UMALUSI

Council for Quality Assurance in
General and Further Education and Training

Predictability of the National Senior Certificate Examinations

Overview Report

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37 General Van
Ryneveld Street,
Persequor
Technopark, Pretoria

Telephone: 27 12 3491510

Email: info@umalusi.org.za • Web: www.umalusi.org.za

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Name and Surname	Subject
Ms Karlien Brimecombe	Accounting
Ms Cherylleen Gordon	Business Studies
Mr Themba Kenneth Ngwana	Economics
Mr Obed Komape	Geography
Ms Paballo Mercy Khambule	History
Ms Kate Mmankae Moshwadiba	Life Sciences
Ms Thandeka Tilana	Mathematical Literacy
Mr Phathumusa Mdladla	Mathematics
Mr Furniture Selahle	Physical Sciences
Ms Nandipha Nonkwelo	English FAL

EXECUTIVE SUMMARY

Introduction and Background

The credibility of the National Senior Certificate (NSC) depends fundamentally on the integrity, validity and fairness of its examination system. As South Africa's most prominent school-leaving qualification, the Education systems worldwide rely on high-stakes qualifications to regulate access to higher education and employment. In South Africa, this role is fulfilled by the NSC, which regulates access to higher education, training opportunities and employment. Due to the high stakes associated with the NSC, any factors that may compromise the integrity of its assessment design warrant careful scrutiny.

Recent upward trends in learner performance in certain NSC subjects have prompted important questions. While these trends may reflect genuine improvements in teaching and learning, they may also signal increasing predictability in examination design. Excessive predictability in high-stakes assessments can narrow curriculum coverage, encourage rote learning, inflate performance outcomes and undermine construct validity.

In response to these concerns, Umalusi initiated an investigation into the predictability of selected NSC final examination papers administered between 2022–2024.

Research Purpose and Scope

The purpose of the study was to determine whether identifiable patterns in NSC examination design contributed to unacceptable predictability and whether upward performance trends could plausibly be associated with recurring assessment structures, rather than genuine gains in learner competence.

The study analysed ten high-enrolment subjects across two assessment bodies, the Department of Basic Education (DBE) and the Independent Examinations Board (IEB). English First Additional Language (FAL) was analysed for the DBE only.

The analysis focused on patterns across six dimensions:

- Topic coverage
- Content coverage within topics
- Topic weighting
- Variation in item types
- Subtopic–skill-pairing
- Scenario and contextual framing

Predictability was evaluated in relation to curriculum alignment and principles of content and construct validity. Acceptable predictability refers to alignment with prescribed standards and examination structures. Unacceptable predictability refers to recurring design patterns that increase the likelihood that examination content can be anticipated.

Method Overview

A qualitative document analysis approach was employed. Subject experts systematically evaluated November final examination papers for the years 2022, 2023 and 2024, using a structured evaluation instrument developed from a purpose-designed, conceptual framework.

The analysis incorporated longitudinal comparison across examination cycles to identify repetition patterns in content selection, item construction, skill-pairing, weighting stability and contextual framing.

Key Findings

a) No evidence of systemic predictability

Across the majority of sampled subjects in both the DBE and IEB systems, no evidence of unacceptable predictability was identified during the 2022–2024 period.

The subjects Accounting, Business Studies, Economics, Geography, History, Life Sciences, Mathematical Literacy and Physical Sciences demonstrated:

- Appropriate variation in subtopic selection
- Balanced distribution of cognitive demand
- Diverse item types and contextual framing
- Adequate rotation of skill–content pairings

While structural consistency aligned with the requirements of the curriculum and assessment policy statement (CAPS) was evident (and expected), variation within that framework was sufficient to prevent the development of predictable examination patterns. This indicates that predictability during the review period was limited, and not systemic, within the NSC examination system.

b) Subject-specific areas of concern (DBE)

Two targeted vulnerabilities were identified within the DBE examination system:

(i) Mathematics (Papers 1 and 2)

Both Mathematics papers demonstrated unacceptable predictability across multiple dimensions, including:

- Repeated subtopic selection
- Stable and recurring topic weightings
- Repetition of item types
- Consistent topic–skill-pairing
- Familiar scenario framing

The cumulative effect of these recurring patterns narrowed the range of constructs assessed and increased the likelihood that candidates could anticipate examination focus areas based on prior papers. This creates potential risk to construct validity and may advantage candidates relying heavily on past-paper rehearsal.

(ii) English First Additional Language (FAL) (Paper 3)

English FAL Paper 3 demonstrated predictable patterns in:

- Topic–skill-pairing
- Repetition of writing task types
- Recurring contextual scenarios (e.g., diary entries, obituaries)

Given that Paper 3 assesses productive writing skills, recurring task types may encourage mechanical preparation and reduce differentiation of learner performance.

No comparable concerns were identified in the IEB examination papers reviewed.

Table A: Summary of key findings on the predictability of the DBE and IEB NSC examinations over the period 2022–2024

Subject	Unacceptable predictability identified per assessment body	
	DBE	IEB
Accounting	None on all question papers	None on all question papers
Business Studies	None on all question papers	None on all question papers
Economics	None on all question papers	None on all question papers
Geography	None on all question papers	None on all question papers
History	None on all question papers	None on all question papers
Life Sciences	None on all question papers	None on all question papers
Mathematical Literacy	None on all question papers	None on all question papers
Mathematics	Unacceptable predictability on subtopic selection, topic weightings, item types, topic skill-pairings and scenario framing for both Papers 1 and 2.	None on all question papers
Physical Sciences	None on all question papers	None on all question papers
English FAL	None on Papers 1 and 2. Paper 3 was found to be predictable.	

Overall Judgement

Based on the evidence analysed, Umalusi concludes that:

- The NSC examination system did not exhibit systemic unacceptable predictability during the 2022–2024 review period.
- Identified vulnerabilities were subject specific and design related, rather than structural weaknesses in the overall system.
- These issues are correctable through strengthened moderation protocols and deliberate diversification strategies.

The findings affirm the overall integrity of the NSC while identifying targeted areas requiring intervention to preserve long-term assessment credibility.

Strategic Implications

The study reinforces the importance of:

- Maintaining deliberate variability within curriculum-aligned structures.
- Guarding against cumulative repetition across examination cycles.
- Monitoring topic weighting stability over time.
- Ensuring balanced assessment of higher-order cognitive skills.
- Preventing the emergence of examination-driven narrowing of teaching and learning.

Sustained attention to these areas will protect the validity, fairness and public confidence in the NSC.

Recommendations

1. DBE Mathematics

- Institutionalise systematic rotation of subtopics across examination cycles.
- Introduce deliberate variability in topic weighting.
- Diversify item types and skill–content pairings.
- Strengthen contextual innovation in question framing.
- Incorporate longitudinal predictability monitoring into moderation processes.

2. DBE English FAL Paper 3

- Broaden the range of writing genres and task types.
- Avoid repetition of similar scenario framing across cycles.
- Increase variability in skill–genre pairing.

3. System-level safeguards

- Embed predictability audits within standardisation and moderation procedures.
- Develop internal monitoring mechanisms to track recurring design patterns across years.
- Maintain structured alignment with CAPS while ensuring sufficient design variability to safeguard construct validity.

Structure of the Overview Report

Chapter 1 introduces the policy, assessment and quality-assurance context of the NSC, situating the study within Umalusi's mandate to safeguard examination credibility. It motivates the investigation by linking recent upward performance trends to concerns about examination predictability in high-stakes assessments. The chapter outlines the problem statement, purpose, objectives and research questions and presents the conceptual framework used to distinguish between acceptable and unacceptable predictability, grounded in content and construct validity. It concludes with a focused review of relevant literature, highlighting international and local debates on predictability, transparency and assessment integrity.

Chapter 2 outlines the research design and methodological procedures employed in the study. It describes the qualitative document analysis approach used to examine NSC examination papers across multiple examination cycles. The chapter details the selection of subjects, examination bodies and years under review, as well as the process followed by subject specialists in applying the evaluation instrument. It also explains how data were analysed longitudinally to identify recurring patterns in topic coverage, item types, topic weighting, skill–content pairing and contextual framing.

Chapter 3 presents the findings of the analysis, organised by subject and examination body. It reports on identified patterns of stability and variation in

examination design across the review period and evaluates these patterns in relation to principles of validity and curriculum alignment. The chapter discusses areas where predictability was found to be within acceptable limits, as well as subjects where recurring patterns raised concerns. These findings are interpreted in relation to the broader assessment context, with attention to their implications for teaching, learning and examination credibility.

Chapter 4 synthesises the key findings of the study and presents Umalusi's overall judgement regarding the extent of predictability in the NSC examination system during the period under review. It reflects on the implications of the findings for the integrity and credibility of the qualification. The chapter concludes with targeted recommendations aimed at strengthening examination design, moderation practices and monitoring mechanisms. These recommendations are intended to support sustained assessment quality while maintaining appropriate alignment with curriculum requirements.

Conclusion

In conclusion, the investigation into the predictability of NSC question papers for the period 2022–2024 indicates that, overall, both the DBE and IEB examination systems largely maintained acceptable levels of predictability across most subjects. The absence of unacceptable predictability in the majority of subjects suggests that examination design generally upheld principles of validity, fairness and adequate curriculum coverage. However, the findings also reveal targeted areas of concern within the DBE system, notably in Mathematics Papers 1 and 2 and English FAL Paper 3, where recurring patterns in content selection, item types, task structures and contextual framing increased the likelihood of predictability.

These subject-specific issues highlight the need for deliberate diversification and rotation strategies in examination design to prevent teaching and learning from becoming overly examination driven. Importantly, the lack of comparable concerns across the IEB examinations suggests that predictability is not a systemic feature of the NSC but, rather, a manageable design issue in specific subjects. Addressing these identified areas will strengthen the credibility and integrity of the NSC examinations and ensure that they continue to validly assess the full range of intended knowledge and skills.

