

NATIONAL SENIOR CERTIFICATE EXAMINATION

2014

DIAGNOSTIC REPORT



basic education

Department:
Basic Education
REPUBLIC OF SOUTH AFRICA



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EXAMINATION**

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LIST OF ACRONYMS AND ABBREVIATIONS

CAPS	Curriculum Assessment Policy Statement
DBE	Department of Basic Education
FET	Further Education and Training
ICT	Information and Communication Technology
NCS	National Curriculum Statement
NSC	National Senior Certificate
PEDs	Provincial Education Departments
MCQs	Multiple Choice Questions
LOLT	Language of Learning and Teaching
LTSM	Learning and Teaching Support Material

FOREWORD



I am pleased to release the National Diagnostic Report on Learner Performance, which presents a comprehensive, qualitative analysis of the subject performance of the Class of 2014, in the first National Senior Certificate examinations based on the Curriculum and Assessment Policy Statements (CAPS). This report is directed at classroom practitioners, subject advisors and curriculum planners, and provides them with insight into learners' performance in eleven key subjects. It evaluates performance in the selected subjects by highlighting the areas of weakness in each of these subjects, and the remedial measures that need to be adopted at the school level in order to improve the performance in these subjects, thus allowing teachers to review and refine their teaching strategies accordingly.

This report is based on an analysis of the actual responses of learners from the 2014 examination answer scripts. It covers a sample of scripts from all nine provinces and therefore it is representative of the challenges experienced by the Grade 12 learner population in that subject. Classroom practitioners, using this report will be able to extract areas of the subject that should constitute the focus of their interventions in 2015 and beyond. This report will therefore serve as a catalyst for improved planning at all levels of the system so that the quality of teaching and learning can be elevated to the next level. Over the last few years, this report has established itself as a valuable resource for Grade 12 teachers as well as for curriculum planners and curriculum implementers.

The report covers eleven subjects i.e. Accounting, Agricultural Sciences, Business Studies, Economics, English First Additional Language, Geography, History, Life Sciences, Mathematics, Mathematical Literacy and Physical Sciences. It will uncover the misconceptions or error patterns in the learners' responses particularly in subjects where the performance has declined significantly from previous years, and in other subjects it will highlight the areas where instructional practice needs to be adjusted to move the subjects to the next level of performance. Teachers are encouraged to conduct and integrate the diagnostic analysis into their everyday teaching. The performance of learners must be continuously evaluated through classroom-based tests and assessment tasks, analysed to identify learning progress, and to establish the efficacy of the remediation strategies.

In conjunction with this diagnostic report, the Department of Basic Education will continue to capacitate teachers to develop responsive and appropriate instructional programmes that will successfully address these areas of weakness in the subjects. I am confident that through this Diagnostic Report and the myriad of other interventions implemented in the system, we will see a remarkable improvement in learner performance in 2015.

Let me conclude by expressing my sincere appreciation to the large band of teachers who tirelessly labour to ensure that learners are fully prepared to write the National Senior Certificate, year after year. Your efforts are acknowledged, and may you always look at the innumerable amount of learners that continue to take their rightful place in our society as a reward for your selfless sacrifice.

A handwritten signature in black ink, appearing to read 'Am Motshekga'.

MRS AM MOTSHEKGA, MP
MINISTER OF BASIC EDUCATION
05 JANUARY 2015

1.1 INTRODUCTION

This report is part of the on-going initiative by the Department of Basic Education to improve the use of the National Senior Certificate results as a diagnostic source of information for improving learning and teaching. In this report, a qualitative analysis is undertaken which attempts to determine the extent to which the Class of 2014 achieved the learning outcomes and fulfilled the academic requirements of the Curriculum and Assessment Policy Statements. The report evaluates learner performance in selected subjects by highlighting the areas of weakness in each of the subjects and articulating the remedial measures to be adopted at the school level to improve performance in these subjects. The report is based on qualitative data that is drawn from the subject reports compiled by the chief markers, internal moderators and subject specialists post the marking process.

This National Diagnostic Report on Learner Performance provides teachers, subject advisors, curriculum planners and curriculum implementers with a picture of learner performance in each of the selected subjects. The Diagnostic Report in each subject, commences by presenting comparative data on the performance trends observed over a four year period in the subject, and then provides an overall performance of candidates per question in the respective question papers in the subject. Common errors, misinterpretations and misconceptions identified during marking and suggestions for improvement are also provided. The poor quality of answers provided by some candidates in certain subjects continues to point to gaps in the teaching methodology and content knowledge of some of our teachers.

The National Diagnostic Report on Learner Performance is in its fourth year of publication. Where possible, attempts have been made to track progress made in the subject and in content areas which were highlighted as problematic in the previous years. Progress or lack thereof, in the said areas, should determine the extent to which further interventions are necessary in 2015. This also suggests that continued reference to the previous Diagnostic Reports is essential since the areas of weakness identified in previous years may still be applicable in certain cases.

1.2 SCOPE AND PURPOSE

The report covers the eleven NSC high enrolment subjects, namely; Accounting, Agricultural Sciences, Business Studies, Economics, English First Additional Language, Geography, History, Life Sciences, Mathematics, Mathematical Literacy and Physical Sciences. Each subject report presents comparative learner performance trends in the last four NSC examinations (2011 to 2014), learner enrolment trends, a general overview of learner performance in the subject in the 2014 NSC examination and a per question diagnostic analysis.

Based on a detailed per-question analysis of the responses of candidates in each of the eleven subjects, a diagnostic analysis was undertaken and completed. The remedial suggestions are not exhaustive, and therefore teachers and subject advisors should use these suggestions as a foundation for developing, and implementing the most appropriate remedial measures that may be pertinent to their context.

It is envisaged that subject-based diagnostic analysis will be institutionalised within the pedagogical practice not only at national level, but also at provincial, district and school levels. It is hoped that the diagnostic report will be seen as a key resource that will be utilised effectively by every Grade 12 teacher and subject advisor in 2015. Subject advisors are encouraged to mediate this key resource in their workshops with teachers in 2015.

The DBE and PEDs will monitor the distribution and utilisation of this report and, feedback from teachers and subject advisors on the usefulness of these reports and how they could be improved in future years will be solicited.

1.3 METHODOLOGY

During the marking of the 2014 NSC examination, 100 scripts per paper per subject were randomly selected from each province. The scripts were randomly selected from a number of districts in the province to cover low, medium and high scores.

The internal moderators and chief markers analysed and noted learners' responses to each question. This entailed recording the marks obtained by learners from the 100 scripts on a per question basis. The individual scripts were scrutinised to provide an in-depth understanding of the range of different responses and to note the strengths and weaknesses. Particular attention was given to common errors and misconceptions identified in the learners' responses.

Based on the analyses, a detailed explanation is provided per question/sub-question under the following three main titles:

Section 1: Performance Trends (2011 – 2014)

A comparative analysis of the performance of learners over the last four years in terms of the number of learners who wrote, the number and percentage of learners who achieved at 30% and above, and, the number and percentage of learners who achieved at 40% and above, is presented in this section. The information is presented in tables and graphs to enable easier interpretation of any trends, especially on changes over the medium term as well as changes from year to year.

Performance distribution curves are also provided to graphically present the distribution of learner scores in the last three examinations. Any improvement or decline in the performance can be observed from the position of the 2014 graph, relative to previous years. If the 2014 graph lies to the right of the two previous graphs, this suggests an improvement in performance, while a location to the left indicates a decline in performance.

Section 2: Overview of Learner Performance

This section summarises the performance of learners in the question paper as a whole. It makes reference to generic areas of good performance or weakness and the possible reasons for these observations.

Section 3: Diagnostic Question Analysis

This includes the following:

- A graphical representation of the average percentage marks obtained per question;
- An analysis of the performance of learners in each specific question, stating whether the question was well answered or poorly answered (and the reason);
- Common errors and misconceptions that were identified in candidates' responses; and,
- Suggestions for improvement in relation to teaching and learning, content and methodology, subject advisory support and provision, and utilisation of LTSM.

The reports from all nine provinces for each question paper, per subject were consolidated and the findings are summarised in this report. It is recommended that this report be read in conjunction with the November 2014 NSC question papers. Specific references are made to specific questions in the respective question paper in each subject.

1.4 LIMITATIONS

The diagnostic analysis of learner performance in this publication is only limited to the eleven (11) subjects with high Grade 12 enrolments. The remaining subjects will be covered in reports compiled by the provincial chief markers and internal moderators during the marking process. The DBE will endeavour to broaden the scope of the subject coverage in future years.

The focus of this report is more qualitative than quantitative. The quantitative aspects are limited to the performance trends in each subject and the average performance per question in the 2014 examination papers. Other quantitative subject data is available in the Schools Subject Report. Qualitative data was derived from the reports compiled by the provincial chief markers and internal moderators during the marking process. In consolidating the findings and recommendations from the individual provincial reports, there may have been a loss of some of the provincial detail and therefore it is recommended that provincial curriculum planners and provincial curriculum implementers refer to the provincial reports to ensure that the provincial specifics are not ignored or overlooked.

This report therefore provides a national summary of the areas of weakness and therefore there is still a need to not only refer to the provincial report, but district specialists must also be encouraged to develop a district diagnostic report. Ultimately there should also be a school diagnostic report, which focuses specifically on the areas of weakness at the school level.

1.5 GENERAL FINDINGS

The general findings emanating from the analysis of the eleven subjects are as follows:

- (a) The 2014 diagnostic reports for the 11 subjects covered in this publication, indicate that the pass rate has improved in four of these subjects (Accounting, Agricultural Sciences, Geography and Life Sciences) at both the 30% and the 40% level, and has declined to varying degrees in the other seven subjects. An encouraging feature, nonetheless, is the increase in distinction rates in the case of six subjects. This suggests an improvement by the top achievers in these subjects compared to previous years.
- (b) The introduction of new content in the CAPS curriculum has affected the design and format of the examinations in the various subjects to differing degrees and this has contributed to the drop in performance in a number of subjects. In some subjects where there were minimal content and assessment changes, the performance has remained stable or improved.
- (c) Despite the drop in performance in certain subjects, it has been noted that across a number of schools there is an improvement in the quality of responses that are being presented by learners. This suggests improvement in teaching and learning in these schools. However, at the other end of the spectrum, poor quality responses and misconceptions are still prevalent in a number of schools and these will be the focus of this report.
- (d) There is a strong correlation between reading skills of candidates and their ability to decode the requirements of a question. All the subject reports in this publication indicate that the poor language skills of numerous candidates are a major reason for under-achievement. This adversely affects the ability of those candidates to interpret questions and source material, and to frame appropriate responses to questions. This was observed in learners' inability to correctly interpret the verbs used in a question and their understanding and application of the correct subject terminology.
- (e) In the case of subjects requiring the use of mathematical or calculation skills, it is evident that candidates lacking these skills are severely disadvantaged when it comes to earning marks for even the most basic application of these mathematical skills.

- (f) It also appears that deficiency in understanding specific subject content areas is a problem in many schools. The problem appears to be compounded by a shallow grasp of some of these content areas by teachers, or by teachers neglecting to cover certain aspects of the curriculum. The poor quality of responses even in lower-order questions suggests that some of the candidates were not adequately exposed to the relevant content. Meaningful and effective interventions at the teacher level consequently remain a major priority. Evidence also points to a cumulative deficit of subject content on the part of learners. This is an issue that needs to be addressed at the lower grades in the GET band and in Grades 10 and 11.
- (g) In many cases, candidates appeared to cope with lower order questions that require the application of routine procedures that were taught in the classroom. However, where the questions required independent or creative thought, learners were unable to cope. This relates to analytical, evaluative or problem-solving questions. Higher level thinking is predicated on sound and thorough understanding of basic concepts. It would therefore appear that these basic concepts are not taught properly and teachers do not provide learners with sufficient and appropriate application exercises as part of the classroom activities, and the assessments conducted in the classroom.
- (h) In many instances, candidates regurgitated responses to similar questions that appeared in previous question papers which did not necessarily suit the context in the question in the given examination. As a result, this worked against the candidates and contributed to loss of marks since it was evident that they had not understood the questions presented to them.

1.6 KEY RECOMMENDATIONS

- (a) Provincial Education Departments must convene a session where all curriculum implementers and subject advisors involved in providing support to teachers in the specific subject are invited to engage with the National Diagnostic Report. In this session, the matters raised in the report must be mediated and framed within the context of the province. As indicated earlier the remedial measures presented in the Report are not exhaustive and therefore at the provincial level these can be elaborated and additions made to address the provincial contextual needs.
- (b) The 2014 National Diagnostic Report focuses on the questions and topics covered in the 2014 NSC examination papers. Therefore, the contents of the previous Diagnostic Reports i.e. 2011-2013 are also pertinent to the gaining of broader insight into learners' performances and to the identification of gaps in teaching and learning. These previous reports must also be used in preparing the Class of 2015 for the 2015 NSC examinations. This report must be cascaded from the provincial to the district level and finally to the school, which is its desired destination. Subject advisers at the district level should convene workshops with the teachers under their jurisdiction, as well as conduct on-site support visits. Subject advisers should also monitor the improvement plans of their teachers, looking specifically for the inclusion of recommendations emanating from the individual subject reports.
- (c) Teachers should ensure coverage of the curriculum and the full range of cognitive levels in their teaching and assessment strategies. Mere recall of procedures or specific content on the part of learners will not enable them to respond fully to the demands of the question paper. Teachers must prepare learners adequately by creating opportunities for the learners to reflect, analyse and evaluate the content, in order to develop their holistic understanding and applied competence.
- (d) Teachers must also be focused on aspects of language competence and examination technique. Each teacher is a language teacher and therefore language and comprehension must be emphasised in each subject classroom. Focus must be paid to the subject terminology and definitions and these must be clearly understood. Attention must also be given to the action verbs that are used in the phrasing of questions and their specific meaning in the context of each question.

- (e) District officials should closely monitor curriculum coverage to ensure that all the topics in a subject have been covered according to the annual teaching plan. This would ensure that all topics receive due attention, allowing candidates to be better prepared for the examination. The monitoring process also needs to focus on the standard and quality of the assessment tasks used for SBA, as these tasks prepare learners for the NSC examinations, and they provide an opportunity for the teaching and learning interventions to gain traction well before the NSC examinations.
- (f) Teachers must inform learners that while it is good preparation to make use of past NSC papers, the responses to past questions will not necessarily suit a question in a current examination, if the context of the question is modified. Learners should be discouraged from providing responses learnt by rote without judiciously assessing whether the response is relevant.

CHAPTER 2

ACCOUNTING

The following report should be read in conjunction with the Accounting question paper of the November 2014 Examination.

2.1 PERFORMANCE TRENDS (2011 – 2014)

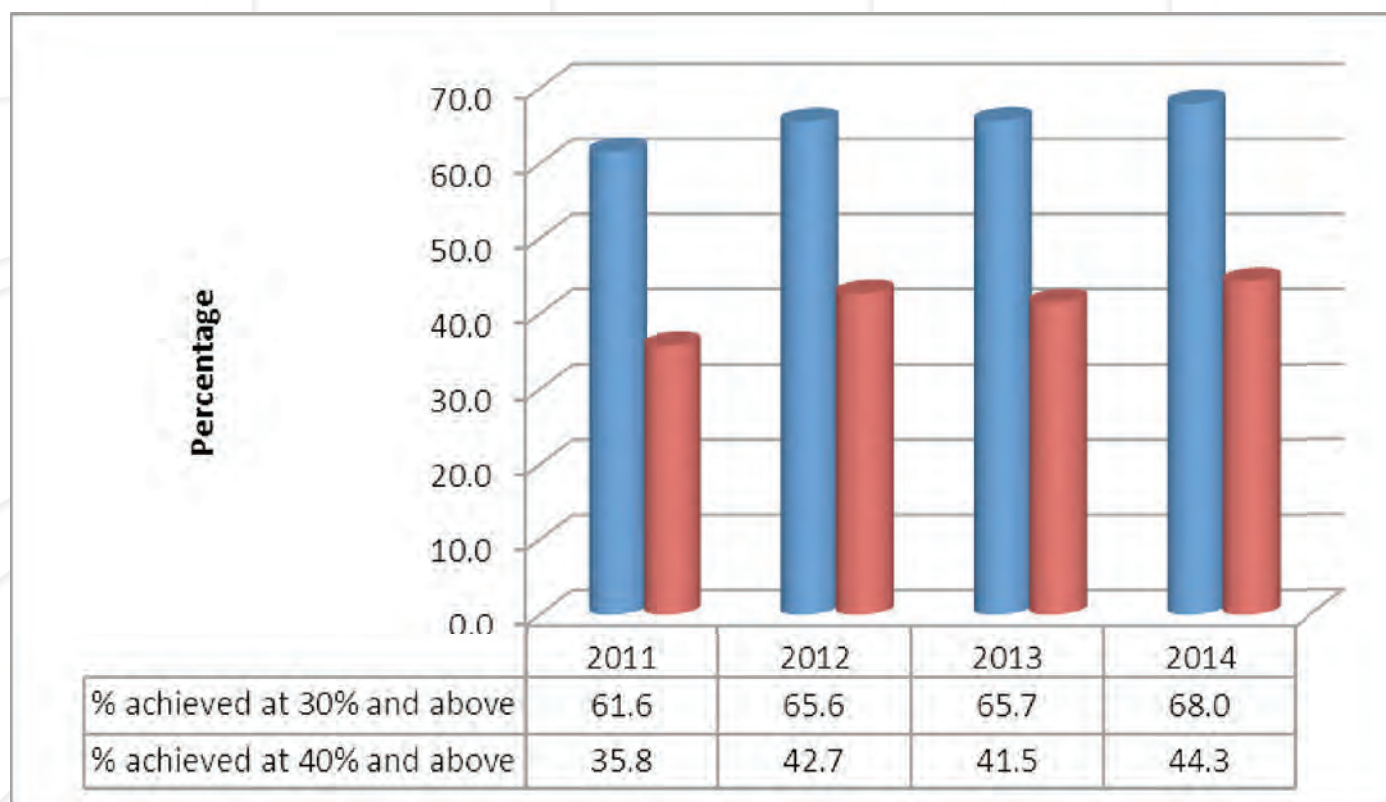
The general performance of candidates reflects a positive trend. In comparison to the previous year, the following features are noted:

- The number of candidates writing the subject decreased by 19 440. Candidates passing at the 30% level improved by 2.3 percentage points whilst candidates passing at the 40% level improved by 2.8 percentage points, compared to 2013.
- Candidates achieving distinctions over 80% remained relatively high at 4.9% of total candidates, but declined from 5.3% of the previous year.

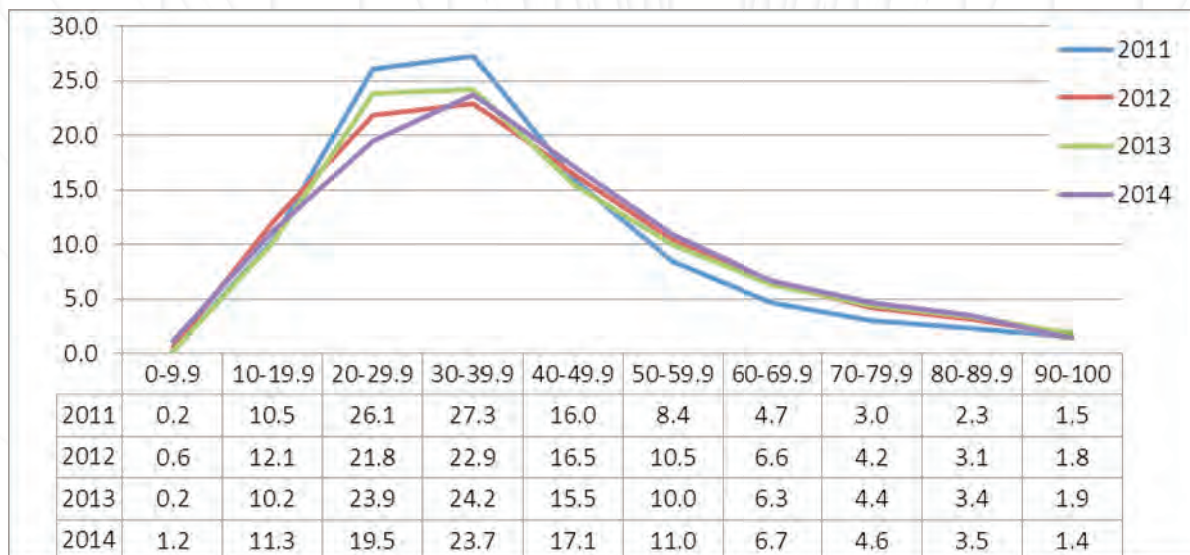
Table 2.1.1 Overall achievement in Accounting

Year	No. Wrote	No. achieved at 30% and above	% achieved at 30% and above	No. achieved at 40% and above	% achieved at 40% and above
2011	137 903	84 972	61.6	49 368	35.8
2012	134 978	88 508	65.6	57 621	42.7
2013	145 427	95 520	65.7	60 311	41.5
2014	125 987	85 681	68.0	55 837	44.3

Graph 2.1.1 Overall achievement in Accounting



Graph 2.1.2 Performance distribution curves in Accounting



From the above graphs showing the performance over the last four years, it is clear that there has been a general improvement in performance across the different performance levels.

