the fifth level of cognitive demand. It is characterised by several parts that need to be coordinated to make a well-reasoned judgement. In this question the students are expected to read several parts and understand the information provided. They should present unique arguments of the position they assume in answering the questions asked. It is important for the learner to get a holistic picture of the entire question so as to come up with a proper recommendation. This requires actions such as getting an underlying basis to classify information that can support an argument. This facilitates giving of pros and cons for the stance the learner takes in answering the question. The knowledge being sought in this question is the ability of the student to judge, rate, and support their line of thinking. A considerable amount of time is asked to apply all the information provided in the exercises in order to come up with an informed opinion from the learner. The taxonomy verbs that are used in this question are *indicate* and *recommend*. The essence of the question is centred on assessing the creative behaviour of the learner.

4.6.2 Stakeholder Evaluation

The example question has been reproduced as Appendix G.

This question falls under the *evaluation* level of Bloom's Taxonomy. It requires judgemental skills of the learner in determining the responsible party. It also contains elements of other

levels, which aid in coming up with defined criteria. In this question, higher-order cognition is expected from the learners and there is a need to apply basic knowledge of the duties of various stakeholders to each scenario to justify their opinion. Intense analysis, application, and evaluation are required from the students to answer the question effectively. Therefore, this question seeks to test the appraisal ability of the learner when confronted with different situations. The question is lengthy but can be quickly attempted if the learner is good in the initial levels, such as the cognitive demand (*remember*) useful for knowing the roles of each stakeholder. The taxonomy verbs used in the question are *consider* and *decide*. In summary, the question seeks to identify the ability of the learner to pass judgement—*evaluation*—of the responsible party based on general cognitive abilities of levels 1–4.

4.6.3 Evaluation

The example question has been reproduced as APPENDIX H.

This question seeks to determine the *evaluation* ability of the learner of the performance of the business between the two years, as well as considering the additional information presented. The question requires a strong argument based on criteria that are applicable to a successful business, which are assumed to have been taught to the learner. In this question, higher-order cognition is expected from the learner to evaluate the decision to shift premises against given information relating to business performance and obligations, such as a R100 000 loan repayment. Therefore, the learner is expected to assess, estimate effect, predict outcomes, and support the opinion considered appropriate. This requires judgemental skills, supported by elements of lower-level categories. This requires more time for the learner to make an intense analysis, application, and evaluation to answer the question effectively. The taxonomy signal words and phrases used in the question include *in your opinion* (*judge*) and *advice*, which are level 5 verbs. This question can be summarised as a test of appraisal skills to evaluate and support the value of an action based on specific criteria, for instance an appreciation of the liquidity position of the business.

4.7 Level Six: Creation

At this stage, students are asked not only to apply given facts and information but to come up with theories and make future predictions (Bloom, 1956). The students are required to gather facts, knowledge and insights not only from the subject but from other areas of study and come up with a conclusion (Anderson & Krathwohl, 2001). The end-of-chapter tasks ask

questions such as *invent, imagine, create, and compose*. Examples of questions that require creation are presented below.

4.7.1 Report Writing

The example question has been reproduced as APPENDIX I.

This question is categorised as *synthesis* cognitive dominion. There is need for the learner to assemble the information presented to generate a unique communication in the form of a report that stresses problems and produces a recommendation for the case at hand. In this question, the students are expected to comprehend the presented information, make strong analysis, create a report and provide recommendations to the organisation. There is need to have an appreciation of report-writing skills. This question draws on all the taxonomical levels of Bloom's and expects the learner to come up with a unique report, based on his or her understanding on the information provided. A considerable amount of time is expected to be taken to understand, write and report, and identify and justify the recommendations that would have been identified. The length of the response from the learner is expected to range from one to two and a half pages, depending with the writing and presentation skills of the learner. The taxonomical verbs that are used in this question are *analyse, write* (a report), and *recommend*, which indicate the creative requirements for level six of the taxonomy. Essentially, the question is seeking creative behaviour from the learner, supported with a firm foundation of the other five levels.

4.7.2 Advice Creation

The example question has been reproduced as APPENDIX J.

This question also falls under the highest level of cognitive demands from the students. It requires learners to synthesise the various parts of the question and determine relationships in order to come up with a well thought-out action plan. The students are expected to have an appreciation of business ethics, be familiar with stated reasons for the actions of Barney, and to advise an appropriate course of action to be taken. The student should be able to make a strong evaluation of the course of action advised against the action of forgetting and maintaining the status quo. This requires the composing skill, proposal ability, and writing abilities to come up with a convincing course of action to the desperate situation. This question requires considerable time to form a sound opinion and give convincing advice, which need not be lengthy but rich with facts. The taxonomical verbs that are used in the

question are *advise* and *provide* (reasons), which reflect the creative skills expected at level six. This reveals the *creation* learning skills being tested to produce a unique piece of communication that serves as advice for a desperate situation.

4.7.3 Creation

The example question has been reproduced as Appendix K.

This question requires students to assemble component parts of the question to come up with a well-reasoned argument for the actions of the debtors controller. This makes it of the *creative* cognitive domain as it asks the learner the best approach to the situation. This end-of-chapter question asks the students to envision what will happen to the organisation in the event of the occurrence of the situations provided. The student is expected to *explain* (possible liquidity issues), *identify* (errors or omissions), *propose* (mitigation strategies of errors) and *pass judgement* to the suspected fraud in the question. It also expects the learner to pass judgement on action taken to resolve the problem by the debtors controller against principles of managing debtors, which are expected to have been taught to the learner. Higher-level cognition is expected from learners as they are expected to think outside the box and determine the long-range implications of the actions taken. The question is testing all the levels' skills; for example, knowledge of ethics, ending with the apex of creative skills of the learner. This requires more time for the learner and a well-articulated answer of appropriate length (e.g., two pages if marked out of 25). The taxonomical verbs used in the question are from the other five levels, including the current level words such as *explain*, *identify*, *indicate*, *is it possible* and *comment*. The learning being tested can be summed up as the *synthesis* skill of the learner to combine parts of the question in order to produce a set of abstract relations, supported with the student general knowledge and views.

4.8 Chapter Conclusion

Chapter Four presented the various questions found in one of the study sample's two Grade 12 Accounting books (*New Era*). The study investigated questions that contained the cognitive demands as highlighted in the Bloom Taxonomy. The questions that requested cognitive demand as per Bloom's Taxonomy levels (*remember*, *understand*, *apply*, *analyse*, *evaluate* and *create*) were presented and analysed accordingly. The analysis was carried out according to the framework developed for this study, which was adapted from Bloom's Taxonomy and Umalusi's taxonomy. From the textbook's fourth chapter to the end of the

book, the end-of-chapter tasks focused mainly on high order cognitive demands: analyse, evaluate and create. Chapter Five of this study will analyse the end-of-chapter tasks in the second selected textbook, the *New Generation*.

CHAPTER FIVE: PRESENTATION AND DATA ANALYSIS (*NEW GENERATION*)

5.1 Introduction

This chapter presents the research findings obtained from analysing the book *New Generation*, used in Grade 12 Accounting. The Umalusi (2013) instrument was adapted and used as a framework for the study. The end-of-chapter tasks were identified from the textbook, presented, and analysed using the Bloom Taxonomy. The research findings that are presented are categorised according to each level of Bloom's Taxonomy. These levels are *recall*, *reorganise*, and *complex or complicated*, *analyse or interpret*, *synthesise or problem-solve*, and *evaluate*. *Recall*, *reorganise* and *complex or complicated* fall under low-level thinking skills, whilst *analyse or interpret*, *synthesise or problem-solve* and *evaluate* falls under higher-order thinking skills. I adapted the six levels of the Umalusi (2013) instrument (Appendix A) and analysed each assessment task of every chapter in the textbook as shown in Appendix C. The values that are shown in Table 5.1 under each level for every chapter are obtained from the totals of each level in Appendix C. The values under each level per chapter are added and the sum is entered in the total column in Table 5.1. The percentages that were derived in Table 5.2 were calculated by the value of each level of every chapter in Table 5.1 and divided against the totals in the total column in Table 5.1. Data is presented in tables and graphs.

5.2 Results Presentation

Table 5.1: Data Analysis by Chapter (by Number) – *New Generation*

	Recall	Reorganise	Complex / complicated	Analyse/ Interpret	Synthesise / Problem solve	Evaluate	Total
Chapter 1	19	19	26	14	2		80
Chapter 2	3	3	24	12	1		43
Chapter 3	8	8	1	44	4		65
Chapter 4	11	11		13	8	3	46
Chapter 5	6	6	18	19	4	8	61
Chapter 6				3			3

Chapter 7	2	2	14	12	9		39
Chapter 8	7	7	22	24	5	1	66
Chapter 9	8	8	14	11	7		48
Chapter 10	2	2	17	11	5		37
Chapter 11	1	1	17	12	7		38
Chapter 12	3	3	13	12	3		34
Total	70	70	166	187	55	12	560

Table 5.2: Data Analysis by Chapter (by Percentage) – *New Generation*

	Recall	Reorganise	Complex / complicated	Analyse/ Interpret	Synthesise / Problem solve	Evaluate	Total
Chapter 1	24%	24%	32%	17%	3%	0%	100%
Chapter 2	7%	7%	56%	28%	2%	0%	100%
Chapter 3	12%	12%	2%	68%	6%	0%	100%
Chapter 4	24%	24%	0%	28%	17%	7%	100%
Chapter 5	10%	10%	29%	31%	7%	13%	100%
Chapter 6	0%	0%	0%	100%	0%	0%	100%
Chapter 7	5%	5%	36%	31%	23%	0%	100%
Chapter 8	11%	11%	33%	36%	8%	1%	100%
Chapter 9	17%	17%	29%	23%	14%	0%	100%
Chapter 10	5%	5%	46%	30%	14%	0%	100%
Chapter 11	3%	3%	45%	31%	18%	0%	100%
Chapter 12	9%	9%	38%	39%	35%	9%	100%
Total	13%	13%	30%	32%	10%	2%	100%

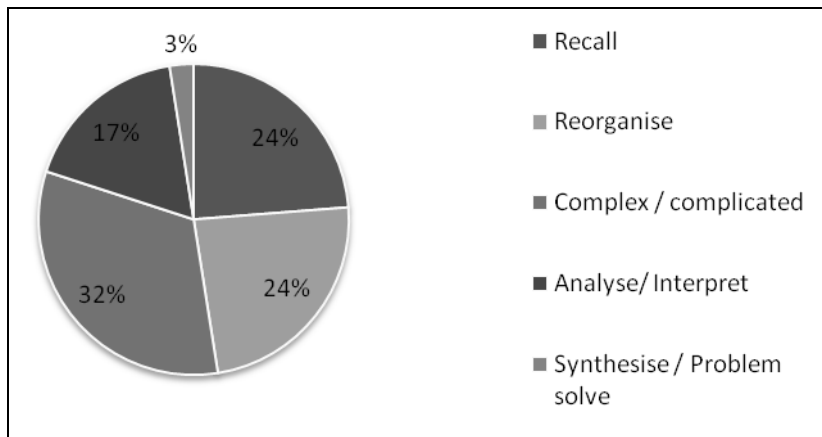


Figure 5.1: New Generation Chapter 1

Figure 5.1 above shows the results found in Chapter 1 of the *New Generation* textbook. The findings indicate that the *complex/complicated* level constitutes the largest section at 32% of the assessment questions, and both *recall* and *reorganise* constitute 24% each. *Analyse/interpret* questions constitute 17%, followed by 3% of *synthesise/problem-solve*. The results indicate that most of the questions in this chapter fall under low-order thinking skills.

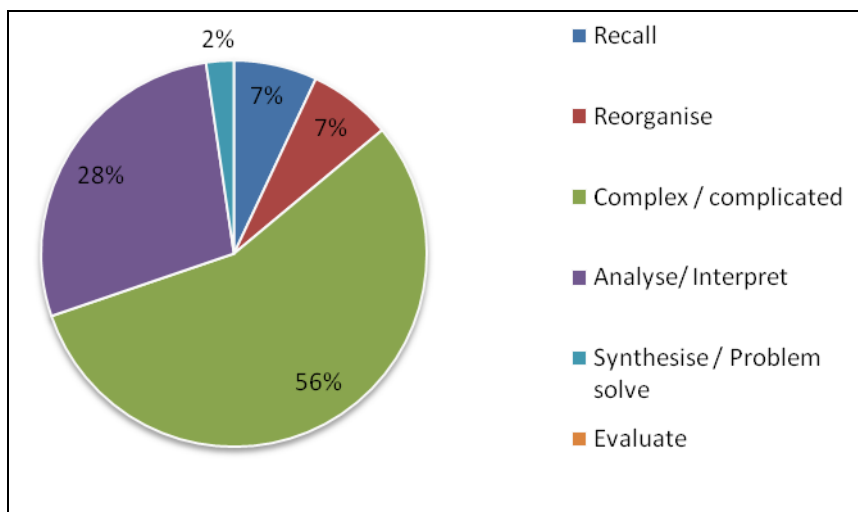


Figure 5.2: New Generation Chapter 2

The results represented in Figure 5.2 above show that the *complex/complicated* level of taxonomy make up the highest percentage (56%) of the assessment questions, followed by the *analyse/interpret* level, which constitute 28%. *Recall* and *reorganise* levels of taxonomy constitute 7% of the assessment questions each. Lastly, *synthesise/problem-solve* constitutes only 2% of the assessment questions in chapter 2 of the *New Generation* textbook. Chapter 2 does not contain any questions of an *evaluate* nature. Generally, the results show that more of the questions in chapter 2 fall under low-order thinking skills.

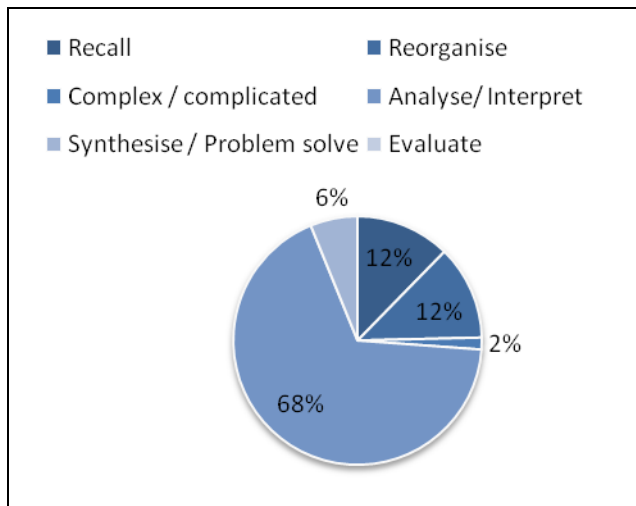


Figure 5.3: New Generation Chapter 2

Fig 5.3 above shows that the highest percentage of questions is constituted by *analyse/interpret* at 68%, followed by both *recall* and *reorganise* which constitute 12% each. In this chapter, 6% of the assessment questions are constituted by a *synthesise/problem-solve* level of taxonomy. Lastly, only 2% of the assessment questions falls under the *analyse/interpret* level. In general, more of the assessment questions in Chapter 3 fall under higher-order thinking skills.

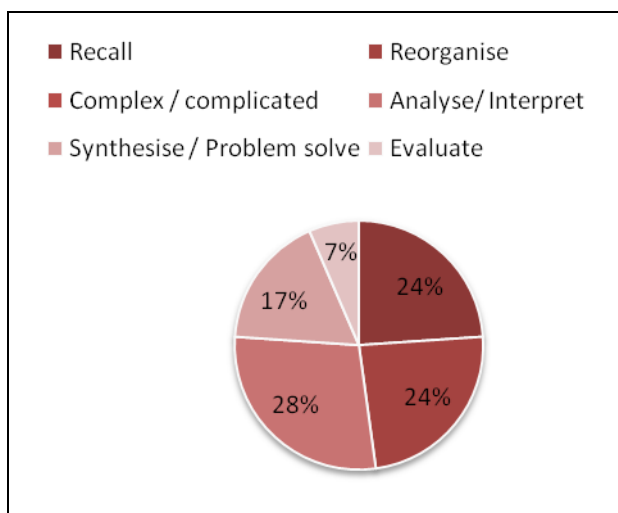


Figure 5.4: New Generation Chapter 4

Figure 5.4 above represents the analysis results of the assessment questions in Chapter 4 of the book *New Generation*. The results show that the *analyse/interpret* level constitutes the highest percentage at 28%, followed by 24% for both the *recall* and *reorganise* levels. *Synthesise/problem-solve* level takes 17%, and lastly the *evaluate* level constitutes only 7%

of the assessment questions. The results show a balance of the questions that falls under low- and higher-order thinking skills.

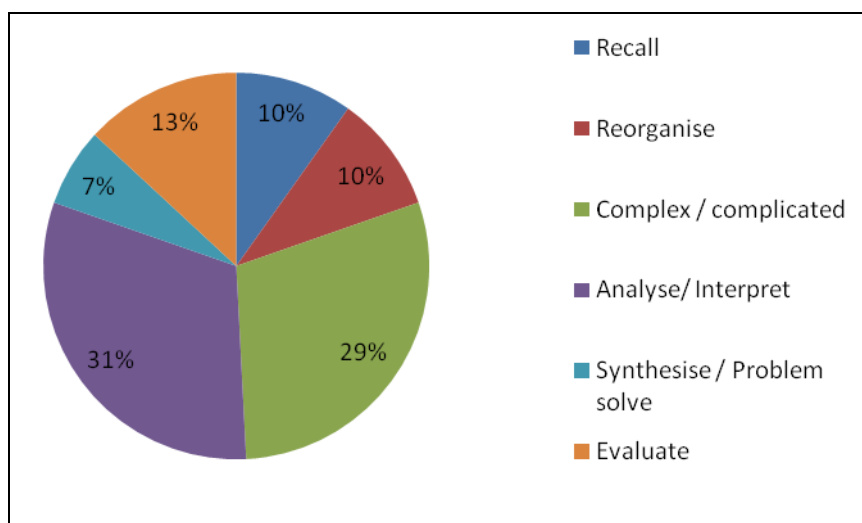


Figure 5.5: New Generation Chapter 5

Figure 5.5 above shows that the *analyse/interpret* level of taxonomy constitutes the highest percentage (31%) of questions in Chapter 5 of *New Generation*, followed by 29% of a *complex/complicated* level, followed by 13% at an *evaluate* level. *Recall* and *reorganise* levels of taxonomy constitute 10% each, and lastly, the *synthesise/problem-solve* level accounts for 7% of assessment questions in Chapter 5 of the textbook. Generally, the results show a balance between low-order and higher-order thinking skills questions.