Table of Contents

EXECUTIVE SUMMARY vi

INTRODUCTION AND BACKGROUND vi

RESEARCH PURPOSE AND SCOPE vi

LIST OF FIGURES AND TABLES xvi

ACRONYMS AND ABBREVIATIONS xviii

PART I: THE CONTEXT 1

CHAPTER 1 1

PART II: RESEARCH DESIGN 12

CHAPTER 2 12

PART III: THE RESEARCH FINDINGS 19

CHAPTER 3 19

FINDINGS FROM THE EVALUATION OF THE DBE AND IEB QUESTION PAPERS 19

PART III (A): DBE 22

PART III (B): IEB 41

PART IV: DISCUSSIONS, CONCLUSIONS AND GENERAL RECOMMENDATIONS 56

..... 56

REFERENCES 62

LIST OF FIGURES AND TABLES

Table A: Summary of key findings on the predictability of the DBE and IEB NSC examinations over the period 2022–2024 x
Figure 1: Conceptual framework for evaluating predictability in high-stakes examinations 5
Figure 2: Table used to evaluate topic coverage, item types, assessed skills and weighting across examination years (2022–2024) 15
Table 3.1: Findings on the predictability of the DBE Accounting examinations over the period 2022–2024 22
Table 3.2: Findings on the predictability of the DBE Business Studies examinations over the period 2022–2024 24
Table 3.3: Findings on the predictability of the DBE Economics examinations over the period 2022–2024 25
Table 3.4: Findings on the predictability of the DBE Geography examinations over the period 2022–2024 27
Table 3.5: Findings on the predictability of the DBE History examinations over the period 2022–2024 29
Table 3.6: Findings on the predictability of the DBE Life Sciences examinations over the period 2022–2024 30
Table 3.7: Findings on the predictability of the DBE Mathematical Literacy examinations over the period 2022–2024 32
Table 3.8: Findings on the predictability of the DBE Mathematics examinations over the period 2022–2024 34
Table 3.9: Findings on the predictability of the DBE Physical Sciences examinations over the period 2022–2024 36
Table 3.10: Findings on the predictability of the DBE English FAL examinations over the period 2022–2024 38
Table 3.11: Findings on the predictability of the IEB Accounting examinations over the period 2022–2024 41

Table 3.12: Findings on the predictability of the IEB Business Studies examinations over the period 2022–2024 43
Table 3.13: Findings on the predictability of the IEB Economics examinations over the period 2022–2024 44
Table 3.14: Findings on the predictability of the IEB Geography examinations over the period 2022–2024 45
Table 3.15: Findings on the predictability of the IEB History examinations over the period 2022–2024 47
Table 3.16: Findings on the predictability of the IEB Life Sciences examinations over the period 2022–2024 49
Table 3.17: Findings on the predictability of the IEB Mathematical Literacy examinations over the period 2022–2024 50
Table 3.18: Findings on the predictability of the IEB Mathematics examinations over the period 2022–2024 52
Table 3.19: Findings on the predictability of the IEB Physical Sciences examinations over the period 2022–2024 54

ACRONYMS AND ABBREVIATIONS

CAPS	Curriculum Assessment Policy Statements
DBE	Department of Basic Education
FAL	First Additional Language
FET	Further Education and Training
GFETQSF	General and Further Education and Training Qualifications Sub-framework
IEB	Independent Examinations Board
IELTS	International English Language Testing System
MCQ	Multiple Choice Question/s
NQF	National Qualifications Framework
NSC	National Senior Certificate
SACAI	South African Comprehensive Assessment Institute
SAG	Subject Assessment Guidelines

PART I: THE CONTEXT

CHAPTER 1

1.1. Introduction

Education systems across the world depend on high-stakes qualifications to regulate entry into higher education and the workforce. In South Africa, this role is fulfilled by the National Senior Certificate (NSC). The NSC is registered at Level 4 of the National Qualifications Framework (NQF), situated within the General and Further Education and Training Qualifications Sub-framework (GFETQSF). It is overseen by Umalusi, the quality assurance body responsible for maintaining its standards.

Beyond certifying school completion, the NSC is intended to meet national developmental needs, foster individual advancement and contribute to broader societal progress. The NSC serves as a bridge between the Further Education and Training (FET) phase, tertiary institutions and the labour market. Its outcomes directly influence learners' opportunities, making it one of the most consequential assessments in the country.

To ensure credibility, Umalusi employs rigorous quality assurance processes, including the moderation of examination papers. Yet, recent upward trends in learner performance in certain subjects have raised questions about whether these improvements reflect genuine skill acquisition or increasing predictability in the NSC examinations.

Concerns about predictability in high-stakes assessments are well-documented internationally. Ma and Chong (2022), in their study of the International English Language Testing System (IELTS), identified test format, support materials and performance expectations as factors contributing to

predictability. While predictability can enhance transparency, they caution that excessive predictability narrows the curriculum, fosters rote learning and undermines the assessment of intended competencies. Similarly, Hu and Trenkic (2021) argue that predictable examinations risk inflating scores without improving underlying skills. These findings highlight the tension between transparency and validity in assessment design.

South Africa is not immune to these challenges. The upward performance trends in NSC subjects have prompted concerns that examinations may be overly predictable, potentially compromising the qualification's credibility and the global competitiveness of its candidates. If predictability is found to be a significant factor, it could undermine the emphasis on critical learning and analytical engagement of the NSC.

In response to these concerns, Umalusi initiated an investigation into the predictability of NSC final examination papers across selected subjects for the period 2022–2024. This study seeks to determine whether NSC examinations exhibit patterns of predictability that could narrow the curriculum and weaken the integrity of the qualification.

The findings will provide stakeholders with evidence-based insights and guide recommendations to strengthen quality assurance practices, thereby safeguarding the validity, credibility and effectiveness of the NSC. Furthermore, this study extends beyond the South African context, contributing to the global discourse on assessment validity, fairness and integrity. Its findings provide valuable insights for examination boards, policymakers and educators worldwide who grapple with the challenge of balancing transparency with the risks of predictability in high-stakes examinations.

1.2. Problem Statement

Recent upward trends in learner performance for NSC examinations in South Africa have been observed. While such trends may suggest improvements in educational quality or learner preparation, they also raise concerns regarding the potential predictability of examination content and structure. Excessive predictability risks rote memorisation over genuine comprehension and critical engagement, thereby undermining the validity of the assessment. The central issue is whether the upward trend that is observed reflects authentic gains in learner competency or are, instead, attributable to predictable examination design. If the latter, the integrity of the NSC as a reliable instrument for certification, higher education admission and employment selection may be compromised.

1.3. Purpose

The purpose of this study was to investigate the extent to which the NSC final examination papers in South Africa exhibit patterns of predictability. By analysing selected subjects across the period 2022–2024, the research sought to determine whether the upward trend in learner performance observed reflects genuine improvements in competency or is influenced by predictable examination design. The study aims to provide evidence-based insights that will inform Umalusi's quality assurance practices, strengthen the validity and reliability of the NSC and contribute to international discourse on maintaining integrity in high-stakes assessments.

1.4. Research Objectives

The objectives of this study were to:

- Evaluate if there were any repeated items in the 2022, 2023 and the 2024 NSC examination question papers; and

- Identify if there are similar patterns in the questioning style and assessed skills in the 2022, 2023 and 2024 NSC examination question papers.

1.5. Research Questions

The research questions for this study were;

- Are there repeated items in the 2022, 2023 and 2024 NSC examination question papers?
- Are there similar patterns in asking questions assessing skills in the 2022, 2023 and 2024 NSC examination question papers?

1.6. Conceptual Framework

This study was guided by a conceptual framework that integrated multiple concepts influencing the predictability of examination papers. The framework also informed the development of the instrument used to evaluate the papers. To situate the framework, it is necessary to define predictability in the context of this study.

Predictability refers to the extent to which learners can reasonably anticipate the content or specific questions that will appear in an examination (Hu and Trenkic, 2021). It encompasses subject matter, format, difficulty level and phrasing. Learners' ability to predict examination content often arises from identifiable patterns in past papers, study materials or instructional cues (Hu and Trenkic, 2021). Predictability can be examined at both subject-specific and broader educational levels, with implications for learner preparation and performance. Contributing factors include curriculum design, question structure, access to preparatory materials, teaching practices and learners' perceptions (Elwood, Hopfenbeck and Baird, 2017).

For this study, three key factors were identified: curriculum alignment, question format and structure and the influence of past examination papers. The framework evaluates predictability through the lens of assessment design and its alignment with prescribed standards. At its core are content validity and construct validity, both essential for ensuring the integrity of examinations, as illustrated in Figure 1.

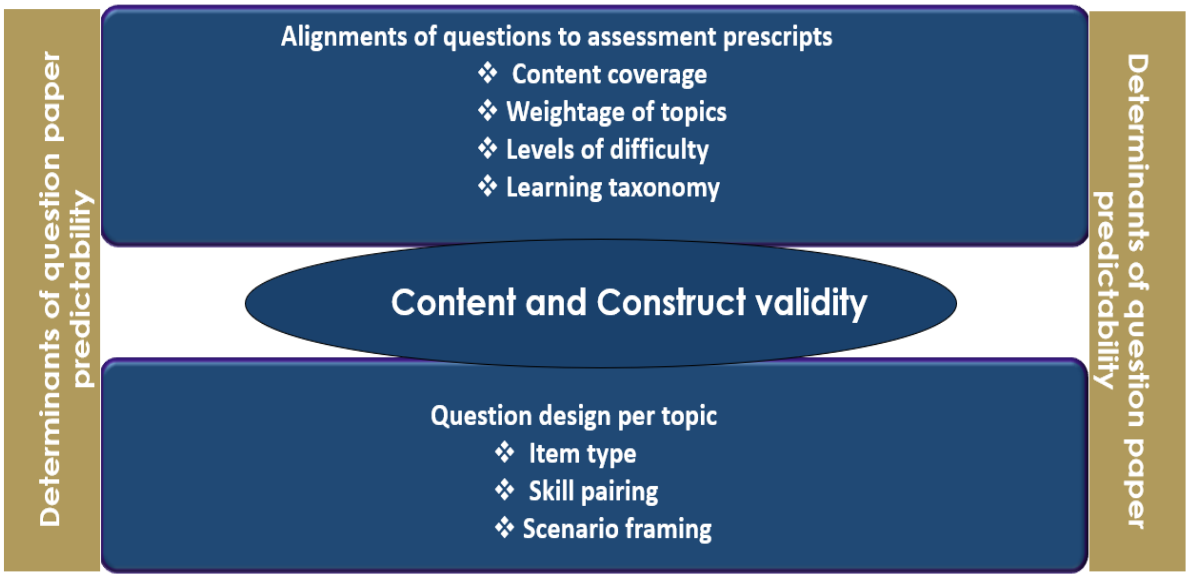

Figure 1: Conceptual framework for evaluating predictability in high-stakes examinations

Content validity refers to the degree to which examination items are relevant to and representative of the curriculum (Roebianto, Savitri, Aulia, Suciyana and Mubarokah, 2023). A content-valid assessment should comprehensively and proportionally reflect the curriculum.

Construct validity refers to the extent to which an assessment accurately measures the intended skills and cognitive processes (Tabari-Khomeiran and Barrett, 2025). In this study, construct validity ensures that questions elicit the competencies targeted by assessment standards.