2.2 OVERVIEW OF LEARNER PERFORMANCE

General comments

- (a) New CAPS content to the extent of 30 marks was included in the 2014 NSC Accounting examination paper as follows:

Q2.2	Reconciliation to creditors' statement	16 marks
Q3.1	Repurchase of shares in the context of the Balance Sheet	6 marks
Q4.2	Repurchase of shares in the context of the Cash Flow Statement	3 marks
Q4.7	Repurchase of shares in the context of shareholding	5 marks

- (b) The Diagnostic Reports of 2012 and 2013 highlighted weaknesses and proposed strategies that should also be taken into account to assist learners to be adequately prepared for the NSC Accounting examination. It is apparent that in certain centres these resources have not been used to prepare learners. This could be due to a lack of finances to cover the costs of reproducing the past papers, or a lack of willingness on the part of teachers and/or learners to engage with these resources.
- (c) There was evidence that some teachers had seriously considered the contents of previous Diagnostic Reports on Accounting. This, together with the interventions by the PEDs to assist learners, has ensured progress in many centres. Although the overall raw scores reflected improvement in the quality of candidates' responses, it is disappointing to note that candidates in several centres did not perform better compared to 2013.
- (d) The vast majority of candidates engaged with every question, at least in part. There were very few centres where candidates ignored entire questions. Vital skills that separate the successful candidate from the less able candidate include the ability to address the specific requirements of each sub-question, to focus specifically on the information that is relevant to answer each sub-question, and to use the allocated time more effectively.
- (e) Topics such as fixed assets, interpretation of financial information, identification of figures for inclusion in a Cash Flow Statement, and analysis of a Cash Budget, continue to present a major challenge for candidates in many centres.

- (f) The poor quality of answers in many centres indicates that problems still exist in the teaching and learning process. It is a concern that many candidates presented completely inappropriate responses to certain middle-challenge or easy questions involving basic applications, as evidenced by superfluous and misplaced items.
- (g) Many of the easy sub-questions covered basic knowledge essential for enabling candidates to engage with the more complex aspects of each topic. The continued failure of weaker candidates in some centres to answer these questions indicates that basic concepts are not properly covered and that basic formats of financial statements or ledger accounts are not regularly or effectively reinforced.
- (h) General factors that contributed to candidates' not achieving even better results this year:
- **Inability to deal successfully with certain calculations:** Accounting examination papers contain a number of arithmetical calculations. Many candidates did not understand the logic of the calculations required (positive/negative signs, percentages and ratios).
 - **Inability to accurately read the requirements of questions:** This was evident in several sub-questions where learners' responses were not in line with the specific requirements.
 - **Inability to identify relevant information:** Weaker candidates appear to have been disadvantaged by being unable to strategically identify relevant information without inspecting every figure or item of information given.

General suggestions for improvement

Teachers are advised to build the following practices into their work plans for the year:

- (a) **Use of past NSC papers:** Every learner should have access to past examination papers. With the introduction of CAPS in 2014, it is necessary for teachers to adapt parts of certain questions so that they can be used for revision purposes. Questions that include par value of shares and share premium will have to be altered and adapted. To comply with CAPS, teachers should ensure that learners have sufficient practice with questions involving repurchase (buy-back) of shares, and cash budgets and projected income statements in the context of companies (i.e. not simply in the context of sole traders). Teachers should also answer these papers themselves so as to improve their own confidence in their ability to deal with each topic.
- (b) **Basic concepts and the Accounting equation:** Teachers should ensure that learners understand and can explain the essential basic concepts and terminology before engaging in Accounting applications in each topic. These concepts should also be introduced on a gradual basis at appropriate points when covering the Economic & Management Sciences curriculum in the FET phase to ensure that learners develop confidence in basic Financial Accounting before progressing to Grade 10. Learners undertaking Accounting in Grade 10 without this foundation will require additional assistance from their teachers to ensure progress in Accounting in the FET phase.
- (i) The most vital concepts are those contained in the expanded Accounting equation: **Assets + Expenses + Drawings = Capital + Income + Liabilities**. The process of conceptualizing and understanding the above goes much further than simply the rote-learning of definitions.
- (ii) It is also necessary for learners to appreciate the difference between different types of assets, different types of liabilities and different types of activities, i.e. current and non-current assets, current and non-current liabilities, and operating, financing and investing activities. This will enable them to prepare and interpret the different financial statements more effectively.

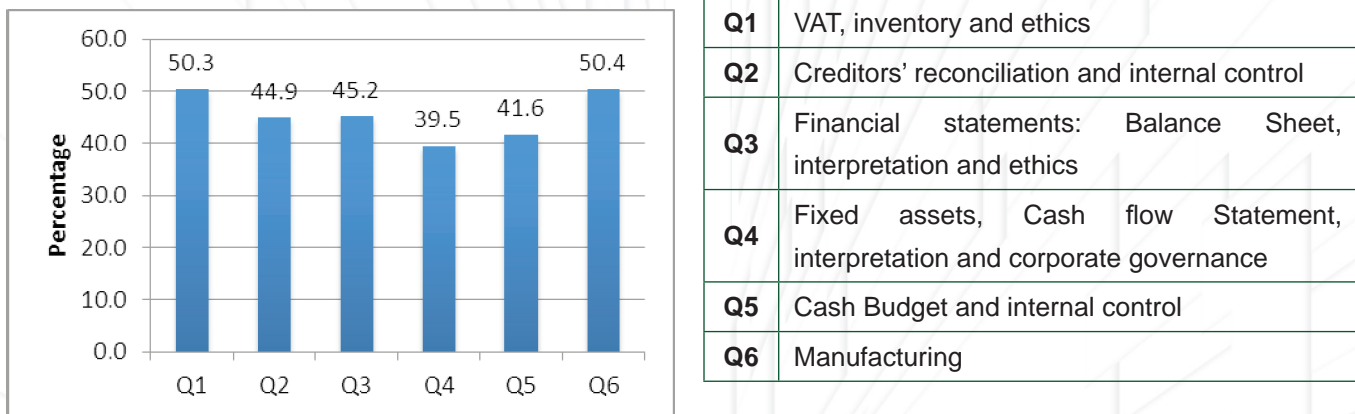
- (c) **Revision of relevant content of Grades 10 and 11:** 20% of an examination paper might contain content from previous grades that is pertinent to Grade 12 content. Vital aspects that must be consistently reinforced in the Grade 12 teaching programme include disposal of fixed assets, cash budgets, projected income statements, cost accounting and reconciliation statements (i.e. bank, debtors and creditors). The above topics must be revised and reinforced within the Grade 12 syllabus. The tight time frames in Grade 12 do not allow for complete re-teaching of these topics. Consolidation tasks on these topics are advised for weaker learners at the end of Grade 11, even after examinations have been written.
- (d) **Memorising and understanding basic formats:** Teachers should ensure that the basic formats of financial statements and ledger accounts are fully understood by learners.
- (e) **Internal control and ethical issues:** Teachers should teach not only the logic and the process of each Accounting process in the curriculum, but also the internal control measures and ethical considerations that are relevant to each process. These aspects must be integrated into the teaching of the relevant topics. Furthermore, as these issues are integrated in different topics in examination questions, integration in the teaching of the different topics should result in more effective understanding of these issues.
- (f) **Enhancing learners' skills of accurately interpreting specific sub-questions and using information that is relevant:** When using past examination questions or papers as revision, teachers are advised to actually read and interpret the requirements with their classes and to teach learners how to use their prior knowledge of the topic in efficiently identifying the information that is relevant to each sub-question. Accounting examination papers necessarily contain all the financial information relevant to each question. Tables are often used to reduce the amount of verbal reading. Learners must understand that there is a logical manner in which this information is set out, using sub-headings and tables. Examples are also provided in this report to address this on-going problem.
- (g) **Time management:** Learners must be trained in the art of managing their time and to adhere to the suggested time allocations provided in the paper. The mark allocation and the spaces provided in the answer book are also good indicators of the amount of information needed.
- (h) **Comments and explanations:** Teachers need to train learners to express themselves clearly and simply where comments or explanations are required. In Accounting, the use of bullet points and short, concise sentences is acceptable. Language proficiency and learners' ability to express themselves clearly and precisely should no longer be seen as an obstacle to presenting correct responses.
- (i) **The importance of formative testing:** Teachers should ensure that they build up the confidence of learners in all topics through the use of short, informal formative tests. It is more effective if learners mark these formative tests themselves for immediate feedback and for an appreciation of how marks for easy parts of an examination question can be obtained. This will also force learners to take ownership of the learning process. The 'confidence-booster' easy sections in each of the questions in the NSC Accounting papers can be used as formative tests that may be self-marked by learners. Formative tests can also be used to great effect in introducing the new sub-topics in CAPS, e.g. repurchase (buy-back) of shares and reconciliation with creditors' statements.

2.3 DIAGNOSTIC QUESTION ANALYSIS

2.3.1 PERFORMANCE PER QUESTION

The following graph was based on data from a random sample of candidates. While this graph might not accurately reflect national averages, it is useful in assessing the relative degrees of challenge of each question as experienced by candidates.

Graph 2.3.1 Average marks per question expressed as a percentage



From the above graph, it is clear that performance in all questions was at 50% and below. The worst answered question was Q4 where candidates scored an average of 39.5, and the question in which they scored the highest is Q6

2.3.2 ANALYSIS OF LEARNER PERFORMANCE IN INDIVIDUAL QUESTIONS

QUESTION 1: VAT, INVENTORY AND ETHICS

This was regarded as the easiest question in the paper and was generally well answered. However, many weaker candidates did not answer certain parts of it well. The easily obtainable marks in this question were for the providing of correct words (Q1.1; 4 marks), certain aspects of the VAT calculation (9 marks) and the calculation of carriage on purchases (Q1.3.1; 4 marks). It was encouraging that most candidates were able to identify and calculate the stock shortage to indicate control of stock (Q1.3.4; 4 marks), although only the stronger candidates earned full marks for this sub-question.

Common errors and misconceptions

- It was very disappointing that many candidates did not know that the VAT rate on necessities was 0% (Q1.1.2; 1 mark), and that the perpetual or continuous inventory system involves recording of cost of sales (Q1.1.4; 1 mark); moreover, some did not know what the letters FIFO represented (Q1.1.3; 1 mark). Lack of knowledge of basic concepts such as these is an indication of severe shortcomings in the learning processes and commitment of such candidates.
- There was a variety of approaches used by candidates to calculate the amount due to SARS for VAT (Q1.2; 9 marks). Capable candidates were able to earn full marks and part marks of up to 5/9 were achieved by many candidates on this sub-question. The weaker candidates were confused by the + or – effect on the amount due to SARS, even in cases where the VAT amounts were given. These candidates were confused about the calculation of VAT when the selling price inclusive of VAT is given, and could not do the basic arithmetical calculation of $x14 \div 114$. Many candidates who used the VAT Control account to arrive at the amount due, could not work out whether the VAT amount was a debit or a credit to this account.
- The weaker candidates could not work out the carriage on purchases (Q1.3.1; 4 marks): this was considered to be a very easy calculation. The incorrect answers from these candidates reflected either an inability to read and interpret the information in the table correctly, or an inability to perform a very simple arithmetical calculation.

- (d) Although the calculation of the value of closing stock was generally well done (Q1.3.2; 8 marks), some candidates did not take the returns into account in the calculation.
- (e) Many candidates did not realise that if the value of stock according to FIFO is higher than the value according to the weighted average method, the cost of sales would be lower, which would lead to a higher gross profit (Q1.3.3; 2 marks). This error reflects a lack of understanding of how cost of sales is calculated. Candidates were generally able to provide a valid reason, e.g. inconsistency, against a change in valuation method, but did not recognise that blazers are easily identifiable products which could make the FIFO method appropriate (Q1.3.3; 4 marks).

Suggestions for improvement

- (a) Teachers are advised to set short formative tests at regular intervals on calculations of VAT due to/by SARS, inventory valuation, cost of sales and gross profit. VAT calculations should be linked to the VAT control account during the teaching process, although, for examination purposes, candidates should be encouraged to use the technique with which they are most comfortable to arrive at the correct answer.
- (b) When teaching stock valuation, teachers should refer back to the Trading Account, which has been covered from Grade 10, to illustrate and reinforce the effect of the closing stock value on gross profit.
- (c) Learners should be encouraged to verbalise their understanding of the different stock valuation methods, and to provide examples of products that lend themselves to the different valuation methods, i.e. specific identification (introduced by CAPS), FIFO or weighted average methods.
- (d) Use of past NSC questions in the teaching and learning process would ensure that candidates are familiar with these topics. For example, learners should be directed to the creative problem-solving questions in past papers that focus on control of stock and cash in order to give them an appreciation of real-life scenarios in order to enhance their understanding of internal control practices.

QUESTION 2: CREDITOR'S RECONCILIATION AND INTERNAL CONTROL

The quality of responses to this question varied significantly. The reconciliation of a creditor's ledger account to the statement received from a creditor represents new content in the Grade 11 and 12 CAPS (Q2.2; 16 marks). Candidates should have been able to achieve relatively well on this topic as it bears a close resemblance to the techniques required in a bank reconciliation, a topic with which teachers should be very familiar as it is part of the Grade 11 and 12 curriculum for many decades. Capable candidates who were confident in the art of reconciling figures and who could cope with the required adjustments, achieved very well, in many cases earning full marks.

The easily obtainable marks in this question were for the explanation of the need for preparing a creditor's reconciliation statement (Q2.1; 4 marks), and basic adjustments for certain items omitted from either the statement or the ledger account (Q2.2 A-D and H; 8 marks). It was very disappointing that average candidates could not always achieve the marks for these relatively easy aspects, indicating an inability to transfer basic knowledge from bank reconciliations to creditor's reconciliations.

Common errors and misconceptions

- (a) Several candidates could not appreciate that a document received from another organisation e.g. a statement of account, plays an important part in internal control and internal audit procedures (Q2.1; 4 marks). A reconciliation becomes necessary if information on that document does not agree from the internal records kept by a business so that the reasons for differences can be identified and addressed.
- (b) The identification of figures for effecting changes to the ledger account balance or to the statement balance was very poorly done by many weaker candidates (Q2.2; 16 marks). Such candidates did not understand that errors or omissions must be rectified only in the records that are incorrect or incomplete. It was a common occurrence to find candidates providing adjustments in both columns, a clear indication that they had no basic understanding of how to reconcile figures, with the result that they were penalised for superfluous entries.

- (c) Some of the adjustments required were more challenging than others (e.g. Q2.2 G; 2 marks). Although capable students performed well on these items, weaker candidates were unable to identify the 'double' effect of the credit note on the ledger account balance.
- (d) Although most candidates were able to offer comments on the scenario of a weakness in internal control (Q2.3; 4 marks), many appeared to rely on their general knowledge in suggesting possible sanctions or strategies. Others mentioned valid concepts such as division of duties in a superficial way and without further explanation. Weaker candidates continue to focus on dismissal of an employee as the prime solution, without mentioning the disciplinary processes or the possibility of recompense by the employee.

Suggestions for improvement

- (a) Teachers should encourage learners to appreciate that reconciliation to creditor's statements is very similar to the techniques used in reconciliations to bank statements. Transferal of knowledge from one type of reconciliation to another should be within the capabilities of Grade 12 learners. However, it is crucial that learners understand that a creditor's balance reflects a liability, whereas a positive bank balance reflects an asset. This will obviously have an impact on the adjustments required.
- (b) Reconciliation questions such as Q2.2 lend themselves to short, formative tests in class that can be self- or peer-marked. This would force learners to become accountable for their shortcomings in this section of work. It would also get them to appreciate how and why penalties for superfluous entries are applied in examination situations.
- (c) Teachers must continue to integrate theoretical knowledge of internal control and business ethics into the teaching of practical aspects of the subject such as reconciliations. Scenarios such as that contained in Q2.3 can be used to good effect as a topic for classroom discussion in order to support the learning process.

QUESTION 3: BALANCE SHEET, INTERPRETATION AND ETHICS

Performance in this question was satisfactory, although weaker candidates revealed serious errors of principle in their answers.

In the Grade 12 CAPS, new content to do with this aspect of the syllabus comprised the treatment of the repurchase of shares (Q3.1.1; 3 marks and Q3.1.2; 3 marks). Apart from the new content, certain other aspects of the question were intended to challenge more capable candidates (e.g. Q3.4; 4 marks and Q3.5; 6 marks).

Common errors and misconceptions

- (a) Weaker candidates were not able to treat the repurchase of shares correctly (Information D) and did not calculate final dividends correctly (Information E). This was despite the fact that it was expressly stated that all shares qualified for dividends. These candidates did not seem to appreciate that it would have been reasonable for dividends to be calculated on all shares, particularly as the repurchase occurred on the last day of the financial year.
- (b) Although there was an improvement in the quality of preparing the Retained income note (Q3.1.2; 11 marks), weaker candidates still reveal a severe lack of understanding of the format. This is an on-going problem which was also mentioned in the 2013 Diagnostic Report. Weaker candidates were observed placing completely inappropriate entries from the list of balances in the Retained income note. Candidates could have earned at least seven part-marks for the basic entries in this note had they properly understood the format.
- (c) Weaker candidates again reflected an inability to understand the basic components of the Balance Sheet (Q3.2; 26 marks). This is a constant problem. A number of inappropriate entries were noted, e.g. rent received in advance being shown as part of trade and other receivables, or prepaid expenses being shown as trade and other payables. Weaker candidates also neglected to transfer the figures from the notes to the Balance Sheet, thereby losing 3 method marks for the Equity section. These candidates were also not able to add up the Balance Sheet appropriately, thereby losing opportunities to earn method marks on the sub-totals, totals and the missing figure for fixed assets.

- (d) Weaker candidates were not able to treat the amount due to SARS for income tax correctly (Information G), often not offsetting the provisional tax payment against the total tax for the year.
- (e) Although average to weaker candidates earned part-marks in commenting on the change in dividend policy (Q3.4; 4 marks), it was only the more capable candidates who earned full marks by correctly comparing DPS to EPS for each year to assess the change in dividend payout policy.
- (f) Although average to weaker candidates were able to earn part-marks on the returns and market price by quoting the changes in the relevant financial indicators or market prices (Q3.5; 6 marks), it was only the more capable candidates who earned full marks by correctly comparing the 2014 market price to the 2014 net asset value of the share to assess the value of the share.
- (g) Although average to weaker candidates were able to earn part-marks on the ethical scenario relating to the audit assistant (Q3.6; 4 marks), it was only the more capable candidates who earned full marks by correctly identifying the conflict of interest and the need for the appointed auditors to change the personnel conducting the audit. In this case it is not necessary for the audit firm to be replaced.

Suggestions for improvement

- (a) It is essential that the expanded Accounting Equation ($A+E+D=L+C+I$) be fully understood from an early stage of studies in Accounting, i.e. from the GET phase, and particularly from Grade 10 in the FET phase. The components of this equation reflect the basic concepts which learners must be able to understand and explain. They should also be able to provide examples of items relating to each component.
- (b) Candidates should be alerted to the easily obtainable method marks for sub-totals, even if errors have been made in the preceding figures.
- (c) In the NSC exam, 300 marks have to be distributed to cover three modules. It is therefore impossible for all financial statements to be tested in one paper. The different financial statements will be rotated randomly over a period. Learners must get to know the basic formats of all major financial statements, as well as the relevant notes. This can be achieved without the use of figures.
- (d) Regular formative tests should be conducted on calculations relating to the number of shares, the average share price, the shares repurchased and the interim and final dividends.
- (e) Regarding the repurchase of shares, teachers are advised not to unnecessarily complicate the entries by introducing new ledger accounts. Teachers are referred to the Examination Guidelines for further explanation. In preparing the financial statements, learners need focus only on the simple overall effect, which is:

Reduce Share capital	by the number of shares repurchased (based on average issue price per share).
Reduce Retained income	by the difference between the amount paid to repurchase the shares and the original issue value of the shares repurchased (based on average issue price).
Reduce Bank	by the total amount paid.

Note that shares repurchased at a price below the average issue price are not often encountered in practice, and will therefore not be examined at Grade 12 level.

QUESTION 4: FIXED ASSETS, CASH FLOW, INTERPRETATION AND CORPORATE GOVERNANCE

Considering that cash flow statements are regarded as one of the more challenging topics, this question was generally well answered by most average and capable candidates.

New content comprised the entry in the cash flow statement for shares repurchased (Q4.2; 3 marks), and the explanation of the control over the company by a family group (Q4.7; 5 marks). Although repurchase of shares was tested in Q3, this question focused on a different scenario, i.e. cash outflow, and as such would not be considered double testing.

Aspects of this question that were well-answered were certain of the missing figures in the Fixed assets note (4.1a&b; 4 marks), the calculation of financial indicators (Q4.4; 6 marks) and the comment on liquidity (Q4.5; 9 marks). Over the past few years, candidates have generally displayed pleasing improvement in these analytical sections of the syllabus, although in-depth revision will be required with each cohort of learners.