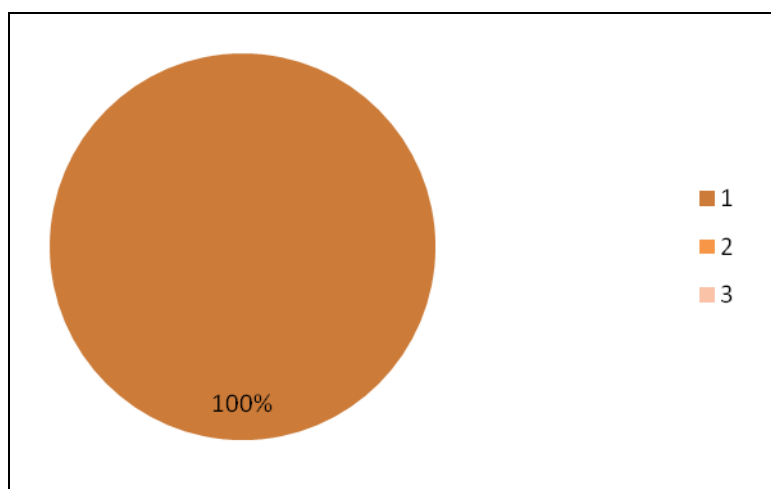


Figure 5.6: New Generation Chapter 6

Figure 5.6 above shows the unique results found in Chapter 6 of the *New Generation* textbook. The results show that all of the assessment questions in this chapter fall under an *analyse/interpret* level of taxonomy, which is a higher-order thinking skill. There are no questions that fall under low-order thinking skills, or indeed any other level of taxonomy.

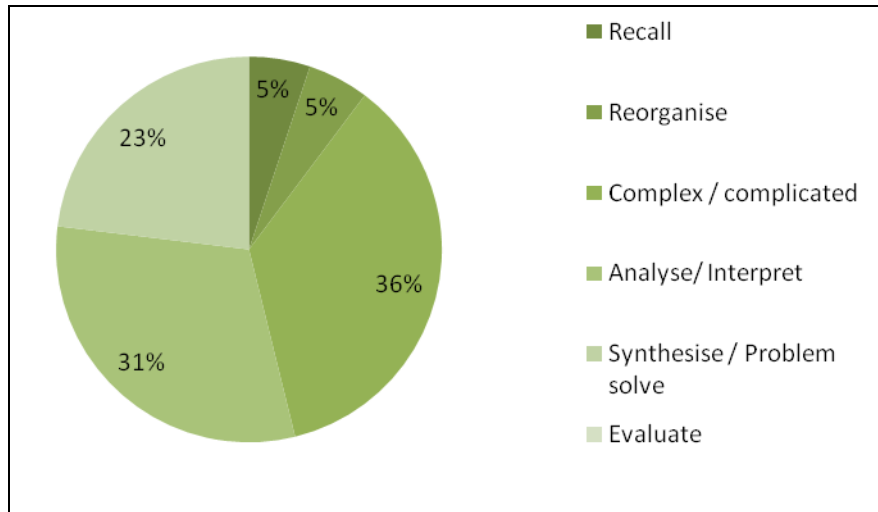


Figure 5.7: *New Generation* Chapter 7

Figure 5.7 above shows that *complex/complicated*-level questions constitute the highest percentage with 36% of the assessment questions in Chapter 7 falling in this category. Following this is the *analyse/interpret* level at 31%, followed by 23% of *synthesise/problem-solve*, and lastly, 5% each for both the *recall* and *reorganise* level. Generally, more questions fall under high-order thinking skills.

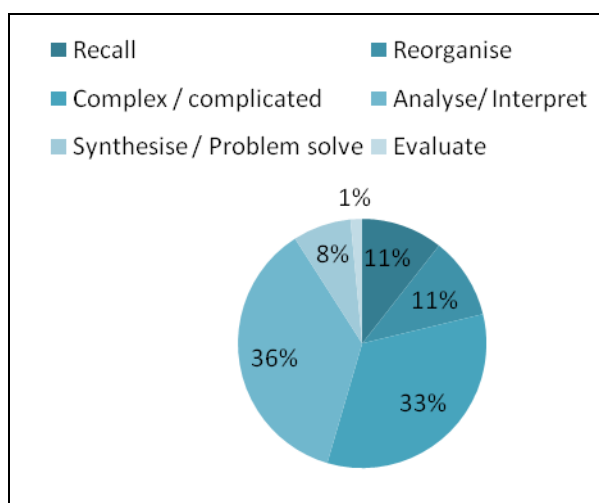


Figure 5.8: *New Generation* Chapter 8

The pie chart in Figure 5.8 above shows that the highest percentage is constituted by the *analyse/interpret* level at 36%, followed by 33% of *complex/complicated*, followed by both *recall* and *reorganise* levels of taxonomy, which make up 11% each. *Synthesise/problem-solve*-level questions constitute 8%, and lastly, only 1% is made up by the *evaluate* level of taxonomy. The results represented show that a higher percentage is constituted by questions that fall under low-order order thinking skills.

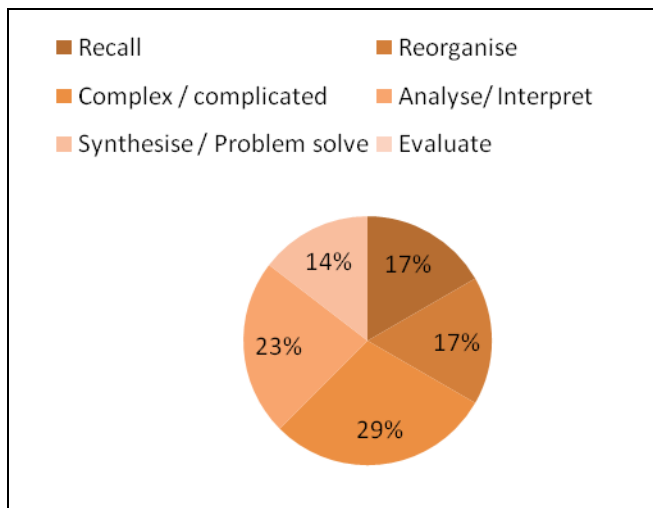


Figure 5.9: New Generation Chapter 9

The results represented in Figure 5.9 above show that the highest percentage of questions is constituted by the *complex/complicated* level of taxonomy at 29%, followed by *analyse/interpret*, which constitutes 23% of the assessment questions. *Recall* and *reorganise* levels follow at 17% each of them. Lastly, 14% of the assessment questions are constituted by the *synthesise/problem-solve* level of taxonomy. Most of the questions fall under low-order thinking skills.

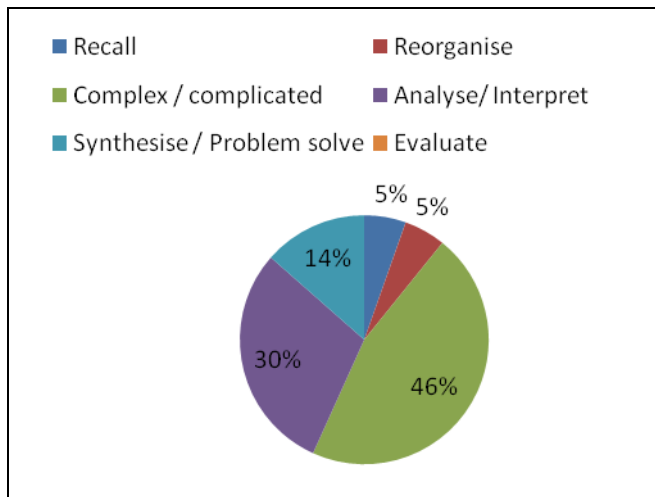


Figure 5.10: New Generation Chapter 10

Figure 5.10 above shows the results of the analysis of Chapter 10 of *New Generation*. The results show that nearly half the questions (46%) are *complex/complicated*, followed by 30% of *analyse/interpret*, followed by 14% of *synthesise/problem-solve*. *Recall* and *reorganise* are once again equal at 5% each. The results reveal that there are no questions of the *evaluate* level of taxonomy. More questions in Chapter 10 fall under low-order thinking skills.

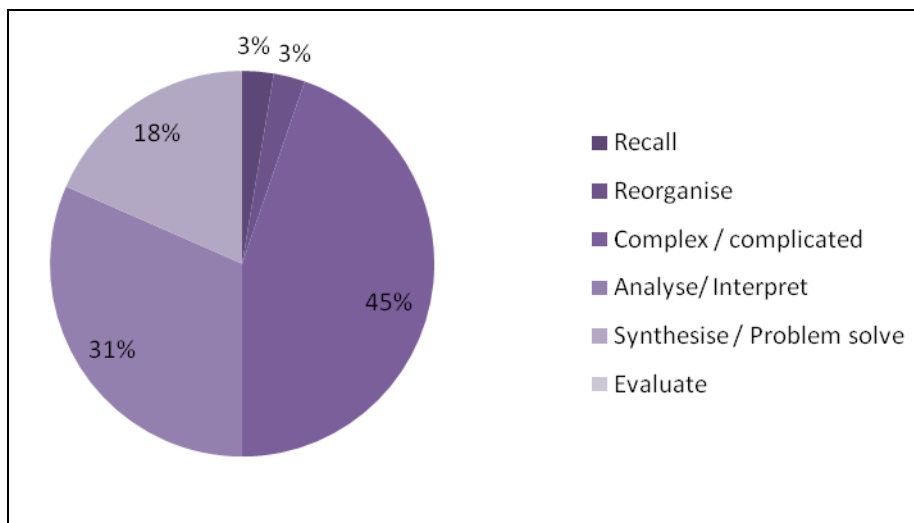


Figure 5.11: New Generation Chapter 11

Figure 5.11 above shows the results of Chapter 11. The results shows that the highest percentage of the assessment questions in this chapter are constituted by a *complex/complicated* level of taxonomy at 45%, followed by 31% of *analyse/interpret* questions and lastly, 18% of *synthesise/problem-solve*. The results indicate that a greater percentage of questions are constituted by higher-order thinking skills.

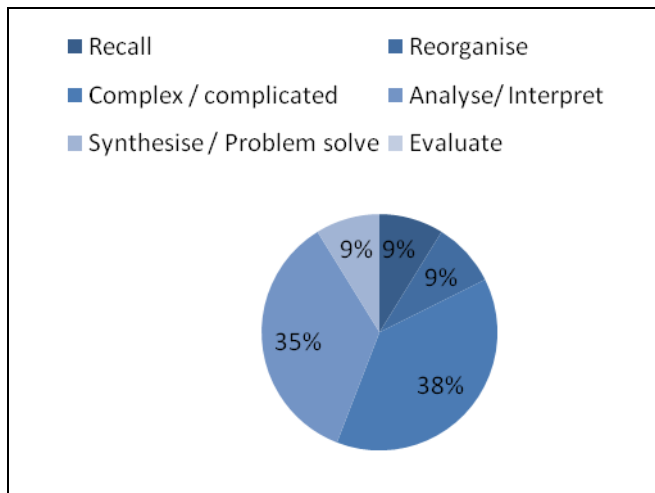


Figure 5.12: New Generation Chapter 12

Figure 5.12 above shows the results of Chapter 12 of *New Generation*. The highest percentage (38%) is constituted by the *complex/complicated* level of taxonomy, followed by 35% of an *analyse/interpret* level, followed by 9% each of *recall*, *reorganise* and *synthesise* levels of taxonomy. The results show that most of the questions fall under higher-order thinking.

5.3 Level One: Remembering

In this section three typical examples of level one questions are presented.

5.3.1 Example one

1. What is a public company?
2. Which Act of Parliament regulates companies in South Africa?
3. Explain the concept of limited liability with regard to companies.
4. Explain what is meant by the separation of ownership from control of a company.
5. Explain the main differences between a public and a private company.
6. You are presently a partner in a business and the partners are considering the formation of a company.
 - 6.1 List the advantages of a company over a partnership.
 - 6.2 List the advantages of a partnership over a company.

This question requires students to remember or recall what they have been taught in class. Most of the questions asks the students to list what they have already know, categorising the exercise as level one, as the students should easily be able to remember what they already know. Some of the questions ask the students to explain the accounting concepts, which needs the students to recall what has been taught in class. The knowledge that is being tested is basic introductory content. The learner's response should not be lengthy; they should identify the lists by means of recall. The words used to show it is a level one question includes the instruction to *list* the answers. It requires some level of thinking but is not a high-level question. It is at the lowest level because the descriptions are presented to the learner and the learner therefore does not have to recall the description. It is a low-level recall example that is typical across most of the chapters.

5.3.2 Example two

1. *Explain in your own words what is meant by "Internal control".*
2. *List the general principles that should be observed for sound internal control.*

This question asks students to explain an accounting term and list its principles. The student would need to recall or remember the term and the principles, which they have already learnt. It is therefore a level one question that tests basic introductory content. The response time for the learner will be quick as the learner simply has to identify the general principles (though the learner may also need some time to read through the instructions). The words used to show that it is a level one question include *meant* (definition) and again, *list*.

5.3.3 Example three

Complete the following statements by writing down the missing words or figures. (For Questions 1.1.3 and 1.1.4 choose from the words given in brackets).

1.1.1 The letters 'VAT' stand for

1.1.2 In South Africa, VAT is levied at%.

1.1.3 VAT collected by a business on the sale of goods and services is regarded as (VAT input/VAT output).

1.1.4 In the ledger, a (debit/credit) balance on the (VAT Input/VAT Output/VAT Control) Account reflects the final amount that must be paid to SARS.

1.1.5 An item of stock is purchased for R36 500, excluding VAT. The amount of VAT on this item is R.....

1.1.6 An item of stock is sold for R59 800, including VAT. The amount of VAT on this item is R....

The question above is another example of level one in the sense that it only requires the students to recall or remember by filling in the blanks or choosing from given options. The students must simply recall what is missing from the statements provided. Some of the questions require the students to perform simple calculations to come up with an answer but not show extensive working-out. Again, basic introductory concepts are being tested here. The learner is expected to recognise or identify the concepts and recognise the VAT percentage, which makes it a level one question. The kinds of words used to denote this is a level one question are *fill the gaps* and *simple calculations*.

5.4 Level two: Understanding

5.4.1 Example one

- 1. What purpose does a Stock Exchange serve?*
- 2. List the items you would expect to find in the Income Statement of a company, but not in that of a partnership.*

This question requires the students to reveal the purpose of a Stock Exchange and to list the items that they would expect to find on the income statement of a company. The question tests the students' capacity to memorise the sections expected on an income statement of a company. The questions are expected to have short and precise answers. In the list, the students are expected to outline the answers without any explanations. This response is of average length, although question 2 should be short and precise. The words that are used in the question are *what purpose*, *list* (the items). The learner is tested in areas of memory and ability to recall various functions played within organisations.

5.4.2 Example two

- 1. Can HIV/AIDS patients be discriminated against in the work environment? List 5 items that are included in the code to assist employers, trade unions, etc.*

This question is testing students' ability to list the items required in the code of conduct in order to assist the employers to manage the description of HIV/AIDS patients. This question is expected to be answered in short and precise answers. The question is testing the students' capacity to outline the items that already exist in a code of conduct. The question needs the students to reorganise the items and know which of these can be useful in cases of discrimination of the HIV/AIDS patients.

5.4.3 Example three

1. List in point form a procedure, which should provide proper control over cash payments (including petty cash payments and payments of wages and salaries).

The question requires the students to list the procedures that help manage cash payments in the company. This question requires the students to be able to outline from memory the procedures that are needed to provide proper control of over cash payments. The students are expected to use point form and the response needed is short, precise and accurate. The question above need the learners to apply low order thinking skills. This example entails that learners are assumed to have mastered basic concepts to be able to recognise the procedures. It qualifies under level two question as it requires the learner to summarise and interpret the procedures required by reflecting on the knowledge grasped. It requires the learner to recall and apply the content of what was taught. The learner is expected to demonstrate an understanding of the procedures to manage cash payments. The kinds of words that denote it as a level two question are *list the procedures*.

5.5 Level Three: Applying

5.5.1 Example one

You are provided with information and a partially completed Cash Flow Statement relating to Bull Limited, a public company. The financial year-end is on 30 June 2010.

The authorised share capital of the company is 500 000 shares. New shares were issued on 1 July 2009.

Required:

Study the information provided and answer the questions that follow.

1.1 Prepare the Asset Disposal Account on 31 December 2009 in the General Ledger.

1.2 Complete the Note for Fixed (Tangible) Assets on 30 June 2010.

1.3 Complete the Cash Flow Statement for the year ended on 30 June 2010.

This question is a level three (*application*) question. It tests the ability of the learner to apply concepts learnt to the concrete situation of generating an Asset Disposal Account and Cash Flow Statement. The learners are expected to demonstrate a higher level of understanding by knowing the rules and methods of preparing the final accounts. This includes accounting for adjustments such as depreciating assets and the issuing of shares that happened during the trading period. The knowledge being tested is conceptual and assesses familiarity of the learner with methodology and application of principles taught when preparing these statements. The learners are expected to take considerable time to generate the statements (at least an hour). The learner should prepare the final accounts by initially drafting the structure. This third level question makes use of words such as *required*, *complete* and *prepare*. These words indicate to the learner that there is need to come up with a comprehensive answer to the problem. Overall, the learner is being tested on the application of principles, the ability to break down the question into appropriate structure, and connecting related amounts to come up with meaningful statements.