These forms of validity are examined through two interrelated domains: alignment with assessment prescripts and question design per topic. Together, they shape the degree of predictability in examination papers.

A. Alignment with assessment prescripts

This domain considers the extent to which examination papers adhere to curriculum guidelines and assessment policies. Such alignment represents acceptable predictability, as examinations are expected to reflect prescribed standards. Four components are central:

Content coverage: The degree to which assessment items represent the full scope of the curriculum (Rosén and Nilsen, 2024). Comprehensive coverage mitigates the risk of focusing narrowly on a few topics. While core content must be assessed annually, varying the format and phrasing of questions reduces predictability (Holmes, Khan, Zanini and Black, 2020).

Weighting of topics: The proportional distribution of marks across prescribed topics. Consistent overemphasis on certain topics can encourage patterned learning and rote preparation, reducing conceptual understanding (Holmes *et al*., 2020).

Item difficulty levels: The balance of easy, moderate, difficult and very difficult questions. While proportions are prescribed, varying difficulty levels across topics from year to year reduces predictability and better assesses learners' breadth of understanding.

Learning taxonomy: The distribution of cognitive demand levels. Over-reliance on lower-order thinking makes question patterns easier to anticipate, while incorporating higher-order tasks strengthens validity and reduces rote learning (Baird, Caro and Hopfenbeck, 2016).

B. Question design per topic

This domain examines how individual questions are constructed and how their linguistic and structural features influence predictability (Holmes *et al.*, 2020). Three components are considered, which may contribute to either acceptable or unacceptable predictability:

Item type: Categories such as multiple-choice, essays, graphs or diagram interpretation. Limited variation in item types across cycles can lead to pattern recognition and increase predictability.

Skill-pairing: The consistent linking of topics to specific skills. If a topic is always paired with the same skill, predictability increases over time (Elwood *et al.*, 2017).

Scenario framing: The framing of questions in authentic examples. Reusing contexts across years compromises validity, while diverse scenarios deter rote memorisation and encourage critical thinking (Hsu, Clark, Hill and Rowland-Goldsmith, 2023).

This conceptual framework provided a structured lens for evaluating predictable patterns in examination papers. By integrating curriculum alignment and question design, it assisted in evaluating if these domains influenced the overall predictability of the question papers.

1.7. Literature Review

The concept of predictability in examination question papers has received increasing attention in educational research, particularly within the context of high-stakes and standardised assessments. Predictability refers to the extent to which examination content and formats can be anticipated by learners prior to assessment. While a certain degree of predictability is often viewed as beneficial for guiding learner preparation and reducing anxiety, it simultaneously raises concerns regarding fairness, reliability and the broader educational value of examinations (Hu and Trenkic, 2021). Scholarship in this area therefore reflects an ongoing tension between supporting effective

learner preparation and preserving the integrity and validity of assessment systems. This review examines key findings in the literature on examination predictability. It focuses on how predictability is conceptualised, the factors that contribute to it and its implications for learner performance, equity and assessment validity.

In educational assessment, predictability is typically defined as the degree to which learners can reasonably anticipate the content, structure or specific questions that will appear in an examination (Hu and Trenkic, 2021). This anticipation may extend across multiple dimensions, including subject matter coverage, question format, cognitive demand and even linguistic formulation. Learners' capacity to predict examination content is often shaped by patterns identified in previous examinations, the emphasis placed on particular curriculum topics and explicit or implicit signals communicated during instruction. As a result, predictability is not solely a feature of the examination paper itself but is embedded within broader teaching, learning and assessment practices. Researchers have therefore explored predictability both as a technical characteristic of test design and as a phenomenon influenced by systemic and classroom-level dynamics.

Several interrelated factors contribute to the predictability of examination question papers. One prominent factor is curriculum design and syllabus alignment. When instructors or examination bodies consistently emphasise particular topics within the syllabus, these areas may become disproportionately represented in assessments, increasing their predictability. Although such alignment can clarify expectations and support focused preparation, it also risks narrowing curriculum coverage and encouraging surface-level learning strategies (Hu and Trenkic, 2021). Closely related to this is the role of question format and structure. Standardised formats, such as multiple-choice or short-answer questions, tend to employ recurring structural patterns that can be recognised over time. While essay-based or open-ended

questions may offer greater flexibility, research suggests that even these formats can become predictable when similar themes or prompts recur across assessment cycles.

The use of past examination papers further contributes to predictability and is a widely used strategy in student preparation. Learners often analyse previous papers to infer likely content and question styles, operating on the assumption that examiners will maintain consistent patterns across years. Although this practice can support familiarity with assessment demands, excessive reliance on past papers can artificially inflate predictability and reduce the diversity and complexity of examination questions (Elwood *et al*., 2017). In addition to structural and material factors, instructor practices play a significant role in shaping examination predictability. Educators may intentionally, or inadvertently, signal which content areas are important through repetition, selective emphasis or explicit guidance during revision activities. Such cues, whether direct or indirect, strengthen alignment between teaching and assessment and may increase the extent to which examinations become predictable (Chong and Ye, 2021).

Psychological factors and student perceptions also influence how predictability is experienced and interpreted. From a learner perspective, predictability can reduce uncertainty and assessment-related anxiety by clarifying what is expected. Conversely, uncertainty about examination content may heighten stress, a phenomenon sometimes discussed in relation to predictive anxiety. Although predictability may enhance confidence and perceived preparedness, it may also encourage strategic learning approaches that prioritise examination performance over deep conceptual understanding. Consequently, psychological responses to predictability interact with instructional and assessment practices in complex ways, shaping both learner behaviour and outcomes.

The implications of examination predictability are widely debated within the literature. On one hand, predictability can positively influence learner performance, as students who successfully anticipate examination content often achieve higher scores (Ma and Chong, 2022). However, this performance advantage may not necessarily reflect a comprehensive understanding of the subject matter. Instead, predictability may promote rote memorisation and examination-oriented study strategies, limiting opportunities for the development of higher-order cognitive skills such as critical thinking, synthesis and problem-solving (Ma and Chong, 2022). As a result, highly predictable examinations may inadequately capture the full range of learner competencies they are intended to assess.

Concerns regarding fairness and equity further complicate the role of predictability in assessment. When examination patterns are predictable, learners with access to prior examination materials, targeted coaching or specialised preparation resources may gain an advantage over those without similar support. These dynamic risks exacerbate existing educational inequalities, particularly in contexts where access to resources is uneven. Moreover, learners who are less adept at recognising assessment patterns or who adopt alternative learning approaches may be unfairly disadvantaged, raising ethical concerns about the equity of predictable assessment systems.

Finally, predictability has significant implications for educational integrity and assessment validity. Assessment validity refers to the extent to which an examination accurately measures the knowledge and skills it is designed to assess (Ma and Chong, 2022). High levels of predictability may undermine validity by narrowing the construct being assessed and encouraging teaching to the test, where instructional practices focus primarily on anticipated examination content rather than holistic curriculum engagement (Tahir and Wakeel, 2019). Consequently, the literature emphasises the need for a balanced approach to assessment design that provides sufficient

transparency to support effective preparation while maintaining enough variability to preserve fairness, promote deeper learning and ensure robust assessment validity.

PART II: RESEARCH DESIGN

CHAPTER 2

2.1. Introduction

The previous section provided the introduction, problem statement, purpose, research objectives, research questions and the conceptual framework of the study. This section will discuss the research design, research methodology, sampling techniques and sampling size, data collection and data analysis.

2.2. Research Design

The study employed qualitative methods, specifically document analysis. A qualitative research design is an in-depth exploration of the phenomena under investigation (Tenny, Brannan and Brannan, 2017). Document analysis is a process that involves skimming (superficial examination), reading (thorough examination) and interpretation of content to provide answers to research questions (Vurayai, 2020). Qualitative document analysis was suitable for this study as it allowed analysis of various types of pre-existing documents containing textual data (Morgan, 2022). This method was particularly suitable for the study, as it investigated the predictability of examination question papers between 2022 and 2024 and required the use of pre-existing documents. Document analysis enabled subject experts to collect data that were both neutral and stable (Morgan, 2022). The primary source documents for the analysis were the examination question papers from the sampled subjects. Expert judgement by subject matter experts was used to analyse, evaluate and interpret the predictability of examination items.

2.4. Sampling

Sampling involves the deliberate selection of individuals or subsets from a larger population for research purposes (Bhardwaj, 2019; Stratton, 2021). Among various sampling methods, this study employed purposive sampling to select both the subjects and the assessment bodies for this study. Purposive sampling is a method used to identify respondents or data sources that were most likely to provide relevant and valuable information (Campbell, Greenwood, Prior, Shearer, Walkem, Young, Bywaters and Walker, 2020). This approach was particularly appropriate for the study, as it focused on analysing examination question papers from high-enrolment subjects. The specific subjects and years of interest were predetermined, making purposive sampling the most suitable method.

Ten high-enrolment subjects from the two assessment bodies, namely the Department of Basic Education (DBE) and the Independent Examinations Board (IEB), were selected. The South African Comprehensive Assessment Institute (SACAI) was excluded on the basis that its examination guidelines were similar to those of the DBE. High-enrolment subjects were chosen because they involved a large number of candidates writing the examination question papers, which increased the relevance of the analysis. The DBE was selected as an assessment body because it represented the minimum standard for the NSC.

The sampled subjects included Accounting, Business Studies, Economics, Geography, History, Life Sciences, Mathematical Literacy, Mathematics and Physical Sciences for both the DBE and the IEB. English First Additional Language (FAL) was sampled for the DBE only.

2.5. Data Collection

The data collection was conducted by a panel of ten subject experts who were either a provincial or district deputy chief education specialist, a curriculum expert from a tertiary institution or a teacher from school level. One subject expert evaluated each subject. Using one evaluator for each subject ensured that analysis across different papers was consistent.

Each subject expert was provided with the 2022, 2023 and 2024 examination papers, including their marking memoranda, recent NSC examination/subject assessment guidelines for the subject evaluated, the curriculum policy for the subject evaluated and the Umalusi evaluation instrument.

The instruments for evaluation were framed on the concept of content and construct validity as espoused in the conceptual framework in section 1.6 of this report.

Data were collected through document analysis. November final examination question papers for the selected subjects from 2022, 2023 and 2024 were analysed. Two assessment bodies were included in the study, namely the DBE and the IEB. Each subject expert was responsible for analysing all the examination question papers for a single subject across the three years and both assessment bodies, where applicable.

As a result, a total of nine question papers were analysed for subjects comprising three papers, while 12 question papers were analysed for subjects comprising two papers. Each question paper was analysed item by item, with comparisons also made across the three years for each subject, to identify patterns and trends.