Common errors and misconceptions

- (a) The calculation of depreciation on vehicles (Q4.1c; 8 marks) was very poorly done by many candidates. This is a topic that is covered in the Grade 10 and 11 curricula. Weaker candidates appeared to have little idea of how to use the diminishing balance method and how to deal with an asset bought during the year. They consequently earned very few part-marks.
- (b) Many weaker candidates did not appear to understand the logic and format of the Cash Flow Statement (Q4.2; 31 marks). This was extremely disappointing as 7 marks were allocated for the descriptions of items, i.e. the details, and 9 marks were allocated to method marks for totals and sub-totals. These marks should be easily achievable by weaker candidates. However, these candidates placed items in the incorrect categories on the Cash Flow Statement and were not able to use brackets appropriately to indicate outflows of cash, thereby not earning several of the method marks. Some of these candidates also could not identify the straightforward figures for inclusion in the statement, i.e. the proceeds of the shares issued (2 marks) and the decrease in the loan (2 marks). Although the more capable candidates earned full marks for the calculations of tax paid and dividends paid, this was generally not well done by the weaker candidates, who often did not provide workings to earn part-marks. This is surprising, given the inclusion of this style of questioning in most past papers.
- (c) Many candidates were not able to identify from the Cash Flow Statement, examples of poor decisions by directors, such as would have led to cash flow or profitability problems (Q4.3; 4 marks). Many also did not explain why these were poor decisions.
- (d) Although most candidates were able to quote the relevant financial indicators to comment on liquidity (Q4.5; 9 marks), some did not earn full marks because they neglected to mention the trends (i.e. from one year to the next) in their answers. This was specifically required by the question.
- (e) Regarding the increase in the loan (Q4.6; 8 marks), only the more capable candidates mentioned both the low risk aspect (i.e. as indicated by the debt-equity ratio) and the positive gearing (i.e. as indicated by the return on capital employed compared to the interest rate). In this case, conditions existed where the greater use of loans could have led to an increase in profit.
- (f) Although many capable candidates correctly calculated the percentage shareholding by the Bakker family before and after the repurchase of the shares (Q4.7; 5 marks), average to weaker candidates did not do both these calculations in order to make a comparison.

Suggestions for improvement

- (a) The Cash Flow Statement should be taught by focusing on specific aspects in isolation in order to develop learners' confidence in identifying appropriate figures and practising the correct use of brackets to indicate outflows. Some of these figures are relatively easy to calculate, e.g. the difference between loans at the beginning and the end of the year will indicate the value of the cash outflow (in brackets) or the cash inflow (without brackets). Short, formative tests on the specific items would be beneficial in developing learners' understanding.

These can be peer- or self-marked. Learners must understand that they will be penalised if inflows and outflows are not properly indicated as such through either the absence or the use of brackets, as it is the main purpose of the Cash Flow Statement to clearly reflect the inflows and outflows of cash.

- (b) Note that under CAPS the Cash Flow Statement could contain an outflow under Financing Activities of the amount paid to repurchase shares from shareholders. This is generally an easy calculation as it is presented by the number of shares repurchased multiplied by the repurchase price. The issue of shares (i.e. the inflow of cash) and the repurchase of shares (i.e. the outflow of cash) should be shown as two separate items under the financing activities section of the cash flow statement. This is similar to the process used with regard to fixed assets which form part of investing activities.
- (c) Where a bank overdraft exists, in calculating the Cash and Cash Equivalents from the Balance Sheet figures, learners must be taught to reduce the overdraft by the cash resources on hand (e.g. petty cash) in order to arrive at the correct net figure.
- (d) In commenting on financial indicators, learners must understand that part-marks are earned for quoting the trends in the actual figures from one year to the next or from one company to another. However, comments must go beyond merely quoting the trends. For example, in commenting on the returns, earnings and dividends of shareholders, candidates should also offer a general comment on their interpretation of the figures in order to earn full marks.
- (e) In commenting on the use of loans, in order to earn full marks for a comprehensive answer, learners must be taught to cover both the debt: equity ratio (i.e. to assess the degree of risk) and the return on capital employed compared to the interest rate (i.e. to assess positive or negative gearing).
- (f) In interpreting financial statements, including Cash Flow Statements, teachers should devote time to brief discussion on the statements prepared, i.e. whether the figures are satisfactory, whether they are significant (i.e. material) or not, and whether they reflect good or bad decisions by directors. This will serve to sow the seeds of an analytical or inquisitive approach by learners, thereby broadening their understanding of financial indicators. Analogies of other types of indicators found in real-life situations, e.g. batting or bowling averages in cricket, could be used to good effect in enhancing understanding of how indicators should be utilised, i.e. as indications or signals of positive points or problems rather than as conclusive evidence.
- (g) In teaching the repurchase of shares, teachers are advised to use the figures in a question to calculate the percentage shareholdings of hypothetical minority or majority shareholders. This should help learners to appreciate that decisions on share repurchases can positively or negatively affect the remaining shareholders.
- (h) Despite the improvement noticed in the calculation of financial indicators, weaker candidates do require additional support. Teachers must continue to conduct formative tests on this topic at regular intervals, as this lends itself to all sections across the curriculum. Learners must also be taught to understand the logic underlying each financial indicator. It is a retrogressive step to expect learners to memorise formulae, because these can easily be forgotten if the underlying logic is not understood. Moreover, inserting figures into a rote-remembered formula serves no positive educational purpose as learners will not be able to offer meaningful interpretations of the results. The formative tests should therefore cover both the calculation and the purpose of the financial indicator.
- (i) Teachers must also ensure that other ratios and financial indicators not tested in this question be given the same emphasis, e.g. financial indicators on mark-up and profitability as indicated in the Income Statement, and the calculation of EPS and DPS.

QUESTION 5: CASH BUDGET AND INTERNAL CONTROL

Performance on this question was generally satisfactory, although many candidates were not able to earn marks on the easier parts to this question. Above-average candidates were able to score distinctions on this question.

Common errors and misconceptions

- (a) Many candidates performed very poorly on the listing of items that should not have been placed in the Cash Budget (Q5.1; 4 marks), by providing completely inappropriate responses. This indicates a basic lack of understanding of a cash budget by these candidates, who nevertheless earned marks on other parts of this question, possibly through procedures learnt in rote fashion. Without this basic knowledge, such learners will always experience problems in preparing and interpreting these statements.
- (b) Although the Creditors Payment Schedule was generally well done (Q5.2; 9 marks), many weaker candidates could not do the basic calculation for credit purchases for December, which affected the December payments.
- (c) The calculations of the missing figures (Q5.5; 13 marks) should have been within the capabilities of all Grade 12 candidates. The fact that many weaker candidates could not do these calculations was disappointing as most of these calculations required the skill of basic arithmetical logic which is taught in the GET phase. Refer to the General Overview above.
- (d) Although the calculation of indicators of stock-holding period and mark-up percentage was generally well done (Q5.4; 14 marks), some candidates did not use the correct figures to calculate the mark-up percentage for the year, indicating that they are either not reading the question correctly or are unable to discern where the figures would be reflected in a typical question. Although many candidates correctly referred to the 2-month shelf life to assess the stock-holding period, many did not assess the mark-up percentage properly. Many average or weaker candidates superficially noted the increase in sales, without considering that the lower mark-up percentage actually led to a decrease in gross profit.

Suggestions for improvement

- (a) In order to develop an understanding of financial statements, including budgets, it is important for learners to understand the purpose and components of each financial statement and the nature of the information that it contains. This must be regularly reinforced by teachers through explanations and informal questioning techniques.
- (b) Teachers are advised to actively encourage learners to engage with questions involving interpretation of a Cash Budget or Projected Income Statement both in class and in their revision activities. This topic is often based on common sense and logic. The skill of identifying the missing figures is closely related to the process of preparing these statements, which is a Grade 11 activity. Learning problems experienced by weaker learners will have to be addressed through corrective measures at that level.
- (c) The basic calculations are often not challenging and merely require practice and the application of arithmetical logic. This can be addressed through short formative tests.
- (d) Many weaker learners might have problems in properly interpreting a question or the information provided, e.g. Information A related to Sales, Cost of sales and mark-up percentage. It was evident that many weaker candidates lacked the ability to engage with this information for Q5.4.3. Teachers are advised to spend time actually reading the specific question and the information with their classes, requiring the learners to answer the question themselves immediately, and then affirming or correcting their responses immediately. A similar approach could be used for the assessment of the stock-holding period (Q5.4.1) and the Creditors Payment Schedule (Q5.2). Teachers of weaker classes will find that a piecemeal approach such as this will tend to enable learners to reap the rewards of comprehending questions more readily and accurately.

QUESTION 6: MANUFACTURING

The quality of responses to this question varied significantly. Capable candidates who were confident of this topic and who could cope with the required calculations, achieved very well.

It appears that candidates are aware that some easily obtainable marks are available in a Production Cost Statement (Q6.1.3; 10 marks), in the calculation of Direct Labour Cost (Q6.1.1; 5 marks) and in the note for Factory Overhead Cost (Q6.1.2; 19 marks).

The identification of the problems and solutions regarding the bakery scenario with two products (Q6.2.1; 12 marks) was very well handled by the more capable candidates.

Common errors and misconceptions

- (a) Many candidates did not do as well as expected on the preparation of the note for Factory Overheads (Q6.1.2; 19 marks) as each item required adjustments. Apart from the basic arithmetical calculations that could not be done by the weaker candidates, e.g. the appropriate apportioning of costs to the factory, it was disappointing that these candidates did not treat the opening reversals and year-end bookkeeping adjustment entries correctly. These entries are covered in the Grades 10 and 11 curricula.
- (b) It was disappointing that weaker candidates could not get almost full marks on the Production Cost Statement (Q6.1.3; 10 marks) because they did not understand the basic format of this statement. Such candidates reflected figures in inappropriate places.
- (c) Although it was possible for weaker candidates to achieve part-marks on the problem-solving scenario (Q6.2.1; 12 marks), the performance of many of these candidates was very poor. The question specifically required candidates to identify unit costs that were major problems. Most of the weaker candidates simply quoted arbitrary figures from the information without focusing on the unit costs quoted in the last seven lines of the information table. Again, this reflects a lack of ability on the part of weaker candidates in the reading of the question and in linking the question to relevant information.
- (d) The question on the extra number of units to be produced to reach the targeted extra profit (Q6.2.2; 4 marks) is a variation on the break-even analysis that has been asked in past papers. This was intended as an extension question for more capable candidates. Many candidates incorrectly included total costs per unit in their calculation. This is incorrect because fixed costs as a component of total costs do not change with increased production. Although there are many ways to calculate the extra number of units, the simplest way is to divide the extra profit required by the 'contribution' per unit (i.e. selling price per unit less variable cost per unit). The more capable candidates used a mathematical equation in solving for 'x' to arrive at the correct answer.
- (e) Although most candidates identified the product negatively affected by the competitor (Q6.2.3; 5 marks), many neglected to mention that this product would make a loss as production and sales volumes have placed it below the break-even point.

Suggestions for improvement

- (a) The splitting of costs between the different departments is an essential part of the topic of Manufacturing. Short formative tests on the splitting of costs according to ratios or percentages are essential, particularly for weaker candidates. Revision of content for Grades 10 and 11 on year-end adjustments and reversals is also necessary for the weaker candidates.
- (b) When teaching the preparation of the Production Cost Statement, teachers are advised to refer to the unit cost of production and to unit costs for materials, labour and factory overheads. This can be done without requiring learners to formally calculate the unit costs at that stage, but it will serve to enhance understanding of the purpose and structure of this statement.
- (c) Refer to the above suggestion relating to Q5 and regarding the proper reading of the question and the identification of relevant information. The suggested piecemeal approach can also be applied appropriately to Q6.2. The suggestion provided regarding the formative testing of basic arithmetical calculations in Q5 in the context of budgets, will apply equally in the Q6 context of manufacturing.
- (d) It must be appreciated that deep problem-solving questions will contain a variety of items of information. Candidates will be expected to engage with the figures to identify problems and offer valid explanations and solutions. Separating the relevant and useful information from the irrelevant information is one of the problem-solving skills that should be developed in learners. This can be achieved by engaging in such questions from past examination papers as well as from a variety of textbooks.

CHAPTER 3

AGRICULTURAL SCIENCES

The following report should be read in conjunction with the Agricultural Sciences question papers of the November 2014 Examination.

3.1 PERFORMANCE TRENDS (2011 – 2014)

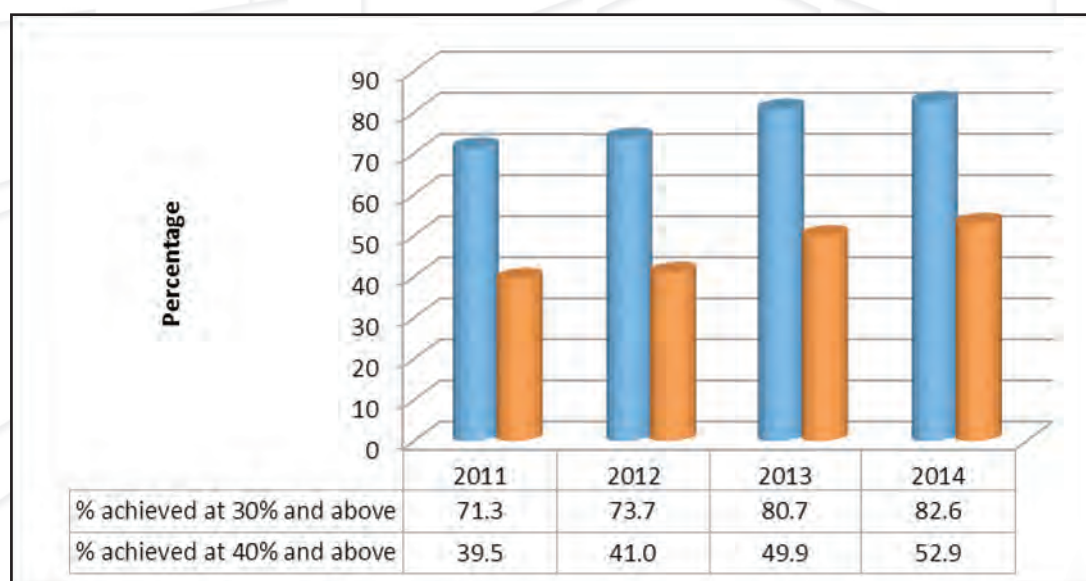
The general performance of candidates reflects a positive trend. In comparison to 2013, the following is noted with regard to 2014:

- The number of candidates writing the subject decreased by 5 360;
- Candidates passing at the 30% level improved by 1.9 percentage points whilst candidates passing at the 40% level improved by 3.0 percentage points; and
- Candidates achieving distinctions improved marginally from 3.1% to 3.3%.

Table 3.1.1 Overall achievement in Agricultural Sciences

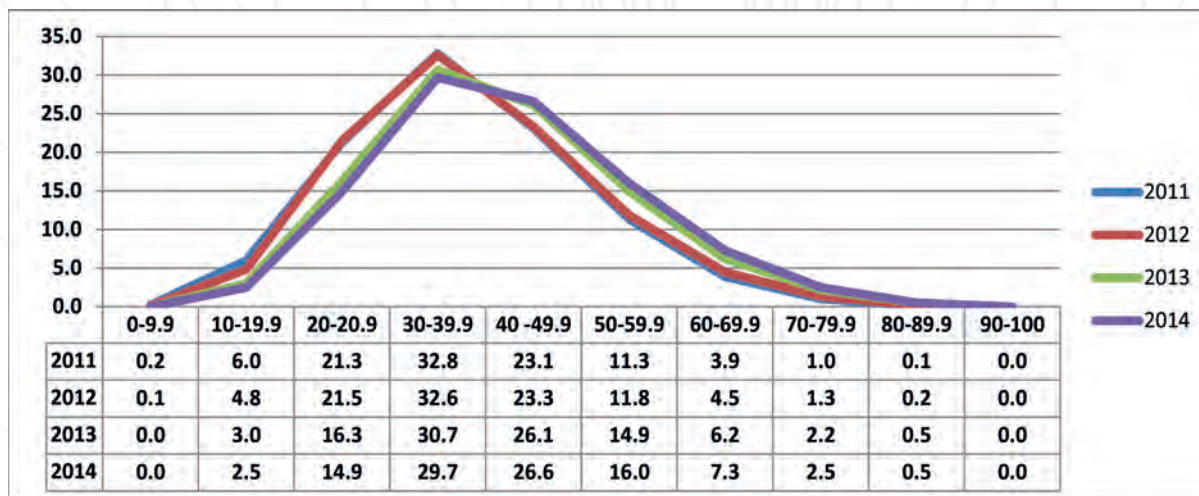
Year	No. Wrote	No. achieved at 30% and above	% achieved at 30% and above	No. achieved at 40% and above	% achieved at 40% and above
2011	77 719	56 404	71.3	30 678	39.5
2012	78 148	57 571	73.7	32 064	41.0
2013	83 423	67 437	80.7	41 654	49.9
2014	78 063	64 486	82.6	41 280	52.9

Graph 3.1.1 Overall achievement in Agricultural Sciences



There has been a gradual improvement in the pass rate (at the 30% level) of the subject over the last four years from 71.3% to 82.6%. A similar trend is observed with regards to the improvement of the pass rate at the 40% level.

Graph 3.1.2 Performance distribution curves in Agricultural Sciences



In terms of the overall performance in the subject across the different performance category levels, there has been an improvement across all categories and this is confirmed by the green line which represents the 2014 performance, being located to the right of the other graphs both at the lower and upper category levels.

3.2 OVERVIEW OF LEARNER PERFORMANCE FOR PAPER 1 AND PAPER 2

General comments

- There was remarkable improvement in Q4 in Paper 1 (Animal Reproduction). Besides the noted improvement in learner's responses to this topic, the improvement can also be attributed to this question being a stand-alone question and no longer coupled with animal protection and control.
- Candidates generally performed poorly in Paper 1, Q2 (Animal Nutrition). The poor performance in this question could be attributed to question being dominated by calculations. Formulae and substitution still provide a serious challenge to learners.
- Generally, in both papers, those sub-questions requiring terminology (Q1.3 and Q1.4) were poorly answered.
- Most of the candidates struggled with the data response questions and this can be attributed to their inability to interpret graphs, tables, illustrations, pictures and diagrams. This may suggest that candidates are not adequately exposed to these types of questions in the formal school-based assessment.
- General poor performance in Basic Agricultural Genetics is also noted.
- The paper required a significant amount of reading and this presented a problem to many candidates, given that most learners taking Agricultural Science are second language speakers of English.

General suggestions for improvement

Based on the general performance of candidates in the 2014 examination, the following suggestions are made to improve performance of learners:

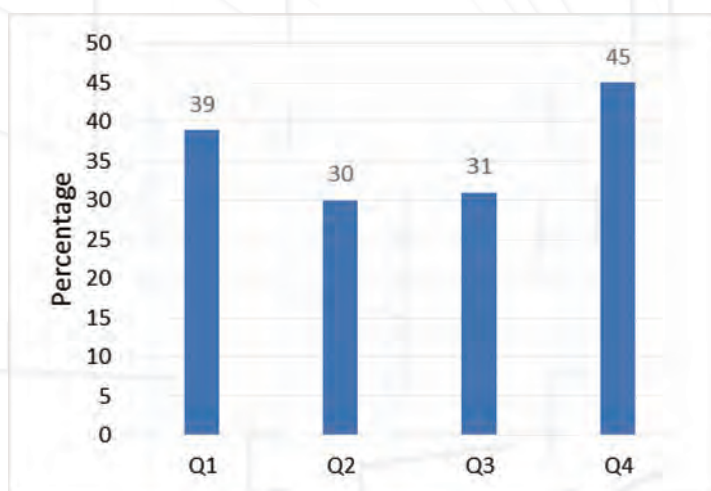
- The lack of basic conceptual knowledge requires a more intense focus on terminology and concepts by teachers. Learner exposure to other reading resources other than textbooks, could assist, e.g. Agricultural Magazines.
- There is a need for more short informal assessment tasks that can be marked by the learners themselves in the classroom. This will give learners more exposure to the types of questions that will be asked in the examination and thus improve learner confidence and performance.
- Data response questions, based on graphs and case studies, must be emphasized in the classroom teaching and assessment. Learners must be taught how to interpret these graphs and other data sources.

- (d) Learners should be exposed to simple mathematical calculations involving percentages, ratios, conversions of decimals, mass, weight and length. Calculations are an integral part of the subject. Learners must be taken through the various steps which involves an understanding of the formula/formulae, then the correct substitution followed by the actual calculation.
- (e) Teachers are expected to consult a range of textbooks and this will allow them to grant their learners a wider exposure.
- (f) Teachers need to broaden their practical experience in certain areas of the curriculum and learners must also be exposed to these practical situations. For example, Animal Production in Paper 1 requires candidates to understand the basic handling of farm animals and the facilities required.

3.3 ANALYSIS OF LEARNER PERFORMANCE IN INDIVIDUAL QUESTIONS IN PAPER 1

The graph below is a representation of learner performance in the various questions in the Paper. This graph is based on a sample of scripts which closely resembles the national performance of learners in these main questions.

Graph 3.3.1 Average marks per question expressed as a percentage: Paper 1



Q1	Multiple choice, match type, terminology & replacement: Animal Sciences
Q2	Animal nutrition
Q3	Animal production, protection and control
Q4	Animal reproduction

QUESTION 1: SHORT QUESTIONS (ANIMAL SCIENCES)

Candidates generally followed instructions by answering Q1 in the answer book, whereas in the past it was answered on a separate answer sheet. Most candidates did well in this question except for the few who might have resorted to guesswork to avoid leaving blank spaces. Sub-questions that were poorly answered were Q1.2, Q1.3 and Q1.4. These sub-questions were mainly on terminology.