5.5.2 Example two

INSTRUCTION

Use the information extracted from CD Manufacturers for the year ended 31 December 2008 and calculate the following:

- 1. Total cost of production of finished goods for the accounting period.*
- 2. Prime cost*
- 3. Unit cost of production*

INFORMATION

The following information appeared in the accounting records at the year-end.

	AMOUNT
<i>Direct materials cost</i>	<i>R32 000</i>
<i>Total factory overhead cost</i>	<i>R44000</i>
<i>Direct labour cost</i>	<i>R28 000</i>
<i>Work-in-process (Beginning)</i>	<i>R10 000</i>
<i>Work-in-process (End)</i>	<i>R14 000</i>

N.B. Number of units manufactured is 800.

This task expects the learners to calculate the production cost, given the additional information provided. The cognitive demand of this end-of-chapter task is *application*. The learner is expected to apply knowledge taught and make use of the provided figures to calculate the required costs of production. The learners are expected to display understanding of the production costs from the perspective of each business in the case and to come up with the workings on prime costs, total costs and unit cost of production. They are also expected to take an average amount of time (about 50 minutes) in calculating the final costs required. The word used in this end-of-chapter task is *calculate*. Therefore, the question is testing the ability to apply principles of costs of production in an organisation.

5.5.3 Example three

INSTRUCTION:

Given the following information in respect of SCOTT TRADERS, you are required to prepare a Creditors Payment Schedule for the first quarter of 2004 for inclusion of payments in the Cash Budget for the period.

INFORMATION:

a). SALES FORECAST

January *R126 000*

February *R135 000*

March *R144 000*

BALANCES AT 31 DECEMBER 2003

Trading Stock R75 000

Creditors R60 000

b) Cost of sales is equal to 60% turnover.

c) Cash purchases of trading stock amount to only 20% of all purchases.

d) All credit purchases are payable in the month following the month of purchase. These credit terms will be complied with.

e). Stock replenishment will take place on a monthly basis and the opening balance will be maintained as a base stock.

f). Over the past 6 months 80% of the sales were on credit and it is expected that this percentage will be maintained for the budget period.

The question is of the level three (*application*) cognitive domain. It entails that students have mastered methods and concepts when preparing a creditors' schedule. The learner is expected to incorporate balances given with additional information. The knowledge being tested is conceptual skills, which is ability of the learner to apply concepts and take additional information into account. An average 15 minutes is expected to be taken by the learner in working on each question. The taxonomy word used in this end-of-chapter task is *prepare*. In essence, the question is testing the higher level understanding of applying class material to a given scenario.

5.6 Level Four: Analysing

5.6.1 Example One: Balance Sheet

You are provided with the following extract from the Balance Sheet of JNL Ltd:

	28.3	28.2
	R	R
<i>Current Assets</i>	<i>315 600</i>	<i>192 000</i>
<i>Inventories</i>	<i>242 400</i>	<i>134 400</i>
<i>Trade and other receivables</i>	<i>52 800</i>	<i>43 200</i>
<i>Cash and cash equivalents</i>	<i>20 400</i>	<i>14 400</i>
<i>Current Liabilities</i>	<i>132 000</i>	<i>126 000</i>
<i>Trade and other payables</i>	<i>93 600</i>	<i>75 600</i>
<i>SARS - Income Tax</i>	<i>9 600</i>	<i>24 000</i>
<i>Shareholders for dividends</i>	<i>28 800</i>	<i>26 400</i>

You are provided with the following extract from the Income Statement:

	28.3	28.2
<i>Sales</i>	<i>2 292 000</i>	<i>1 920 000</i>
<i>Cost of sales</i>	<i>1 524 000</i>	<i>1 320 000</i>

ADDITIONAL INFORMATION:

1. All the inventories comprise trading stock.
2. One-tenth of the sales is on credit.
3. One-third of the purchases is on credit.

REQUIRED:

a). Calculate the following for both years:

1. Current ratio

2. Acid-test ratio

b). Calculate the following for side 28.3

1. Rate of stock turnover
2. Period for which enough stock is on hand
3. Debtors' average collection period in months
4. Creditors' average payment period in months

c). Comment on the results and offer suggestions to the board of directors.

This question qualifies as level four (*analysis*) cognitive domain. It requires grouping of entries to calculate relevant ratios. There is an aspect of identifying which entry to use in computing the ratio from principles taught. In this end-of-chapter task, the learners are expected to come up with the formulae, identify the figures applicable per each formula, calculate the ratio and briefly comment on the answer obtained. This is a higher-level skill that is expected from the learner as the students are expected to remember, understand, apply, and make an analysis of the topic at hand. This reflects the need for students to demonstrate an ability to understand content and the structural material form. The question will require on average half an hour to complete, with brief comments of the results. The common words for this level require the learner to *appraise*, *examine* and *question* the problem, and in this case *calculate* and *comment*. In short, the learner is being tested on a high intellectual level to compute and analyse the results from ratio principles learnt.

5.6.2 Example Two: General Ledger

The following information was extracted from the accounting records of Loony Traders.

REQUIRED:

1. The following accounts listed as they would appear below in the general ledger of Loony Traders on 28 February 2007, the last day of the financial year. The accounts should be balanced and/or closed off.

- Equipment (cost)
- Accumulated depreciation on equipment

- *Asset disposal*

- *Depreciation*

2. *Show the note to the financial statement for Tangible Fixed assets. Outline the GAAP principles used.*

3. *Comment on the following:*

- *Life span*

- *Age of asset*

- *Replacement rate. Compare sale and new purchase.*

4. *Should the sale be reported to the staff? Comment on accountability and transparency.*

INFORMATION:

a). *Balance on 1 March 2006:*

Equipment

R98 700

Accumulated depreciation on equipment

R36 000

b). *Sold old equipment which originally cost R36 500, for R18 000 cash to a member of staff on 31 July 2006. The accumulated depreciation on this equipment was R12 500 on 1 March 2006.*

c). *Bought new equipment on 1 September 2006 for R70 000 on credit from Beach Suppliers.*

d). *The policy of depreciation on equipment is 20% p.a. on the diminishing balance.*

In this question learners are required to apply their knowledge in making judgement and giving a line of thinking that justifies the given opinion. The question is mainly about analysing depreciation. It is clear that the question is of a higher intellectual level, more than *comprehension* and *application*. The learner is tasked with making an analysis. This implies that the knowledge being tested is the ability to analyse accumulated depreciation. A considerable amount of time is expected from the learner to come up with a reasoned comment for the answers, although it may average half an hour in this case. The taxonomy verbs used in this question is *comment*. The question asks for higher-order cognitive abilities

to analyse component parts of the question, supported by some lower-level cognitive abilities, such as identifying and explaining the parts of the question.

5.6.3 Example Three

Manchester CC has two members, namely, W. Man and H. Chester. The following transactions have been concluded with two members on 21 April 2009:

TRANSACTIONS

- *Paid a salary of R22 000 to W. Man who acted as accounting officer for three weeks in the place of the accounting officer who took leave. Issued cheque no. 161.*
- *Received R5 500 from H. Chester, being rental for office let to him. Issued receipt no. 107.*
- *Issued cheque no. 169 for R3 600 in favour of W. Chester, being quarterly interest payable on a long term loan granted to the corporation and repayable in 2014.*

REQUIRED:

Analyse the above transactions in tabular form

NO	ACCOUNT DEBIT	ACCOUNT CREDIT

The question requires identification of components parts, relationships, understanding contents and applying accounting principles, which makes it a level four (*analysis*) question. The learner is required to have an appreciation of accounting. The question requires demonstration of a high-level understanding of the basic accounting framework and the ability to identify the accounts which need to be debited and credited. The question requires an average time of half an hour in order to make a thorough analysis of the identification of the accounts and amounts to credit and debit. The taxonomy verb used is *analyse*. The learners are being tested on their skills of analysing the given transactions in tabular form.

5.7 Level Five: Evaluating

5.7.1 Example One

The Auditor-General found a Minister guilty of fraud of R2m (theft of cash). The state has now been defrauded by an official who has signed the code of ethics.

Answer the following question:

1.1 Are you happy with the internal control procedures that the state has in place? Outline your recommendations.

This question seeks to determine the evaluation ability of the learner of the performance of the business, as well as considering additional information presented. The question requires a strong argument based on criteria that are applicable to a successful business, assumed to have been taught to the learner. Therefore, the learner is expected to assess, predict outcomes, and support the opinion considered appropriate. This requires judgemental skills, supported with elements of lower-level categories. This requires more time for the learner to make an intense analysis, application and evaluation to answer the question effectively. The level five taxonomy words used in the question include *in your opinion*, *comment*, and *advice*. This question can be summarised as a test of appraisal skills to evaluate and support the value of an action based on specific criteria.

5.7.2 Example Two

The following transactions were concluded in respect of skirts bought and sold by Sky Traders for 2007.

Answer the following questions:

2.1 The stock controller is very unhappy with the attitude and approach of the supervisor. The supervisor is also unhappy with the stock controller's attitude to work and his records. Outline, what management has to do and what recourse does the stock controller has when an investigation is held?

2.2 It was discovered that 5 boxes of skirts went missing from the delivery vehicle. Who is responsible and accountable and what action, if any, must be taken against the guilty staff member? Explain. Can the firm recover the cost of the loss and from whom?

INFORMATION:

DETAILS	MONTH	QUANTITY	PRICE
<i>Bought</i>	<i>January</i>	<i>300</i>	<i>At R150 each</i>
	<i>May</i>	<i>250</i>	<i>At R140 each</i>
	<i>August</i>	<i>150</i>	<i>At R165 each</i>
	<i>November</i>	<i>180</i>	<i>At R170 each</i>
<i>Sold for the year</i>		<i>770</i>	<i>At R250 each</i>
<i>Stock on hand at year end</i>		<i>?</i>	

This question is categorised as the fifth level (*evaluation*) cognitive domain. It is characterised by several parts that need to be collaborated to make a well-reasoned judgement. In this question the students are expected to read several parts, understand the information provided, and offer unique arguments of the position they assume in answering the questions provided. It is important for the learner to get a holistic picture of the entire question so as to come up with a proper recommendation. This requires actions such as getting an underlying basis to classify information that can support an argument. This facilitates giving of pros and cons for the stance the learner takes in answering the question. The knowledge being sought in this question is the ability of the student to judge, rate, and support his or her line of thinking. A considerable amount of time is needed to apply all the information provided in the questions to come up with an informed opinion from the learner. The taxonomy verbs that are used in this question are *indicate* and *recommend*. The essence of the question is centred on assessing the creative behaviour of the learner.

5.7.3 Example Three

Moodley Traders, owned by Prevani Moodley, is registered for VAT under category B (the invoice basis) on a one-month period. The business also only deals with other VAT- vendors.

Answer the following questions:

3.1 Prevani does not have enough money in her bank account to pay SARS for the VAT. The bank balance is currently in overdraft at approximately R30 000. What advice would you offer her in order to:

- *Solve the problem now?*
- *Solve the problem in future?*

This question asks the learners to give advice. Therefore, this question falls under level five as it is of a *creative* nature and therefore falls under higher-order thinking. This requires more time for the learner and a well-articulated answer of acceptable length. The learners are expected to use their current knowledge to come up with advice. The taxonomy verb is *comment*.

5.8 Level Six: Creation

5.8.1 Example One

Visit a manufacturing enterprise as part of the school excursion. Through discussion and observation, describe the internal procedures the enterprise follows to exercise proper control over stock. Record your observations under suitable headings.

This question requires students to dissect the question to come up with a well-reasoned argument. This makes it of *creative* cognitive domain as it asks the learner the best approach to the situation. The student is expected to describe and explain the procedures. Higher-level cognition is expected from learners as they are expected to think outside the box and determine the long-range implications of the actions taken. The question is testing all the levels' skills; for example, knowledge of ethics, ending with the apex of creative skills of the learner. This requires more time for the learner and a well-articulated answer of acceptable length. The learning being tested can be summed up as synthesis skills to combine parts of the question in order to produce a set of abstract relations, supported with the student's general knowledge and views.

5.8.2 Example Two: General Ledger

The information was taken from the books of Patrick Traders.

The accounting period ends on 28 February each year.

INSTRUCTIONS:

Study the ledger accounts and answer the questions that follow.

INFORMATION:

GENERAL LEDGER OF PATRICK TRADERS

ASSET DISPOSAL

DATE		DETAILS	FOL	AMOUNT	DATE		DETAILS	FOL	AMOUNT
2000 Aug	31	Vehicles	GJ	?	2000 Aug	31	Accumulated depreciation on vehicles	GJ	?
							Creditors control	CJ	31 500

VEHICLES

DATE		DETAILS	FOL	AMOUNT	DATE		DETAILS	FOL	AMOUNT
2000 Mar	1	Balance	b/d	135 000	2000 Aug	31	Asset disposal	GJ	45 000
2000 Aug	31	? (A)	CJ	162 000	2001 Feb	28	Balance	c/d	252 000

ACCUMULATED DEPRECIATION ON VEHICLES

DATE		DETAILS	FOL	AMOUNT	DATE		DETAILS	FOL	AMOUNT
2000 Aug	31	Asset disposal	GJ	22 500	2000 Mar	1	Balance	b/d	63 000
					2000 Aug	31	Depreciation	GJ	4 500

Write a short report on the sale of the asset on 31 August 2000.

This question fits the highest level of cognitive demands from the students. It requires learners to synthesise the question. There is need for the learner to assemble the information presented to generate a unique communication in form of a report that stresses problems and makes recommendations for the case at hand. This question requires considerable time to create a convincing report that need not to be lengthy but rich with facts. The taxonomical verbs that are used in the question are *write* and *provide* (a report), which reflects the

requirement for *creative* skills of level six. This reveals that *creation* learning skills are being tested to produce a unique communication.

5.8.3 Example Three

You are provided with information relating to Howie Furnishers, a business owned by Harry Smith. The financial year-end is 28 February 2010. Dizzy Gall was appointed as the new credit controller on 1 March 2009.

REQUIRED:

*1.1 How can the preparation of a **Debtors Collection Schedule** and **Debtors Age Analysis** assist Harry and Dizzy in controlling debtors?*

*1.2 Refer to **Information 2** below.*

Calculate the expected monthly collection of credit sales for March 2010 for inclusion in the Debtors Collection Schedule. Total sales for the year ended 28 February 2011 is expected to increase to R960 000.

1.3 The balance on the Debtors control account was R42 500 on 1 March 2009, the beginning of the financial year and R83 500 on 28 February 2010, the end of the financial year.

- *Calculate the Debtors Average Collection Period (in days) for the past financial year ended 28 February 2010.*
- *Explain whether Harry should be satisfied with this.*
- *Provide a reason for your opinion.*

*1.4 Harry feels that the control of debtors has not been satisfactory since Dizzy was employed. Harry wants you to report to him on what appears to have gone wrong. Refer to the Debtors Age Analysis (**Information 3**) and the Debtors Control account (**Information 4**) provided below.*

*Explain **FOUR** points that you would include in your report. You must quote specific information from the Age Analysis of Debtors (**TWO** points) and from the Debtors Control account (**TWO** points) to support your answer.*

INFORMATION:

1. Credit limits and credit terms:

It is Harry's business policy to grant debtors credit limits of R15 000 each. They are expected to settle their accounts in 30 days.

2. Sales and collections for the year ended 28 February 2010:

- Total sales for the year, R840 000.
- Sales occurred evenly throughout the year.
- 25% of sales are for cash, the rest are on credit.
- 30% of debtors settle their accounts in the same month as the sales transaction month subject to 2% discount.
- 50% settle in the month following the sales transaction month.
- 15% settle in the 2nd month.
- 5% are written off as bad in the 3rd month.

3.

DEBTORS AGE ANALYSIS ON 28 FEBRUARY 2010					
Note: <ul style="list-style-type: none"> • Business policy is to set credit limits at R15 000 per account • The credit term is 30 days. 					
Name	Total	Current	30 days	60 days	60 days +
<i>M. Moon</i>	15 000	15 000			
<i>S. Star</i>	31 000	12 000	4 000	2 000	13 000
<i>P. Planet</i>	9 100			9 100	
<i>E. Earth</i>	11 600	9 200	2 400		
<i>M. Mars</i>	16 800	7 800	5 500	3 500	
	83 500	44 000	11 900	14 600	13 000

4.

DEBTORS CONTROL ACCOUNT

DATE		DETAILS	FOL	AMOUNT	DATE		DETAILS	FOL	AMOUNT
2010 Feb	1	Balance	b/d	86 500	2010 Feb	28	Bank & discount	CRJ	61 000
	28	Sales	DJ	52 500			Debtors allowances	DAJ	3 000
		Bank		9 700			Bad debts	GJ	2 000
		Sundry accounts	GJ	800			Balance	c/d	83 500
				149 500					149 500
2010 Mar	1	Balance	b/d	83 500					

This question is categorised as one of the *synthesis* cognitive dominion. In this question, the students are expected to comprehend the presented information, make strong analyses, create a report, and provide recommendations to the organisation. There is a need for the learner to assemble the information presented to generate a unique communication in the form of a report giving a recommendation for the case at hand. There is need to have an appreciation of

report-writing skills. This question asks all the taxonomical levels of Bloom's Taxonomy and expects the learner to come up with a unique report based on his or her understanding of the information provided. A considerable amount of time is expected to be taken to understand, write and report, and identify and justify the recommendations that would have been identified. The length of the response from the learner is expected to range from two to four and a half pages, depending on the writing and presentation skills of the learner. The taxonomical verbs that are used in this question are *analyse*, *write* (a report), and *recommend*, which indicate the *creative* requirements for level six of the taxonomy. Essentially, the question is seeking for the *creative* behaviour of the learner, supported with a firm foundation of the other five levels.