Subject experts analysed the examination questions in relation to the examinable topics prescribed in Section 4 of the curriculum and assessment policy statement (CAPS) and the abridged Section 4 of the CAPS. This ensured alignment between the examination content and the prescribed curriculum.

Data were collected using a structured evaluation tool in the form of a Microsoft Word document comprising a table and a set of thematic questions aligned with the conceptual framework of the study. Subject experts were required to respond to the thematic questions for each examinable topic, to determine the predictability of the examination question papers. As an initial step in the data-collection process, subject experts completed the table (see Figure 2) for each examinable topic.

Topic:							
Year	Topic Examined (✓) or not examined (X)	Content area/subtopics covered including mark allocation	Overall weightage of the topic in marks	Item type/types (e.g., MCQ, essays, short answers, table, etc.) and marks allocated per content area/subtopic	Level of difficulty per item type used to examine the subtopic	Cognitive level per item type used to examine the subtopic	Skill assessed per subtopic
2022							
2023							
2024							

Figure 2: Table used to evaluate topic coverage, item types, assessed skills and weighting across examination years (2022–2024)

2.6. Data analysis

Thematic analysis, guided by the thematic questions on the evaluation instrument, was employed. The questions, listed as a-f below, were used as guidance for each topic and each question paper:

a. Topic coverage

- *Indicate the frequency with which this topic has been examined across the three years.*
- *Does the frequency with which this topic has been examined suggest a predictable pattern? Explain your answer.*
- *If any form of unacceptable predictability relating to topic coverage was identified, suggest a recommendation for avoiding it. Suggest how the assessment body should maintain this if acceptable predictability was identified.*

b. Content coverage

- *Indicate the frequency of content areas/subtopics within this topic over the three years.*
- *Do any specific content areas/subtopics appear more frequently than others? If so, what might this suggest about the patterns of content area/subtopic selection across the three years?*
- *Based on the frequency and repetition of subtopics over the three years, to what extent would you consider the assessment of this topic to be predictable?*
- *If unacceptable predictability relating to content coverage was identified, suggest a recommendation for avoiding it. Suggest how the assessment body should maintain this if acceptable predictability were identified.*

c. Weightage of the topic

- *How has the mark allocation for this topic varied across the three years? Has it remained consistent, increased or decreased?*
- *Does the consistency or variation in weightage suggest a predictable emphasis on this topic in examination papers?*
- *If unacceptable predictability was identified relating to the weightage of the topic, suggest a recommendation on how it could be avoided. Suggest how the assessment body should maintain this if acceptable predictability was identified.*

d. Variation in Item types:

- *Indicate how the item types (e.g., MCQs, essays, tables, calculations, theoretical explanations, practical scenarios, labelling diagrams, drawing a graph, drawing a table, graph interpretation?) that have been used to assess subtopics for this topic varied across the three years.*
- *Across the three years, how has the mark allocation varied for similar item types assessing subtopics for this topic?*
- *Across the three years, how has the level of difficulty varied for similar item types assessing subtopics for this topic (e.g., MCQs, short answers)?*
- *Across the three years, how has the distribution of cognitive levels varied for similar item types assessing this topic (e.g., MCQs, short answers)?*
- *Given the evaluations and patterns observed on the item types, their mark allocation, their difficulty levels and associated cognitive demands over the three years, give a consolidated discussion on how the assessment of concepts in this topic follows a predictable pattern?*
- *If unacceptable predictability was identified relating to variation of item types over the three years, suggest a recommendation on how it could be avoided. If acceptable predictability was identified, indicate how the assessment body should maintain this.*

e. Topic and skill-pairing

- *Indicate specific skills (e.g., interpretation, calculation, analysis, explanation) that have been used to assess each subtopic of this topic over the past three years.*
- *Determine the extent to which there is a repetition or variation in the skills-to-subtopic pairing for this topic across the three years.*
- *Based on the repetition or variation in skill-to-subtopic pairing for this topic over the three years, to what extent would you consider the skill demands of this topic to be predictable?*

- *If unacceptable predictability was identified relating to the topic and skill-to-concept pairing over the three years, suggest a recommendation on how it could be avoided. If acceptable predictability was identified, indicate how the assessment body should maintain this.*

f. Scenario framing of items for a topic

- *Indicate the scenarios or real-life contexts used to frame concepts on this topic over the past three years.*
- *To what extent have the scenarios used to assess this topic varied across subtopics over the three years?*
- *Considering the scenarios and real-life contexts used over the past three years, how predictable is the contextual framing of questions on this topic?*
- *If unacceptable predictability was identified relating to the scenario framing of items over the three years, suggest a recommendation on how it could be avoided. If acceptable predictability was identified, indicate how the assessment body should maintain this.*

As reflected in the questions on theme a–f, the data analysis incorporated frequency analysis to determine the extent to which content and questioning styles were repeated across years for each topic in each examination paper.

The analysis focused on two key dimensions. First, content similarity was examined by comparing the topics and subtopics assessed in the examination questions to identify patterns of repetition over time. Second, the questioning style was analysed to determine whether different approaches were used to assess skills across successive examinations, thereby evaluating the degree of variation in question design over the three-year period.

PART III: THE RESEARCH FINDINGS

CHAPTER 3

Findings from the evaluation of the DBE and IEB question papers

The preceding chapter outlined the research methodology and procedures employed in this study. This chapter presents a summary of the key findings arising from the evaluation of selected DBE and IEB NSC question papers. The findings are drawn from a systematic analysis of examination papers administered over the period 2022 to 2024 and are intended to provide an overview of patterns related to examination predictability within the sampled subjects.

The primary purpose of this study was to investigate whether the upward trend observed in learner performance in NSC examinations reflects genuine improvements in learner competence or whether it may, in part, be attributed to increasing levels of predictability in examination design. Through the analysis of selected subjects over three consecutive examination cycles, the study sought to generate evidence-based insights that could inform and strengthen Umalusi's quality assurance and standardisation processes. In doing so, the study also aimed to contribute to broader scholarly debates on assessment validity, fairness and integrity in high-stakes examination systems.

Findings are presented separately, in section IIIA and IIIB for DBE and IEB, respectively, and for each question paper within the sampled subjects. The analysis covers Accounting, Business Studies, Economics, Geography, History, Life Sciences, Mathematical Literacy and Mathematics for both the DBE and IEB, as well as English FAL for the DBE only. While comprehensive findings are reported in detailed subject-specific reports, this chapter provides a

consolidated summary of results to highlight overarching patterns and key areas of concern.

The summary of findings for each question paper is organised around six themes: topic coverage, content coverage per subtopic, topic weightage, variation in item types per subtopic, subtopic–skill-pairing and scenario–subtopic skill-pairing. These themes are presented in Tables 1 to 19. In each table, a ✓ indicates acceptable predictability, while an **x** denotes unacceptable predictability. For the purposes of this study, acceptable predictability refers to alignment with assessment prescripts and the extent to which examination papers adhere to curriculum guidelines and assessment policies. Unacceptable predictability, by contrast, refers to instances where examination design features increase the likelihood that question papers can be anticipated, thereby potentially compromising assessment validity. Where evidence of unacceptable predictability was identified, the question paper was deemed to be predictable.

Prior to the discussion of results, it is necessary to clarify and contextualise each of the six themes underpinning the evaluation. The first theme, topic coverage, refers to the range of topics prescribed for assessment in NSC subjects, as outlined in Section 4 of the CAPS or the abridged CAPS. The analysis examined the frequency with which topics were assessed over the three-year period to identify recurring patterns that may contribute to predictable topic selection.

The second theme, content coverage, focuses on the assessment of specific content areas or subtopics within the prescribed topics. This theme examined the extent to which particular subtopics were repeatedly assessed across examination cycles, with the aim of identifying patterns of repetition that could increase predictability in question paper design.

The third theme, topic weightage, refers to the distribution of marks allocated to topics across the three years under review. By analysing the consistency or variation in mark allocation, the study sought to establish whether stable or recurring emphases on certain topics may have contributed to predictable assessment structures.

The fourth theme, variation in item types, addresses the extent to which different question formats were used to assess the same topics over time. The analysis considered the range of item types employed. These include multiple-choice questions, structured questions, essays, calculations and scenario-based items, as well as the associated mark allocations, cognitive demand and use of command words. Limited variation in item types or command words was interpreted as a potential indicator of increased predictability.

The fifth theme, subtopic–skill-pairing, examined the relationship between specific content areas and the cognitive skills assessed. Where the same skills, such as calculation, interpretation, explanation or analysis, were consistently paired with the same subtopics across years, this was seen as indicative of recurring assessment patterns. Greater variation in skill-pairing was interpreted as supporting a more comprehensive and less predictable assessment of learner competencies.

Finally, scenario–subtopic skill-pairing refers to the use of contextual framing, such as real-life scenarios, texts, diagrams or visual stimuli, to assess skills within a topic. The analysis explored the extent to which similar or diverse contexts were used across examination cycles. Repeated use of similar scenarios was regarded as a contributor to predictability, whereas the use of varied and innovative contexts was viewed as supporting deeper engagement and broader skill assessment.

PART III (A): DBE

3.1: ACCOUNTING

Table 3.1 provides a summary of the analysis conducted to determine the level of predictability in the DBE Accounting examinations from 2022 to 2024, focusing on topic coverage, content coverage per subtopics, topic weightage, item types per subtopic, subtopic skill-pairing and scenario subtopic skill-pairing.

Table 3.1: Findings on the predictability of the DBE Accounting examinations over the period 2022–2024

Assessment body and subject	**DBE Accounting**				
Paper 1					
Predictability across the years (✓-acceptable predictability), (x- unacceptable predictability)					
Topic coverage	**Content coverage per subtopics**	**Topic weightage**	**Item types per subtopic**	**Subtopic skill-pairing**	**Scenario subtopic skill-pairing**
✓	✓	✓	✓	✓	✓
Conclusions	• **The question paper was not predictable** over the three years as content coverage, item types assessing each subtopic, subtopic skill-pairing and scenario subtopic pairing were varied across the three years. • Topic coverage and topic weightage were aligned to the CAPS and abridged Section 4 of the CAPS.				

Paper 2					
Predictability across the years (✓-acceptable predictability), (x- unacceptable predictability)					
Topic coverage	**Content coverage per subtopics**	**Topic weightage**	**Item types per subtopic**	**Subtopic skill-pairing**	**Scenario subtopic skill-pairing**
✓	✓	✓	✓	✓	✓
Conclusions	• **The question paper was not predictable** over the three years as content coverage, item types assessing each subtopic, subtopic skill-pairing and scenario subtopic pairing were varied across the three years. • Topic coverage question and topic weightage were aligned to the CAPS and abridged Section 4 of the CAPS.				