Common errors and misconceptions

- (a) In Q1.2, candidates failed to follow the instruction to indicate the correct answer using letters A only, B only, C only, or both A and B.
- (b) Candidates confused the concepts of ovulation and oogenesis.
- (c) Confusion of terminology was observed in Q1.4, where the majority of candidates used the word 'Ion' which is a charged atom, instead of the element, 'Iron'. In other cases learners presented completely irrelevant terms as responses.

(a) Suggestions for improvement

- (a) Terminology needs to be emphasised in the daily lessons and learners need to be tested informally and on a regular basis on these terms.
- (b) Teachers should emphasise the importance of following instructions and the need to ensure that the instructions are correctly understood.

QUESTION 2: ANIMAL NUTRITION

Learners experienced difficulty in responding to this question.

Common errors and misconceptions

- (a) Very few candidates were able to identify the processes A, B & C (Swallowing, Regurgitation and Peristalsis, in Q2.1.2). Most candidates instead explained the processes. Candidates also confused regurgitation and rumination.
- (b) In Q2.2.2, qualifying the quality of the supplement was a problem for learners. Most referred to proteins, carbohydrates, etc without mentioning their nutritional status, such as supplements rich in carbohydrates (and not merely molasses or urea).
- (c) In Q2.3.2, candidates found it challenging to justify not recommending the hay. Candidates responded by stating that digestibility is low, whereas a 65% digestibility for hay is not normally referred to as low: only concentrates would be referred to in this way.
- (d) In Q2.4.3, the formula for nutritive ratio (NR) was still identified as a problem; hence candidates were unable to make the correct substitution. Some wrote the formula as 1: DNNP/DP. In most cases, candidates did not express the NR as a ratio, because they left out the 1: which shows clearly that they did not understand what is a ratio.
- (e) In Q2.5.1, candidates mentioned only the names of the two months, which was not responding to the question, which required the number of months, 2 months in this case, instead of January and February.
- (f) Q2.5.3 gave candidates presented a problem to candidates. They struggled to convert tons to kilograms, and would simply write $120t - 80t = 40t$. Others would merely change tons to kg and write $120kg - 80kg$, without converting.

Suggestions for improvement

- (a) Teachers need to be trained to understand the use of action verbs in questions and what is required of such questions. These action verbs should be used in school-based assessment tasks so that learners would be familiar with the kind of responses that are required of these questions.
- (b) Learners need to know that calculations are an integral part of the question papers, as indicated in the Examination Guideline. It should be stressed that the first step in calculations will be the formula, then substitution.
- (c) The poor performance in this question could be attributed to misinterpretation of questions. It should be inculcated into learners that interpretation of questions is critical in responding correctly to a question. This skill should be practised when learners are given assessment tasks in the classroom. Teachers should not be lenient whenever there is misinterpretation of questions in school-based assessment tasks.

QUESTION 3: ANIMAL PRODUCTION, PROTECTION AND CONTROL

Most candidates performed reasonably well in answering this question. This cohort of learners appear to show some improvement in the drawing of graphs compared to their counterparts in previous years.

Common errors and misconceptions

- (a) Candidates confused the advantages and problems of the backyard system of poultry production.
- (b) Numerous candidates did not do well in sub-question (Q 3.2), even though it looked simple and familiar. Learners were unable to match the statements to the apparatus that were given.
- (c) In Q3.3.2, candidates were unable to use the information provided in the table to justify their choice of system, which was an extensive farming system
- (d) In Q3.3.4, candidates could not explain the measures required to increase production in an extensive production system. They simply rewrote what was provided in the passage
- (e) In Q 3.4.2, candidates explained but did not give the status of the health indicators

Suggestions for improvement

- (a) Field trips to farms or the viewing recordings on DVDs that show the operation of farming systems will help learners in developing a deeper understanding of production systems.
- (b) Learners need to be exposed to scenarios and case studies to strengthen their application abilities.
- (c) Teachers train learners not to simply extract information from the question, but to identify what is required in the question and to provide insightful comments in their responses.
- (d) Teachers should provide enrichment activities, in the form of worksheets and practical investigations that would enhance reading and interpretation of data/information.

QUESTION 4: ANIMAL REPRODUCTION

The performance of candidates in this question was relatively better than the other questions. However, there were cases of poor performance in some sub-questions.

Common errors and misconceptions

- (a) Poor performance can be attributed to the fact that candidates cannot differentiate between independent and dependent variables when drawing a graph, as was the case in Q 4.2.1. The X- and Y-axes were swapped around.
- (b) In Q4.2.4, quite a number of candidates could not motivate why the follicle is fully developed. The stages of embryo transfer could not be arranged in their sequential order. This might imply that candidates cannot conceptualise the process of embryo transfer.
- (c) Q4.3.4 posed a challenge to most candidates. They referred to semen as fluid in the sperm; others gave the function of sperm, without indicating what a sperm cell is. In other instances, candidates simply gave a description, without differentiating between sperm and semen.
- (d) Many candidates had problems with labelling diagrams and identifying the functions of each part of a given diagram.
- (e) Candidates also experienced problems with the data-response-type of questions and were not able to identify relevant information from the material provided.

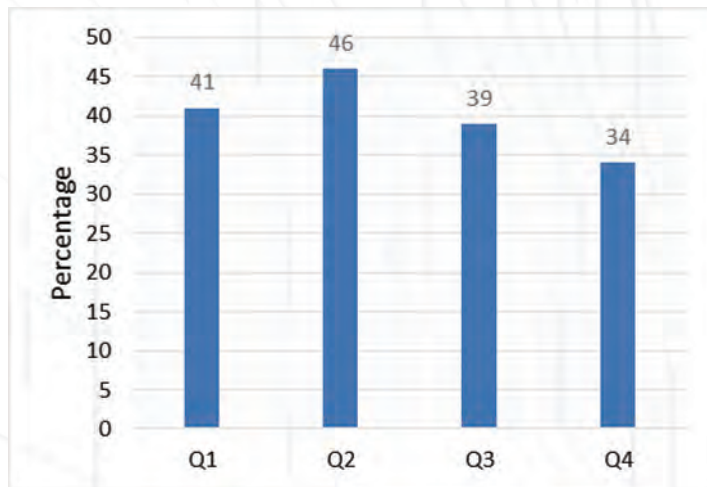
Suggestions for improvement

- (a) All types of graphs should be taught, with emphasis on interpretation. Teachers must focus on the distinction between the independent and dependent variables, by explaining the terms “dependent” and “independent” and providing learners with a series of simple graphs that highlight the difference between these two variables.
- (b) Practical investigations should form an integral part of the teaching of reproductive processes. This will assist in enhancing the understanding of these processes. These processes should preferably be observed in the real context when learners are taken on field trips to the farms.
- (c) In teaching the section on reproduction, charts, pictures and diagrams should be used to reinforce and enhance the understanding of the key concepts. Learners must be able to distinguish between and describe functions and adaptations of the various organs and cells.
- (d) Data response questions must form an integral part of learner assessment. Learners must be able to interpret data and this should be done using simple sources of data and basing questions on the data provided. Regular exposure to data-response questions will enhance the skill in this regard.

3.4 ANALYSIS OF LEARNER PERFORMANCE IN INDIVIDUAL QUESTIONS IN PAPER 2

The graph below is a representation of learner performance in the various questions in the Paper. This graph is based on a sample of scripts which closely resembles the national performance of learners in these main questions.

Graph 3.4.1 Average marks per question expressed as a percentage: Paper 2



Q1	Multiple choice, match type, terminology & replacement: Agric Management & Genetics
Q2	Agricultural management and marketing
Q3	Production factors
Q4	Basic agricultural genetics

QUESTION 1: SHORT QUESTIONS (AGRICULTURAL MANAGEMENT AND GENETICS)

Candidates performed reasonably well in this question particularly in the multiple choice (Q1.1) and the matching columns (Q1.2) questions.

Common errors and misconceptions

- Q1.1.3 was poorly answered as candidates either did not fully read the question or misinterpreted the question. They failed to differentiate between the different types of marketing systems and confused the free market system with the cooperative marketing system.
- In Q1.1.4, many candidates chose option A instead of option C, given that they viewed constant supply of produce as a challenge when marketing agricultural products.
- In Q1.1.10, the majority of candidates chose option A (gene to chromosome) as the correct answer instead of option B (DNA to chromosome). They confused a gene as the simpler structure found in the DNA, instead of the DNA in the gene, as described in option B.
- The question on terminology (Q1.3) was generally poorly answered by most candidates. Many candidates wrote “*long term asset*” as an answer to Q1.3.2, instead of “*collateral*”.
- The question on replacing the underlined words (Q1.4) was also poorly answered by most of the candidates, which is also indicative of problems with terminology. In Q1.4.3, candidates used the term “*owner*” or “*farmer*” instead of “*entrepreneur*”, because the question might have looked similar to a previous question, and they further did not understand the specific context of this question.

Suggestions for improvement

- (a) Learners need to be exposed to similar types of questions in their formal SBA activities (tests and examinations). This would help them to be more confident in the answering of these types of questions.
- (b) It is clear that learners continue to struggle with the correct terminology. Learners need to be exposed more regularly to these terms being used in their proper context, and they should be tested more frequently on an informal basis.

QUESTION 2: AGRICULTURAL MANAGEMENT AND MARKETING

Candidates' performed well in this question. The improved performance could be attributed to the streamlined content in the CAPS document and the Examination Guideline.

Common errors and misconceptions

- (a) In Q2.1.2, most candidates failed to work out the month with the highest income (i.e. *November*). Instead, they provided a month from the table where the price was the highest (i.e. *December*), resulting in the loss of 2 marks.
- (b) In Q2.1.3, candidates did not supply strategies related to the given data, but they gave general strategies on how the farmer could control the supply.
- (c) In Q2.2.1, most candidates were unable to identify the marketing system used by group 2, resulting in the loss of 2 marks in Q2.2.2, even though the reasons supplied by the candidates were correct.
- (d) Language seemed to be a barrier in Q2.3.4 as candidates struggled to understand the term, "*feasibility study*", so they ended up merely providing the components of a business plan.
- (e) In Q2.4.1, some candidates were unable to select and arrange the items in a sequential order in an agri-business. The problem might have been the listing of the activities in two columns.
- (f) In Q2.4.3, very few candidates obtained the full two marks as they gave the factors that hamper the marketing of agricultural products, which were not related to distribution process.

Suggestions for improvement

- (a) Teachers must provide learners more exposure to different types of graphs and tables and assist learners in making deductions from these graphs and tables.
- (a) Learners must be exposed to different approaches on how questions are presented.
- (b) Teachers should expose learners to all the marketing concepts that are linked to agricultural products.
- (c) *Agri-business chain, feasibility study and arranging of activities/items* challenged many candidates. Teachers should therefore use charts and pictures that show activities taking place in each stage so as to enhance the understanding of specific concepts.
- (d) Teachers need to focus on all aspects of the content that are listed in both CAPS and the Examination Guidelines. There may be topics which were not tested in recent question papers, but they remain important content topics.
- (e) Regarding the responses to open-ended questions, teachers are advised to expose learners to these types of questions in the classroom. Despite these questions being open-ended, the responses provided must be based on facts and must show logical reasoning and application of knowledge. Open-ended questions can be obtained from previous NSC papers and can be developed from media articles.

QUESTION 3: PRODUCTION FACTORS

Performance in this question was generally poor, even though there were instances of exceptionally good performance. The poor performance could be attributed to the nature of the question which required an analytical response to the data provided.

Common errors and misconceptions

- (a) In Q3.1.1, most candidates could not identify the type of labour that signed a given contract. Learners know the types of labour, but are unable to differentiate the different types of labour.
- (b) In Q3.1.2, candidates performed well, but they could not relate items in the contract to the pieces of legislation given. This indicates that they do not have a thorough knowledge of the labour legislation.
- (c) Performance in Q3.1.3 was fair because many candidates were able to identify the aspect, but were unable to justify how it could contribute to the problem of scarcity of farm labour.
- (d) In Q3.1.4, candidates could not state ways in which the diagnosis of the farm worker with HIV/AIDS could have an impact on productivity; instead, they gave ways in which the farmer could control the spread of HIV/AIDS among workers, resulting in the loss of 2 marks.
- (e) Q3.3.1 was very challenging to candidates as a number of candidates could not re-draw the table correctly with the headings. Others could not differentiate between *assets* and *liabilities* so as to sort them accordingly and were also challenged by terms like *bond* and *overdraft*. As a result, they could not place them correctly. In some instances, candidates could not add correctly to get the total number of assets and liabilities.
- (f) In Q3.4.2, many candidates were given one mark for the first part (increase in fertiliser resulting in increase in potato yield), but to get the second mark proved challenging.
- (g) In Q3.5.1, candidates were confusing management principles with management skills.
- (h) In Q3.5.2, candidates did not refer to the passage when giving external factors. They listed general external forces.
- (i) In Q3.5.3, they could not describe the types of record. They were unable to understand the term, *inventory* in (a).

Suggestions for improvement

- (a) Teachers are advised to train learners in specifically identifying what is required in a question. A useful tip is to get learners to underline the key words in a question so that the chances of mis-interpreting the question are reduced.
- (b) In the assessment conducted in the classroom, learners must be exposed to questions that requires analysis, comprehension and interpretation of information. Learners must be directly shown as to how to approach a question so that they respond to what is being asked. Learners need to be taught the meaning of the action verbs used in questions, such as *describe*, *identify*, *deduce*, *motivate*, *differentiate*, *justify*, *compare*, etc. Each of these action verbs demands a specific type of response.
- (c) Case studies, diagrams and scenarios need to be included in assessment tasks given to learners in the classroom. The aim would be to expose them to activities which would improve their skills in answering these types of questions. Reading and comprehension skills must be stressed during the regular classroom lessons.
- (d) Subject advisers should conduct workshops dealing with these topics to strengthen the knowledge and skills of teachers and to address the content gaps.

QUESTION 4: BASIC AGRICULTURAL GENETICS

Performance in this question was generally poor.

Common errors and misconceptions

- (a) In Q4.1.2 and Q4.1.4, candidates provided one characteristic for the phenotype instead of two, thus losing 3 marks. It was evident from their responses that they were not used to dihybrid crosses. Candidates could not draw punnet squares for dihybrid crosses to determine the genotype of offspring; as a result, most of them earned 1 mark out of the possible 4 marks.
- (b) Candidates could not identify breeding systems in Q4.2.1, especially A (upgrading) and C (cross-breeding). It was evident from their responses that they knew names of breeding systems, but did not know what each entailed. This could be due to memorisation without understanding, and a failure to read and interpret the question.
- (c) Q4.3.1, Q4.3.2 and Q4.3.3 were all based on co-dominance for 4 marks, and candidates performed poorly. They could not differentiate between *incomplete dominance* and *co-dominance*. This was evident when they were asked to explain the phenomenon behind the roan colour in Nguni cattle.
- (d) In Q4.4.1 the major challenge was with spelling of the terms or concepts such as *agro-bacterium tumefaciens*, *electroporation*, *recombination*, etc.
- (e) Candidates could not provide disadvantages of DNA-modified tomatoes in Q4.4.2.
- (f) In Q4.5, many candidates were unable to distinguish between *continuous variation* and *discontinuous variation*. Most of
- (g) te about graphs that are used to represent characteristics that show continuous variation or discontinuous variation and sometimes merely give examples of the traits.

Suggestions for improvement

- (a) Teachers must give special attention to basic crossing, genetic concepts and terminology in their teaching of this topic. Teachers must make sure that they teach learners dihybrid crosses, as it is now included in CAPS.
- (b) Teachers must inform learners that while it is good preparation to make use of past NSC papers, the responses to past questions will not necessarily suit a question in a current examination, if the context of the question is modified. Learners should be discouraged from providing responses learnt by rote without judiciously assessing whether the response is relevant.
- (c) Reinforcement of the factors that lead to different phenotypes (*incomplete dominance*, *co-dominance*, etc.) should be done through informal activities. Genetic modification is new content. It is therefore advised that numerous resources should be consulted in this regard. Furthermore, team teaching is advised, where possible so that teachers can focus on topics that they are most competent in. Teachers must clearly differentiate between *phenotypes* and *genotypes*.
- (d) Teachers need to specify that any letter of the alphabet can be used to represent the *gametes* that form the *alleles*, and to ensure that learners know how to read the preceding statements.
- (e) Subject advisers should convene workshops to address shortcomings in the content knowledge related to genetics. This was evident in the responses of candidates that there could be content gaps among teachers when it comes to genetics.
- (f) The teaching of genetics should be enhanced by providing practical examples such as plants, flowers and livestock.
- (g) There should also be integration with Life Sciences, where candidates also do Life Sciences, as genetics is taught comprehensively in Life Sciences.
- (h) Key to mastering basic genetics is the understanding of terminology. Learners should be able to describe concepts and provide practical examples to demonstrate an understanding of the terms and concepts.

CHAPTER 4

BUSINESS STUDIES

The following report should be read in conjunction with the Business Studies question paper of the November 2014 Examination.

4.1. PERFORMANCE TRENDS (2011 – 2014)

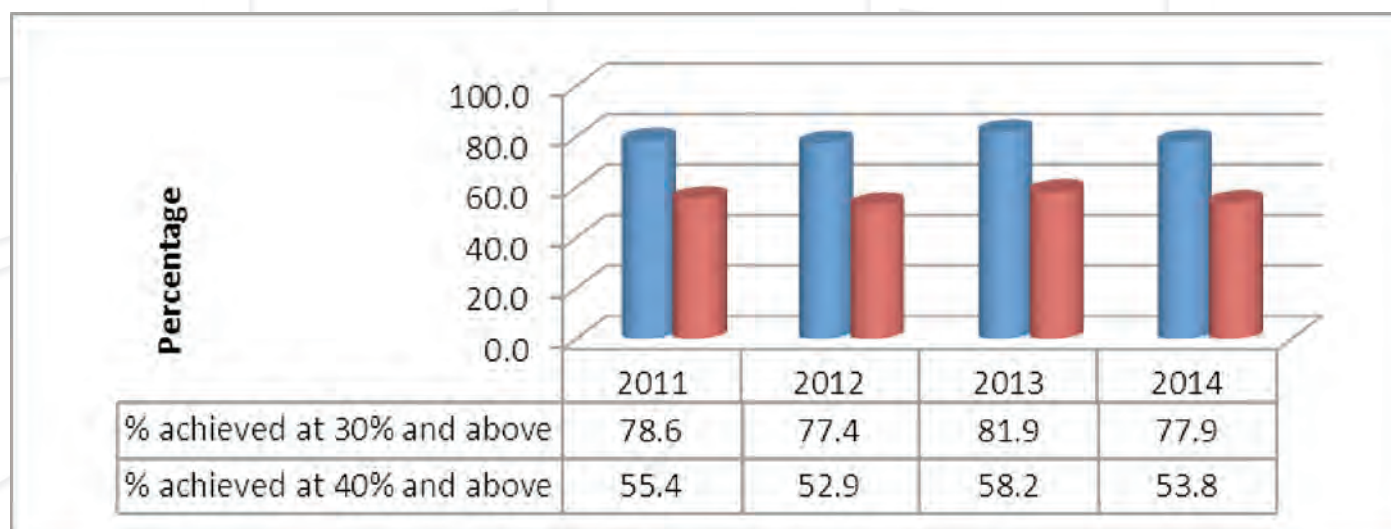
The general performance of candidates reflects a decline from that of the 2013, although it is in line with performances of the previous two years. In comparison to 2013, the following features are noted:

- The number of candidates writing the subject decreased by 11 255. Candidates passing at 30% level declined by 4.0 percentage points whilst candidates passing at 40% level declined by 4.4 percentage points.
- Candidates achieving distinctions over 80% declined marginally from 3.1% to 2.5% of the total candidates.

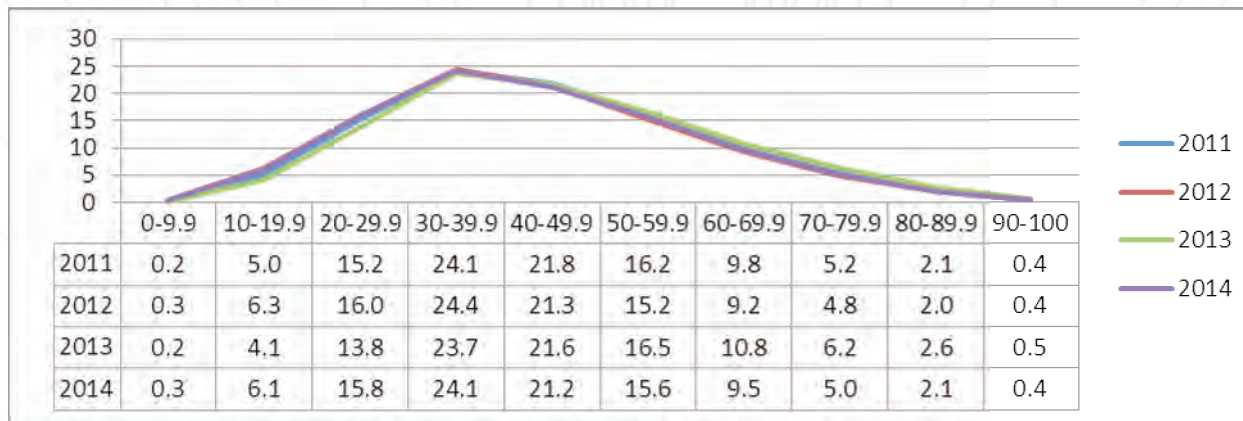
Table 4.1.1 Overall achievement in Business Studies

Year	No. Wrote	No. achieved at 30% and above	% achieved at 30% and above	No. achieved at 40% and above	% achieved at 40% and above
2011	187 677	147 559	78.6	104 027	55.4
2012	195 507	151 237	77.4	103 470	52.9
2013	218 914	179 329	81.9	127 422	58.2
2014	207 659	161 723	77.9	111 743	53.8

Graph 4.1.1 Overall achievement in Business Studies



Graph 4.2.1 Performance distribution curves in Business Studies



The graph above shows an increase in the percentage of candidates performing between 0 to 39.9%, and a decrease in the percentage of candidates performing between 40 to 100% when compared to 2013. This shows performance at the upper levels dropped.