5.9 Chapter Conclusion

This chapter presented the results of the analysis of end-of-chapter exercises in the *New Generation* textbook. Pie charts were used to present the distribution of Bloom's Taxonomy levels in end-of-chapter assessment tasks. This chapter also gave examples of tasks from each level and respective explanations. The results indicated that the assessment questions in the book included all the levels of Bloom's Taxonomy; however, there are some significant differences in the distribution of the levels as they vary by chapter. The next section will give the general conclusion of the whole study, comparisons, and discussion of the results presented in this chapter.

CHAPTER SIX: COMPARISON, DISCUSSION AND CONCLUSION

6.1 Introduction

This chapter mainly provides the conclusion and recommendations of the research. This chapter focuses on the comparison of results, discussion, and conclusion of the study. It gives a general conclusion of the results of the study. The previous chapter reported on the results and analysis of the empirical findings of the study. This chapter aims to evaluate the major findings with regard to the research objectives and a view of highlighting some key conclusions. This final chapter of the research will also provide an overview of the study, recommendations, and a conclusion.

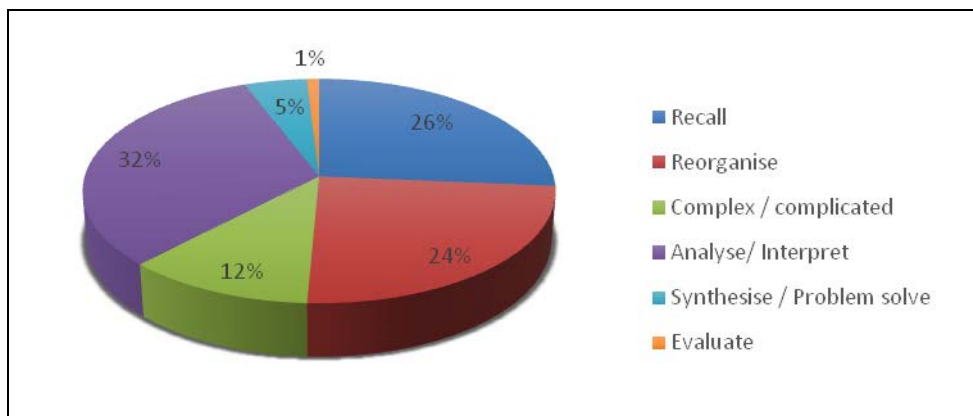


Figure 6.1: Distribution of Cognitive Levels – *New Era* Textbook

The pie chart above represents the overall distribution of cognitive levels in exercises in the *New Era* textbook. The results show that the *analyse/interpret* level constitutes the largest proportion (32%) of tasks in the textbook. A further 26% of the assessment questions ask the students to *recall* and 24% of the assessment questions in the book ask the students to *reorganise*, followed by 12% of a *complex/complicated* level. *Synthesise/problem-solve* accounts for 5% of the assessment questions, and lastly *evaluate*-level questions only constitute 1% of the total questions in the book. The overall results show that more of the questions falls under lower-order thinking skills and only a few fall under higher order thinking skills.

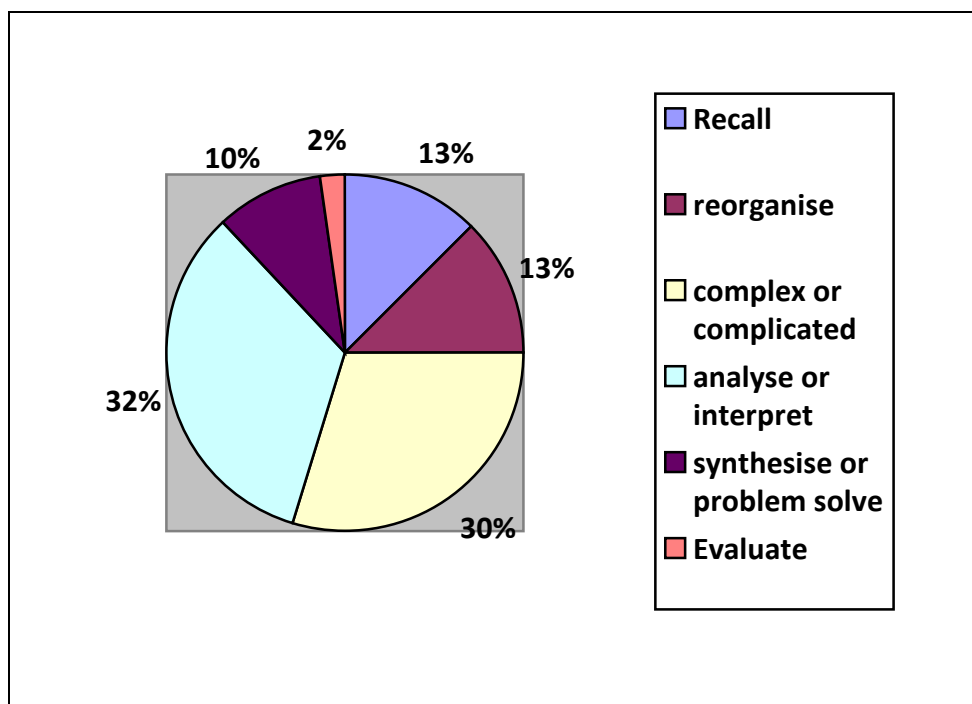


Figure 6.2: Distribution of Cognitive Levels - *New Generation* Textbook

The pie chart above represents the overall distribution of the cognitive levels of the assessment questions of the book *New Generation*. The results show that the highest percentage is constituted by the *analyse/interpret* level, which makes up 32% of the assessment questions in the book, followed by 30% constituted by a *complex/analyse* level of taxonomy. Both the *recall* and *reorganise* levels each constitute 13% of the assessment questions, and following is the *synthesise/problem-solve* level, which constitutes 10% of the questions. The *evaluate* level constitutes only 2% of the assessment questions in the textbook.

6.3 Comparison of the Results

The results found in the *New Era* and *New Generation* books under study indicated some differences in the distribution of cognitive levels of the assessment questions. From the results of this study, the *recall* taxonomical level of the *New Era* book was found to constitute a higher percentage (26%), double that of *recall* questions in *New Generation* (13%). Over a quarter of the assessment questions in the *New Era* book only require learners to recall what they have learnt, as opposed to far fewer *recall* questions in *New Generation*. The results also show that most of the assessment questions in *New Era* need only low-order thinking skills.

The results show that the assessment questions in *New Era* have a higher percentage of *reorganise*-level questions when compared with the percentage of questions in *New Generation*. The results also show that *complex/complicated*-level questions are more prolific in *New Generation* than in *New Era*.

On the *analyse/interpret* level, both *New Era* and *New Generation* have an equal proportion of these questions (13%). The results show a balance in the number of assessment questions in both of the books. Therefore, students using either textbook are faced with a similar number of questions that require this type of high-level thinking skill. The students need to know how to analyse or to interpret in order for them to be able to answer those questions.

Synthesise or *problem-solve* is another level that requires higher-level thinking skills. In *New Era*, *synthesise/problem-solve* tasks account for only 5% of questions, while in *New Generation*, 10% of the assessment tasks are consisted by this cognitive demand level.

On an *evaluation* level, both books contained very few questions of this taxonomical level. The *New Era* textbook contained only 1% *evaluation* questions, and though still not a large percentage, the *New Generation* book contained 2% of such questions. This would give learners studying with the *New Generation* book slightly more practice at exercising this kind of thinking.

6.4 Discussion of the results

The results found in this study indicated that the two Grade 12 Accounting textbooks (*New Era* and *New Generation*) have the assessment questions that include all levels of Bloom's Taxonomy. The findings in this study indicated that in both books, questions that involve low-order thinking skills are greater in number than questions that involve higher-order thinking skills. This is evidenced by the higher percentages witnessed for *recall*, *reorganise* and *complex/complicated* levels of taxonomy. Low percentages made up the higher levels in the taxonomy, which are of higher-order thinking.

The results from the study indicate that the use of textbooks like *New Era* and *New Generation* in classrooms helps students to pass their tests; this was found also in the literature (Bharath, 2015). The author also noted that the textbooks aid in studying, which will lead to better understanding and better marks of students in assessment tests. The results are also in line with the findings of a study conducted in South Africa by Masitsa (2004), who

also found that the students with better textbooks performed better than students who did not have textbooks.

This study found that there is some balance between all levels of Bloom's Taxonomy in the chosen textbooks, which suggest that teachers can rely on these textbooks as they help the students to become familiar all of the types of questions. Pingel (2010) found similar results that suggest that the teachers rely on textbooks as they provide expertise and provide security for both the teacher and the students on content outlining.

This study found that the reviewed textbooks contained more verbs that fall under lower cognition levels. These findings are in line with the results of Stokes (2008), who also found that the verbs used to describe the objectives were pitched mainly at lower levels of cognition (in 75% of cases). The results found in this study confirm that the two books (*New Era* and *New Generation*) contain assessment questions that are constituted more by those that fall under lower levels of cognition. Only a few questions fall under high cognition levels.

This research also found, however, that if the learners use the two textbooks under study, they should develop all levels of cognition as the books contain assessment questions that include all levels of Bloom's Taxonomy. Therefore, the reading of these textbooks leads to the acquiring of knowledge by the learners. In a study conducted by Phillips and Phillips (2007), reading was found to be a motivated behaviour; in other words, students read to develop their understanding and to reduce anxiety.

The assessment questions in the two books under study serve to assist the learners in acquiring the know-how of various aspects that improve the quality of learning at a school set-up. Assessment tasks from textbooks could be used by teachers to identify any gaps in the learning process so that necessary remedial intervention can be taken. They can also form a basis for summative assessments. In general, most textbooks make provision for classwork and homework as part of the learning process to aid the internalisation of content taught (Yang, Wang & Xu, 2015).

The results from the study indicated that the assessment questions are similar to the examination questions as they accommodate all levels of cognition. Similarly, in a study by Omolehinwa (2015), the questions for assessment are taken from past exam papers related to each topic. Therefore, the results of this study are in line with those of Omolehinwa (2015).

6.5 Contribution of the Study

Quality education is a strong foundation for preparing and improving the quality and competence of every nation's human resource development, which is an asset for global economic competition. The competitiveness of the textbooks used by the students depends on adhering to quality values. This study contributes to the body of knowledge on textbook content, especially end-of-chapter exercises. In turn, it is hoped that it will contribute to the overall quality of education by developing knowledge, competence, and skills through enhancing the cognitive levels in Grade 12 Accounting textbooks.

6.6 Recommendations

Teacher training programmes need to better train new Accounting teachers to analyse school textbooks so that they could make better choices when selecting textbooks. Teachers should use more than one textbook as a source for application exercises. Teachers need to select application exercises from other sources in order to supplement what textbooks offer to school learners. Textbook writers/publishers should analyse the quality of assessment tasks that they develop for school textbooks with a view to developing a better variety and higher standard of assessments.

6.7 Conclusion

The main purpose of this study was to analyse the cognitive demand of assessment tasks in Grade 12 Accounting textbooks. The study made use of a sample of two textbooks, being the *New Era* and *New Generation* Accounting textbooks. The study established that both books contain assessment questions that display all the levels of Bloom's Taxonomy, namely *recall*, *reorganise*, *complex/complicated*, *analyse/interpret*, *synthesise/problem-solve* and *evaluate*. The study also looked at the distribution of cognitive levels within these exercises. The findings established that most of the questions were of low-order thinking skills.

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APPENDIX A: A TAXONOMY TOWARDS UMALUSI (2013)

Level of cognitive demand	Type of cognitive demand	Explanation of categorisation. Question which require students:
Lower order processes	1. Simple recall of facts, knowledge or apply basic processes	To reproduce accounting concepts, recording procedure and present financial information in the form of facts, data and records. Prior given knowledge has to be recalled in a virtually static form or follow basic accounting principles.
	2. Rearrange given information or demonstrate cognitive grasp of simple concepts	To rearrange clearly given information, facts or concepts from given sources in an alternative format (eg. summarise given information). To show understanding of simple accounting principles.
Middle order processes	3. Apply complicated procedures	To perform complicated accounting processes/ methods.
	4. Investigate or deduce	To make inferences to abstract analysis and deduce results through use of background accounting knowledge and from given information and memory. (Respond to data and arrive at conclusions by interpreting associations and patterns).
	5. Crystallise or Problem Solve	To employ a various techniques to solve original intricate, multifaceted problems and scenarios. (Problems where creative thinking is required as the problems are new and unique).

Level of cognitive demand	Type of cognitive demand	Explanation of categorisation. Question which require students:
Higher order processes	6. Appraise	To appraise or make critical valued judgement on the reliability, validity and authenticity using verifiable information or using accounting knowledge as a backdrop.

APPENDIX B: DATA ANALYSIS: NEW ERA

CHAPTER ONE

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERP RET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
1.1	√ 1.1	√ 1.1				
1.2	√					
	1.2.1					
1.3	√ 1.3.1 1.3.2 1.3.3			√ 1.3.1		
1.4	√ 1.4.1 1.4.2 1.4.4 1.4.5			√ 1.4.3		
1.5	√ 1.5.1 1.5.2 1.5.4 1.5.6			√ 1.5.3 1.5.5 1.5.7 1.5.8 1.5.9		

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERP RET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
1.6	√ 1.6.1 1.6.2 1.6.7			√ 1.6.3 1.6.4 1.6.5 1.6.6		
1.7	√ 1.7.1 1.7.2			√ 1.7.3 1.7.4		
1.8				√ 1.8		√ 1.8
1.9	√ 1.9.1 1.9.2 1.9.3	√ 1.9.1 1.9.2 1.9.3				
1.10	√ 1.10.1 1.10.2 1.10.3	√ 1.10.1 1.10.2 1.10.3				

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERP RET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
1.11	√ 1.11.1 1.11.2 1.11.3	√ 1.11.1 1.11.2 1.11.3				
1.12	√ 1.12.1 1.12.2 1.12.3	√ 1.12.1 1.12.2 1.12.3				
1.13	√ 1.13.1 1.13.2 1.13.3	√ 1.13.1 1.13.2 1.13.3				
1.14	√ 1.14.1 1.14.2 1.14.3	√ 1.14.1 1.14.2 1.14.3				
1.15	√ 1.15	√ 1.15				
1.16	√ 1.16.1 1.16.2 1.16.3			√ 1.16.4 1.16.5 1.16.6		

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERP RET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
1.17	√ 1.17.1 1.17.2 1.17.3			√ 1.17.4 1.17.5 1.17.6		
1.18	√ 1.18	√ 1.18				
1.19	√ 1.19.1 1.19.2	√ 1.19.1 1.19.2				
1.20	√ 1.20.1 1.20.2	√ 1.20.1 1.20.2				
1.21	√ 1.21			√ 1.21		
	49 (51%)	25 (26%)	0	21 (22%)	0	1 (1%)

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERP RET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
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CHAPTER TWO

2.1	√ 2.1.1 2.1.2	√ 2.1.1 2.1.2				
2.2	√ 2.2.1 2.2.2	√ 2.2.1 2.2.2				
2.3	√ 2.3	√ 2.3				
2.4	√ 2.4.1 2.4.3 2.4.5	√ 2.4.1 2.4.3 2.4.5	√ 2.4.2 2.4.4 2.4.6			
2.5	√ 2.5.2 2.5.4	√ 2.5.2 2.5.4	√ 2.5.1 2.5.3 2.5.5			
	10 (39%)	10 (38%)	6 (23%)	0	0	0

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERP RET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
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CHAPTER THREE

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERP RET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
3.1				√ 3.1		√ 3.1
3.2	√ 3.2	√ 3.2				
3.3	√ 3.3	√ 3.3				
3.4	√ 3.4.1 3.4.2	√ 3.4.1 3.4.2		√ 3.4.2 3.4.3 3.4.4		
3.5	√ 3.5.1 3.5.3 3.5.5	√ 3.5.1 3.5.3 3.5.5		√ 3.5.2 3.5.4 3.5.5		

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERP RET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
3.6	√ 3.6.1 3.6.2	√ 3.6.1 3.6.2		√ 3.6.3 3.6.4 3.6.5		
3.7				√ 3.7.1 3.7.2 3.7.3 3.7.4 3.7.5 3.7.6 3.7.7 3.7.8		
3.8			√ 3.8.1 3.8.2	√ 3.8.3		
3.9	√ 3.9	√ 3.9	√ 3.9	√ 3.9		
3.10	√ 3.10	√ 3.10	√ 3.10	√ 3.10		

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERP RET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
3.11	√ 3.11.1 3.11.2	√ 3.11.1 3.11.2	√ 3.11.1 3.11.2	√ 3.11.3		
3.12	√ 3.12.1 3.12.2	√ 3.12.1 3.12.2	√ 3.12.1 3.12.2	√ 3.12.3		
3.13	√ 3.13.1 3.13.2	√ 3.13.1 3.13.2	√ 3.13.1 3.13.2	√ 3.13.3		
3.14	√ 3.14.1 3.14.2	√ 3.14.1 3.14.2	√ 3.14.1 3.14.2	√ 3.14.3		
3.15	√ 3.15.1 3.15.2	√ 3.15.1 3.15.2	√ 3.15.1 3.15.2	√ 3.15.3	√ 3.15.4	
3.16	√ 3.16.1 3.16.2	√ 3.16.1 3.16.2	√ 3.16.1 3.16.2	√ 3.16.3		

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERP RET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
3.17	√ 3.17.1	√ 3.17.1	√ 3.17.2 3.17.3	√ 3.17.4 3.17.5		
3.18			√ 3.18.1 3.18.2	√ 3.18.3	√ 3.18.4	
3.19				√ 3.19.1 3.19.2 3.19.3 3.19.4 3.19.5 3.19.6 3.19.7 3.19.8 3.19.9	√ 3.19.1 3.19.2 3.19.3 3.19.4 3.19.5 3.19.6 3.19.7 3.19.8 3.19.9	
3.20	√ 3.20.1 3.20.2 3.20.3	√ 3.20.1 3.20.2 3.20.3				