Table 3.1 indicates that across 2022–2024, both Accounting papers aligned well with CAPS requirements for topic coverage and weighting, but varied the specific subtopics, item types and skill-pairings enough that the papers were **not predictable** year to year. This indicates healthy rotation of content and cognitive demands within a stable framework.

3.2: BUSINESS STUDIES

Table 3.2 presents the findings on the predictability of DBE Business Studies examinations over the 2022–2024 period, examining topic coverage, content coverage per subtopics, topic weightage, item types per subtopic, subtopic skill-pairing and scenario subtopic skill-pairing.

Table 3.2: Findings on the predictability of the DBE Business Studies examinations over the period 2022–2024

Assessment body and subject	**DBE Business Studies**				
Paper 1					
Predictability across the years (✓-acceptable predictability), (x-unacceptable predictability)					
Topic coverage	**Content coverage per subtopics**	**Topic weightage**	**Item types per subtopic**	**Subtopic skill-pairing**	**Scenario subtopic skill-pairing**
✓	✓	✓	✓	✓	✓
Conclusions	• Acceptable predictability was evident in topic coverage, weighting and topic and skill alignment. • The structure of Section B and the essay questions indicate a moderate level of predictability; however, variation of topics reduced the predictability. • It is recommended that the examination panel rotate the position of application-based questions within Section B to reduce structural predictability; vary the sequence and types of cognitive verbs to encourage higher-order thinking. • **Overall, the question papers were not predictable.**				
Paper 2					
Predictability across the years (✓-acceptable predictability), (x-unacceptable predictability)					
Topic coverage	**Content coverage per subtopics**	**Topic weightage**	**Item types per subtopic**	**Subtopic skill-pairing**	**Scenario sub-topic skill-pairing**
✓	✓	✓	✓	✓	✓

Conclusions	• There was consistent recurrence of core concepts, as required by the CAPS; however, there was variation in cognitive verbs. • **Overall, the question papers were not predictable.**

Table 3.2 illustrates that the Business Studies Papers 1 and 2 exhibited acceptable predictability in structure (as per the CAPS) but varied topics and cognitive verbs sufficiently to avoid rote predictability. Recommendations point to rotating positions of application questions and varying cognitive verbs further. Overall, the question papers were not predictable across 2022–2024.

3.3: ECONOMICS

Table 3.3 outlines the evaluation of predictability in the DBE Economics examinations between 2022 and 2024, highlighting patterns in topic coverage, content coverage per subtopics, topic weightage, item types per subtopic, subtopic skill-pairing and scenario subtopic skill-pairing.

Table 3.3: Findings on the predictability of the DBE Economics examinations over the period 2022–2024

Assessment body and subject	**DBE Economics**
Paper 1	
Predictability across the years (✓-acceptable predictability), (x-unacceptable predictability)	

Topic coverage	Content coverage per subtopics	Topic weightage	Item types per subtopic	Subtopic skill-pairing	Scenario subtopic skill-pairing
✓	✓	✓	✓	✓	✓
Conclusions	• Acceptable predictability in format and structure. • The levels of difficulty and cognitive demand were evenly distributed and examiners used a variety of scenarios and real-life contexts in framing item types. • **The question papers were not predictable.**				
Paper 2					
Predictability across the years (✓-acceptable predictability), (x-unacceptable predictability)					
Topic coverage	**Content coverage per subtopics**	**Topic weightage**	**Item types per subtopic**	**Subtopic skill-pairing**	**Scenario subtopic skill-pairing**
✓	✓	✓	✓	✓	✓
Conclusions	• There was acceptable predictability in topic coverage, content coverage, topic weightage and item types. • The levels of difficulty and cognitive demand levels were evenly distributed. • There was variation of scenarios, real-life context, in framing item types. • **The question papers were not predictable.**				

The findings in Table 3.3 show that the Economics Papers 1 and 2 were aligned with the CAPS in structure and balanced difficulty and diverse, real-world contexts. Despite the stable format, varied scenarios and item framing maintained the

examinations as not being predictable. Therefore, the Economics examinations were not predictable in the period 2022–2024.

3.4: GEOGRAPHY

Table 3.4 summarises the assessment of predictability in DBE Geography examinations for the years 2022–2024, with particular attention to topic coverage, content coverage per subtopics, topic weightage, item types per subtopic, subtopic skill-pairing and scenario subtopic skill-pairing.

Table 3.4: Findings on the predictability of the DBE Geography examinations over the period 2022–2024

Assessment body and subject	**DBE Geography**				
Paper 1					
Predictability across the years (✓-acceptable predictability), (x-unacceptable predictability)					
Topic coverage	**Content coverage per subtopics**	**Topic weightage**	**Item types per subtopic**	**Subtopic skill-pairing**	**Scenario subtopic skill-pairing**
✓	✓	✓	✓	✓	✓
Conclusions	• The question papers do not demonstrate unacceptable predictability. • CAPS mandates the annual appearance of fixed topics such as the Geographical Skills and Techniques, Climate and Weather and Geomorphology.				

	• The content focus shifts significantly each year; the item types, skills required and scenario framing all vary meaningfully from year to year. • **The question papers were not predictable.**				
Paper 2					
Predictability across the years (✓-acceptable predictability), (x-unacceptable predictability)					
Topic coverage	**Content coverage per subtopics**	**Topic weightage**	**Item types per subtopic**	**Subtopic skill-pairing**	**Scenario subtopic skill-pairing**
✓	✓	✓	✓	✓	✓
Conclusions	• The question papers do not demonstrate unacceptable predictability. • CAPS mandates the annual appearance of fixed topics such as the Geographical Skills and Techniques, Rural and Urban and Economic Geography. • The content focus shifts significantly each year; the item types, skills required and scenario framing all vary meaningfully from year to year. • **The question papers were not predictable.**				

The findings in Table 3.4 shows that even though the CAPS mandates certain annually recurring topics (e.g., GSK, Climate and Weather, Geomorphology in Paper 1, Rural/Urban and Economic Geography in Paper 2), the content focus, item types, skills and scenarios varied meaningfully each year. Therefore, the question papers were not predictable.

3.5: HISTORY

Table 3.5 provides an overview of findings related to the predictability of DBE History examinations from 2022 to 2024, focusing on topic coverage, content coverage per subtopics, topic weightage, item types per subtopic, subtopic skill-pairing and scenario subtopic skill-pairing.

Table 3.5: Findings on the predictability of the DBE History examinations over the period 2022–2024

Assessment body and subject	**DBE History**				
Paper 1					
Predictability across the years (✓-acceptable predictability), (x-unacceptable predictability)					
Topic coverage	**Content coverage per subtopics**	**Topic weightage**	**Item types per subtopic**	**Subtopic skill-pairing**	**Scenario subtopic skill-pairing**
✓	✓	✓	✓	✓	✓
Conclusions	• The evaluation found that History Paper 1 did not exhibit unacceptable predictability. • The structure of the paper remained stable, as required by the CAPS. • There was sufficient variation in content, skills, item types and scenarios to prevent rote learning or accurate prediction. • **The question papers were not predictable.**				
Paper 2					

Predictability across the years (✓-acceptable predictability), (x-unacceptable predictability)					
Topic coverage	**Content coverage per subtopics**	**Topic weightage**	**Item types per subtopic**	**Subtopic skill-pairing**	**Scenario subtopic skill-pairing**
✓	✓	✓	✓	✓	✓
Conclusions	• No unacceptable predictability was identified. • There was sufficient variation in content, skills, item types and scenarios to prevent rote learning or accurate prediction. • **The question papers were not predictable.**				

Table 3.5 reveals that History papers followed a stable examination structure as per the CAPS, combined with substantial variation in content coverage, item types, skills and scenarios, resulting in papers that were not predictable across the period.

3.6: LIFE SCIENCES

Table 3.6 presents the analysis of predictability in the DBE Life Sciences examinations over the 2022–2024 cycle, examining topic coverage, content coverage per subtopics, topic weightage, item types per subtopic, subtopic skill-pairing and scenario subtopic skill-pairing.

Table 3.6: Findings on the predictability of the DBE Life Sciences examinations over the period 2022–2024

Assessment body and subject	DBE Life Sciences				
Paper 1					
Predictability across the years (✓-acceptable predictability), (x-unacceptable predictability)					
Topic coverage	**Content coverage per subtopics**	**Topic weightage**	**Item types per subtopic**	**Subtopic skill-pairing**	**Scenario subtopic skill-pairing**
✓	✓	✓	✓	✓	✓
Conclusions	• The evaluation found that Life Sciences Paper 1 does not show unacceptable predictability. • The structure of the paper remained consistent, as required by CAPS. Sufficient variation in content, skills, item types and scenarios was used to prevent perceived predictability. • **The question papers were not predictable.**				
Paper 2					
Predictability across the years (✓-acceptable predictability), (x-unacceptable predictability)					
Topic coverage	**Content coverage per subtopics**	**Topic weightage**	**Item types per subtopic**	**Subtopic skill-pairing**	**Scenario subtopic skill-pairing**
✓	✓	✓	✓	✓	✓
Conclusions	• Life Sciences Paper 2 does not show unacceptable predictability. • The structure of the paper remained consistent, as required by CAPS. Sufficient variation in content, skills, item types and scenarios was used to prevent perceived predictability.				

	• **The question papers were not predictable.**

Table 3.6 indicates that both Life Sciences papers maintained the CAPS-required structure but varied in content, item types, skills and contexts sufficiently to avoid predictability. Overall, the Life Sciences papers were not predictable for the period 2022-2025.

3.7: MATHEMATICAL LITERACY

Table 3.7 provides a summary of findings on the predictability of DBE Mathematical Literacy examinations between 2022 and 2024, evaluating topic coverage, content coverage per subtopics, topic weightage, item types per subtopic, subtopic skill-pairing and scenario subtopic skill-pairing.

Table 3.7: Findings on the predictability of the DBE Mathematical Literacy examinations over the period 2022–2024

Assessment body and subject	**DBE Mathematical Literacy**				
Paper 1					
Predictability across the years (✓-acceptable predictability), (x-unacceptable predictability)					
Topic coverage	**Content coverage per subtopics**	**Topic weightage**	**Item types per subtopic**	**Subtopic skill-pairing**	**Scenario subtopic skill-pairing**
✓	✓	✓	✓	✓	✓

Conclusions	• The DBE Mathematical Literacy Paper 1 final examination question papers **did not demonstrate unacceptable predictability.** • Certain structural elements remained consistent across the three years; this consistency is a curriculum requirement. • The topics in the Question Paper 1 were predictable and the distribution of each topic is also predictable, as this is prescribed in the CAPS as part of the format and structure of the examination. • The subtopic and skill pairing were not easily predictable as they were varied, depending on the context used to assess the topic.