4.2 OVERVIEW OF LEARNER PERFORMANCE

General comments

- The 2014 NSC Business Studies examination paper was generally regarded as challenging. New CAPS content to the extent of 30% and RE-CAPS revision content of 12% were included.
- Many candidates misinterpreted questions owing to a lack of understanding of the meaning of the verbs. Verbs such as *evaluate*, *analyse the impact*, *analyse*, *recommend*, *identify challenges*, *justify*, *propose* and *compare* were some of the problematic ones. This implies that the language barrier still poses challenges to many candidates.
- The new CAPS content has been clarified in the Examination Guidelines and reflected in the 2014 Exemplar paper and teachers must familiarize themselves with these to enable them to assist learners. The Diagnostic Reports of 2012 and 2013 highlighted weaknesses and proposed strategies that should also be taken into account to assist learners in being adequately prepared for the NSC Business Studies examination. It was apparent that these resources had not been used to prepare learners in certain schools.
- Candidates performed well in Section A (short questions) but compared to previous years they did not perform well in Section B.
- Certain such as compound and simple interest, quality indicators in different functions and the role of SETAs, continue to be major challenges for candidates.
- Candidates in some centres did not attempt to answer basic knowledge questions. That indicated that problems still existed in the teaching and learning process and that basic concepts had not been properly covered. It would appear the new CAPS and the RE-CAP content were not adequately covered.

General suggestions for improvement

Teachers are advised to build the following practices into their work plan for the year:

- Every learner should have access to past NSC examination papers and the Exemplar Paper of 2014. Teachers should also answer these papers themselves so as to improve their own confidence in their ability to deal with each topic. With the introduction of CAPS this year, it is necessary for teachers to make sure that sub-topics that moved from Grade 12 to other grades (e.g. trade unions) are not being used for revision purposes.

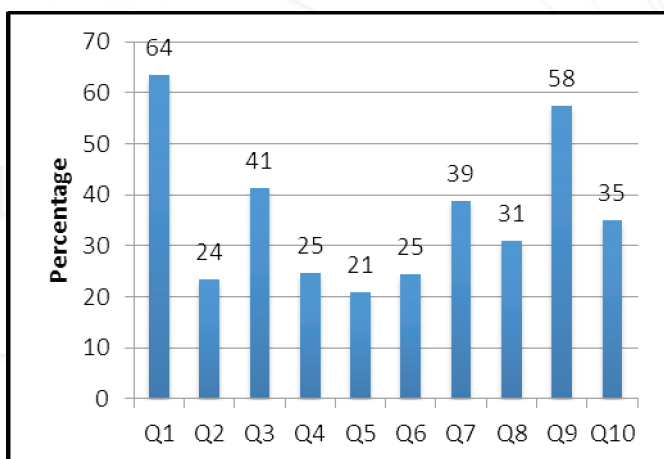
- (b) Teachers must ensure that learners engage with all the topics in the prescribed content. Regular class tests and informal assessment can help teachers to achieve this. Teachers must rigorously analyse the Examination Guideline to ensure that they cover all relevant CAPS and RE-CAP content.
- (c) Learners also need to use different learning materials such as the Learning Channels on TV, previous NSC question papers and study guides to enhance their knowledge and assist them in mastering different concepts.
- (d) After presenting a specific topic to learners, teachers must use previous NSC examination papers and provide learners with practice questions related to each topic. The marking of these practice questions and provision of the correct answers to the learners are also essential. In this way, the learners will accumulate resource material to assist them in preparing for the NSC examination and they will be able to identify key words through regular use of typical examination questions.
- (e) It is important for learners to practise essay questions in the classroom. In doing so, teachers must emphasise the LASO aspects of a good Business Studies essay, and provide practical examples to illustrate points. This would enable learners to achieve marks for originality. Teachers must read the 'Notes to Markers' in the memorandum of the NSC examination of 2014. This reflects the importance of a proper introduction and conclusion in a Business Studies essay and also highlights the recommended method of marking.
- (f) Teachers need to go through the November 2014 memorandum with the learners to explain 'split' marking. Learners need to know and practise how to state a fact and then further explain the fact to earn the second mark.
- (g) Subject teams, consisting of Grade 10 – 12 teachers, could work as an effective unit which can engage in discussions and plan the teaching of content together, using various resources. They can even design assessment tasks together to ensure that relevant content is taught and assessed in all three grades. The principle of progression would be effectively applied in this way.
- (h) During cluster meetings, subject advisers and teachers who are appointed as markers for the Grade 12 examination should help other teachers to understand how to interpret the memorandum and the splitting of marks, a relatively new feature in the marking of Business Studies papers.
- (i) Teachers should ensure that learners are able to explain the essential basic concepts and terminology in each topic before engaging in the application questions.
- (j) Teachers need to train learners to express themselves clearly and simply where explanations or recommendations are required. Learners also need to use specific subject terminology and vocabulary in answering questions. These should be drilled and a vocabulary list containing new terminology should be part of the notes in learners' workbooks. The glossaries in various textbooks and the booklet *Business Studies Key Principles* can also be consulted for the correct meaning of concepts.
- (k) Teachers need to use informal and formal assessment to build the confidence of learners that they can comfortably cope with all topics. The practice of learners marking their own formative tests would provide them with immediate and effective feedback. Regular self-marked or peer-marked class tests can also be used to revise RE-CAP content.
- (l) Teachers should expose learners to a variety of methods when assessing them and not only depend on previous question papers, but should rather be innovative and creative. Teachers should not depend on only one textbook, but should use a variety of approved textbooks, study guides and the Internet.
- (m) Teachers need to use case studies/scenarios when teaching to make sure that they do not simply teach content but also give an opportunity to learners to become familiar with real-life scenarios and to express their opinions and ideas. Teachers need to collect news articles related to business legislation and use these for teaching and/or assessment. This should help learners to be more confident when answering questions based on case studies.

- (n) Teachers must make sure that they make use of policy documents (the CAPS Document), the Examination Guidelines, the Business Studies Key Principles booklet, a variety of textbooks and previous NSC memoranda for more and relevant information in order to prepare learners for the final examination.
- (o) Teachers should encourage learners to give answers in full sentences. Teachers must discuss the importance of this, in order for the learners to obtain marks for split marking. Refer to the memorandum of 2014 for examples of the breakdown of marks.
- (p) The choice of questions in an examination paper is very important. Learners must be taught to use their reading time before the examination starts in order to make appropriate choices of questions.
- (q) Learners do not understand the formulae or the calculations for simple and compound interest. If Business Studies teachers do not understand these, they should seek assistance from Mathematics teacher and refer to the memorandum of 2014 for further assistance.
- (r) Teachers must ensure that topics indicated as RE-CAP are being taught.

4.3 DIAGNOSTIC QUESTION ANALYSIS

The following graph was based on data from a random sample of candidates. While this graph might not accurately reflect national averages, it is useful in assessing the relative degrees of challenge of each question as experienced by candidates.

Graph 4.3.1 Average marks per question expressed as a percentage



SECTION A: COMPULSORY	
Q1	Multiple-choice, choosing correct words and matching columns
SECTION B: CHOICE QUESTIONS ANSWER THREE	
Q2	Business Environment
Q3	Business Ventures
Q4	Business Roles
Q5	Business Operations
Q6	Miscellaneous
SECTION C: CHOICE QUESTIONS ANSWER TWO	
Q7	Business Environment: Legislation
Q8	Business Ventures: Forms of Ownership
Q9	Business Roles: Social Responsibility
Q10	Business Operations: Quality of Performance

4.4 ANALYSIS OF LEARNER PERFORMANCE IN INDIVIDUAL QUESTIONS

SECTION A: MULTIPLE CHOICE/SHORT ANSWER QUESTIONS

QUESTION 1: COMPULSORY

(Multiple choice, choosing correct words and matching)

This question was well-answered. Majority of candidates achieved 60% or above. In some cases, the mark for this question was the highest scored by the candidates in the questions answered.

Candidates still left open spaces in this question, while the possible answers were given in all sub-questions.

Common errors and misconceptions

- (a) In Q1.1.1, the candidates could not identify the correct item that should appear in the code of conduct for chartered accountants.
- (b) In Q1.3, candidates struggled with the interpretation of concepts.

Suggestions for improvement

- (a) Teachers should teach learners how to answer multiple-choice questions and show them how to eliminate possible answers to get to the correct answer. Candidates should be penalised if they give more than one possible answer.
- (b) Teachers should ensure that learners know specific subject terminology.
- (c) Teachers must ensure that all basic business concepts are covered in their teaching. These concepts should be studied throughout the year. The *Business Studies Key Principles* booklet can be a very useful resource for definitions and concepts.
- (d) After teaching a topic, the teacher needs to give learners short questions for class- or homework to help them with consolidation and re-enforcement. These questions can be taken from previous NSC examination papers.
- (e) The HOD should supply subject support at a school. She/he should moderate assessments prior to their being written (pre-assessment moderation) to ensure that Section A type of questions are included in tests and where requirements are not adhered to, provide the necessary support.

SECTION B: LONGER AND PARAGRAPH QUESTIONS, USING CASE STUDIES AND INFORMATION (THREE QUESTIONS TO BE ANSWERED)

QUESTION 2: BUSINESS ENVIRONMENT

This question was not a very popular choice. The majority of candidates who answered it did not perform well. A possible reason is that legislation is a topic that consists of many different Acts, and candidates usually find it difficult to understand the content of these Acts. Furthermore, they need to apply their knowledge of the different Acts practically.

Common errors and misconceptions

- (a) In Q2.1.1, candidates who wrote 'National Credit Regulations' instead of 'National Credit regulator' lost one mark.
- (b) In Q2.1.3, the advantages of the National Credit Act for credit providers were confused with advantages for consumers.
- (c) In Q2.1.4 candidates simply re-wrote the question instead of describing the reasons for the reckless granting of loans. It seemed as if candidates did not spend time reading the scenario or introductory statement in each sub-question. Candidates confused NCA with CPA.
- (d) In Q2.1.5 candidates were confused and did not understand the term 'consequences'. They were supposed to write about a fine as a consequence, but instead they wrote about jail sentencing.
- (e) Q2.2.1 was either omitted by most of the candidates or it was answered poorly. The steps of the strategic management process could be listed, but applying it in business could not be explained.
- (f) Q2.2.2 required the candidates to explain the defensive strategies, but the justification for them was lacking. Candidates also confused defensive strategies with integration strategies.
- (g) In response to Q2.3, most candidates made reference to BCEA instead of LRA. Candidates did not have the in-depth knowledge of the LRA to be able to propose actions of non-compliance and they struggled to show the impact of the Act in the follow-up question. This resulted in candidates' answering Q2.3.1 and Q2.3.2 incorrectly. Some candidates guessed, because they did not know the difference between compliance and non-compliance.
- (h) In their answers to Q2.4, the candidates could identify human rights satisfactorily, but linking human rights to Broad Based Black Economic Empowerment was problematic, even though candidates seemed to be familiar with the pillars.

Suggestions for improvement

- (a) Candidates should know all the different abbreviations and what they represent.
- (b) Candidates should differentiate between consumers and credit providers in order to be able to respond correctly. Failure to interpret the question correctly might also have been caused by the fact that some candidates had been exposed to previous NSC question papers and memoranda, and not following the current instruction as required. Therefore it is important that teachers show learners how to analyse a question.
- (c) Learners must be exposed to scenarios and case studies on a regular basis. Scenarios/ Case studies can be extracted from the media or various text books.
- (d) **Many candidates did not realize that the case study was about a bank and not a person.** Different case studies or scenarios must be given to learners in order for them to link or apply their knowledge.
- (e) **Learners should know the meaning of the various verbs to be able to construct responses relevant to the question.** This should be done from Grade 10. Teachers must gather examples of common verbs used in previous question papers and apply these in class activities and informal/formal assessment. Previous memoranda should be used to exemplify answers that are expected when various verbs are used.

- (f) Candidates should study all the different strategies and also how to apply them in order to respond to challenges in the business environment. It also seems as if strategies are still not given much attention during teaching and learning.
- (g) Teachers must make sure that the Acts are taught thoroughly as outlined in the Business Studies Examination Guidelines. They should ensure that learners are familiar with practical examples of compliance and non-compliance with the various Acts to be covered in the curriculum. Teachers should also strive to keep abreast of the latest developments in terms of amendments to some Acts. Teachers must not only teach facts, but should also give learners an opportunity in class to discuss each topic in order for them to gain in-depth knowledge of a topic. Debates should be used as a form of informal assessment to develop candidates' critical thinking and research skills. Subject Advisers should determine curriculum support needs and conduct workshops with a view to improve learners' content knowledge and critical thinking skills.

QUESTION 3: BUSINESS VENTURES

This question was a popular choice. Responses varied from poor to excellent. Candidates who scored high marks in this question did so mainly because of the calculation questions. Many candidates used the mark allocation per question as an indication of how many facts to include in their responses which to the contrary is not always the case.

Common errors and misconceptions

- (a) In their responses to Q3.1, many candidates focused on the presenter instead of the presentation. Other candidates only identified a variety of materials used to prepare a presentation. This sub-topic was part of the RE-CAP content.
- (b) Candidates could not make a clear comparison between the two leadership styles as asked in Q3.2. They lacked knowledge of the leadership theories and confused these with leadership styles. This was not asked in past papers, hence candidates performed poorly. A tabular format to simplify comparison was seldom used.
- (c) In response to Q3.3, the benefits were listed, but poorly explained. Candidates explained UIF as a concept, instead of the payouts to be made from the UIF. Some candidates discussed the four benefits, but did not provide headings in their explanation.
- (d) Candidates either knew the concept of under-insurance in Q3.5.1 or did not attempt it.
- (e) Candidates failed to come up with a second reason for insurance on fixed property (a house) as asked in Q3.5.2.
- (f) Q3.5.3 was well-answered, although the candidates confused the market and insured values of the property.
- (g) When responding to Q3.5.4 and Q3.5.5, candidates confused the calculations for compound and simple interest. Various incorrect formulae were used in both questions. This remains a challenge.

Suggestions for improvement

- (a) Learners must be able to interpret a question properly in order to give relevant answers. Teachers must revise presentation of business information from Grades 10 and 11 by assessing previous concepts and linking them to Grade 12 content.
- (b) Learners should know how to present answers to questions requiring a comparison, especially in tabular format. Aspects in the same category should be compared, e.g. characteristics of the leader in each leadership style. When teaching these different leadership styles and theories, teachers must make sure that learners can define, compare and evaluate each leadership style or theory. Learners can even be asked to demonstrate the different types of leadership style or theory by means of role play.
- (c) Teachers must consult the Examination Guideline and the CAPS document thoroughly during lesson preparation to ensure what must be taught. Teachers must study the 'Notes to Markers' and explain to learners that when a question requires candidates to 'explain/discuss/describe' a specific number of facts, they need to write a heading for 2 marks and a further explanation for another mark.
- (d) Learners should be able to identify insurance concepts, i.e. principles of average clause and indemnity, calculation for under-insurance and types of compulsory and non-compulsory insurance.
- (e) Learners should know reasons why individuals or businesses take out insurance.
- (f) Learners must understand different instances when insurance compensation will be needed and how compensation is calculated. They should be exposed to previous question papers and case studies as informal assessment or homework. Different concepts should be thoroughly explained to the learners.
- (g) Learners must understand formulae and be able to interpret a scenario properly, especially taking into consideration the time for repaying the loan. Teachers must allow learners more practice in calculations for homework or informal assessment. The Accounting or Mathematical Literacy teachers can be requested to assist in teaching these calculations.

QUESTION 4: BUSINESS ROLES

This was a popular question, but responses ranged from excellent to poor. When the question was poorly answered, it seemed as if learners were not able to answer exactly what was required. Their answers were vague.

Common errors and misconceptions

- (a) In Q4.1, candidates could not identify unethical business practices from the scenarios. Instead of identifying and suggesting strategies, they rewrote the scenarios. Many candidates answered 'Taxation' or 'Tax avoidance' instead of 'Tax evasion'.
- (b) In response to Q4.2, candidates could not elaborate on the meaning of problem-solving, and this shows that there is a content gap owing to insufficient RE-CAP on creative thinking in Grades 10 and 11.
- (c) In Q4.3, candidates could not distinguish between grievance and conflict. It seems as if they did not understand the meaning of grievance because they wrote on grief e.g. losing a family member. They also wrote generally on grievance and conflict and did not relate these concepts to the workplace.
- (d) In responding to Q4.4, candidates discussed 'diversity' based only on gender, religion, race, etc.
- (e) In Q4.5, creative thinking was confused with teamwork and/or problem solving.
- (f) Q4.6 was not well-answered, because the candidates displayed a lack of knowledge of the Nominal Group Technique. This was RE-CAP content and it was evident that teachers did not teach this again in Grade 12.
- (g) In answering Q4.7, candidates could not effectively explain 'bait and switch' and most examples were not applicable. Case studies and scenarios should be used when teaching these sub-topics.

Suggestions for improvement

- (a) Learners should understand unethical practices in the business sphere. Teachers must show learners the glossaries at the back of textbooks so that the difference between 'tax avoidance' and 'tax evasion' becomes clear.
- (b) Teachers must close the content gap by making sure they cover all the content that needs to be revised in Grade 12, including content that was covered in Grade 10 and 11. Teachers are encouraged to use role play to assess whether candidates understand various concepts. Learners should be exposed to past NSC examination papers and worksheets for homework to help cover the RE-CAP content.
- (c) Learners should be able to differentiate between 'diversity' and 'inclusivity' and understand how they link, in order to interpret these two concepts.
- (d) Learners should be able to understand 'advanced creative thinking techniques/skills' in order to apply their knowledge in scenario-type questions.
- (e) Learners should be able to differentiate between 'unethical business practices' and 'unethical advertising practices' in order to give correct answers. Teachers can also use previous NSC examination papers for this purpose.

QUESTION 5: BUSINESS OPERATIONS

This question was not a popular choice. Responses ranged from average to poor. The candidates misinterpreted the questions and failed to apply learnt knowledge effectively.

Common errors and misconceptions

- (a) Candidates did not analyse question Q5.2 correctly. They defined the business functions instead of recommending the key quality indicators for these functions.
- (b) In response to Q5.3.2, the candidates were not able to justify why it is necessary for induction to take place. They could name a fact, but could not elaborate on it for the second mark.
- (c) Placement could be defined, but the procedure to be followed was not well explained in responses to Q5.3.3.
- (d) In Q5.3.4, candidates confused the legal requirements with aspects of content and very few candidates could come up with legal requirements. The content of the contract was listed, but candidates did not elaborate on each aspect to obtain the maximum marks.

Suggestions for improvement

- (a) When teaching takes place in the classroom, teachers must use the verbs, *justify*, *propose* and *advise* so that the learners become familiar with these verbs and know how to respond to them. Learners should be able to identify and analyse activities of Human Resource Management Function and also procedures related to recruitment, selection and placement.
- (b) Learners should know the process of placement in conjunction with procedures of placement and induction.
- (c) Teachers should emphasise the legal requirements for an employment contract and not merely the content of this contract.

QUESTION 6: MISCELLANEOUS

This question contained questions from all four main topics and was generally poorly answered.

Common errors and misconceptions

- (a) Candidates did not perform well in Q6.2 despite its having been asked in many previous NSC examination question papers. They did not explain the roles of SETAs, but listed the main aims of SETA.
- (b) In responding to Q6.4, candidates failed to 'analyse' and wrote only one word or single-phrase answers instead of writing a heading and expanding on it.
- (c) In Q6.5, candidates could not define ordinary shares and rather opted to define an investment. They could also not evaluate these shares.
- (d) In their response to Q6.6, candidates did not mention the positives and negatives of NPC, but instead they responded by giving the characteristics. It was evident that candidates did not have adequate knowledge of this sub-topic, because it is also RE-CAP content. Candidates could not link 'evaluate' to the advantages/positives or disadvantages/negatives.

Suggestions for improvement

- (a) Regularly tested sub-topics in Section B (e.g. functions of SETA), are still not answered satisfactorily. This tends to indicate that teachers do not productively use previous NSC examination papers/memoranda when teaching or preparing learners for the final examination.
- (b) Learners must take note of the verbs, e.g. 'evaluate' and 'analyse', which require more than just one fact for a second or third mark. Learners again failed to use headings when they needed to explain/discuss/describe a specific number of facts.
- (c) Learners again did not understand what kind of response is required by the verb, 'evaluate'. Teachers should explain to learners that they need to describe the advantages/positives and/or disadvantages/negatives when instructed to evaluate.
- (d) Learners should be able to differentiate between all 'Forms of Ownership' and to identify the important issues to help them isolate the advantages and disadvantages.