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERP RET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
3.21			√ 3.21.1	√ 3.21.2		
3.22			√ 3.22.1	√ 3.22.2		
3.23			√ 3.23.1 3.23.2			
3.24			√ 3.24.1 3.24.2			
3.25			√ 3.25.1 3.25.2			
3.26			√ 3.26.1 3.26.2			
3.27			√ 3.27.1 3.27.2			

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERP RET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
3.28			√ 3.28.1 3.28.2			
3.29	√ 3.29	√ 3.29				
3.30	√ 3.30	√ 3.30				
3.31	√ 3.31	√ 3.31				
3.32	√ 3.32	√ 3.32				
3.33	√ 3.33.1 3.33.2 3.33.3 3.33.4 3.33.5 3.33.6	√ 3.33.1 3.33.2 3.33.3 3.33.4 3.33.5 3.33.6				
3.34			√ 3.34.1 3.34.2			
3.35			√ 3.35			

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERP RET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
3.36			√ 3.36			
3.37			√ 3.37			
3.38			√ 3.38			
3.39			√ 3.39.1 3.39.2			
3.40			√ 3.40.1 3.40.2			
3.41			√ 3.41.1 3.41.2			
3.42			√ 3.42			
3.43			√ 3.43.1	√ 3.43.2		

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERP RET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
3.44			√ 3.44			
3.45	√ 3.45.1	√ 3.45.1	√ 3.45.2	√ 3.45.3		
3.46			√ 3.46			
3.47			√ 3.47.1	√ 3.47.2 3.47.3		
3.48	√ 3.48.1	√ 3.48.1	√ 3.48.2	√ 3.48.3		
3.49			√ 3.49.1 3.49.2	√ 3.49.3		

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERP RET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
3.50			√ 3.50.1 3.50.2	√ 3.50.3 3.50.4		
3.51	√ 3.51	√ 3.51		√ 3.51		
3.52				√ 3.52		
3.53				√ 3.53		
	40 (20%)	40 (20%)	57 (28%)	52 (26%)	11 (5%)	1 (1%)

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERP RET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
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CHAPTER FOUR

4.1	√ 4.1	√ 4.1				
4.2	√ 4.2	√ 4.2				
4.3	√ 4.3.1 4.3.2 4.3.3 4.3.4 4.3.5 4.3.6	√ 4.3.1 4.3.2 4.3.3 4.3.4 4.3.5 4.3.6		√ 4.3.1 4.3.2 4.3.3 4.3.4 4.3.5 4.3.6		
4.4	√ 4.4.1 4.4.2 4.4.3 4.4.4 4.4.5 4.4.6	√ 4.4.1 4.4.2 4.4.3 4.4.4 4.4.5 4.4.6		√ 4.4.1 4.4.2 4.4.3 4.4.4 4.4.5 4.4.6		
4.5	√ 4.5.1 4.5.2	√ 4.5.1 4.5.2		√ 4.5.3		

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERP RET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
4.6	√ 4.6.1 4.6.2	√ 4.6.1 4.6.2		√ 4.6.3		
4.7	√ 4.7	√ 4.7		√ 4.7		
4.8	√ 4.8	√ 4.8		√ 4.8		
4.9	√ 4.9.1	√ 4.9.1		√ 4.9.2		
4.10	√ 4.10.1 4.10.2	√ 4.10.1 4.10.2		√ 4.10.3		
4.11	√ 4.11.1 4.11.2	√ 4.11.1 4.11.2		√ 4.11.3		
4.12	√ 4.12.1 4.12.2 4.12.3	√ 4.12.1 4.12.2 4.12.3		√ 4.12.4		

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERP RET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
4.13	√ 4.13.1 4.13.2 4.13.3	√ 4.13.1 4.13.2 4.13.3		√ 4.13.4		
4.14	√ 4.14.1 4.14.2 4.14.3	√ 4.14.1 4.14.2 4.14.3		√ 4.14.4		
4.15	√ 4.15.1 4.15.2 4.15.3	√ 4.15.1 4.15.2 4.15.3		√ 4.15.4		
4.16	√ 4.16.1 (a, b, c)	√ 4.16.1 (a, b, c)		√ 4.16.2		
4.17	√ 4.17.1	√ 4.17.1		√ 4.17.2 4.17.3		√ 4.17.4

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERP RET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
4.18	√ 4.18.1 4.18.2	√ 4.18.1 4.18.2		√ 4.18.3 4.18.4		
4.19	√ 4.19.1 4.19.2	√ 4.19.1 4.19.2		√ 4.19.3 4.19.4		
4.20	√ 4.20.1 4.20.2 4.20.3 4.20.4	√ 4.20.1 4.20.2 4.20.3 4.20.4		√ 4.20.5		
4.21	√ 4.21.1 4.21.3	√ 4.21.1 4.21.3		√ 4.21.2 4.21.4		
4.22	√ 4.22.1 4.22.3	√ 4.22.1 4.22.3		√ 4.22.2 4.22.4		

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERP RET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
4.23	√ 4.23.1 4.23.2	√ 4.23.1 4.23.2		√ 4.23.3 4.23.4 4.23.5		
4.24	√ 4.24	√ 4.24		√ 4.24		
4.25	√ 4.25	√ 4.25		√ 4.25		
4.26	√ 4.26.1	√ 4.26.1		√ 4.26.2		
4.27	√ 4.27 (1)	√ 4.27 (1)		√ 4.27 (2)		

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERP RET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
4.28	√ 4.28.1 (a, b, c, d, e) 4.28.2 (a, b, c, d, e, f) 4.28.3 (a & b) 4.28.4 (a, b, c, d)	√ 4.28.1 (a, b, c, d, e) 4.28.2 (a, b, c, d, e, f) 4.28.3 (a & b) 4.28.4 (a, b, c, d)		√ 4.28.1 (f) 4.28.2 (g) 4.28.3 (c) 4.28.4 (e)		
4.29	√ 4.29.1	√ 4.29.1		√ 4.29.2 4.29.3		
4.30	√ 4.30.1	√ 4.30.1		√ 4.30.2 (a, b, c, d, e, f, g)		
4.31				√ 4.31.1 4.31.2 4.31.3 4.31.4 4.31.5 4.31.6		

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERP RET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
4.32	√ 4.32.5 4.32.6	√ 4.32.5 4.32.6	√ 4.32.1	√ 4.32.2 4.32.3 4.32.4 4.32.7		
4.33	√ 4.33.2	√ 4.33.2	√ 4.33.1	√ 4.33.3 (a, b, c, d, e, f, g, h)		

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERP RET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
4.34	√ 4.34.1 4.34.3 4.34.6	√ 4.34.1 4.34.3 4.34.6	√ 4.34.2	√ 4.34.4 4.34.5 4.34.7 4.34.8 4.34.9 4.34.10 4.34.11 4.34.12 4.34.13 4.34.14 4.34.15 4.34.16		
4.35	√ 4.35	√ 4.35				
	70 (33%)	70 (32%)	3 (3%)	72 (33%)	0	1 (1%)

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERP RET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
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CHAPTER FIVE

5.1	√	√				
	5.1.1	5.1.1				
	5.1.2	5.1.2				
	5.1.3	5.1.3				
	5.1.4	5.1.4				
	5.1.5	5.1.5				
	5.1.6	5.1.6				
	5.1.7	5.1.7				
	5.1.8	5.1.8				
	5.1.9	5.1.9				
	5.1.10	5.1.10				
	5.1.11	5.1.11				
	5.1.12	5.1.12				
	5.1.13	5.1.13				
5.2	√	√		√		
	5.2.1	5.2.1		5.2.5		
	5.2.2	5.2.2		5.2.6		
	5.2.3	5.2.3		5.2.7		
	5.2.4	5.2.4		5.2.8		
5.3	√	√		√		
	5.3.1	5.3.1		5.3.4		
	5.3.2	5.3.2		5.3.5		
	5.3.3	5.3.3		5.3.6		

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERP RET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
5.4	√ 5.4.1 (a) 5.4.2 (a, c, d, e) 5.4.3 (b, c) 5.4.5 (a, b, c) 5.4.6 (a, c) 5.4.7 (a)	√ 5.4.1 (a) 5.4.2 (a, c, d,e) 5.4.3 (b, c) 5.4.5 (a, b, c) 5.4.6 (a, c) 5.4.7 (a)		√ 5.4.1 (b) 5.4.2 (b, c, d, f) 5.4.3 (a, b, c) 5.4.4 (a, b) 5.4.5 (a, b ,c) 5.4.6 (b, d) 5.4.7 (b)		
5.5	√ 5.5.1 5.5.2 5.5.3 5.5.4 5.5.5 5.5.6 5.5.7	√ 5.5.1 5.5.2 5.5.3 5.5.4 5.5.5 5.5.7		√ 5.5.2 5.5.4 5.5.6 5.5.7 5.5.8		
	33 (39%)	32 (38%)	0	19 (23%)	0	0

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERP RET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
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CHAPTER SIX

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERP RET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
6.1	√ 6.1	√ 6.1				
6.2				√ 6.2	√ 6.2	
6.3	√ 6.3.1	√ 6.3.1		√ 6.3.2 6.3.3 6.3.4 6.3.5		
6.4	√ 6.4.1	√ 6.4.1		√ 6.4.2 6.4.3 6.4.4		
6.5				√ 6.5	√ 6.5	

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERP RET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
6.6				√ 6.6.1 6.6.2 6.6.3 6.6.4		
6.7	√ 6.7.1	√ 6.7.1		√ 6.7.2 6.7.3 6.7.4		
6.8	√ 6.8.1	√ 6.8.1		√ 6.8.2 6.8.3		
6.9	√ 6.9.1 6.9.2	√ 6.9.1 6.9.2		√ 6.9.1 6.9.2		
6.10	√ 6.10.1 6.10.2	√ 6.10.1 6.10.2		√ 6.10.1 6.10.2		
6.11	√ 6.11.1	√ 6.11.1		√ 6.11.2 6.11.3		

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERP RET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
6.12				√ 6.12.1 6.12.2 6.12.3		
6.13	√ 6.13.3 6.13.4	√ 6.13.3 6.13.4		√ 6.13.1 6.13.2 6.13.3 6.13.4 6.13.5		
6.14				√ 6.14	√ 6.14	
6.15				√ 6.15.1 6.15.2 6.15.3		
6.16				√ 6.16		

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERP RET</u>	<u>SYNTHESIS/PROBLEM SOLVE</u>	<u>EVALUATE</u>
6.17				√ 6.17.1 6.17.2 6.17.3 6.17.4 6.17.5 6.17.6 6.17.7	√ 6.17.1 6.17.2 6.17.3 6.17.4 6.17.5 6.17.6 6.17.7	
	12 (15%)	12 (15%)	0	44 (57%)	10 (13%)	0

CHAPTER SEVEN

7.1			√ 7.1.1 7.1.2			
7.2	√ 7.2.1 7.2.2	√ 7.2.1 7.2.2		√ 7.2.3 7.2.4 7.2.5		
7.3	√ 7.3.1	√ 7.3.1		√ 7.3.2 7.3.3		
7.4	√ 7.4.1 7.4.2	√ 7.4.1 7.4.2		√ 7.4.3 7.4.4 7.4.5 7.4.6 7.4.7		
7.5			√ 7.5.1 7.5.2 7.5.3	√ 7.5.4		
7.6				√ 7.6.1 7.6.2 7.6.3		

7.7			√ 7.7.1 7.7.2			
7.8			√ 7.8.3 7.8.4	√ 7.8.1 7.8.2		
7.9			√ 7.9.1 7.9.2 (c) 7.9.3 7.9.4 7.9.5	√ 7.9.2 (a & b) 7.9.6 7.9.7		
7.10				√ 7.10.1 7.10.2 7.10.3 7.10.4 7.10.5		
7.11				√ 7.11		
7.12			√ 7.12.6	√ 7.12.1 7.12.2 7.12.3 7.12.4 7.12.5 7.12.7		

				7.12.8		
7.13	√ 7.13.1	√ 7.13.1		√ 7.13.2 7.13.3 7.13.4		
7.14				√ 7.14	√ 7.14	
7.15				√ 7.15	√ 7.15	
	6 (9%)	6 (9%)	15 (23%)	37 (56%)	2 (3%)	0

CHAPTER EIGHT

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/ INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
8.1	√ 8.1.1 8.1.2	√ 8.1.1 8.1.2		√ 8.1.2		
8.2	√ 8.2.1 8.2.2	√ 8.2.1 8.2.2		√ 8.2.2		
8.3	√ 8.3	√ 8.3				
8.4	√ 8.4	√ 8.4				
8.5	√ 8.5.1 8.5.2	√ 8.5.1 8.5.2				
8.6	√ 8.6 (1a, b, c, d, e)	√ 8.6 (1a,b,c,d,e)	√ 8.6 (2)			
8.7	√ 8.7	√ 8.7	√ 8.7			
8.8	√ 8.8.1	√ 8.8.1	√ 8.8.2			

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/ INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
8.9	√ 8.9	√ 8.9	√ 8.9			
8.10	√ 8.10.1 8.10.3 8.10.4	√ 8.10.1 8.10.3 8.10.4		√ 8.10.2 8.10.5		
	15 (39%)	15 (39%)	4 (11%)	4 (11%)	0	0

CHAPTER NINE

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE /INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
9.1	√ 9.1.1 9.1.4	√ 9.1.1 9.1.4		√ 9.1.2 9.1.3 9.1.5 9.1.6 9.1.7 9.1.8		
9.2	√ 9.2.1 9.2.2 9.2.3 9.2.5	√ 9.2.1 9.2.2 9.2.3 9.2.5		√ 9.2.4 9.2.5		
9.3	√ 9.3.1 9.3.2 9.3.3	√ 9.3.1 9.3.2 9.3.3				
9.4	√ 9.4	√ 9.4		√ 9.4		
9.5				√ 9.5.1 9.5.2	√ 9.5.1 9.5.2	

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE /INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
9.6				√ 9.6.1 9.6.2 9.6.3 9.6.4 9.6.5 9.6.6 9.6.7 9.6.8 9.6.9 9.6.10	√ 9.6.1 9.6.2 9.6.3 9.6.4 9.6.5 9.6.6 9.6.7 9.6.8 9.6.9 9.6.10	
9.7				√ 9.7.1 9.7.2 9.7.3	√ 9.7.1 9.7.2 9.7.3	
9.8	√ 9.8.1 9.8.2 9.8.5	√ 9.8.1 9.8.2 9.8.5		√ 9.8.3 9.8.4 9.8.5		
9.9	√ 9.9	√ 9.9		√ 9.9		

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE /INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
9.10	√ 9.10.1 9.10.2	√ 9.10.1 9.10.2				
9.11	√ 9.11	√ 9.11				
9.12	√ 9.12	√ 9.12				
9.14	√ 9.14	√ 9.14			√ 9.14	
	19 (23%)	19 (23%)	0	28 (34%)	16 (20%)	0

CHAPTER TEN

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
10.1	√ 10.1.1 10.1.2 10.1.4 (a, b)	√ 10.1.1 10.1.2 10.1.4 (a, b)		√ 10.1.3 10.1.4 (c, d) 10.1.5 10.1.6		
10.2	√ 10.2.1	√ 10.2.1		√ 10.2.2 10.2.3		
10.3	√ 10.3.1	√ 10.3.1		√ 10.3.2		
10.4	√ 10.4.1 10.4.2 10.4.3	√ 10.4.1 10.4.2 10.4.3				
10.5	√ 10.5.1 10.5.2 10.5.3	√ 10.5.1 10.5.2 10.5.3				
10.6	√ 10.6.1 10.6.2 10.6.3	√ 10.6.1 10.6.2 10.6.3				

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
10.7	√ 10.7.1 10.7.2 10.7.3 10.7.4	√ 10.7.1 10.7.2 10.7.3 10.7.4				
10.8	√ 10.8.1 (a, b, c, d) 10.8.2 10.8.3	√ 10.8.1(a, b,c,d) 10.8.2 10.8.3				
10.9	√ 10.9.1 (a, b, c, d)	√ 10.9.1 (a,b,c,d)		√ 10.9.2		
10.10	√ 10.10.1 10.10.2 10.10.3	√ 10.10.1 10.10.2 10.10.3				
10.11	√ 10.11.1 10.11.2 10.11.3 10.11.4	√ 10.11.1 10.11.2 10.11.3 10.11.4	√ 10.11.5			
10.12	√ 10.12.1 (a & b)	√ 10.12.1 (a & b)		√ 10.12.2		
10.13	√ 10.13.1 10.13.2	√ 10.13.1 10.13.2				

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
10.14	√ 10.14.1 (a, b, c, d) 10.14.3	√ 10.14.1 (a, b, c, d) 10.14.3		√ 10.14.2 10.14.4 10.14.5		
10.15	√ 10.15.1 10.15.2	√ 10.15.1 10.15.2		√ 10.15.3 10.15.4 10.15.5 10.15.6		
10.16	√ 10.16.1 10.16.2	√ 10.16.1 10.16.2		√ 10.16.3 10.16.4 10.16.5 (a)	√ 10.16.5 (b)	
10.17				√ 10.17	√ 10.17	
10.18	√ 10.18.1	√ 10.18.1		√ 10.18.2	√ 10.18.2	√ 10.18.2
	39 (37%)	39 (38%)	1 (1%)	21 (20%)	3 (3%)	1 (1%)