Paper 2					
Predictability across the years (✓-acceptable predictability), (x-unacceptable predictability)					
Topic coverage	**Content coverage per subtopics**	**Topic weightage**	**Item types per subtopic**	**Subtopic skill-pairing**	**Scenario subtopic skill-pairing**
✓	✓	✓	✓	✓	✓
Conclusions	• The DBE Mathematical Literacy Paper 2 final examinations question papers **did not demonstrate unacceptable predictability.** • Certain structural elements remained consistent across the three years; this consistency is a curriculum requirement. • The topics in the Question Paper 2 were predictable and the distribution of each topic is also predictable, as this is prescribed in the CAPS as part of the format and structure of the examination. • The subtopic and skill-pairing that appear were not easily predictable as they varied, depending on the context used to assess the topic.				

Table 3.7 indicates that some structural elements, such as topic coverage and weightage, were predictable as per the CAPS requirement in both papers; however, subtopic selection, contextual framing and required skills vary, so the papers do not show "unacceptable predictability". This means that the question papers were not predictable for the period 2022–2024.

3.8: MATHEMATICS

Table 3.8 outlines the findings on predictability in the DBE Mathematics examinations over the 2022–2024 period, highlighting recurring patterns in topic coverage, content coverage per subtopics, topic weightage, item types per subtopic, subtopic skill-pairing and scenario subtopic skill-pairing.

Table 3.8: Findings on the predictability of the DBE Mathematics examinations over the period 2022–2024

Assessment body and subject	**DBE Mathematics**				
Paper 1					
Predictability across the years (✓-acceptable predictability), (x-unacceptable predictability)					
Topic coverage	**Content coverage per subtopics**	**Topic weightage**	**Item types per subtopic**	**Subtopic skill-pairing**	**Scenario subtopic skill-pairing**
✓	**x**	**x**	**x**	**x**	**x**

Conclusions	• DBE Mathematics Paper 1 examinations indicated significant structural predictability in topic coverage, subtopic selection, topic weightings, item types, topic–skill-pairings and scenario framing. • The cumulative effect of repeated patterns over time narrows the range of constructs being assessed to provide an advantage to candidates who rely on past-paper rehearsal. • It is recommended that item-type and topic skill-pairing variation would strengthen the robustness of future Mathematics Paper 1 examinations. • **The question papers were predictable.**

Paper 2					
Predictability across the years (✓-acceptable predictability), (x-unacceptable predictability)					
Topic coverage	**Content coverage per subtopics**	**Topic weightage**	**Item types per subtopic**	**Subtopic skill-pairing**	**Scenario subtopic skill-pairing**
✓	**x**	**x**	**x**	**x**	**x**
Conclusions	• DBE Mathematics Paper 2 examinations indicated significant structural predictability in topic coverage, subtopic selection, topic weightings, item types, topic skill-pairings and scenario framing. • The cumulative effect of repeated patterns over time was to narrow the range of constructs being assessed and to provide an advantage to candidates who rely on past-paper rehearsal. • It is recommended that there be content rotation, weighting variation, item-type diversification and contextual innovation in future Mathematics Paper 1 examinations. • **The question papers were predictable.**				

The findings in Table 3.8 show that both Mathematics papers displayed significant structural predictability, beyond what is required by the CAPS, particularly in subtopic selection, weighting, item types, topic skill-pairings and scenario framing. Recommendations stress broader content rotation and item/skill diversification.

3.9: PHYSICAL SCIENCES

Table 3.9 summarises the evaluation of predictability in DBE Physical Sciences examinations from 2022 to 2024, focusing on topic coverage, content coverage per subtopics, topic weightage, item types per subtopic, subtopic skill-pairing and scenario subtopic skill-pairing.

Table 3.9: Findings on the predictability of the DBE Physical Sciences examinations over the period 2022–2024

Assessment body and subject	**DBE Physical Sciences**				
Paper 1					
Predictability across the years (✓-acceptable predictability), (x-unacceptable predictability)					
Topic coverage	**Content coverage per subtopics**	**Topic weightage**	**Item types per subtopic**	**Subtopic skill-pairing**	**Scenario subtopic skill-pairing**
✓	✓	✓	✓	✓	✓
Conclusions	• The examination question papers of the past three years were of acceptable predictability.				

	• There were no item and question repetitions, except where the assessed curriculum was aligned to the prescripts. • The format and structure of the examination questions were maintained in terms of the total mark allocation, total number of questions, including the MCQ, and the location of topics within the question papers. • Various item types were employed and varied scientific skills were assessed. • **The question papers were not predictable.**

Paper 2					
Predictability across the years (✓-acceptable predictability), (x-unacceptable predictability)					
Topic coverage	**Content coverage per subtopics**	**Topic weightage**	**Item types per subtopic**	**Subtopic skill-pairing**	**Scenario subtopic skill-pairing**
✓	✓	✓	✓	✓	✓
Conclusions	• The examination question papers of the past three years were of acceptable predictability. • There were no item and question repetitions, except where the assessed curriculum was aligned to the prescripts. • The format and structure of the examination questions were maintained in terms of the total mark allocation, total number of questions, including the MCQ, and the location of topics within the question papers. • Various item types were employed and varied scientific skills were assessed. • **The question papers were not predictable.**				

The findings in Table 3.9 illustrate that across both papers, there was acceptable predictability in structure and alignment to prescripts (marks, number/placement of questions, inclusion of MCQ), with varied item types and scientific skills assessed. No undue repetition was observed; hence the question papers were not predictable.

3.10: ENGLISH FAL

Table 3.10 presents the findings on predictability in the DBE English FAL examinations for the period 2022–2024, reviewing topic coverage, content coverage per subtopics, topic weightage, item types per subtopic, subtopic skill-pairing and scenario subtopic skill-pairing.

Table 3.10: Findings on the predictability of the DBE English FAL examinations over the period 2022–2024

Assessment body and subject	**DBE English FAL**				
Paper 1					
Predictability across the years (✓-acceptable predictability), (x-unacceptable predictability)					
Topic coverage	**Content coverage per subtopics**	**Topic weightage**	**Item types per subtopic**	**Subtopic skill-pairing**	**Scenario subtopic skill-pairing**
✓	✓	✓	✓	✓	✓
Conclusions	• The predictability of topic and content coverage, as well as topic weightage, was acceptable as it reflects compliance with curriculum requirements and examination guidelines.				

	• There was acceptable predictability of topic skill-pairing in the examination over the three-year period. • **The question papers were not predictable** and do not contribute to the overall predictability of the English FAL examinations.

Paper 2					
Predictability across the years (✓-acceptable predictability), (x-unacceptable predictability)					
Topic coverage	**Content coverage per subtopics**	**Topic weightage**	**Item types per subtopic**	**Subtopic skill-pairing**	**Scenario subtopic skill-pairing**
✓	✓	✓	✓	✓	✓
Conclusions	• There was frequency of specific content topics and topic skill-pairing over the three-year period. • However, the use of different extracts each year reduced the level of unacceptable predictability of this paper. • **The question papers were not predictable.**				

Paper 3					
Predictability across the years (✓-acceptable predictability), (x-unacceptable predictability)					
Topic coverage	**Content coverage per subtopics**	**Topic weightage**	**Item types per subtopic**	**Subtopic skill-pairing**	**Scenario subtopic skill-pairing**
✓	✓	✓	**x**	**x**	**x**
Conclusions	• There was repetition of topic skill-pairing and scenario framing over the three-year period.				

	• identical scenarios were used in diary entries and the obituary. • **The question papers were predictable.** • It is recommended that text types, scenarios and scenario subtopic skill-pairing be varied.

The findings shown in Table 3.10 indicate that Papers 1 and 2 were structurally predictable in an acceptable manner, Paper 3, however, shows predictability due to repeated topic–skill-pairings and identical scenario types (e.g., diary entries, obituaries), prompting recommendations to diversify text types and scenario–skill-pairings.

PART III (B): IEB

3.11: ACCOUNTING

Table 3.11 outlines the review conducted to assess the extent of predictability in the IEB Accounting examinations from 2022 to 2024, considering topic coverage, subtopic content coverage, topic weighting, item type distribution, subtopic–skill-pairing and scenario–subtopic skill-pairing.

Table 3.11: Findings on the predictability of the IEB Accounting examinations over the period 2022–2024

Assessment body and subject	**IEB Accounting**				
Paper 1					
Predictability across the years (✓-acceptable predictability), (x-unacceptable predictability)					
Topic coverage	**Content coverage per subtopics**	**Topic weightage**	**Item types per subtopic**	**Subtopic skill-pairing**	**Scenario subtopic skill-pairing**
✓	✓	✓	✓	✓	✓
Conclusions	• While candidates can reasonably anticipate that these core topics will be assessed, the specific item types, content, mark allocation, scenario framing and cognitive demand vary meaningfully from year to year. • **The question paper was not predictable.**				

Paper 2					
Predictability across the years (✓-acceptable predictability), (x-unacceptable predictability)					
Topic coverage	**Content coverage per subtopics**	**Topic weightage**	**Item types per subtopic**	**Subtopic skill-pairing**	**Scenario subtopic skill-pairing**
✓	✓	✓	✓	✓	✓
Conclusions	• Overall, the evaluation indicates that no unacceptable predictability was identified across the examination papers. • Core topics remain consistently assessed in line with the IEB SAG. The integration of multiple topics within and across questions ensures that assessments remain varied and cognitively demanding. • Item types, scenarios and skill-pairing was varied for subtopics that were assessed. • **The question paper was not predictable.**				

Table 3.11 illustrates that across three years, both papers aligned with the IEB SAG expectations (topic coverage/weighting), yet they varied item types, scenario framing, mark distributions and cognitive demand sufficiently to avoid predictable patterns. The question papers were not predictable in the period 2022–2024.

3.12: BUSINESS STUDIES

Table 3.12 details the outcomes of the analysis on predictability in the IEB Business Studies examinations for the 2022–2024 period, focusing on topic coverage, content coverage per subtopic, topic weightage, item types, subtopic–skill-pairing and scenario–subtopic skill-pairing.