SECTION C: ESSAY QUESTIONS (TWO QUESTIONS TO BE ANSWERED)

It was evident that despite the fact that candidates are exposed to essay-writing in this subject from as early as Grade 10, they still experience difficulties in answering this type of question.

QUESTION 7: BUSINESS ENVIRONMENT: LEGISLATION

This was a popular question and performance ranged from poor to average.

Common errors and misconceptions

- (a) **There was an improvement in indicating 'introduction' and 'conclusion', but substantial facts under each heading were omitted. Candidates** only copied the scenario and question as introduction and conclusion, which is not acceptable practice.
- (b) The CPA was confused with the NCA.
- (c) The impact of the CPA on business and consumers was attempted, but not always critically evaluated.
- (d) Recommendations for practical ways, i.e. compliance to the CPA, were lacking.

Suggestions for improvement

- (a) Teachers need to show learners how to write a proper Business Studies essay with an introduction, conclusion, headings and full sentences. Teachers need to give learners enough practice in answering essay-type questions during informal and formal assessments. Previous NSC examination question papers should be used, as well as the 2014 Grade 12 exemplar paper.
- (b) Learners lack an adequate knowledge of the NCA. They need to be taught the differences between the NCA and the CPA. Class explanations of specific legislation can be reinforced by applicable examples/scenarios/case studies in order to improve candidates' ability to apply facts to real-life scenarios/case studies and analyse them critically in order to form an opinion.
- (c) Learners must know that when they are dealing with the verb, *impact*, they should state both the advantages/positives and disadvantages/negatives. Furthermore, they need to critically evaluate this impact, meaning that they should not only describe these advantages and/or disadvantages in short phrases, but explain each fact in more detail, using full sentences.
- (d) It is imperative that learners be well-conversant with the practical ways for the business to implement this Act or to comply with it. It is significant that when teaching legislation, teaching and learning should center on the implication of legislation on businesses.

QUESTION 8: BUSINESS VENTURES: FORMS OF OWNERSHIP

In general, low marks were obtained for this question.

Common errors and misconceptions

- (a) The comparison between the two forms of ownership pertinent to this question was not clearly presented; therefore marks were forfeited for either the partnership or the PLC.
- (b) The success and/or failure factors were related to the partnership or both forms of ownership, but seldom to the PLC only.
- (c) Incorrect terminology was used, e.g. shareholders/members instead of partners, and CC instead of PLC.

Suggestions for improvement

- (a) When learners need to compare concepts or, as in this case, partnerships with PLCs, the comparison need to be clear and the comparison/facts must correspond with each other. If a question asks for a comparison, learners need to tabulate their answers. This will also help them to make a clear comparison.
- (b) Teachers must first RE-CAP the content on Forms of Ownership from Grade 10 and 11, before teaching the new content (success and/or failure factors).
- (c) Teachers should ensure that learners know specific subject terminology. For this purpose, learners should be required to make their own glossary or dictionary at the back of their workbooks.

QUESTION 9: BUSINESS ROLES: SOCIAL RESPONSIBILITY

This question was answered by most of the candidates; they achieved average to good marks for this question.

Common errors and misconceptions

- (a) Candidates did not use clear headings for all the different sub-questions, because they did not analyse questions correctly. They lost marks for insight or LASO.
- (b) When teaching CSR and CSI, teachers must clearly differentiate between these two concepts, as well as the appropriate roles and programmes.
- (c) Recommendations on stakeholders' needs were poorly handled, as candidates could not identify the relevant stakeholders and wrote generalised responses.

Suggestions for improvement

- (a) To answer essay questions, learners need to use headings, full sentences and practical examples. Teachers must give learners practical experience of answering essay questions by giving 40-mark questions for homework. Learners must be taught how the layout of essays is done and how the marks are distributed under each sub-heading. They must fully understand how LASO works.
- (b) Teachers should provide learners with practical examples of CSR and CSI from well-known companies when explaining the difference between these two concepts.
- (c) Teachers must use the Examination Guideline and more than one textbook when preparing lessons so as to make sure that learners receive all information needed on each topic and sub-topic. All the necessary verbs should be used during teaching and the use of proper English in order to improve the learner's expression is essential.

QUESTION 10: BUSINESS OPERATIONS: QUALITY OF PERFORMANCE

This question was not a popular choice. Responses varied from very poor to good. It was evident that those who performed poorly lacked knowledge of this topic.

Common errors and misconceptions

- (a) Candidates did not interpret the question correctly. TQM elements were applied to big and small businesses although it was not specifically required by the question.
- (b) The elements for TQM were sometimes confused with the business functions, which indicated that candidates did not know the elements at all. The question also asked about the impact of TQM if not properly implemented, but candidates provided the advantages and disadvantages. It was evident that teachers had not assessed learners adequately on this topic during the year.

Suggestions for improvement

- (a) Learners must be specifically trained to analyse higher order questions
- (b) This is a new topic in the CAPS content and teachers must study the CAPS document and the Examination Guideline when preparing lessons on it. Teachers need to use the November 2014 memorandum when explaining the elements of TQM to learners. Teaching and learning should focus on the quality of performance and the different elements of TQM.

CHAPTER 5

ECONOMICS

The following report should be read in conjunction with the Economics question papers of the November 2014 Examination.

5.1 PERFORMANCE TRENDS (2011 – 2014)

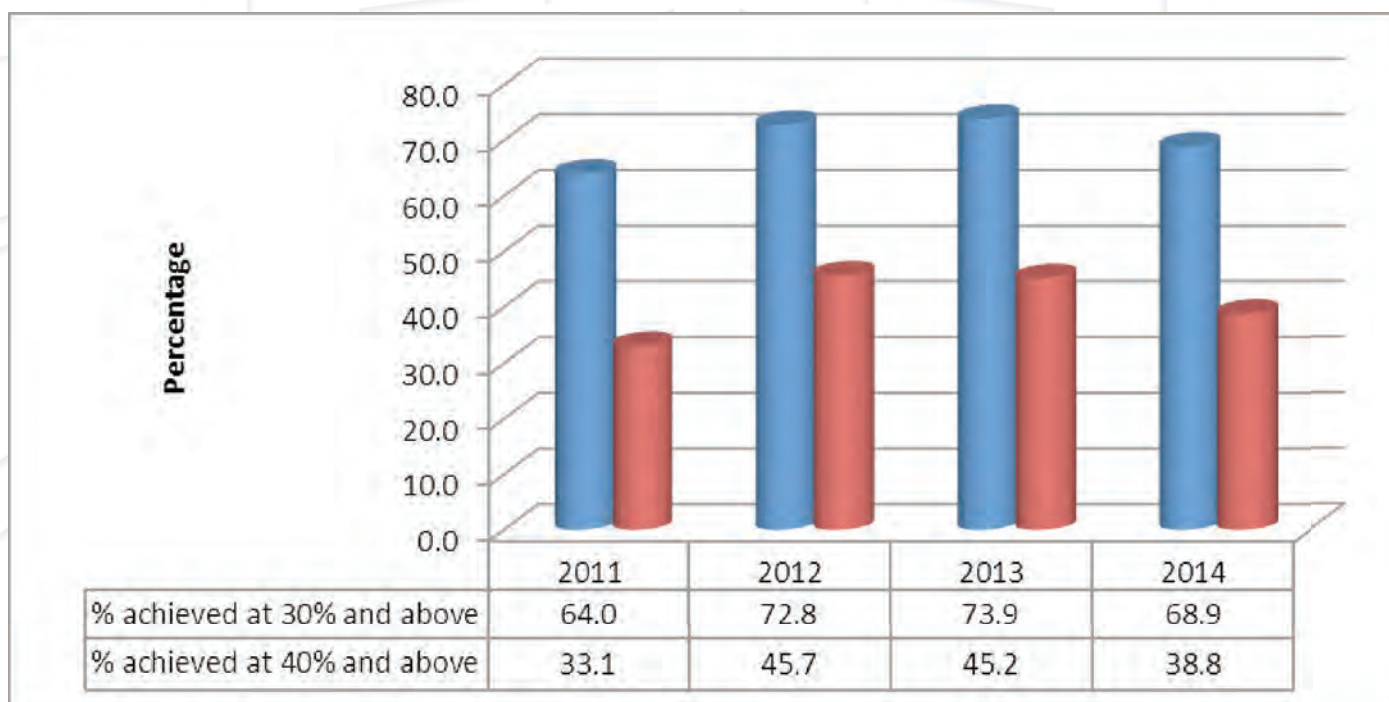
The general performance of candidates in 2014 declined relative to that of 2012 and 2013. In comparison to the previous year, the following features are noted:

- The number of candidates writing the subject decreased by 12 636 whilst candidates passing at 30% level declined by 5.0 percentage points; and,
- Candidates passing at 40% level declined by 6.4 percentage points whilst candidates achieving distinctions over 80% declined from 1.8% to 1.0% of the total candidates.

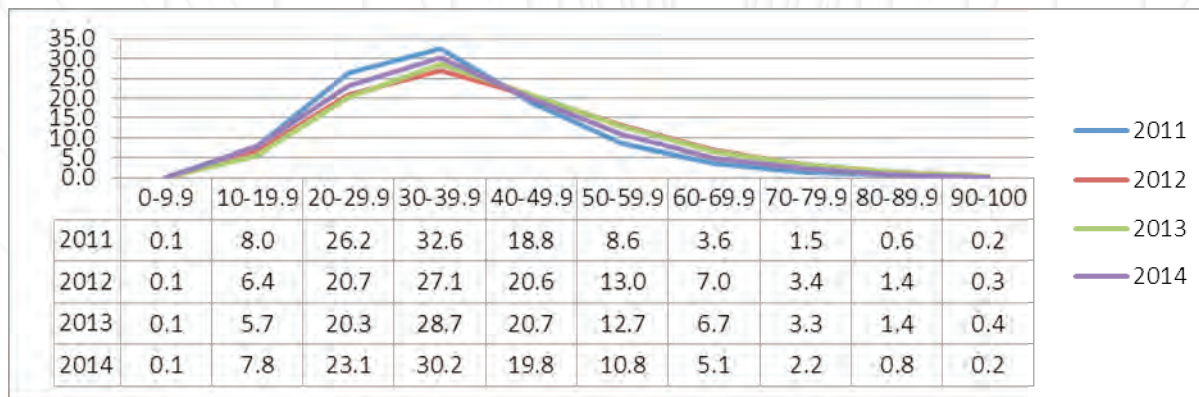
Table 5.1.1 Overall achievement in Economics: Papers 1 & 2

Year	No. Wrote	No. achieved at 30% and above	% achieved at 30% and above	No. achieved at 40% and above	% achieved at 40% and above
2011	133 358	85 411	64.0	44 205	33.1
2012	134 369	97 842	72.8	61 452	45.7
2013	150 114	110 869	73.9	67 795	45.2
2014	137 478	94 779	68.9	53 294	38.8

Graph 5.1.1 Overall achievement in Economics: Papers 1 & 2



Graph 5.1.2 Performance distribution curves in Economics: Papers 1&2



The graphs show that the percentage of candidates performing at the 0-39% range increased while the percentage of candidates performing between the 40-100% range decreased in 2014 compared to 2012 and 2013.

5.2 OVERVIEW OF LEARNER PERFORMANCE: PAPERS 1 & 2

General comments

- (a) It was apparent that candidates of several centres who used previous question papers and the *Economics Exemplar Papers* in order to prepare for the 2014 papers, were skilled in the use of graphs, extracts, news articles and figures, and were consequently able to achieve well.
- (b) It appears that many centres did not make use these resources. Furthermore, many candidates seemed to lack comprehension and interpretation skills. This was evident in the answers they provided to the different data-response questions (Section B) and the lack of planning of essays (Section C). The poor quality of answers to several questions indicates that problems still exist in the teaching and learning processes.
- (c) The general factors influencing the achievement of candidates were:
 - **Content coverage:** It was evident that candidates from centres that performed well had been exposed to curriculum as a whole and these candidates were able to make sound choices between questions in Section B and Section C. Candidates need to be exposed to information contained in the *Examination Guidelines 2014*. Candidates from centres that did not perform well seemed to lack understanding of terminology, basic economic concepts and current economic issues.
 - **Exposure to different types of questions:** Teachers play a crucial role in the development of their learners to deal with a variety of questions with different verbs such as *why, how and what* and the unlocking of knowledge in a variety of ways. During on-going teaching, learning and assessment processes, learners should be exposed to material which addresses higher-order thinking skills in appropriate contexts and should be challenged to identify and solve everyday problems experienced in their own communities.
 - **Language ability:** Although language deficiency is still a drawback for many second-language candidates, it is clear that many centres were able to overcome this problem using creative teaching and assessment methods.

General suggestions for improvement

The following general suggestions are applicable to the discussions on every question in this Economics report. Teachers are advised to build these practices into the work plan for the year.

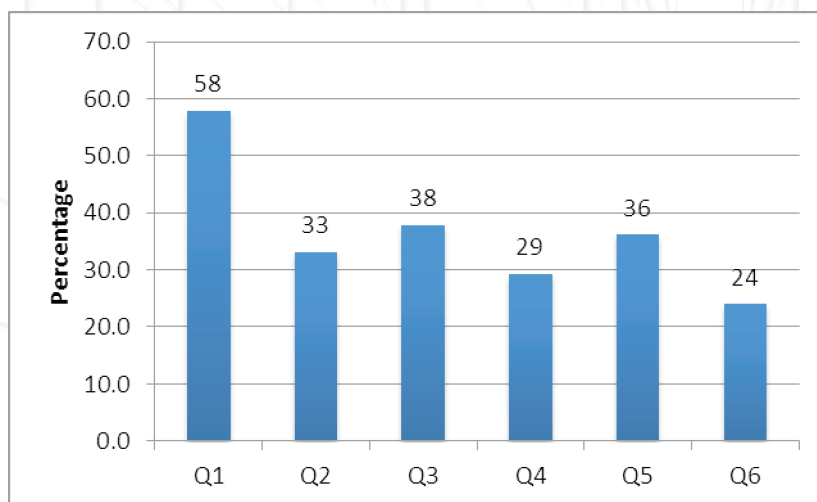
- (a) **Use of past NSC examination papers and CAPS exemplar papers:** In preparation for the 2015 year-end papers, every learner should, as a minimum, use the previous final (2014) and supplementary (2015) papers. Teachers are advised to answer the papers themselves and critically analyse the papers in order to inform the approaches that need to be incorporated in lessons to benefit learners. Owing to the changed format of Economics examination papers from ONE x 3 hour paper (2013) to **TWO x 1½ hour papers** (2014) all content should be considered of equal importance. Teachers should further use the *Examination Guideline 2014* and the *Mind the Gap* publication as points of reference.
- (b) **Focus on basic concepts:** Teachers should encourage learners to keep a 'dictionary' of economics terms and concepts. Teachers should ensure that learners understand essential basic concepts and terminology, and should periodically assess these informally in the classroom before engaging in the details of specific topics. This will tend to assist learners in their broader understanding of the topics and their contexts.
- (c) **Analysis of requirements of questions:** Teachers are advised to devote class time to analysing the requirements of questions, and to the general reading of the source material before requiring learners to undertake a task or question. A strategy such as this is expected to positively influence the ability of learners when they are faced with examination questions. For example, if a question requires the analysis of a graph or figures, this must be done to earn the relevant marks e.g. *Paper 2: With the aid of a graph explain profit maximisation in a perfect market*. Teachers should ensure that learners understand the basic layout of questions and where to find relevant information (please refer to Section B where 'own opinion' involves higher-order evaluation skills based on data given in the extract, cartoon or table).
- (d) **Exposure to different types of questions requiring comments, explanations and opinions:** Learners should be regularly exposed to case studies, data response questions and advanced paragraph-type questions. This should be done from Grade 10 in order to ensure gradual progression of skills. They should also be guided on how to express opinions that are relevant to the context and to support their responses if or when required to do so. This can be done through assessment, but should also be supported through managed interaction in the classroom where meaningful dialogue between learners and with the teacher can benefit the development of these skills. Debates and presentations of certain topics as speeches should be practised regularly to improve learners' vocabulary. Refer to *Examination Guidelines 2014* where typical higher order type ('hot') questions are provided e.g. *Paper 1: Why is the value of the multiplier in reality a small figure? (Page 7) OR Analyse South Africa's Growth and Development Plan in terms of growth and development objectives (Page 17). Paper 2: Explain why the individual maize farmer does not have an influence on the price of the product on the market (Page 13).*
- (e) **Increased use of formative testing techniques:** Teachers should build the confidence of learners through the use of short, informal formative tests and tasks. Small, formative assessment tasks should be used to ascertain whether candidates are able to apply their knowledge, placing emphasis on their own opinion and understanding. This would force learners to take ownership of the learning process [see *Examination Guidelines* (page 12): *Identify how social rights are embedded in the budgets of the South African government.*
- (f) **Continuous professional development:** Regular, adequate support to teachers via visits, meetings and in-service training sessions by subject advisers and subject specialists is very important. Difficult topics should be the centre point of discussion e.g. Special Economic Zones and the repo rate; how to set standardised questions on data base questions, essay topics, how to interpret the examination guideline, how to use Mind the Gap and various study methods.

- (g) **Use of a variety of source and reference material:** Teachers should use a variety of materials to prepare learners properly for their final examination. During teaching in class, current economic issues should be used as examples to illustrate the subject in action. Economics in the classroom should be linked to Economics in real life by exposing learners to actual data, graphs and statistics. Learners lack insight into current economic affairs and should be encouraged to take an active on-going interest in topical economic issues affecting everyday life.

5.3 DIAGNOSTIC QUESTION ANALYSIS: PAPER 1

The following graph was based on data from a random sample of candidates. While this graph might not accurately reflect national averages, it is useful in assessing the relative degrees of challenge of each question as experienced by candidates.

Graph 5.3.1 Average marks per question expressed as a percentage: Paper 1



Q1	Macroeconomics & Economic Pursuits
Q2	Macroeconomics
Q3	Economic Pursuits
Q4	Macroeconomics & Economic pursuits
Q5	Macroeconomics
Q6	Economic Pursuits

5.4 ANALYSIS OF LEARNER PERFORMANCE IN EACH QUESTION IN PAPER 1

QUESTION 1: MACROECONOMICS & ECONOMIC PURSUITS

The question was compulsory. The performance of candidates ranged from excellent to poor. Some candidates achieved full marks while others either used inappropriate responses or did not attempt to answer some of the questions. The question covered *Macroeconomics* and *Economic Pursuits* and, tests recall and comprehension. Although multiple-choice questions provide the alternatives, they require full content knowledge.

Common errors and misconceptions

- The multiple-choice questions in Q1.1 were answered fairly well, although some candidates left open spaces when they were not certain of the answers. In many instances, this also led to the misnumbering of questions.
- In Q1.2, candidates had to match an Economic term with given statements and overall, candidates performed well in this sub-section. In some cases they left out certain answers presumably by mistake or changed their original answers without cancelling the first one. Generally, it appears that a lack of content knowledge impaired performance.
- In Question 1.3, the candidates had to give an economic term for a given statement. Overall, the performance was very poor, although the memorandum did make provision for various answers and alternative responses e.g. Q1.3.4: *globalisation, free trade, international trade, foreign trade or world trade*. Basic knowledge of subject terminology remains very important and was the main reason for excellent or poor performance; e.g. in Q1.3.2: many candidates wrote *financial markets* instead of *money markets*; Q1.3.5: most learners wrote *interest rate* instead of *repo rate* or *repurchase rate*.

Specific suggestions for improvement

- (a) Question 1 provided clear indication of the knowledge required by candidates, and included both *Macroeconomics* and *Economic Pursuits* equally. Candidates needed to first determine what the answers were before they looked at the three distractors. Regular, short formative tests on basic concepts would assist learners in better achievement in this type of question.
- (b) The structure of Section A should be explained to learners to enable them to organise their answers properly. Candidates are not expected to leave lines open between sub-sections, use incorrect numbering or omit question numbers. Candidates should have answered all questions in this section, especially Q1.1 and Q1.2, where the answers were provided. Economics terminology must be used correctly in class and in examinations. The names of Acts and organisations should be written out in full at all times.

QUESTION 2: MACROECONOMICS

The performance of learners in this question ranged from very poor to excellent.

Common errors and misconceptions

- (a) A few candidates could not mention *the two methods used to calculate national income aggregates* in Q2.1.1. In Q2.1.2, candidates did not seem accustomed to the higher-order thinking skills required to answer this question, and as such discussed the characteristics of the downswing instead of the *role of interest rates* during this period of the business cycle.
- (b) Many candidates were not familiar with the concept *composite indicator* in Q2.2.2. Candidates performed poorly in Q2.2 although all data requested by the various questions were based on recall. In Q2.2.3 – Q2.3.4 candidates got confused with *amplitude, length and extrapolation*.
- (c) Owing to a lack of basic knowledge of content, candidates failed to explain the *purpose of unrecorded transactions* in Q2.3.3. Some candidates could not define the *Balance of Payments*, nor calculate the *value of net gold and other foreign reserves* in Q2.3.4. Candidates also ignored positive and negative signs of figures and copied the table as given in the question paper.
- (d) Candidates struggled to compare the *free floating exchange rate system* with a *managed floating exchange rate system* (Q2.4). Most candidates got zero to four marks for a basic comparison between the two exchange rate systems. Some candidates confused *free floating* and *free trade*.
- (e) Candidates performed poorly in Q2.5, although an exact example appears in *Mind the Gap*.