CHAPTER ELEVEN

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
11.1	√ 11.1.1	√ 11.1.1	√ 11.1.2			
11.2	√ 11.2.1	√ 11.2.1	√ 11.2.2			
11.3				√ 11.3		
11.4				√ 11.4		
11.5	√ 11.5	√ 11.5				
11.6				√ 11.6		
11.7	√ 11.7.1	√ 11.7.1	√ 11.7.2 11.7.3			
11.8			√ 11.8.2 11.8.3 11.8.4	√ 11.8.1		
11.9			√ 11.9.1 11.9.2	√ 11.9.1 11.9.2		
11.10			√ 11.10	√ 11.10		

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
11.11			√ 11.11.1 11.11.2	√ 11.11.1 11.11.2		
11.12			√ 11.12.1 11.12.2	√ 11.12.1 11.12.2		
11.13			√ 11.13.1	√ 11.13.2		
11.14			√ 11.14.1	√ 11.14.2		
11.15				√ 11.15.1 11.15.2	√ 11.15.2	
11.16	√ 11.16.1 (a)	√ 11.16.1 (a)	√ 11.16.3 (a & b)	√ 11.16.1 (b) 11.16.2 11.16.4 (a & b)		
11.17					√ 11.17	√ 11.17
11.18	√ 11.18	√ 11.18				
11.19	√ 11.19	√ 11.19		√ 11.19		

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
11.20				√ 11.20.1 11.20.2	√ 11.20.3	
11.21			√ 11.21.1 11.21.2	√ 11.21.3		
11.22			√ 11.22.1 11.22.2 11.22.3			
11.23			√ 11.23 (B – a & b)	√ 11.23 (A) 11.23 (c)		
11.24				√ 11.24		
11.25						√ 11.25
11.26				√ 11.26		
11.27			√ 11.27.1	√ 11.27.2 (a, b, c)		
11.28				√ 11.28		
11.29				√ 11.29		
11.30				√ 11.30	√ 11.30	

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
11.31				√ 11.31	√ 11.31	
11.32				√ 11.32	√ 11.32	
11.33				√ 11.33		
	7 (9%)	7 (9%)	24 (30%)	33 (42%)	6 (8%)	2 (2%)

CHAPTER TWELVE

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
12.1	√ 12.1	√ 12.1				
12.2	√ 12.2	√ 12.2				
12.3	√ 12.3	√ 12.3				
12.4	√ 12.4	√ 12.4				
12.5	√ 12.5	√ 12.5				
12.6	√ 12.6	√ 12.6				
12.7	√ 12.7	√ 12.7				
12.8	√ 12.8	√ 12.8	√ 12.8			
12.9	√ 12.9.1 12.9.2 12.9.3	√ 12.9.1 12.9.2 12.9.3		√ 12.9.1 12.9.2 12.9.3		
12.10	√ 12.10.1 12.10.2 12.10.3	√ 12.10.1 12.10.2 12.10.3	√ 12.10.2			
12.11	√ 12.11	√ 12.11		√ 12.11		

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
12.12	√ 12.12.1 12.12.2 12.12.3 12.12.4 12.12.5	√ 12.12.1 12.12.2 12.12.3 12.12.4 12.12.5		√ 12.12.6 (a & b)		
12.13	√ 12.13.2 12.13.3 (a) 12.13.4	√ 12.13.2 12.13.3 (a) 12.13.4		√ 12.13.1 12.13.3 (b & c)		
12.14				√ 12.14	√ 12.14	
	23 (40%)	23 (40%)	2 (4%)	8 (14%)	1 (2%)	0

CHAPTER THIRTEEN

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/ INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
13.1	√ 13.1	√ 13.1				
13.2	√ 13.2.1 13.2.2	√ 13.2.1 13.2.2		√ 13.2.1 13.2.2		
13.3	√ 13.3.1 13.3.2 13.3.3	√ 13.3.1 13.3.2 13.3.3		√ 13.3.1 13.3.2 13.3.3		
13.4	√ 13.4.1 13.4.2 13.4.3	√ 13.4.1 13.4.2 13.4.3		√ 13.4.1 13.4.2 13.4.3		
13.5	√ 13.5.1 13.5.2 13.5.3 13.5.4	√ 13.5.1 13.5.2 13.5.3 13.5.4		√ 13.5.1 13.5.2 13.5.3 13.5.4		
13.6	√ 13.6.1 13.6.2 13.6.3	√ 13.6.1 13.6.2 13.6.3		√ 13.6.1 13.6.2 13.6.3		
13.7	√ 13.7	√ 13.7				
13.8	√ 13.8	√ 13.8		√ 13.8		

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/ INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
13.9	√ 13.9	√ 13.9		√ 13.9		
13.10	√ 13.10.1 13.10.2	√ 13.10.1 13.10.2		√ 13.10.3 13.10.4 13.10.5 13.10.6	√ 13.10.7	
13.11	√ 13.11.1 13.11.2 13.11.3 13.11.5	√ 13.11.1 13.11.2 13.11.3 13.11.5		√ 13.11.4 13.11.6 13.11.7 (a, b, c) 13.11.8	√ 13.11.9	
13.12					√ 13.12	√ 13.12
13.13				√ 13.13	√ 13.13	
13.14	√ 13.14.1	√ 13.14.1		√ 13.14.2 13.14.3 13.14.4 13.14.5		

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/ INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
13.15	√ 13.15.1 13.15.2 13.15.3	√ 13.15.1 13.15.2 13.15.3		√ 13.15.4 (a & b)	√ 13.15.4 (c)	
13.16	√ 13.16.1 13.16.2 13.16.4 13.16.5 13.16.6 13.16.8	√ 13.16.1 13.16.2 13.16.4 13.16.5 13.16.6 13.16.8		√ 13.16.3 13.16.7 13.16.9		
13.17	√ 13.17.2 (a & b) 13.17.3 (a) 13.17.4 (a) 13.17.5 (a, b, c, d)	√ 13.17.2 (a & b) 13.17.3 (a) 13.17.4 (a) 13.17.5 (a, b, c, d)		√ 13.17.1 13.17.4 (b) 13.17.6	√ 13.17.3 (b) 13.17.4 (b)	

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/ INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
13.18	√ 13.18.1 13.18.2 13.18.4 13.18.5	√ 13.18.1 13.18.2 13.18.4 13.18.5		√ 13.18.3 13.18.6 13.18.7	√ 13.18.8 13.18.9	
13.19				√ 13.19.1 13.19.2 13.19.3 13.19.4	√ 13.19.5	√ 13.19.5
13.20				√ 13.20	√ 13.20	√ 13.20
	43 (30%)	43 (30%)	0	45 (31%)	11 (7%)	3 (2%)

CHAPTER FOURTEEN

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
14.1				√ 14.1.1	√ 14.1.2	√ 14.1.2
14.2	√ 14.2	√ 14.2				
14.3	√ 14.3.1 14.3.2 14.3.3	√ 14.3.1 14.3.2 14.3.3		√ 14.3.1 14.3.2 14.3.3		
14.4				√ 14.4.1 14.4.2 14.4.3 14.4.4 14.4.5 14.4.6 14.4.7		

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
14.5	√ 14.5.2 14.5.3 14.5.4 14.5.5 14.5.6 14.5.7 14.5.8 14.5.10	√ 14.5.2 14.5.3 14.5.4 14.5.5 14.5.6 14.5.7 14.5.8 14.5.10		√ 14.5.1 14.5.9 14.5.11		
14.6	√ 14.6.1 14.6.2 14.6.3 14.6.4 14.6.5 14.6.6 14.6.7 14.6.8 14.6.9 14.6.10 14.6.11 14.6.12 14.6.13	√ 14.6.1 14.6.2 14.6.3 14.6.4 14.6.5 14.6.6 14.6.7 14.6.8 14.6.9 14.6.10 14.6.11 14.6.12 14.6.13		√ 14.6.14 14.6.15 14.6.16 14.6.17		

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
14.7	√ 14.7.3 14.7.6	√ 14.7.3 14.7.6		√ 14.7.1 14.7.2 14.7.4 14.7.5 14.7.7 14.7.8 14.7.9 14.7.10		
14.8	√ 14.8.1 14.8.3 (a) 14.8.4 (a & b) 14.8.5 (c)	√ 14.8.1 14.8.3 (a) 14.8.4 (a & b) 14.8.5 (c)		√ 14.8.2 14.8.3 (b) 14.8.4 (a & b) 14.8.5 (a & b)		
14.9	√ 14.9.2 14.9.5 (a & b)	√ 14.9.2 14.9.5 (a & b)		√ 14.9.1 14.9.3 (a) 14.9.4 14.9.6	√ 14.9.3 (b) 14.9.6 (Part B)	
14.10	√ 14.10.2	√ 14.10.2		√ 14.10.1 14.10.3 14.10.4 14.10.5 (a)	√ 14.10.5 (b)	

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
14.11				√ 14.11	√ 14.11	√ 14.11
14.12	√ 14.12.2	√ 14.12.2		√ 14.12.1 14.12.3		
14.13	√ 14.13.1 (c) 14.13.4 (b)	√ 14.13.1 (c) 14.13.4 (b)		√ 14.13.1 (a & b) 14.13.2 (b) 14.13.3 14.13.4 (a, c, d)	√ 14.13.3	√ 14.13.2 (a) 14.13.4 (e)
	37 (29%)	37 (29%)	0	45 (35%)	6 (4%)	4 (3%)

CHAPTER FIFTEEN

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
15.1	√ 15.1.3	√ 15.1.3	√ 15.1.1	√ 15.1.2 15.1.4 15.1.5 15.1.6		
15.2				√ 15.2		√ 15.2
15.3			√ 15.3.2 15.3.3 15.3.4	√ 15.3.1		
15.4				√ 15.4.1 15.4.2	√ 15.4.3	
15.5				√ 15.5.1	√ 15.5.1	√ 15.5.2

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
15.6			√ 15.6.1 15.6.2 15.6.3 15.6.4 15.6.5 15.6.6 15.6.7 15.6.8 15.6.9	√ 15.6.4 15.6.6 15.6.10		
15.7			√ 15.7.1 15.7.2 15.7.3 15.7.4 15.7.5			
15.8			√ 15.8.1 15.8.2 15.8.3 15.8.4 (a)	√ 15.8.4 (b)		
15.9				√ 15.9.1 15.9.2 15.9.3 15.9.4 15.9.5 15.9.6 15.9.7		

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
15.10			√ 15.10.1 15.10.2 15.10.3			
15.11			√ 15.11.1 15.11.2 15.11.3	√ 15.11.4		
15.12				√ 15.12	√ 15.12	
15.13			√ 15.13.1 15.13.2	√ 15.13.3		
15.14			√ 15.14.1 15.14.2	√ 15.14.3 (a, b, c)		
15.15			√ 15.15.1	√ 15.15.2 (a, b, c)		
15.16	√ 15.16	√ 15.16				
15.17			√ 15.17			
15.18			√ 15.18			

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
15.19			√ 15.19.2 (a & b)	√ 15.19.1 (a, b, c)		√ 15.19.3
15.20					√ 15.20	
15.21				√ 15.21		
15.22				√ 15.22	√ 15.22	
15.23				√ 15.23.1 (a & b) 15.23.2		
15.24			√ 15.24.2 15.24.3 15.24.4 15.24.5	√ 15.24.1		
15.25			√ 15.25.1 15.25.2 15.25.3 15.25.4	√ 15.25.5 15.25.6 15.25.7	√ 15.25.8	

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
15.26	√ 15.26.1	√ 15.26.2	√ 15.26.3 15.26.4	√ 15.26.5		
15.27			√ 15.27.1 15.27.2	√ 15.27.3 15.27.4		
15.28			√ 15.28.3 (a, b, c, d) 15.28.4	√ 15.28.1 (a, b, c) 15.28.2 (a, b, c) 15.28.5		
15.29	√ 15.29.1 15.29.3		√ 15.29.2 15.29.4 15.29.5	√ 15.29.1 15.29.6 15.29.7 15.29.8 (a, b)		

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
15.30			√ 15.30.2 15.30.3	√ 15.30.1 15.30.3 15.30.4		
15.31			√ 15.31.1 15.31.2	√ 15.31.3 (a, b, c)		
15.32			√ 15.32			
15.33			√ 15.33.3	√ 15.33.1 15.33.2 15.33.4 15.33.5		
15.34					√ 15.34	
15.35	√ 15.35.1 15.35.4 (a)		√ 15.35.4 (b)	√ 15.35.2 (a, b) 15.35.3 (a, b, c) 15.35.5 (a, b)		

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
15.36	√ 15.36.1 15.36.2 15.36.4	√ 15.36.4	√ 15.36.5 (a, b, c)	√ 15.36.3		
15.37	√ 15.37	√ 15.37				
15.38	√ 15.38.2 (a, b) 15.38.3 (a, b, c, d, e, f, g)	√ 15.38.2 (a, b) 15.38.3 (a, b, c, d, e, f, g)	√ 15.38.1	√ 15.38.4		
15.39	√ 15.39.2	√ 15.39.2	√ 15.39.1 15.39.3			
15.40	√ 15.40.1 15.40.2 15.40.3 (a)	√ 15.40.1 15.40.2 15.40.3 (a)		√ 15.40.3 (b, c) 15.40.4 15.40.5 (a, b)		

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
15.41	√ 15.41.1 15.41.2 15.41.3 15.41.4	√ 15.41.1 15.41.2 15.41.3 15.41.4		√ 15.41.3 15.41.4 15.41.5 15.41.6 15.41.7		
15.42	√ 15.42.2 15.42.3 15.42.5 15.42.6 15.42.9 15.42.11	√ 15.42.2 15.42.3 15.42.6 15.42.9 15.42.11		√ 15.42.1 15.42.4 15.42.7 15.42.8 15.42.9 15.42.10 15.42.12 15.42.13 15.42.14 (a, b, c)	√ 15.42.1	
15.43	√ 15.43.1 (a, b, c, d) 15.43.3 (a)	√ 15.43.1 (a, b, c, d)	√ 15.43.3 (b, c)	√ 15.43.2 15.43.3 (d, e) 15.43.4		
15.44				√ 15.44	√ 15.44	

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
	29 (14%)	21 (10%)	65 (38%)	78 (32%)	9 (4%)	3 (2%)

CHAPTER SIXTEEN

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
Mid-year						
Quest 1	√ 1.1	√ 1.1	√ 1.2			
Quest 2	√ 2.1	√ 2.1	√ 2.2 2.3			
Quest 3	√ 3.2	√ 3.2	√ 3.1			
Quest 4				√ 4.1 4.2 4.3 4.4 4.5 4.6 4.7 4.8 4.9		

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
Quest 5	√ 5.6			√ 5.1 5.2 5.3 5.4 5.5 5.6 5.7 5.8	√ 5.5 5.8	
Year-end						
Quest 1			√ 1.1 1.5 1.7	√ 1.2 1.3 1.5 1.6 1.7	√ 1.4	
Quest 2	√ 2.1 2.3	√ 2.1 2.3	√ 2.2	√ 2.4	√ 2.5	

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
Quest 3	√ 3.1 3.3	√ 3.1 3.3	√ 3.2	√ 3.4 3.5 3.6 3.7		
Quest 4	√ 4.1 4.4	√ 4.1 4.4	√ 4.3 4.5	√ 4.2 4.6		
Quest 5	√ 5.2.1	√ 5.2.1	√ 5.1.3 5.2.2	√ 5.1.1 5.1.4 5.1.5 5.1.6 (a, b)	√ 5.1.2 5.1.6 (b, c)	

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATED</u>	<u>ANALYSE/INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
Quest 6	√ 6.1	√ 6.1	√ 6.2 6.3 6.4	√ 6.6	√ 6.6	
	6.5	6.5				
	13 (16%)	12 (15%)	16 (19%)	34 (41%)	7 (9%)	0

APPENDIX C: DATA ANALYSIS: NEW GENERATION

CHAPTER ONE

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATE D</u>	<u>ANALYSE/INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
1.1	√ 1. 2. 5. 6. 7. 8. (a, b)	√ 1. 2. 5. 6. 7. 8. (a, b)		√ 3. 4. 9.		
1.2	√ 2.	√ 2.		√ 1. 2. 3.		
1.3					√ 1.3	

1.4	√ 1. 2.	√ 1. 2.				
1.5	√ 1.5	√ 1.5				
1.6			√ 1.6			
1.7			√ 1.7			
1.8			√ 1.8			
1.9			√ 1.9			
1.10			√ 1.10			
1.11			√ 1.11			
1.12			√ 1.12			
1.13			√			

			1.13			
1.14			√ 1.14			
1.15			√ 1.15			
1.16				√ 1.16		
1.17	√ 1.17 (1.1, 1.2, 2, 3,4)	√ 1.17 (1.1, 1.2, 2, 3 4)	√ 1.17 (5, 6, 7, 8)			
1.18	√ 1.18 (1, 2, 3, 4, 6)	√ 1.18 (1, 2, 3, 4, 6)	√ 1.18 (5, 7, 8)			
1.19			√ 1.19 (1)	√ 1.19 (2)		
1.20			√ 1.20			
1.21	√ 1.21 Adj (1, 2, 3.2, 4, 6, 10, 11, 12)	√ 1.21 Adj (1, 2, 3.2, 4, 6, 10, 11, 12)	√ 1.21 (1)	√	√ 1.21 (2, 5)	

			1.21 Adj (3.1, 5, 7, 8, 9, 13, 14, 15)	1.21 (3, 4)		
1.22	√ 1.22 Adj (3, 7)	√ 1.22 Adj (3, 7)	√ 1.22 (1) 1.22 Adj (1, 2, 4, 5, 6, 8, 9, 10)	√ 1.22 (2, 3)		
1.23			√ 1.23			
1.24	√ 1.24 Adj (1, 5, 7, 8, 9)	√ 1.24 Adj (1, 5, 7, 8, 9)	√ 1.24 Adj (2, 3, 4, 6)			
1.25						
1.26			√ 1.26 (1)	√ 1.26 (2.1, 2.2 3.1, 3.2)		
1.27			√ 1.27			
1.28	√ 1.28 (3)	√ 1.28 (3)		√ 1.28 (1.1, 1.2, 1.3, 1.4, 2)		