Table 3.12: Findings on the predictability of the IEB Business Studies examinations over the period 2022–2024

Assessment body and subject	**IEB Business Studies**				
Paper 1					
Predictability across the years (✓-acceptable predictability), (x-unacceptable predictability)					
Topic coverage	**Content coverage per subtopics**	**Topic weightage**	**Item types per subtopic**	**Subtopic skill-pairing**	**Scenario subtopic skill-pairing**
✓	✓	✓	✓	✓	✓
Conclusions	• Acceptable predictability in topic coverage, content coverage, topic weightage, item types, subtopic skill-pairing, scenario subtopic skill-pairing, weighting for difficulty and cognitive levels. • **The question paper was not predictable.**				

The findings in Table 3.12 show that topic coverage, topic weightings and the balance of cognitive levels reflect acceptable predictability and alignment with policy requirements. At the same time, the variation in item types, subtopic–skill-pairings and scenario construction limits the possibility of rote prediction. Overall, this demonstrates that the IEB Business Studies examinations were not predictable during the 2022–2024 period.

3.13: ECONOMICS

Table 3.13 presents the evaluation of predictability in the IEB Economics examinations from 2022 to 2024, emphasising trends in topic coverage, subtopic-level content coverage, topic weightage, item-type patterns, subtopic–skill-pairing and scenario–subtopic skill-pairing.

Table 3.13: Findings on the predictability of the IEB Economics examinations over the period 2022–2024

Assessment body and subject	**IEB Economics**				
Paper 1					
Predictability across the years (✓-acceptable predictability), (x-unacceptable predictability)					
Topic coverage	**Content coverage per subtopics**	**Topic weightage**	**Item types per subtopic**	**Subtopic skill-pairing**	**Scenario subtopic skill-pairing**
✓	✓	✓	✓	✓	✓
Conclusions	• There was acceptable predictability in content coverage, topic weightage, item types per subtopic, subtopic skill-pairing and scenario subtopic skill-pairing. • There was omission of topics across years. • **The question papers were not predictable.**				

Table 3.13 shows that the IEB Economics examinations demonstrated balance and variation, reflecting acceptable predictability in topic coverage, topic weightings, item types and skill or scenario-based pairings. The omission of certain

topics in specific years further reduced predictability. Consequently, the IEB Economics examinations were not predictable across the 2022–2024 period.

3.14: GEOGRAPHY

Table 3.14 captures the analysis of predictability within IEB Geography examinations for 2022–2024, focusing on topic coverage, subtopic content coverage, topic weightage, item-type variation, subtopic skill-pairing and the pairing of scenarios with subtopic skills.

Table 3.14: Findings on the predictability of the IEB Geography examinations over the period 2022–2024

Assessment body and subject	**IEB Geography**				
Paper 1					
Predictability across the years (✓-acceptable predictability), (x-unacceptable predictability)					
Topic coverage	**Content coverage per subtopics**	**Topic weightage**	**Item types per subtopic**	**Subtopic skill-pairing**	**Scenario subtopic skill-pairing**
✓	✓	✓	✓	✓	✓
Conclusions	• The question papers did not exhibit unacceptable predictability across the three years. • The structure of the paper remained stable, as required by the SAG.				

	• There was sufficient variation in content, skills, item types and scenarios to prevent rote learning or accurate prediction. • **The question papers were not predictable.**				
Paper 2					
Predictability across the years (✓-acceptable predictability), (x-unacceptable predictability)					
Topic coverage	**Content coverage per subtopics**	**Topic weightage**	**Item types per subtopic**	**Subtopic skill-pairing**	**Scenario subtopic skill-pairing**
✓	✓	✓	✓	✓	✓
Conclusions	• The structure of the paper remained stable, as required by the SAG. • There was sufficient variation in content, skills, item types and scenarios to prevent rote learning or accurate prediction. • The observed level of predictability was acceptable. • **The question papers were not predictable.**				

The findings presented in Table 3.14 indicate that both Paper 1 and Paper 2 adhered to the required SAG structure while incorporating sufficient variation in content emphasis, assessed skills, item formats and contextual scenarios to prevent rote or pre-emptive preparation. Although the structural framework of the papers remained consistent, the deliberate variability embedded within them limited any potential predictability. Consequently, while the format-related predictability aligns with policy requirements, the examinations themselves were not predictable.

3.15: HISTORY

Table 3.15 gives a summary of findings on predictability in the IEB History examinations between 2022 and 2024, assessing topic coverage, subtopic content coverage, topic weightage, item-type patterns, subtopic–skill-pairing and scenario–subtopic skill-pairing.

Table 3.15: Findings on the predictability of the IEB History examinations over the period 2022–2024

Assessment body and subject	**IEB History**				
Paper 1					
Predictability across the years (✓-acceptable predictability), (x-unacceptable predictability)					
Topic coverage	**Content coverage per subtopics**	**Topic weightage**	**Item types per subtopic**	**Subtopic skill-pairing**	**Scenario subtopic skill-pairing**
✓	✓	✓	✓	✓	✓
Conclusions	• IEB History Paper 1 did not exhibit unacceptable predictability. • Structural consistency reflects policy compliance, not assessment weakness. • Substantial variation in content, skills and contexts supports validity, fairness and curriculum alignment. • **The question papers were not predictable.**				
Paper 2					

Predictability across the years (✓-acceptable predictability), (x- unacceptable predictability)					
Topic coverage	**Content coverage per subtopics**	**Topic weightage**	**Item types per subtopic**	**Subtopic skill-pairing**	**Scenario subtopic skill-pairing**
✓	✓	✓	✓	✓	✓
Conclusions	• There was no evidence of unacceptable predictability in History Paper 2 across the three years. • There was structural consistency, meaningful variation in content, skills, item types, weightage and scenario framing, which ensures that learners cannot reliably predict examination demands. • **The question papers were not predictable.**				

Table 3.15 shows that both Paper 1 and Paper 2 maintained the required structural format but incorporated sufficient variation in sources, prompts, content emphasis, item formats and scenario framing to prevent learners from predicting assessment tasks. While the consistency observed reflects policy requirements, rather than cueing, the deliberate variation ensured fairness and breadth of assessment. Overall, the examinations were **not predictable**.

3.16: LIFE SCIENCES

Table 3.16 reviews the predictability of the IEB Life Sciences examinations over the 2022–2024 cycle, drawing attention to topic coverage, detailed subtopic content coverage, topic weightage, item types, subtopic–skill-pairing and scenario–subtopic skill-pairing.

Table 3.16: Findings on the predictability of the IEB Life Sciences examinations over the period 2022–2024

Assessment body and subject	**IEB Life Sciences**				
Paper 1					
Predictability across the years (✓-acceptable predictability), (x-unacceptable predictability)					
Topic coverage	**Content coverage per subtopics**	**Topic weightage**	**Item types per subtopic**	**Subtopic skill-pairing**	**Scenario subtopic skill-pairing**
✓	✓	✓	✓	✓	✓
Conclusions	• The structure of the question papers remained consistent, as required by the SAG. • There was sufficient variation in content, skills, item types and scenarios to prevent perceived predictability. • **The question papers were not predictable.**				
Paper 2					
Predictability across the years (✓-acceptable predictability), (x-unacceptable predictability)					
Topic coverage	**Content coverage per subtopics**	**Topic weightage**	**Item types per subtopic**	**Subtopic skill-pairing**	**Scenario subtopic skill-pairing**
✓	✓	✓	✓	✓	✓
Conclusions	• The structure of the question papers remained consistent, as required by the SAG. • There was sufficient variation in content, skills, item types and scenarios to prevent perceived predictability. • **The question papers were not predictable.**				

Table 3.16 indicates that both Paper 1 and Paper 2 adhered to the required SAG structure while incorporating sufficient variation in subtopic emphasis, item types, cognitive demands, assessed skills and contextual scenarios to prevent rote learning or predictable patterns. Accordingly, neither paper was predictable.

3.17: MATHEMATICAL LITERACY

Table 3.17 summarises the findings on the predictability of IEB Mathematical Literacy examinations from 2022 to 2024, examining topic coverage, subtopic content coverage, topic weightage, item-type distribution, subtopic–skill-pairing and scenario–subtopic skill-pairing.

Table 3.17: Findings on the predictability of the IEB Mathematical Literacy examinations over the period 2022–2024

Assessment body and subject	**IEB Mathematical Literacy**				
Paper 1					
Predictability across the years (✓-acceptable predictability), (x-unacceptable predictability)					
Topic coverage	**Content coverage per subtopics**	**Topic weightage**	**Item types per subtopic**	**Subtopic skill-pairing**	**Scenario subtopic skill-pairing**
✓	✓	✓	✓	✓	✓

Conclusions	• The IEB Mathematical Literacy Paper 1 final examination question papers, generally, were not unacceptably predictable. • Structural elements of the question papers remain consistent across the three-year cycle; this consistency is a curriculum requirement. • The distribution of each topic in Question Paper 1 indicates acceptable predictability and is aligned with the SAG. • The subtopic and skill-pairing are not predictable as these depend on the context used to assess the topic. • **The question papers were not predictable.**				
Paper 2					
Predictability across the years (✓-acceptable predictability), (x-unacceptable predictability)					
Topic coverage	**Content coverage per subtopics**	**Topic weightage**	**Item types per subtopic**	**Subtopic skill-pairing**	**Scenario subtopic skill-pairing**
✓	✓	✓	✓	✓	✓
Conclusions	• The IEB Mathematical Literacy Paper 2 final examination question papers **did not demonstrate unacceptable predictability.** • Structural elements remained consistent across the three-year cycle; a curriculum requirement. • Due to the nature of the topic and the subtopic assessed in Question Paper 2, predictability was not visible.				

The findings in Table 3.17 indicate that although both Paper 1 and Paper 2 exhibit intentional structural predictability in line with SAG requirements, the variation in subtopic selection, contextual framing and skill-pairings prevents learners from

anticipating specific items. The consistent format does not lead to pattern learning and therefore both papers were not predictable.

3.18: MATHEMATICS

Table 3.18 highlights the findings on predictability in IEB Mathematics examinations across 2022–2024, focusing on recurring trends in topic coverage, content coverage per subtopic, topic weightage, item-type usage, subtopic–skill-pairing and scenario–subtopic skill-pairing.

Table 3.18: Findings on the predictability of the IEB Mathematics examinations over the period 2022–2024

Assessment body and subject	**IEB Mathematics**				
Paper 1					
Predictability across the years (✓-acceptable predictability), (x-unacceptable predictability)					
Topic coverage	**Content coverage per subtopics**	**Topic weightage**	**Item types per subtopic**	**Subtopic skill-pairing**	**Scenario subtopic skill-pairing**
✓	✓	✓	✓	✓	✓
Conclusions	• IEB Mathematics Paper 1 examinations indicate acceptable predictability in subtopic selection and topic–skill-pairings.				