Specific suggestions for improvement

- (a) *Composite indicators* is a new term that should have received special attention in the preparation of the learners for the final examination (Q2.2.2).
- (b) Learners need to be advised not to merely transcribe information noted in a table without providing a meaningful response. There is a clear shift towards 'own opinion' as part of data response questions (Q2.1.2 and Q2.3.3).

QUESTION 3: ECONOMIC PURSUITS

Questions were well-structured and well-answered. Performance ranged from excellent to poor. The question was fair although performance of candidates may have been impaired by the time limit. They had only 20 minutes to answer each paragraph-type question, but Question 3 contained 19 marks of an indirect nature, demanding that candidates use advanced thinking skills. It was evident from the marking of most candidates' answers that they had to rush to finish the paragraph-type questions (20 minutes each allowed) as well as the essay (35 minutes allowed).

Common errors and misconceptions

- (a) Many candidates misinterpreted the cartoons and data response questions. Most of the questions needed time to read and interpret (e.g. the cartoons), but time was limited. Candidates found it difficult to answer the more indirect questions: Q3.1.2, 3.2.2, 3.2.3, 3.2.4, 3.3.1, 3.3.2 and 3.3.4.
- (b) For most candidates who did not perform well, it appeared that they could not interpret the cartoon in Q3.2 correctly and also failed to explain the message depicted in the cartoon. Candidates could not associate content learnt and its contextualisation – this indicated a lack of general knowledge and interpretation skills. Responses were often too generic and lacked factual knowledge of the content.
- (c) Q3.4: Candidates were unable to describe topics in sufficient detail to earn marks and gave generic information with no relevance to the aims of regional development.
- (d) In Q4.5, many candidates could not define the concepts, and lacked the ability to analyse *population growth* and *life expectancy* as social indicators relating to demographics.

Specific suggestions for improvement

- (a) Learners must be advised that data provided in data response questions should be read two to three times before they attempt to answer any questions.
- (b) Learners might not know whether the answer appears in the extract or whether they should give their own opinion. They should be advised that, if they study an extract or cartoon closely (e.g. Q3.3 and Q3.4), they should be able to find possible answers to some of the questions asked; failing which, they should provide their own opinions.
- (c) Regular class discussions on topical issues such as the influence of an economy on a government, business, consumer (individual) or foreign investor should develop the confidence of learners in generating their own opinions on such topics.

QUESTION 4: MACROECONOMICS AND ECONOMIC PURSUITS

The general performance of candidates in this question ranged from poor to excellent. Most candidates earned marks for Q4.1.

Common errors and misconceptions

- (a) Most candidates could not identify the groups in the cartoon (Q4.2) and missed the message it conveyed. Candidates failed to think creatively. It remains difficult for candidates to attach a related economic issue to what they see in the cartoon. This part of the question was poorly answered.
- (b) Most candidates could not answer the data base questions Q4.3.1, 4.3.3 and 4.3.4 correctly. Many candidates could not perform the calculations appropriately, and many simply rewrote figures provided in the question paper. Irrelevant or faulty items were marked negatively, leaving most candidates without any marks for Q4.3.4.
- (c) The responses to Q4.4 were impaired mainly because candidates were confused about the distinction between *production and productivity* as economic indicators. Some candidates focused on the 'economic indicators' in general and not those relating to productivity as such.

- (d) In Q4.5, most candidates included only the advantages of free trade, but ignored the arguments against protectionism. They did not provide any arguments in favour of free trade against protectionism, but only listed some facts.

Specific suggestions for improvement

- (a) A detailed study of the *Balance of Payments* and the *National Account aggregates* is strongly advised. The focus should be on components, calculation and the conversion of figures. Learners should be exposed to current economic issues and should be guided in their answers.
- (b) Learners need to understand that they must make the choice of questions in both Section B and Section C. However, many candidates persist in answering all of the questions in Section B. This is clearly a waste of valuable time in the examination.

QUESTION 5: MACROECONOMICS

The general performance of learners in this question ranged from extremely poor to excellent.

Common errors and misconceptions

Many candidates struggled with the essays that pointed in the direction of the discussion of more complex issues and experienced difficulty in the additional 10-mark section that required higher order thinking.

Specific suggestions for improvement

- (a) Learners must be trained to deliberately structure their responses to answer a question of this nature, and to use appropriate headings. This will enable them to avoid confusion between composition, effects, problems and macroeconomic objectives of the State.
- (b) Learners must be advised that their responses under each heading must be supported by appropriate detail to earn full marks. Although many could provide headings for economic growth, full employment, etc., further critical evaluation and discussion in class about the current state of affairs and the State's macroeconomic objectives will serve to develop more substantial responses on this topic in an examination.

QUESTION 6: ECONOMIC PURSUITS

The general performance of learners in this question ranged from very poor to fairly good. This was the most unexpected question in Paper 1. Most candidates did not choose this question.

Common errors and misconceptions

- (a) Candidates who performed badly may not have expected this part of the syllabus to be examined as an essay-type question. Many candidates discussed economic development and growth policies, e.g. RDP and GEAR, instead of focusing on *specific growth and development strategies*. Textbooks did not cover the topic in detail, which could have led to learners referring to ASGISA, RDP, GEAR and the New Growth Path as part of the body of the essay, instead of focussing only on NSDS, NGP and NDP.
- (b) Many candidates repeated facts already mentioned in the introduction, body and/or conclusion of the essay. Many candidates provided answers that were not relevant at all.

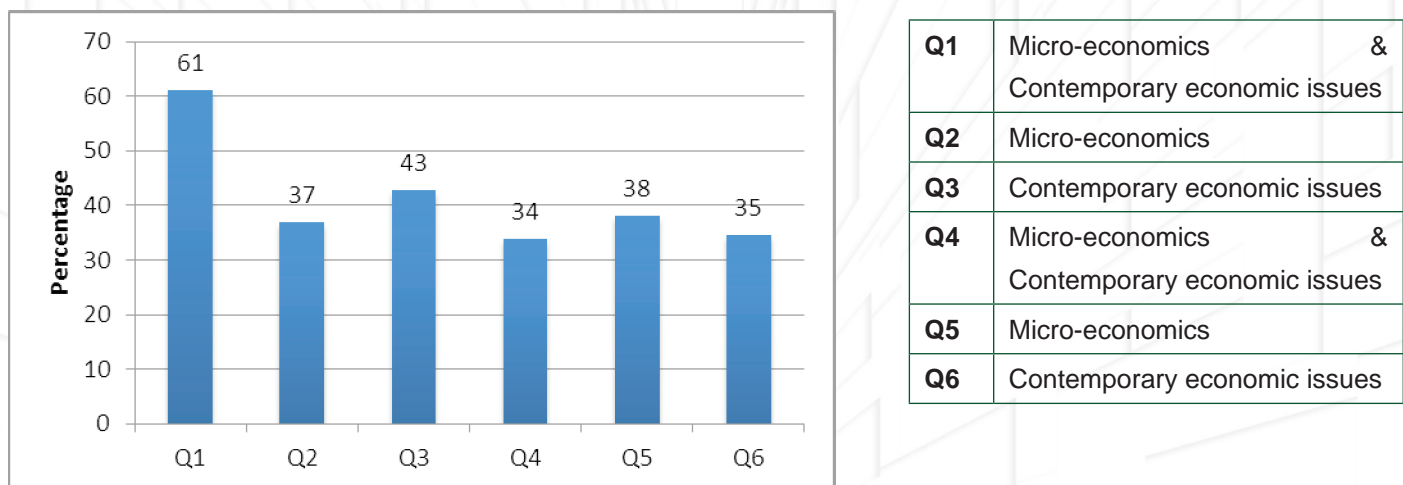
Specific suggestions for improvement

It is possible that because of the large choices candidates had in the past, teachers may have omitted *Economic Pursuits* and focused on the other three topics. Teachers are advised to refer to a variety of textbooks on this topic, as only a few provide sufficient detail.

5.5 DIAGNOSTIC QUESTION ANALYSIS: PAPER 2

The following graph is based on data from a random sample of candidates. While this graph might not accurately reflect national averages, it is useful in assessing the relative degrees of challenge of each questions as experienced by candidates.

Graph 5.5.1 Average marks per question expressed as a percentage: Paper 2



5.6 ANALYSIS OF LEARNER PERFORMANCE IN EACH QUESTION IN PAPER 2

QUESTION 1: MICROECONOMICS & CONTEMPORARY ECONOMIC ISSUES

Common errors and misconceptions

The performance in this question was above average. Some candidates earned full marks.

- In Q1.1 the multiple-choice questions were answered fairly well, although some candidates left open spaces where it appeared that they were not certain of or did not know the answers. This further contributed to the incorrect numbering of questions. Also, lack of time prevented them from coming back to the question in the end.
- In Q1.2 most candidates performed fairly well. In some cases, it appeared that the candidates left out certain answers possibly by mistake, or changed their original answers without cancelling the first one. Generally, it appears that a lack of content knowledge impaired performances.
- In Q1.3 candidates had to identify an economic term from a given statement. Overall, the performance was poor, although the memorandum did make provision for various answers e.g. Q1.3.5: *indigenous knowledge systems / IKS / traditional cultural knowledge systems*. Many candidates left blank spaces on this. The absence of basic knowledge of subject terminology should be addressed in the classroom.

Specific suggestions for improvement

- (a) In terms of Q1.1, learners need to be told to write only the letter (A, B or C) of their choice next to the question number. If they prefer to write the answer out in full, they should not leave out any part of the answer.
- (b) Learners should be advised to first determine what the answers are before they look at the three distractors to make their choice. If they do not know an answer, they should be able to work it out by eliminating the obviously incorrect options.
- (c) Topics perceived to be difficult, e.g. graphs on market structure and market failure, will require further attention at subject workshops.

QUESTION 2: MICRO-ECONOMICS

The performance in this question ranged from very poor to excellent with the bulk of the candidates achieving less than 50%.

Common errors and misconceptions

- (a) In Q2.1.1 candidates confused monopolistic competition with monopoly. Q2.1.2 was poorly answered. Candidates related the question to the law of demand. Many candidates responded along the lines of demand decreasing when one firm increases its price, instead of applying the characteristic of perfect competition that, as there are many sellers, the actions of one seller cannot influence the price.
- (b) In their responses to Q2.2.1 some candidates confused toll with e-tolling. Some confused it with a toy. Candidates explained what a toll gate is rather than explaining the term 'toll'. Some explained the term 'toll' in terms of a border post. The answer in Q2.2.2 was more general than content-related. Candidates could not link the question to Cost Benefit analysis. In responses to Q2.2.3, many candidates did not explain toll roads leading to market failure in relation to allocative and productive inefficiency which forms the basis of answering the question. Some candidates did not know the difference between *in favour of* and *against* in Q2.2.4; they argued against instead of arguing for.
- (c) In answering Q2.3.3 candidates could not do the calculation and as a result could not determine whether the monopolist was making economic profit or economic loss. In their responses to Q2.3.4, candidates gave characteristics of a monopoly that did not indicate how a monopoly is advantaged over other market structures.
- (d) In Q2.4 candidates discussed factors of production and neglected relating them to immobility and how they cause market failure. Responses clearly indicated that they did not study this part of the work and they speculated extensively.
- (e) In Q2.5 responses indicated that candidates knew and understood non-price competition in the oligopolistic market but most of them lost marks in this question because they did not pick up that the question referred specifically to how SASOL, a petrol-selling company in South Africa, could compete with other petrol-selling companies. Answers which were not applicable to this question, like *door-to door sales* and *after-hour sales*, were given.

Specific suggestions for improvement

Teachers should focus on the content and graphs in micro-economics in order to differentiate clearly between the different market structures. A clear distinction must be made between an individual firm and an industry in the perfect market and why individual firms are price takers.

QUESTION 3: CONTEMPORARY ECONOMIC TOPICS

General performance of the candidates in this question was fair.

Common errors and misconceptions

- (a) In Q3.1.1 the candidates listed the South African cultural heritage sites such as Kruger National Park, Basotho Cultural village, Nelson Mandela museum. Although they were not penalised for spelling, the majority of candidates could not correctly spell some of the World Heritage Sites found in South Africa e.g. *Mapungubwe* and *Drakensberg*.
- (b) In Q3.2.1, there was evidence of a lack of basic economic terminology as candidates confused renewable resources with non-renewable resources. In Q3.2.2 most candidates took sentences from the extract without relating them to the question. Common wrong answers included:
- Items are weighed in order to determine the value of money.
 - They are weighed to help the consumer to spend money correctly.
 - In Q3.2.4, candidates gave examples of non-renewable resources instead of the definition.
- (a) In Q3.3, interpretation of the table was a challenge for many candidates. Basic knowledge of the content was lacking. Candidates were not able to explain the topic in detail to earn full marks. Contemporary economic issues seem not to have been fully covered by most teachers.
- (b) Candidates failed to do well in Q3.5 as they answered the question in general without indicating how industries contribute to land and water pollution. The cognitive verb “*Why*” was used in the question. Instead of answering the “*why*” part of the question, most candidates defined and described water and land pollution. Some went on to discuss air pollution which was not part of the question.

Specific suggestions for improvement

- (a) A clear distinction, with examples should be made between:
- *world heritage sites* in South Africa and the *cultural heritage sites* in South Africa; and,
 - *renewable resources* and *non-renewable resources*.
- (b) Inflation, Tourism and Environmental sustainability as topics grant teachers the opportunity to use most recent economic information utilising various media such as the internet and newspapers.

QUESTION 4: MICRO-ECONOMICS/ CONTEMPORARY ECONOMIC TOPICS

The general performance in this question ranged from very poor to fair. Many candidates could not even answer Question 4.1 which is a lower cognitive level question.

Common errors and misconceptions

- (a) In responses to Q4.1.1 candidates gave examples of conservation instead of preservation.
- (b) In responses to Q4.2.1 candidates described the activity in the picture instead of categorising it into a type of tourism. The most common incorrect answer to Q4.2.2 was “*South Africans must be proud of or know/learn their culture / heritage.*” In their responses to Q4.2.3 many candidates wrote about the 2010 FIFA World Cup and how it benefited South Africa. In Q4.2.4 many candidates lost marks by not giving examples as the question required.

- (c) In Q4.3.1 *monopoly* was given as an answer. This shows a lack of understanding of the differences between the oligopoly and monopoly market structures. Interpretation of the kinked demand curve in Q4.3.2 was still problematic to most candidates. The labelling e.g. D1 / D2 was given as the answer instead of the term 'kinked'. In Q4.3.3,
- (d) The candidates' answers suggested a lack of understanding of the concept of price leadership. Candidates explained how cartels work instead. In Q4.3.3 candidates lost marks by answering "*the business will make a loss*" without explaining how the loss will come about.
- (e) In Q4.4, candidates discussed indirect and direct taxes in the explanation of levying environmental taxes and did not relate them to the question. Marketable permits were explained as a permit to open a business or as a permit to sell goods and services. There was no reference to pollution and sustainability.
- (f) In Q4.5, candidates discussed the aims of implementing minimum wages. They had to discuss the '*effect*' of minimum wages, implying the positive and negative effects of minimum wages

Specific suggestions for improvement

- (a) Related concepts such as Conservation and Preservation need to always be accompanied by examples to help learners' understanding.
- (b) Teaching of the demand curve for the oligopoly must be strengthened by teaching graphs thoroughly and emphasizing the shape of a graph as well as the implications of a kinked demand curve for the firms in the market and the consumers.
- (c) The teaching of implementation of minimum wages is important but the impact of their implementation is also important. This should not only be applied to minimum wages but to all the measures implemented by the state in intervening in the functioning of the economy.

QUESTION 5: MICRO-ECONOMICS

The general performance in this question was poor.

Common errors and misconceptions

- (a) Candidates were able to give a good introduction to the question, although some candidates wrote the lead statement to the question as part of the introduction. No credit was awarded to those candidates.
- (b) There was evidence of 'spotting' as many candidates discussed the characteristics of perfect markets which were not required. Due to the misinterpretation of question, irrelevant graphs were included e.g. economic profit, economic loss and normal profit.
- (c) In the main part the following deficiencies were identified:
 - The question was poorly answered because candidates could not construct and label graphs properly. Headings for the demand curves of the market and individual firm were incorrectly swapped. The individual firm's demand curve was labelled MR/AR instead of D (for demand curve) in line with the question;
 - In the labelling of the axis, indication of P on the axis was not linked to a curve. There was no indication of equilibrium point /profit maximisation point as required by the question;
 - In their discussions, some candidates were not specific to the differences in the demand curves as required by the question;
 - Some graphs were combined, i.e. profit maximisation and the individual demand curve together with an explanation. Candidates were credited accordingly;

- Some graphs indicated more curves than necessary. Candidates were not penalised for this;
 - Candidates generally did not know the relevant graphs to explain profit maximisation of a firm in a perfect market. Graphs for short-term/ normal and economic profit were included which were not required; and,
 - Some candidates drew the graph of a monopoly. It seemed to have been copied from Q2.3 in the question paper.
- (a) In the additional part (10 marks), most candidates did not do well. The question was indirect which proved challenging for candidates in interpretation. They were only able to either agree or disagree with the statement and failed to argue a point. Some were not able to relate competition policies to anti-competitive behaviour. Answers were too general and did not include reference to the Competitions Act and the institutions such as Competition Commission / Tribunal/ Appeal Court. Some candidates agreed, but contradicted themselves as the supporting statement would be in the negative.
- (b) Most candidates could not come up with conclusions that reflect an opinion, a summary of the discussion or an alternate or additional viewpoint to support the body. Most candidates repeated the characteristics of perfect competition.

Specific suggestions for improvement

- (a) Teachers must stress the importance of the layout of the essay: introduction, body (main and additional part) and conclusion. There should be a clear distinction between the various aspects with line spacing in between. The use of sub-headings is crucial as this earns marks.
- (b) Learners must be made aware that no marks will be earned if any part of the question is repeated in the introduction. The conclusion must not include any point mentioned in the body but can include the learner's own opinion, an alternate viewpoint, any fact to support the body or a summary of the discussion.
- (c) Learners should practise different graphs and supply detailed information as part of each graph. There is a clear indication that graphs are taught, but the most important features appear not to be emphasised. In teaching the content, emphasis should be placed on the shape and labelling of curves, the equilibrium point and position of the various curves.

Teachers should help learners to be able to draw graphs by focusing on the following important aspects:

- Heading of graph;
- Labelling of axis and on axis;
- Labelling of curves;
- Indication of equilibrium points or key points by means of a letter; and,
- Providing relevant explanations of the graph in relation to the question.

QUESTION 6: CONTEMPORARY ECONOMIC TOPICS

The general performance in this question was below average. Some learners who attempted this question, performed very well and provided more material than was needed for full marks.

Common errors and misconceptions

- (a) In the introduction candidates were able to give a good introduction to the question, although incomplete definitions of inflation resulted in candidates not getting full credit. Some candidates inappropriately combined the definitions of inflation and that of cost push inflation in the introduction.
- (b) In the main part many candidates did not use sub-headings to structure their work, losing marks in the process. Some candidates mentioned the points/causes but did not relate them to increase in costs of productions and eventually inflation (increases in prices). Many mentioned the causes of demand pull inflation instead of cost push inflation.
- (c) Although candidates were able to either agree or disagree with the statement, but many failed to argue in support of their option, instead they simply repeated a definition of inflation. They did not apply their knowledge of inflation targeting policy to the effects/impact it has on the economy.

Specific suggestions for improvement.

Apart from covering basic content of this topic, inflation targeting, the roles of the Reserve Bank and the Monetary Policy Committee are crucial elements which should be emphasised in the classroom in conjunction with inflation.

CHAPTER 6

ENGLISH FIRST ADDITIONAL LANGUAGE

The following report should be read in conjunction with the English First Additional Language question papers of the November 2014 Examination.

6.1 PERFORMANCE TRENDS: PAPERS 1 – 3 (2011 – 2014)

The general performance of candidates reflects a decline from that of the 2013, although it is in line with the performance of 2012. In comparison to 2013, the following features are noted:

- The number of candidates writing the subject decreased by 21 733. Candidates passing at the 30% level declined marginally by 1.1 percentage points whilst candidates passing at the 40% level declined by 5.9 percentage points.
- Candidates achieving distinctions over 80% declined from 1.8% to 0.9% of total candidates.