	1.28 (4.5.1)	1.28 (4.5.1)		1.28 (4.1, 4.2, 4.3, 4.4, 4.5.2)		
1.29	√ 1.29 (1) 1.29 Adj (a, b, e, j)	√ 1.29 (1) 1.29 Adj (a, b, e, j)	√ 1.29 (2.1, 2.2) 1.29 Adj (c, d, f, g, h, i)	√ 1.29 (2.3)		
1.30			√ 1.30			
1.31			√ 1.31			
	19 (24%)	19 (24%)	26 (32%)	14 (17%)	2 (3%)	0

CHAPTER TWO

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATE</u> <u>D</u>	<u>ANALYSE/INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
2.1	√ 2.1	√ 2.1				
2.2			√ 2.2			
2.3				√ 2.3		
2.4			√ 2.4			
2.5			√ 2.5			
2.6			√ 2.6			
2.7			√ 2.7			
2.8			√ 2.8			

2.9			√ 2.9			
2.10			√ 2.10			
2.11			√ 2.11			
2.12			√ 2.12			
2.13			√ 2.13			
2.14			√ 2.14			
2.15			√ 2.15			
2.16			√ 2.16 (a)	√ 2.16 (b, c)		
2.17			√ 2.17 (1, 3.2)	√ 2.17 (2, 3.1, 3.3, 3.4)		
2.18			√ 2.18			

2.19			√ 2.19 (1)	√ 2.19 (2)		
2.20			√ 2.20 (1, 2)	√ 2.20 (3, 4)		
2.21	√ 2.21 (1)	√ 2.21 (1)		√ 2.21 (1) 2.21 (2, 3, 4)	√ 2.21 (3)	
2.22			√ 2.22 (1, 3, 4, 5.1, 5.2, 6)	√ 2.22 (2, 5.3)		
2.23			√ 2.23 (1, 2)	√ 2.23 (3)		
2.24			√ 2.24 (1, 2, 3)	√ 2.24 (4)		
2.25	√ 2.25 (2)	√ 2.25 (2)	√ 2.25 (1)	√ 2.25 (2)		
2.26			√			

			2.26			
2.27			√ 2.27 (1.1, 1.2, 1.3)	√ 2.27 (1.4)		
	3 (7%)	3 (7%)	24 (56%)	12 (28)	1 (2%)	0

CHAPTER THREE

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATE D</u>	<u>ANALYSE/INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
3.1				√ 3.1		
3.2				√ 3.2		
3.3				√ 3.3		
3.4				√ 3.4		
3.5				√ 3.5		
3.6				√ 3.6		
3.7				√ 3.7		
3.8				√ 3.8 (a, b, c)		
3.9				√ 3.9		

3.10				$\sqrt{3.10}$		
3.11				$\sqrt{3.11 (a, b, c, d)}$		
3.12				$\sqrt{3.12}$		
3.13				$\sqrt{3.13 (1, 2, 3)}$		
3.14				$\sqrt{3.14 (a, b)}$		
3.15				$\sqrt{3.15 (1, 2)}$		
3.16				$\sqrt{3.16 (1, 2, 3, 4, 5, 6, 7)}$		
3.17	$\sqrt{3.17}$	$\sqrt{3.17}$		$\sqrt{3.17}$		
3.18	$\sqrt{3.18 (1,4,5)}$	$\sqrt{3.18 (1, 4, 5)}$		$\sqrt{3.18 (2, 3, 6)}$		
3.19				$\sqrt{3.19 (1, 2, 3, 4, 5.1, 5.2)}$		

3.20	√ 3.20 (1.1, 1.2)	√ 3.20 (1.1, 1.2)		√ 3.20 (1.3) 2. 3. 4. 5. 6.2 6.3 7.2 7.3 7.4	√ 7.5 7.6	
3.21	√ 3.21 (1.1, 1.2)	√ 3.21 (1.1, 1.2)		√ 3.21 (1.3) 2. 3. 4. 5. 6.2 6.3 7.2 7.3 7.4	√	

					7.5 7.6	
3.22				√ 3.22		
3.23				√ 3.23 (1, 2, 3, 4)		
3.24			√ 3.24 (1.1, 1.2, 1.3)	√ 3.24 (2.1, 2.2, 2.3, 2.4, 3, 4, 5)		
3.25				√ 3.25 (1, 2, 3, 4)		
3.26				√ 3.26 (1, 2, 3, 4)		
	8 (12%)	8 (12%)	1 (2%)	44 (68%)	4 (6%)	0

CHAPTER FOUR

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATE</u>	<u>ANALYSE/INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
4.1	√ 4.1 (1)	√ 4.1 (1)		√ 4.1 (2, 3.1, 3.2)	√ 4.1 (3.3)	

	4.1 (3.4)	4.1 (3.4)				
4.2	√ 4.2 (1, 2, 3)	√ 4.2 (1, 2, 3)		√ 4.2 (4)		
4.3	√ 4.3 (3)	√ 4.3 (3)		√ 4.3 (2, 4)		√ 4.3 (1)
4.4				√ 4.4 (1, 4)	√ 4.4 (2)	√ 4.4 (3)
4.5				√ 4.5 (1, 2, 3, 4)		
4.6	√ 4.6 (1, 2, 3)	√ 4.6 (1, 2, 3)		√ 4.6 (1)	√ 4.6 (4)	
4.7				√ 4.7 (1, 2)	√ 4.7 (3, 4, 5)	
4.8	√ 4.8 (4)	√ 4.8 (4)		√ 4.8 (1, 3)	√ 4.8 (2)	

4.9	√ 4.9 (2, 3, 4)	√ 4.9 (2, 3, 4)		√ 4.9 (1, 2, 4)	√ 4.9 (3)	
4.10	√ 4.10 (1, 3)	√ 4.10 (1, 3)			√ 4.10 (2, 3)	
4.11	√ 4.11 (1, 3)	√ 4.11 (1, 3)		√ 4.11 (1)	√ 4.11 (2)	
4.12				√ 4.12		
4.13	√ 4.13	√ 4.13				
4.14				√ 4.14		
4.15	√ 4.15	√ 4.15				
4.16				√ 4.16		√ 4.16
	11 (24%)	11 (24%)	0	13 (28%)	8 (17%)	3 (7%)

CHAPTER FIVE

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATE D</u>	<u>ANALYSE/INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
5.1	√ 5.1 (2, 3)	√ 5.1 (2, 3)	√ 5.1 (1)	√ 5.1 (2, 4)		
5.2			√ 5.2 (1, 2, 3, 4, 5, 6)	√ 5.2 (7)		√ 5.2 (7)
5.3	√ 5.3 (3)	√ 5.3 (3)	√ 5.3 (1)	√ 5.3 (3) 5.3 (4)	√ 5.3 (4)	√ 5.3 (2) 5.3 (4)
5.4			√ 5.4 (1, 2, 3)	√ 5.4 (5)	√ 5.4 (6)	√ 5.4 (4)
5.5			√ 5.5 (1, 2)	√ 5.5 (3)		
5.6	√	√	√ 5.6 (1, 2, 4)	√		

	5.6 (5, 6)	5.6 (5, 6)		5.6 (3, 4, 5, 6)		
5.7	√ 5.7 (3)	√ 5.7 (3)	√ 5.7 (1, 2)	√ 5.7 (2, 3, 4)		
5.8			√ 5.8 (5)	√ 5.8 (1, 2, 3, 4, 6, 7, 8, 9)		√ 5.8 (8)
5.9			√ 5.9 (1)	√ 5.9 (2, 4)		√ 5.9 (3)
5.10	√ 5.10 (3.6)	√ 5.10 (3.6)	√ 5.10 (3.1, 3.2, 3.3, 3.4, 3.5)	√ 5.10 (3.5, 3.6)		
5.11			√ 5.11 (1, 2)	√ 5.11 (3, 4, 5)	√ 5.11 (5)	
5.12			√ 5.12 (1, 2)			√ 5.12 (3)

5.13				√ 5.13		
5.14				√ 5.14		
5.15				√ 5.15		
5.16	√ 5.16 (4, 5)	√ 5.16 (4, 5)	√ 5.16 (1, 2, 3)	√ 5.16 (4, 6)		
5.17			√ 5.17 (4a, 4b)	√ 5.17 (1, 2, 3, 5)		
5.18				√ 5.18	√ 5.18	
5.19			√ 5.19 (1, 3, 6, 7, 8, 9)	√ 5.19 (2, 4, 5)		√ 5.19 (10)
5.20			√ 5.20			
5.21			√			

			5.21			
5.22			√ 5.22			
	6 (10%)	6 (10%)	18 (29%)	19 (31%)	4 (7%)	8 (13%)

CHAPTER SIX

<u>TASK</u>	<u>RECALL</u>	<u>REORGANIS E</u>	<u>COMPLEX/ COMPLICATE D</u>	<u>ANALYSE/INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
6.1				√ 6.1		
6.2				√ 6.2		
6.3				√ 6.3		
	0	0	0	3 (100%)	0	0

CHAPTER SEVEN

<u>TASK</u>	<u>RECALL</u>	<u>REORGANIS E</u>	<u>COMPLEX/ COMPLICATE D</u>	<u>ANALYSE/INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
7.1			√ 7.1 (1.1, 1.2, 1.3,	√		

			1.4, 1.5, 1.6, 1.7)	7.1 (2.1, 2.2, 2.3)		
7.2			√ 7.2 (1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7)	√ 7.2 (2.1, 2.2, 2.3, 2.4)	√ 7.2 (2.4)	
7.3			√ 7.3 (1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7)	√ 7.3 (2.2)	√ 7.3 (2.1, 2.2)	
7.4			√ 7.4 (1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7)	√ 7.4 (2.1)	√ 7.4 (2.2)	
7.5			√ 7.5 (1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7)	√ 7.5 (2.1, 2.2)	√ 7.5 (2.1)	
7.6			√ 7.6 (1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7)		√ 7.6 (2.1, 2.2)	

7.7			√ 7.7			
7.8			√ 7.8			
7.9				√ 7.9 (1, 2)	√ 7.9 (1, 2)	
7.10			√ 7.10 (1.1, 1.2, 1.3, 1.4, 1.5, 1.6) 7.10 (2.1, 2.2, 2.3, 2.4, 2.5, 2.6)			
7.11				√ 7.11 (1, 2)		
7.12			√ 7.12 (2, 3)	√ 7.12 (1, 4, 5)	√ 7.12 (4)	
7.13	√ 7.13	√ 7.13		√ 7.13		
7.14			√ 7.14 (1.1, 1.2, 1.3, 1.4)	√ 7.14 (2)	√ 7.14 (2)	

7.15	√ 7.15 (1.1)	√ 7.15 (1.1)	√ 7.15 (1.2, 1.3, 1.4)	√ 7.15 (2, 3)	√ 7.15 (3)	
7.16			√ 7.16 (1.1, 1.2, 1.3)	√ 7.16 (1.4)		
	2 (5%)	2 (5%)	14 (36%)	12 (31%)	9 (23%)	0

CHAPTER EIGHT

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATE</u>	<u>ANALYSE/INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
8.1			√ 8.1			
8.2			√ 8.2			
8.3			√ 8.3			

8.4			√ 8.4			
8.5				√ 8.5 (1, 2, 6, 7)	√ 8.5 (3, 4, 5)	
8.6			√ 8.6 (3, 5)	√ 8.6 (1, 2, 3, 4)		
8.7			√ 8.7 (3)	√ 8.7 (1, 2, 4, 5, 6)	√ 8.7 (6)	
8.8	√ 8.8 (1, 2, 3, 4)	√ 8.8 (1, 2, 3, 4)	√ 8.8 (7, 8)	√ 8.8 (5, 6)		
8.9	√ 8.9 (1, 2, 3)	√ 8.9 (1, 2, 3)		√ 8.9 (4, 5, 6, 7, 8)		
8.10	√ 8.10 (1.1)	√ 8.10 (1.1)	√ 8.10 (1.2, 1.3)	√ 8.10 (1.4)		
8.11			√	√		

			8.11 (1.2, 1.3, 1.4)	8.11 (1.1, 1.3, 1.5, 1.6)		
8.12			√ 8.12 (2, 3)	√ 8.12 (1, 4.1, 4.2, 4.3)	√ 8.12 (4.1)	
8.13				√ 8.13		
8.14						
8.15	√ 8.15 (2, 6)	√ 8.15 (2, 6)	√ 8.15 (1, 4, 5)	√ 8.15 (3, 7, 8)	√ 8.15 (8)	
8.16				√ 8.16		
8.17				√ 8.17		
8.18			√ 8.18	√ 8.18		
8.19				√ 8.19		

8.20	√ 8.20 (1.2.1)	√ 8.20 (1.2.1)	√ 8.20 (1.2.2)	√ 8.20 (1.1, 1.2.1, 1.3)		
8.21	√ 8.21 (1)	√ 8.21 (1)	√ 8.21 (2)	√ 8.21 (1)		
8.22			√ 8.22			
8.23			√ 8.23 (1)	√ 8.23 (2, 3)	√ 8.23 (3)	
8.24				√ 8.24		
8.25			√ 8.25	√ 8.25		
8.26			√ 8.26	√ 8.26		
8.27	√ 8.27 (6.2)	√ 8.27 (6.2)	√ 8.27 (6.1, 7, 8)	√ 8.27 (1, 2, 3, 4, 5, 6.1, 6.2, 9)		

8.28			√ 8.28 (2)	√ 8.28 (1)		
8.29			√ 8.29 (3.1, 3.2)	√ 8.29 (1, 2, 4.1, 4.2)		
8.30			√ 8.30 (1.2, 1.3.1)	√ 8.30 (1.1, 1.3.2, 1.3.3, 1.4)		√ 8.30 (1.4)
	7 (11%)	7 (11%)	22 (33%)	24 (36%)	5 (8%)	1 (%)

CHAPTER NINE

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATE D</u>	<u>ANALYSE/INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
9.1			√ 9.1			
9.2				√ 9.2		

9.3			√ 9.3			
9.4				√ 9.4		
9.5	√ 9.5 (1)	√ 9.5 (1)	√ 9.5 (2, 3, 4)			
9.6			√ 9.6 (1, 2, 3)			
9.7			√ 9.7 (9, 10)	√ 9.7 (1, 2, 3, 4, 5, 6, 7, 8)		
9.8			√ 9.8 (1)		√ 9.8 (2, 3)	
9.9	√ 9.9 (2)	√ 9.9 (2)	√ 9.9 (1, 3.1)	√ 9.9 (2)	√ 9.9 (3.2, 3.3, 3.4)	
9.10	√ 9.10 (1.2) 9.10 (2.2)	√ 9.10 (1.2) 9.10 (2.2)	√ 9.10 (1.1)	√ 9.10 (1.2) 9.10 (2.2)	√ 9.10 (2.1, 2.3)	

9.11	√ 9.11 (1.2)	√ 9.11 (1.2)	√ 9.11 (1.1)	√ 9.11 (1.2) 9.11 (2)	√ 9.11 (2)	
9.12				√ 9.12		
9.13	√ 9.13 (1, 2, 3, 4)	√ 9.13 (1, 2, 3, 4)		√ 9.13 (5, 6, 7)		
9.14	√ 9.14	√ 9.14				
9.15			√ 9.15			
9.16			√ 9.16			
9.17			√ 9.17 (1)		√ 9.17 (2)	
9.18			√ 9.18 (3)	√ 9.18 (1, 2, 3,4)	√ 9.18 (4)	
9.19	√	√	√		√	

	9.19 (1.1)	9.19 (1.1)	9.19 (1.1, 1.2, 1.3, 1.4)		9.19 (1.5)	
	8 (17%)	8 (17%)	14 (29%)	11 (23%)	7 (14%)	0

CHAPTER TEN

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATE</u>	<u>ANALYSE/INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
10.1			√ 10.1			
10.2			√ 10.2			
10.3			√ 10.3 (1, 2)		√ 10.3 (3)	
10.4			√ 10.4 (1, 2)	√ 10.4 (2)		
10.5			√ 10.5 (1, 2)	√ 10.5 (3, 5, 6)	√ 10.5 (4)	

10.6			√ 10.6 (1, 2)	√ 10.6 (3)		
10.7			√ 10.7 (1, 2)	√ 10.7 (3, 4)		
10.8			√ 10.8 (1)	√ 10.8 (2)	√ 10.8 (3)	
10.9			√ 10.9			
10.10			√ 10.10			
10.11			√ 10.11	√ 10.11		
10.12			√ 10.12			
10.13			√ 10.13	√ 10.13		
10.14				√ 10.14		

10.15				√ 10.15 (1, 2)	√ 10.15 ((2)	
10.16	√ 10.16 (1)	√ 10.16 (1)	√ 10.16 (2.1, 2.2, 2.3)	√ 10.16 (2.4)		
10.17	√ 10.17 (1)	√ 10.17 (1)	√ 10.17 (2, 3, 4.1, 5.1)	√ 10.17 (5.2)	√ 10.17 (4.2)	
10.18			√ 10.18			
10.19			√ 10.19			
	2 (5%)	2 (5%)	17 (46%)	11 (30%)	5 (14%)	0

CHAPTER ELEVEN

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATE D</u>	<u>ANALYSE/INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
11.1			√ 11.1			
11.2			√ 11.2			
11.3			√ 11.3			
11.4			√ 11.4			
11.5			√ 11.5			
11.6			√ 11.6			
11.7			√ 11.7			
11.8			√ 11.8 (1)	√ 11.8 (2.2, 2.3)	√ 11.8 (2.1)	
11.9			√ 11.9 (1, 2, 7)	√ 11.9 (3, 4, 5, 6, 8, 9, 10,	√	