	• Each paper meets the basic expectations for content coverage; there are repeated patterns/elements which make the paper accessible to all candidates • **Overall, the IEB question papers were not predictable.**

Paper 2					
Predictability across the years (✓-acceptable predictability), (x-unacceptable predictability)					
Topic coverage	**Content coverage per subtopics**	**Topic weightage**	**Item types per subtopic**	**Subtopic skill-pairing**	**Scenario subtopic skill-pairing**
✓	✓	✓	✓	✓	✓
Conclusions	• IEB Mathematics Paper 2 indicates acceptable predictability in subtopic selection and topic–skill-pairings. • Each paper meets the basic expectations for content coverage; there are repeated patterns/elements which make the paper accessible to all candidates • **Overall, the IEB Mathematics question papers were not predictable.**				

Table 3.18 shows that both Paper 1 and Paper 2 displayed acceptable levels of predictability in areas that enhance accessibility and ensure adequate curriculum coverage, including subtopic selection and topic–skill-pairings. Although certain elements recurred across years, these did not amount to unacceptable predictability. Consequently, neither paper can be regarded as predictable.

3.19: PHYSICAL SCIENCES

Table 3.19 provides a synthesis of the analysis of predictability in the IEB Physical Sciences examinations from 2022 to 2024, reviewing topic coverage, subtopic content coverage, topic weightage, item types, subtopic–skill-pairing and scenario–subtopic skill-pairing.

Table 3.19: Findings on the predictability of the IEB Physical Sciences examinations over the period 2022–2024

Assessment body and subject	**IEB Physical Sciences**				
Paper 1					
Predictability across the years (✓-acceptable predictability), (x-unacceptable predictability)					
Topic coverage	**Content coverage per subtopics**	**Topic weightage**	**Item types per subtopic**	**Subtopic skill-pairing**	**Scenario subtopic skill-pairing**
✓	✓	✓	✓	✓	✓
Conclusions	• The examination question papers of the past three years were of acceptable predictability. • There were no item or question repetitions, except where the assessed curriculum was aligned to the prescripts. • The format and structure of the examination questions were maintained in terms of the total mark allocation, total number of questions, including the MCQ, and the location of topics within the question papers. • Various item types were employed and varied scientific skills were assessed. • **The question papers were not predictable.**				
Paper 2					
Predictability across the years (✓-acceptable predictability), (x-unacceptable predictability)					

Topic coverage	Content coverage per subtopics	Topic weightage	Item types per subtopic	Subtopic skill-pairing	Scenario subtopic skill-pairing
✓	✓	✓	✓	✓	✓
Conclusions	• The examination question papers of the past three years were of acceptable predictability. • There were no item and examination question repetitions, except where the assessed curriculum was aligned to the prescripts. • The format and structure of the examination questions were maintained in terms of the total mark allocation, total number of questions, including the MCQ, and the location of topics within the question papers. • Various item types were employed and varied scientific skills were assessed. • **The question papers were not predictable.**				

Table 3.19 shows that both Paper 1 and Paper 2 maintained a consistent, policy-aligned structure while incorporating sufficient variation in item types, assessed skills and contextual framing, with no unnecessary repetition. This combination of structural stability and substantive variation ensured acceptable levels of predictability without creating predictable patterns. Therefore, neither paper was predictable.

PART IV: DISCUSSIONS, CONCLUSIONS AND GENERAL RECOMMENDATIONS

CHAPTER 4

Discussions, general recommendations and conclusions

Chapter 3 presented a consolidated summary of the key findings that emerged from the evaluation of selected DBE and IEB NSC examination papers. These findings were derived from a systematic analysis of papers, administered between 2022 and 2024, to identify patterns of predictability across the sampled subjects. Building on this foundation, the current chapter provides a discussion of the results and draws connections to the study's conceptual framework and broader assessment principles. It, further, offers evidence-based recommendations informed by the observed trends; and concludes with reflections on the implications of the findings for assessment quality, validity and future examination design.

4.1. Discussions

The three-year evaluation of DBE and IEB examinations revealed a consistent pattern in which structural stability was maintained while sufficient year-to-year variation was introduced to minimise predictability in most subjects. This pattern aligns closely with the conceptual framework outlined in Section 1.6, which emphasises that predictable assessments emerge when curriculum alignment, question formats, skill-pairings and scenario structures become repetitive across cycles. Predictability, as defined in the framework, refers to the degree to which learners can anticipate content, format or specific questions, due to recurring patterns in examination design (Hu and Trenkic, 2021).

The data presented in Tables 3.1 to 3.19 indicate that, across most subjects, including DBE Accounting, Business Studies, Economics, Geography, History, Life Sciences, Mathematical Literacy and Physical Sciences, there was consistent year-to-year variation in item types, subtopics, assessed skills and contextual scenarios. This variation contributed to strong content validity by ensuring broad sampling of curriculum requirements while also supporting construct validity through the assessment of diverse cognitive processes.

These findings are consistent with the broader literature, which warns that excessive predictability can narrow curriculum engagement and encourage rote learning. However, the patterns reflected in the tables suggest that such risks were largely mitigated through deliberate diversification of question structures and skill demands across examination cycles (Holmes *et al*., 2020; Elwood *et al*., 2017).

Despite this generally positive trend, the analysis clearly identifies two exceptions where patterns of repetition exceeded acceptable predictability benchmarks: DBE Mathematics Papers 1 and 2 and DBE English FAL Paper 3. In the case of DBE Mathematics, the tables show repeated subtopic selection, highly stable topic weightings, consistent item type formatting and recurring topic–skill-pairings across the three years. Such repetition mirrors concerns raised in the conceptual framework, where over-reliance on narrow item structures and unvaried cognitive demands can compromise construct validity by measuring a shrinking set of skills (Tabari-Khomeiran and Barrett 2025).

The findings explicitly describe both DBE Mathematics papers as predictable, noting that repetition "narrowed the range of constructs being assessed" and advantaged learners who rely heavily on past-paper rehearsal. The DBE English FAL Paper 3 exhibits a similar pattern: the tables document repeated use of identical scenario types, such as diary entries and obituary writing, resulting in

predictable topic–skill-pairings that conflict with the framework's expectation for varied scenario framing (Hsu *et al*., 2023). This predictability weakens assessment validity by enabling learners to anticipate not only the text types but also the communicative demands.

While DBE Mathematics and English FAL Paper 3 show clear predictability concerns, the IEB examinations across all subjects demonstrate a more robust pattern of variation. Although structural features such as topic coverage and mark allocations remained stable, as required by the SAG, the content, skill demands, item types and scenario framings varied sufficiently to prevent the emergence of predictable patterns.

The conceptual framework recognises such structural consistency as acceptable predictability when it reflects policy requirements rather than repetitive performance cues (Rosén and Nilsen, 2024). As documented in the tables, IEB examinations balanced accessibility and fairness with substantive year-to-year variation, showing no evidence of construct narrowing or scenario repetition. Consequently, all the sampled IEB subjects were classified as not predictable, despite minor repeated elements and omission of examinable topics.

These findings have important implications for fairness, assessment integrity and maintenance of NSC assessment standards. Literature by Hu and Trenkic, 2021; Elwood *et al*., 2017, emphasises that when assessments become predictable, learners with access to past papers and targeted coaching gain disproportionate advantages, exacerbating educational inequalities.

In most DBE and IEB papers, variability across the six analytical dimensions ensured that examination questions elicited genuine understanding and flexible reasoning rather than rehearsed responses. However, in DBE Mathematics and English FAL Paper 3, the tables indicate that repeated

patterns created opportunities for performance inflation without corresponding improvements in underlying competencies. This aligns with the broader argument presented in the conceptual framework of this study: that excessive predictability undermines both content and construct validity, ultimately weakening the assessment's capacity to provide credible, high-stakes certification.

4.2. General Recommendations

The analysis of Tables 3.1–3.19 suggests the need for subject-specific measures, particularly in cases where predictability has been identified. It is recommended that examination designers adopt multi-year rotation matrices that regulate the recurrence of subtopics, skills, item types and scenario framings, consistent with the conceptual framework's emphasis on maintaining broad construct representation (Roebianto *et al.*, 2023). Moderation processes at assessment body level should include explicit cross-year comparison to detect emerging patterns, especially in subjects where upward learner performance trends have raised concerns about predictability. Additionally, the creation and expansion of item-type and scenario banks would help diversify question structures, reducing reliance on familiar templates and mitigating unintentional patterning.

For DBE Mathematics, diversification is essential. The tables explicitly recommend varying item types, adjusting topic–skill-pairings, rotating subtopics and altering weighting patterns to broaden the range of constructs assessed. Incorporating greater contextual variety, increasing opportunities for open-ended reasoning and introducing non-routine, problem-solving tasks would enhance construct validity and counteract recurring item patterns.

For DBE English FAL Paper 3, the immediate priority is to expand the repertoire of assessed text types and communicative scenarios. This requires moving

beyond the repeated diary and obituary formats, ensuring alignment with curriculum expectations while varying scenario framing to assess a wider range of communicative skills. Moderators should verify that no text type or scenario appears more than once within a multi-year cycle, unless justified by explicit curriculum requirements.

For both DBE and IEB papers, the findings also support maintaining deliberate variety in cognitive demand, item difficulty and linguistic formulation. As indicated in the conceptual framework, balanced cognitive distribution and diversified question design strengthen validity by encouraging deeper learning and reducing the risk of rote memorisation (Holmes *et al*., 2020).

Finally, implementing routine predictability audits using the six analytical dimensions from the tables would support ongoing monitoring and prevent the emergence of unintended patterns.

4.3. Conclusions

The three-year analysis demonstrates that, across most subjects in both the DBE and IEB systems, examination papers achieve the desired balance of structural consistency and substantive variation. This balance aligns with the conceptual framework's principles of content and construct validity. It also ensures that examinations serve their intended high-stakes function without compromising fairness or curriculum breadth. The findings affirm that the majority of papers are not predictable, offering learners equitable opportunities to demonstrate a range of competencies without relying on rehearsed responses.

The two exceptions, which are DBE Mathematics Papers 1 and 2 and DBE English FAL Paper 3, highlight areas where repeated item structures and scenario framings have narrowed the constructs assessed. This creates predictability that could undermine the credibility of the examinations and

inflate learner scores unrelated to genuine performance. However, these issues are identifiable and remediable through targeted rotation strategies, diversification of item types and scenarios, strengthened moderation systems and adherence to the study's conceptual framework.

By implementing these recommendations, the DBE can bring these outlier subjects into alignment with broader national and international standards for high-stakes assessment, ensuring that the NSC remains credible, fair and reflective of actual learner competency.

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