				11, 13)	11.9 (12, 13)	
11.10	√ 11.10 (5, 7.1)	√ 11.10 (5, 7.1)	√ 11.10 (3, 4, 6, 7.2, 8, 9, 12)	√ 11.10 (1, 2, 10.1, 10.2, 11)		
11.11				√ 11.11		
11.12			√ 11.12 (1.3, 1.5)	√ 11.12 (1.1, 1.2, 1.3, 1.4, 1.5)	√ 11.12 (1.6)	
11.13				√ 11.13 (1, 2, 3)	√ 11.13 (4)	
11.14			√ 11.14 (1.1, 1.2, 1.3, 1.4, 3.1, 3.2, 3.3)	√ 11.14 (3.4, 3.5, 4)		
11.15			√ 11.15 (1)	√ 11.15 (2, 3a, 4)	√ 11.15 (3a, 3b)	

11.16			√ 11.16 (1, 5.1, 7.1, 7.2)	√ 11.16 (2, 3, 4, 6, 7.3)	√ 11.16 (4, 5.2)	
11.17			√ 11.17 (1.1, 1.2, 1.3, 1.4, 1.5)	√ 11.17 (2.1, 2.2, 2.3)		
11.18			√ 11.18 (1.2, 1.3, 1.4, 1.6, 1.7)	√ 11.18 (1.1, 1.2, 1.4, 1.5)		
11.19			√ 11.19 (1.1, 1.2, 1.3, 1.4, 1.5)	√ 11.19 (1.1, 1.6)	√ 11.19 (1.7)	
	1 (3%)	1 (3%)	17 (45%)	12 (31%)	7 (18%)	0

CHAPTER TWELVE

<u>TASK</u>	<u>RECALL</u>	<u>REORGANISE</u>	<u>COMPLEX/ COMPLICATE D</u>	<u>ANALYSE/INTERPRET</u>	<u>SYNTHESISE/PROBLEM SOLVE</u>	<u>EVALUATE</u>
Mid-year Quest 1						
Part A				√ (1.1, 1.2, 1.3.2, 1.4, 1.5, 1.6)	√ (1.3.1, 1.7)	
Part B			√ (1.11)	√ (1.8, 1.9, 1.10)		
Quest 2			√ (2.1, 2.2, 2.3)	√ (2.4, 2.5)		
Quest 3						
Part A			√ (3.1, 3.2.1, 3.2.2, 3.3)	√ (3.2.3)		
Part B				√	√	

				(3.4, 3.5, 3.6, 3.7, 3.8)	(3.9)	
Quest 4			√ (4.1, 4.2, 4.3, 4.4.1)	√ (4.4.2. 4.5, 4.6)		
Quest 5						
Part A			√ (5.1.3)	√ (5.1.1, 5.1.2, 5.1.4, 5.1.5)		
Part B			√ (5.2.2, 5.2.6, 5.2.7)	√ (5.2.1, 5.2.3, 5.2.4, 5.2.5)		
Prep Exam						
Quest 1	√ (1.1, 1.3.1)	√ (1.1, 1.3.1,)	√ (1.2.1)	√ (1.2.2, 1.2.3, 1.3.1, 1.3.2, 1.3.3)		
Quest 2			√ (2.3)	√ (2.1, 2.2, 2.4, 2.5)		
Quest 3						
3.1			√ (3.1)			

3.2	√ (3.2.1, 3.2.2)	√ (3.2.1, 3.2.2)	√ (3.2.3, 3.2.4)		√ (3.2.5)	
Quest 4	√ (4.7)	√ (4.7)	√ (4.1, 4.2, 4.3, 4.4, 4.6.1)	√ (4.5, 4.6.2, 4.6.3, 4.7)		
Quest 5			√ (5.1.1, 5.1.2, 5.1.3)			
Quest 6			√ (6.2, 6.3, 6.4, 6.5)	√ (6.1)		
	3 (9%)	3 (9%)	13 (38%)	12 (39%)	3 (35%)	0

APPENDIX D: ANALYSIS OF ACTIONS EXAMPLE

The students were asked to read the article below and answer the questions that follow:

JSE LOOKS AT ALL JOY AFTER AUDITORS QUIT

Business Report January 12, 2006

By Samantha Enslin

Durban - All Joy, the AltX-listed sauce maker, is being investigated by the JSE following the resignation of its auditors, Horwath Leveton Boner, which lodged a complaint with the Public Accountants and Auditors Board (PAAB) regarding a material irregularity at All Joy.

Now All Joy has upped the ante by pointing the finger back at Horwath, saying it would investigate why standard auditing procedures were not performed and, if necessary, would take legal action against the party responsible.

Horwath reported a material irregularity to the PAAB late last year after it emerged that All Joy had overstated its earnings for 2004 and 2005. This was due to what All Joy referred to as accounting errors, which resulted in trade receivables being overstated.

As a result, after-tax profit for the year to February 2005 dropped by R295 747 to R1.89 million and in the previous year after-tax profit slumped by R711 276 to R1.4 million.

Marci Pather, All Joy's chief executive, said: "The auditors resigned due to a break-down in the relationship. Some All Joy directors felt the auditors, who have worked for All Joy for eight years, should have been held responsible for the accounting error."

All Joy has now appointed ARC Chartered Accountant and Auditors. The PAAB has no power to investigate material irregularities in companies, but it is obliged to refer these matters to the relevant body.

In the case of All Joy, Noah Greenhill, who is responsible for business development at the JSE, said: “We are investigating all allegations against All Joy. A complaint has been laid by a related party. We are at the starting block of our investigation.”

Greenhill could not say how long the investigation would take. All Joy is adamant there has been no wrong doing: “The forensic auditors {which were appointed last year} fully investigated all relevant matters ... which indicated that the accounting errors were not an intentional misstatement by management and that there is no basis for contending any alleged material irregularity as indicated by Horwath.”

All Joy also said: “The forensic auditors report also indicated that standard auditing procedures should have prevented the accounting error.”

The exact nature of the material irregularity is unclear but the implications of it have been damaging for All Joy. A proposed deal with Retailer Brands was scuppered after Horwath refused to sign off the circular to shareholders. As a result of the Retailer Brands acquisition falling apart, a deal with Ehlobo Foods also unravelled.

Alistair Ruiters, the former Director-General of Trade and Industry, and Rafique Bagus, the former head of Trade and Investment SA, sold Ehlobo Foods to All Joy for R20 million last year.

But the Ehlobo deal was contingent on the successful merger of All Joy and Retailer Brands. Ruiters and Bagus have now resigned as chairman and director, respectively, from All Joy. Yesterday All Joys’s share price was unchanged at 84c.

1. Why are the auditors unhappy with All Joy?
2. Why is All Joy unhappy with their auditors?
3. What is the PAAB and why are they involved in this case?
4. What is the JSE and why are they involved in this case? Why does the article refer to the share price in the last paragraph?
5. In your opinion, are the auditors correct in the action which they took? Explain your reasons.

APPENDIX E: ANALYSIS OF PROVIDED INFORMATION

EXAMPLE

This question asks the learners to make strong analysis of the facts provided in the question. The example question is presented below.

CASH BUDGET OF “THE TRENDY STORE” FOR JULY AND AUGUST 2009

	July 2009	August 2009
RECEIPTS:		
Cash sales	144 000	(a)
Collections from debtors	43 000	(c)
Fixed deposit (1 August 20.9)		20 000
Interest on fixed deposit @ 12% p.a.	500	(e)
Other cash incomes	?	?
PAYMENTS:		
Stock purchased for cash	(b)	61 600
Payments to creditors	(d)	91 260
Rent	20 000	21 800
Consumable stores & stationery	11 000	11 000
Advertising expense	4 000	4 000
Deposit for purchase of new computer equipment	5 000	-
Instalment payments – Computer equipment (5 equal instalments)		7 000
Salary – Shop manager	(f)	13 680
Salary – Sales assistant	5 000	5 275
Interest on overdraft	1 468	
Other Cash Operating expenses	?	?
Surplus/(Shortfall) for the month	(32 550)	14 495
Bank Balance at beginning of the month	16 820	?

Bank Balance at end of the month	(15 730)	(g)
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According to the cash budget. The sales assistant of The Trendy Store is due for a salary increase on 1 August 2009.

- a). Do you think that she is likely to be satisfied with the proposed salary increase? Provide two different reasons to support your opinion.
- b). Comment on what you think was the reason management decided on this salary increase.
- c). Refer to the Cash Budget and briefly explain what the plan is with regard to the Fixed Deposit on 1 August 2009.

APPENDIX F: PROBLEM EVALUATION EXAMPLE

The following information pertains to BB Morning Cereals who manufacture a wide range of breakfast cereals. Study each separate situation and:

- Indicate whether you think a problem exists or not.
 - Whether the problem relates to an internal control or ethical matter.
 - Give a recommendation as to how the situation should be handled.
-
- The production manager has recommended that the quantity of each cereal box be reduced by 10g. However, the labelling on the box will not indicate this situation.
 - All cereal boxes have certain preservatives in order to prolong the life span of the cereal. An alternative supplier has approached BB Morning Cereals with a different preservative. The benefit of this is that the costs will be reduced by 3.5%. However, this product has been banned in many countries of the world due to health risks, especially amongst children.
 - As part of their salary package each worker has always received a certain amount of cereals each month. Management has decided to stop this with immediate effect. They do not intend increasing their wages and salaries to compensate for this.
 - Demand for the product has been increasing to the extent that the factory workers are working on an average about 20 hours overtime a month. In the past the factory has paid them one and half times their normal wage for overtime. Management has decided to stop paying workers overtime and instead that told the staff that they will have to work extra hours each day to make up this time, at no extra pay.
 - Due to the increase in the price of petrol last month, BB Morning Cereals increased their selling price of the cereal. The price of petrol has been reduced by 10% from this month. Management have decided not to decrease the selling price of the cereal.
 - Legislation requires all manufacturers to indicate on the box the contents and to detail out all preservatives. BB Morning Cereal has decided to ignore this law and has written on the box that the cereal is preservative free.

- Several customers have returned their full stock of cereal as the packaging is so weak that the boxes are opening, and the cereal is spilling all over the floor.
 - You discover that ten staff members appear on the salary register and have been drawing salaries for the last year, but these people do not exist.
 - The staff was allowed one bowl of cereal each morning before they start work. The amount of cereal being written off to this staff account has been increasing over the last six months, although the number of staff has remained more or less constant.
- Management have paid a local soccer hero large amounts of money to advertise the cereal by saying that since eating this cereal he has reached the heights he has. The soccer player in question does not eat cereal.

APPENDIX G: STAKEHOLDER EVALUATION EXAMPLE

Consider the scenarios below relating to KAOS Ltd, and consider the following stakeholders of the company:

- Shareholders
- Directors
- Internal auditors
- Independent (external) auditors
- Level 2 managers
- Level 1 employees
- Lenders
- Suppliers
- SARS

Required: Decide who should be held accountable in each case.

Scenarios

- The manager responsible for buying stock orders only from one supplier. In return for this favourable treatment, he requires the supplier to pay R100 000 into his private bank account each year. The supplier has paid for the past four years.
- A director is too busy to pick up a special client at the airport. He tells a Level 1 employee to do this for him. The Level 1 employee forgets, as a result the company loses the client which means that the company loses business of R500 000 per year.
- The wages clerk has created fictitious employees. Each month he draws and collects cash in respect of their wages. He needs the co-operation of the cashier to do this and shares the proceeds with her.
- Two of the directors have perpetrated fraud of R800m in the company over the past five years. Note that 5% of the shareholders attend AGM each year.

1. A director raises a loan of R1m with a financial institution on behalf of the company. He has no authority to do so, but the financial institution provides the loan anyway. The director tells the accountant that an error has been made and the R1m must be repaid to him. The accountant arranges for a cheque to be made out to the director.
2. The Level 1 salesmen earn commission on sales. They sell goods on credit to people who cannot settle their debts.
3. The petty cashier has made out fictitious vouchers for the past five years amounting to R50 000.
4. The internal auditor delegates the physical count of trading stock to a Level 1 clerk in his department. The Level 1 clerk keeps including stock which is very old, outdated and can never be sold. The assets in the Balance Sheet are overstated by R500 000.

APPENDIX H: EVALUATION EXAMPLE

Study the information and answer the questions that follow.

Sue's Cultural Dress Shop is situated in Ladysmith and is solely owned by Sue. She has been satisfied with the results of her business to date. Within the next 3 months she will need to move premises and the business is required to make a loan repayment of R100 000. Sue is confident that she will have no problem in meeting these commitments.

The reasons for her confidence are:

- There is R56 000 in the bank now and profits over the next 3 months will improve their cash balance.
- Her creditors have allowed her 60 days to settle her accounts, but she has made a point of settling them much earlier in order to develop a good reputation for her business.
- She has granted her debtors' terms of 30 days, but some of them are slow in paying. She is confident that she can rectify this minor problem.
- She aims to keep between 2 and 3 months' stocks on hand at all times in order to meet the needs of her customers.

Sue has provided you with certain information concerning her business. Being an expert in accounting, you do not share Sue's confidence about her liquidity position.

Information:

1. The following figures were extracted from the financial statements at the year-end, 28 February:

	20.9	20.8
Sales (half are on credit)	1 152 000	
Cost of Sales	768 000	
Interest on loan (16% p.a.)	37 200	
Bad debts	20 000	
Other overhead expenses	180 000	
Inventories (all trading stock)	170 000	150 000
Accounts receivable (all trade debtors)	60 000	76 000
Cash	62 000	30 000
Trade creditors	58 182	78 182
Loan: Current portion	100 000	90 000
Loan: Long-term portion	110 000	210 000

Required:

Sue is hoping to place a full-page colour advertisement in the local press for the entire month of March and she is hoping to open a second shop in Harrismith in June.

1. In your opinion, should she continue to pursue her plans?
2. What advice would you offer to solve her cash flow problems?

APPENDIX I: REPORT WRITING EXAMPLE

The Berea Hockey Club management has requested your assistance in analysing the actual figures for the year ended 30 October 2008 against the club's budget that was prepared a year ago.

Required:

Write a report in which you identify problem areas and give them advice on how to improve the situation.

Information:

- In 2007 the club had 6 teams that played league, consisting of about 100 players.
- Subscriptions (membership fees) for 2007 were R150 per person for the season.
- For the year 2008, the committee decided to increase the number of teams to 8 and thus went on a recruitment campaign to get new members to join the club.
- All new members had to pay an entrance fee of R300.
- Membership fees for the year 2008 were set at R180 per person per season.

- The following figures have been presented to you:

ACTUAL FIGURES AGAINST THE BUDGET FIGURES OF BEREHA HOCKEY CLUB FOR THE YEAR ENDED 30 OCTOBER 2008

RECEIPTS	BUDGET FIGURES	ACTUAL FIGURES
Fee income	25 200	18 900
Entrance fees	12 000	6 000
Sponsorship	50 000	26 000
Refreshment sales	18 000	14 000
Total Receipts	105 200	64 900
PAYMENTS		
Refreshments bought	12 000	12 000
Wages of caretaker	36 000	42 000
Security	1 800	3 600
Kit and hockey balls	15 000	20 000
Team ties	2 800	2 800
Annual awards dinner	30 000	38 000
Total Payments	97 600	118 400
Surplus (Deficit)	7 600	(53 500)
Opening bank balance	5 000	
Closing bank balance	12 600	

APPENDIX J: ADVICE CREATION EXAMPLE

During the investigation it came to light that Annie has been taking the off-cuts home to make her own toys that she is selling at half the price in her community. However, as her orders increased she would slip larger and larger off-cuts out of the factory. She has always brought a large bag to work so that she can carry her lunch and water for the day and she has been putting the 'off-cuts' in her bag when she leaves.

During the investigation Barney has discovered that Annie's son is critically sick and besides high medical bills also needs a care-giver to look after him while Annie is at work. Annie has been making and selling the toys to help pay the costs as her salary is not enough.

When Barney discussed this with Annie she said that she knew that Barney had obtained this large order from overseas and was therefore making much larger profits and she did not think it would be a problem if she just took the 'off-cuts' and she had a desperate need.

Barney is traumatised about this situation as Annie is one of his best workers and he was unaware of the problem with her son. He is therefore considering just 'forgetting' it and let things go on as before. However, he has asked for your opinion.

Give Barney advice in which you address the following issues:

- The ethical issues at stake.
- Reasons for and against just 'forgetting it.'
- Advice on what to do.

APPENDIX K: CREATION EXAMPLE

Emptron is a home decor business which is owned by Mr B. Tiler. He buys all his stock for cash from local suppliers. He sells for cash and on credit. He grants 30 days credit to approved customers.

At month-end the person in charge of debtors, Ms Blunt, compiled the Debtors List and posted to the Debtors Control account. She was extremely surprised when she discovered that the total of the Debtors List did not correspond with the balance of the Debtors Control account.

She was even more surprised when the owner, Mr Tiler, informed her that she was not monitoring payments made by debtors. While about 50% of the debtors were paying on time, he noted that some were making payments long after the credit terms of 30 days. He identified some accounts that were overdue for almost 90 days.

Ms Blunt worked hard to get the Debtors List to balance with the Debtors Control account. She discovered that there were several errors and omissions in both the Debtors Ledger and the Debtors Control account. On completion of the reconciliation, she sent a stern letter of demand by email to all the debtors of Emptron.

Questions:

- Could the above scenario lead to Emptron experiencing liquidity problems? Explain.
- Identify any 3 possible errors/omissions made by Ms Blunt that may have resulted in the Debtors List not being in balance with the Debtors Control.
- Indicate ways to prevent the recurrence of the above errors/omissions in the future.
- Is it possible that Ms Blunt could be committing fraud? Explain fully.
- Comment on the decision by Ms Blunt to send the email to all debtors. Was this the best way to solve the problem? Your answer must include moral/ethical issues, good business practice and any other views you may have.