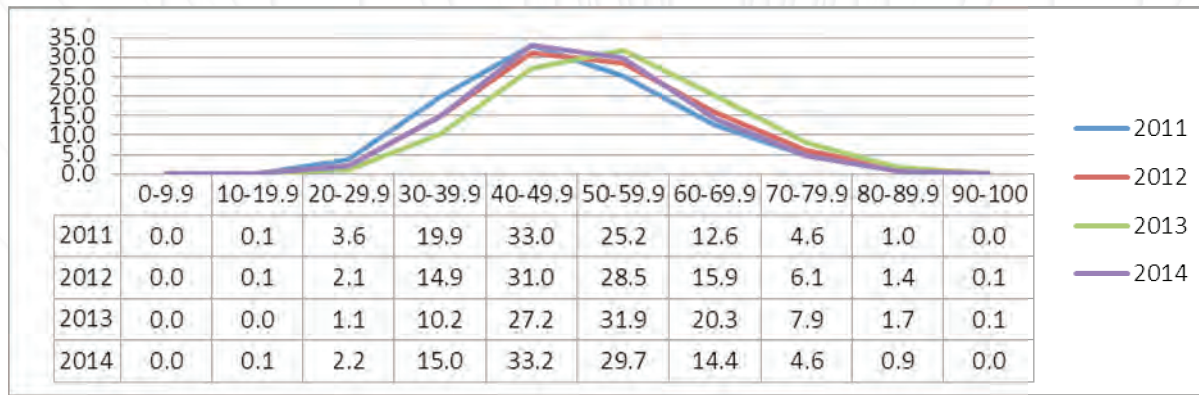
Table 6.1.1 Overall achievement in English First Additional Language

Year	No. Wrote	No. achieved at 30% and above	% achieved at 30% and above	No. achieved at 40% and above	% achieved at 40% and above
2011	414 480	398 740	96.2	315 313	76.1
2012	420 039	410 999	97.9	348 261	82.9
2013	454 666	449 420	98.8	403 081	88.7
2014	432 933	423 134	97.7	358 373	82.8

Graph 6.1.1 Overall achievement in English First Additional Language



Graph 6.1.2 Performance distribution curves for English First Additional Language



There has been an increase in the percentage of candidates performing between the 0 to 39.9% category and a decrease in the performance of candidates between the 40% to 100% category. Generally a decrease in the overall performance is noted.

6.2 OVERVIEW OF LEARNER PERFORMANCES IN PAPER 1

General comments

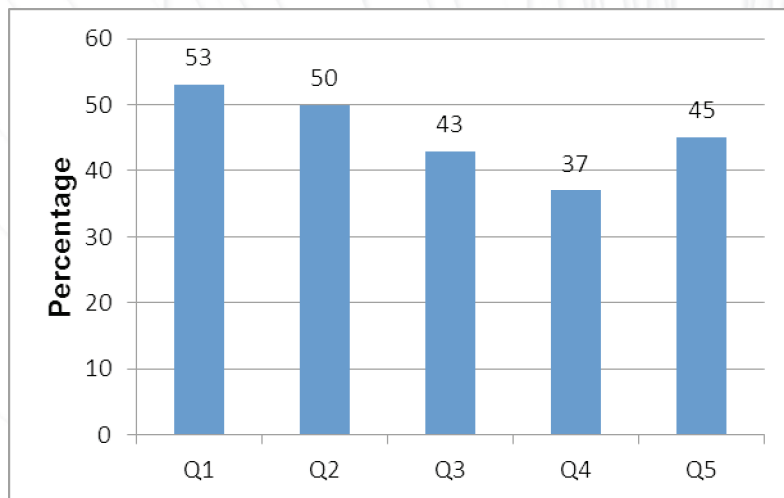
- Evidence suggests an improvement in comprehension skills. More learners are performing better in Section A than in previous years.
- A strong vocabulary, as well as the ability to interpret figurative and idiomatic language, would enable more candidates to do well in the paper as a whole.
- Reading comprehension skills seem to be improving, although regular exposure to examination-type texts is highly recommended in order to prepare candidates.
- The summary was generally well-answered. The biggest shortcoming seems to be the tendency to quote verbatim.

6.3 DIAGNOSTIC QUESTION ANALYSIS FOR PAPER 1

The following graph was based on data from a random sample of candidates. While this graph might not accurately reflect national averages, it is useful in assessing the relative degree of challenge of each question as experienced by candidates.

Candidates performed the least successfully in Question 4, analysing a cartoon, which tested visual literacy and language skills. There was a drop in the quality of answers to all the questions except Question 5, which showed an improvement since 2013. Candidates performed the best in Question 1 (reading comprehension) and the most weakly in Question 4 (analysing a cartoon)

Graph 6.3.1 Average marks per question expressed as a percentage: Paper 1



Q1	Comprehension
Q2	Summary
Q3	Analysing an advertisement
Q4	Analysing a cartoon
Q5	Language and editing skills

6.4 ANALYSIS OF LEARNER PERFORMANCE IN INDIVIDUAL QUESTIONS IN PAPER 1

QUESTION ONE: COMPREHENSION TEST

Common errors and misconceptions

- As was the case 2013, a general inability to interpret idiomatic language was revealed by the responses to Q1.5.2, as many candidates could not decode the meaning of the expression 'to hit the tracks'.
- Some candidates responded very generally to the open-ended question in Q1.7.2, not linking the response to the text in any way.
- Q1.8 was another example of candidates' inability to deal with figurative language.
- Reading comprehension seemed lacking in answers to Q1.9. Candidates had to understand exactly what the services of the train included before they could suggest how those services could be improved. This question demanded superior cognitive activity and, sadly, many candidates did not measure up because of a lack of understanding.
- It was evident that many candidates did not read the text preceding the illustrations in Text B. As a result, these candidates misinterpreted the illustrations. Despite the simplicity of the text, candidates often did not seem to grasp that it was about expenditure and in their responses focused on time or attention being devoted to less important things, rather than the spending of money.
- Many responses to Q1.12 were very incoherent and unsubstantiated. Candidates did not start their responses with a clear positive or negative answer, as well as go on to substantiate.

Suggestions for improvement

- If they are encouraged to engage with both visual and verbal texts, learners will become more familiar with figurative and idiomatic language.
- Teachers should provide their learners with enough opportunities to practise comprehension skills – not only informally and orally, but also in writing, so that they can become used to 'translating' what they have read in a text into their own words. They must also be trained to respond correctly to the different kinds of question, keeping the mark allocation in mind.

- (c) Only by exposing learners to texts which allow them to formulate their own opinions and feelings, will teachers help learners to do well in the questions with higher cognitive demand.
- (d) The average FAL candidate has to build his/her vocabulary in the classroom, as that is often the only place where he/she interacts with the language. The teacher who allows learners to use another language in the classroom, is doing them a disservice.
- (e) Teachers need to expose learners to enough exercises – many marks were lost because of candidates' quoting. (Q1.1; Q1.2; Q1.3; Q1.5.3). The question paper clearly states that questions should be answered in the candidate's own words, thus full marks can never be awarded for a verbatim quotation.

QUESTION TWO: SUMMARY

General comments

- (a) Most candidates were comfortable with the format and general skills required by this question.
- (b) The majority indicated the number of words used and most used a neat point-form format.
- (c) Only a handful of candidates exceeded the maximum number of words.
- (d) As in answers to Comprehension, quoting was a stumbling block for many candidates. This cost candidates marks, but a large number of them successfully used their own words, showing understanding and language ability, which are exactly what this paper is assessing.

Common errors and misconceptions

- (a) The biggest problem was that many candidates ignored the instruction to summarise *security features* of the new identity card. They launched into a summary of all the facts given in the passage and in the process forfeited many marks as they reached the word limit before they had included enough relevant facts.
- (b) A lack of understanding was evident in many responses, sometimes to the extent of a quotation being written only up to a point in an effort to save words, but ending up as entirely incoherent.

Suggestions for improvement

- (a) Learners should be taught summarising as a skill.
- (b) Learners should be given numerous opportunities to summarise texts from the earlier grades, as required by the curriculum.
- (c) Learners ought to be exposed to as many texts as possible so as to draw their attention to coherence.

QUESTION THREE: ANALYSING AN ADVERTISEMENT

Common errors and misconceptions

- (a) Some candidates misconstrued the purpose of the advertisement, also missing the name of the 'South African Guide-dogs Association for the Blind', and coming to the conclusion that the advertisement was intended for dog-lovers.
- (b) The inability to understand figurative language was highlighted in the responses to this question as many candidates failed to understand the figurative use of 'sunshine' brought by the dogs into the lives of the blind (Q3.3). This also prevented candidates from responding suitably to Q3.5 as part of the message of the advertisement became obscured.
- (c) It seems inconceivable that so many school-leavers can think that a printed advertisement is intended for blind people, as numerous candidates indicated in their responses to Q3.4.

Suggestions for improvement

- (a) Learners need to be taught that all the details in a visual text are important.
- (b) Candidates need to be exposed to advertising material so that they can become used to the different kinds of advertisements – this advertisement is not trying to sell anything, but is appealing for financial support, a fact that many candidates seemed to have missed.
- (c) The advertisement was an opportunity even for the weaker candidate to get some marks, but unfortunately, owing to lack of exposure, many candidates could not benefit from the opportunity. Teachers should expose learners to advertisements of all kinds, starting in the early grades.

QUESTION FOUR: ANALYSING A CARTOON

Common errors and misconceptions

- (a) Some candidates seemed uncertain about the basic terms of this genre. Some candidates confused a 'character' with a 'cartoonist' or even a 'cartoon'.
- (b) The note given with the cartoon was intended to help the candidates, but many candidates did not read it and ended up thinking that the two characters in the cartoon were a male taxi driver and his child.
- (c) A lack of vocabulary was mentioned in this report in 2013. Again in 2014, a paralysing lack of vocabulary became apparent: in this question candidates fumbled for the correct word for 'steering wheel' (Q4.1.2 and Q4.2).
- (d) In Q4.1.2, candidates were instructed to refer to certain frames, but this instruction was ignored in many cases, resulting in lost marks.
- (e) A large number of candidates did not recognise the term 'a play on words' (Q4.4).

Suggestions for improvement

- (a) The basic features of visual literacy need to be taught. Candidates are clumsy around terms like 'frame' and 'cartoonist'. Candidates should also be taught to refer to the correct frames.
- (b) As was the case 2013, many candidates could not express themselves comfortably when dealing with body language. For this reason, questions which are intended to be easy become difficult. Regular exercises dealing with this will yield positive results.
- (c) Learners should be exposed to cartoons on a regular basis so that they become familiar with this type of question. In doing this, they will also pick up useful language structures, idiomatic language and reading skills.

QUESTION FIVE: LANGUAGE AND EDITING

This section tests language accuracy, so spelling, punctuation and transcribing accurately are essential.

Common errors and misconceptions

- (a) Candidates had difficulty identifying the errors in Q5.1.1; some identified the error but were unable to rectify it. For example, in Q5.1.1(a) many candidates turned the incorrect *they're* into (still incorrect) *there* and in (d) they replaced *releive* with *relief* instead of *relieve*.
- (b) The negative construction *neither/nor* (Q5.1.3) presented some candidates with difficulty, which is an indicator of inadequate teaching of very basic language structures.
- (c) Candidates seemed not to be familiar with the correct punctuation to be used in direct speech (Q5.1.3). The pronoun and verb change presented fewer problems.

- (d) The term *homophone* (Q5.1.4) seemed foreign to the vast majority of candidates. By far the majority of candidates confused it with *synonym*.
- (e) The instruction to start with 'Since' in Q5.1.5 was ignored by quite a number of candidates, resulting in the loss of both marks. Many candidates who joined the two sentences correctly, omitted the comma and lost one mark.
- (f) The apostrophe (Q5.2.3) seemed to baffle many candidates. Innovative teachers could make use of material from good newspapers, magazines or advertisements where the apostrophe has been used correctly, to show learners how to use it. Posters showing correct examples could embed the use of the apostrophe and other punctuation marks.

Suggestions for improvement

- (a) The teaching of grammar should be given serious attention. Question 5 tests very basic skills which must be taught, practised and studied.
- (b) The CAPS document makes it easy for teachers to go about teaching these skills methodically, according to a list.
- (c) Repetition of the basic skills will yield good results.

ENGLISH FIRST ADDITIONAL LANGUAGE P2

6.5 OVERVIEW OF LEARNER PERFORMANCE IN PAPER 2

General comments

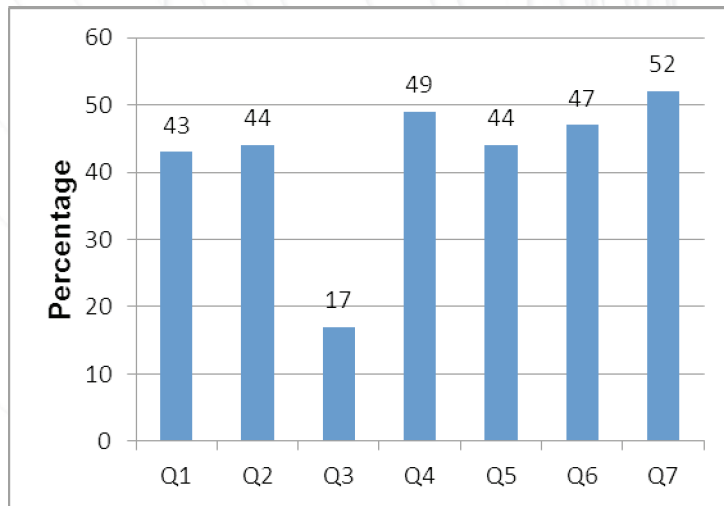
- (a) Provincial reports suggest that candidates have mastered the different types of questions. The fact that the essay-type question no longer appears in this question paper has led to fewer candidates attempting too many questions.
- (b) Candidates encountered difficulties in answering the 3- and 4-mark questions, which were all questions with a high cognitive demand.
- (c) Candidates who studied the prescribed texts, interpreted their questions carefully, followed instructions and responded in accordance with the mark allocation, performed well.

6.6 DIAGNOSTIC QUESTION ANALYSIS FOR PAPER 2

The following graph was based on data from a random sample of candidates. While this graph might not accurately reflect national averages, it is useful in assessing the relative degree of challenge of each question as experienced by candidates.

Candidates performed least successfully in question 6 (*A Grain of Wheat*). This novel was also the least popular choice.

Graph 6.6.1 Average marks per question expressed as a percentage: Paper 2



Q1	<i>To Kill a Mockingbird</i>
Q2	<i>Lord of the Flies</i>
Q3	<i>A Grain of Wheat</i>
Q4	<i>Romeo and Juliet</i>
Q5	<i>Nothing but the Truth</i>
Q6	Short Stories
Q7	Poetry

6.7 ANALYSIS OF LEARNER PERFORMANCE IN PAPER 2

Common errors and misconceptions

- Many candidates could not answer simple questions about the content of the texts (e.g. Q1.1.2; Q2.1.2; Q3.2.4; Q4.2.5; Q5.1.1; Q6.1.2; Q7.1.5), which points to a lack of preparation or teaching, or a combination of these.
- When asked about the difference between two characters or aspects (e.g. Q1.1.3; Q2.2.4; Q3.1.6; Q4.1.3; Q5.2.2; Q6.2.6), candidates need to be taught that knowledge of BOTH characters/aspects must be displayed in the answer.
- Candidates seemed not to have grasped fully the meaning of some commonly-used assessment terms such as 'discuss' and 'explain'. Some candidates approached the paper like a comprehension test, apparently seeking all the answers in the extracts.
- Candidates disregarded specific instructions to refer to certain parts of the extracts. These instructions were included in the question paper to guide them (e.g. Q1.2.1; Q2.1.2; Q3.1.5), but candidates did not make use of the guidance.
- Instructions regarding the lengths of answers were also included in the question paper, but some candidates chose not to follow the instructions, leading to lost marks (e.g. Q2.2.1; Q4.2.2; Q4.2.7; Q5.1.3; Q6.1.2c; Q7.2.2).

Suggestions for improvement

- Candidates should be familiar with figurative language and other literary devices so that they are not only able to identify them, but also appreciate, explain and discuss their use. A detailed study of all the relevant techniques is needed.
- Learners need to be taught the language of assessment so that an instruction such as 'identify and discuss the theme' (e.g. Q1.2.5; Q2.2.6; Q3.1.7; Q4.1.6; Q5.1.7; Q6.1.5) is not foreign when encountered in the question paper.
- All the texts must be read closely and thoroughly. Learners need to be taught that the purpose of an extract is to contextualise, and not all the answers will be found there. They need to be taught that questions are set beyond the extract, and thus need thorough knowledge of and insight into the text. Studying and understanding the entire text are important.
- The short story is shorter and less complex than a novel or a drama, therefore more detailed knowledge is expected. Closer reading, with guidance from the teacher, is required. The structure, the language usage, literary devices, characterisation and other techniques need to be taught and studied, even in the earlier grades.

- (e) The importance of stage directions, setting, costumes, casting, tone of voice and other aspects of drama should be taught. Body language, facial expression and tone of voice are important and should be taught as integral parts of the text. DVD-versions of the prescribed plays should under no circumstances substitute for the study of the written texts, although they can serve a helpful purpose.
- (f) Candidates need to be exposed to examination instructions and questions so that they are confident when they are confronted with the question paper. Multiple-choice questions, fill-in questions and words like 'identify' or 'discuss' should not be encountered for the first time when the final examination is written. This principle is also true of the open-ended questions.
- (g) Candidates need to understand that a novel is more than a mere plot – teachers and candidates must have an understanding of characterisation and the structure and themes of the novel. Responses to questions like Q1.1.4; Q2.2.7; Q3.2.6; Q4.1.7 and Q5.2.7 show a lack of understanding of characterisation as well as an inability to form and express text-based opinions. These skills can only be honed by continual exposure to similar questions.
- (h) Teachers must use all available resources, but it must be kept in mind that nothing can ever replace the studying of the prescribed text: no study guide or DVD can take the place of teaching and studying.

ENGLISH FIRST ADDITIONAL LANGUAGE PAPER 3

General comments

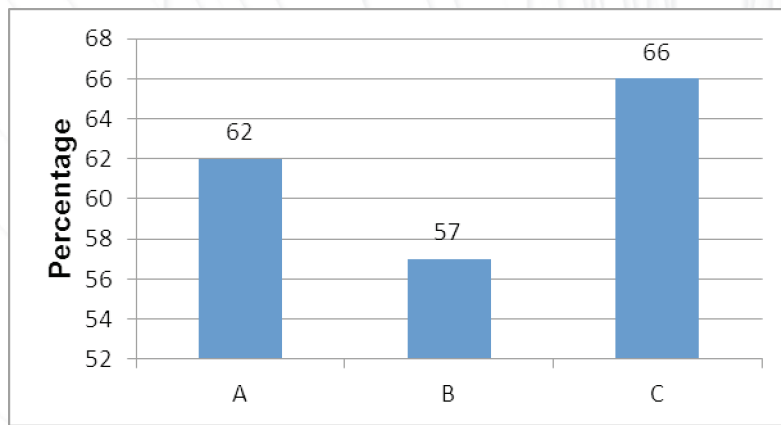
- (a) The value of practical issues like neat handwriting, a pen of good quality, starting each new section on a new page, clearly crossing out all rough work and giving each piece of writing a clear and correct number and title, should not be underestimated.
- (b) The language structures used in formal language exercises can be used with great effect in responses to Paper 3. The importance of sentence construction and paragraphing cannot be stressed enough. Figures of speech and control of nuances can enhance writing immensely.
- (c) Candidates should be encouraged to prepare well for this paper, as it carries the most marks and the skills used in the first two papers can be applied here with great success.

6.9 DIAGNOSTIC QUESTION ANALYSIS FOR PAPER 3

The following graph was based on data from a random sample of candidates. While this graph might not accurately reflect national averages, it is useful in assessing the relative degree of challenge of each question as experienced by candidates.

Candidates performed the least successfully in Section B.

Graph 6.9.1 Average marks per section expressed as a percentage: Paper 3



Section A	Essays
Section B	Longer Transactional Pieces
Section C	Shorter Texts

6.10 ANALYSIS OF LEARNER PERFORMANCE IN INDIVIDUAL QUESTIONS IN PAPER 3

SECTION A: ESSAYS

Common errors and misconceptions

- Many candidates who attempted Q1.1 merely listed their resolutions for 2015 without highlighting how they were going to shine or where they were hoping to excel.
- In Q1.4, a lack of focus was again apparent. Candidates launched into a general discussion of social media without focusing on the change in human relationships as instructed in the topic.
- Similarly, in Q1.6 candidates discussed either the fact that teenagers are misunderstood, neglecting to mention anything about their being rebellious; or they discussed reasons why teenagers are misunderstood without linking their discussion to rebelliousness at all.
- Candidates seemed hesitant to attempt the visual topics (Q1.7.1 and Q1.7.2), as well as Q1.3, which needed some interpretation. This may be interpreted as an indication that they are not regularly exposed to similar stimuli.
- Responses to Q1.2 and Q1.5 showed that few candidates rise to the challenge of writing imaginatively. There were, however, some exceptional responses across all the provinces.
- The basic writing skills like vocabulary, sentence construction, paragraphing, spelling, verb tenses and concord were found to be lacking in the majority of responses. Many candidates had good ideas but lacked the skills to convey these ideas successfully.

Suggestions for improvement

- Candidates should be taught to analyse the given topics carefully and, especially since the topics are short, ensure that they cover all aspects in their responses.
- If there are aspects of a topic about which candidates are uncertain, they should rather choose another topic.
- In order to assist candidates to produce logically structured, grammatically sound and coherent pieces, the importance of planning, proofreading and editing must be stressed and taught.
- The impact of a suitable introduction and a strong conclusion must be taught.

- (e) While a logical essay with minimal mistakes is acceptable, candidates should be equipped with the skills to be able to come up with exceptional pieces, enhanced with rhetorical devices; this can only be achieved through teaching and exposure, combined with well-developed talent. It is only in extremely rare instances that a FAL candidate would be able to produce such a piece without the guidance of a teacher. It is the responsibility of every teacher to make spelling, concord, sentence construction and all other language skills and devices part of every learner's writing equipment.
- (f) Candidates should be exposed to good writing, and also be given enough opportunities to write and improve their own pieces.

SECTION B: LONGER TRANSACTIONAL PIECES

- (a) Although a considerable improvement in candidates' ability to use the correct format was noticed in both Q2.1 (dialogue) and Q2.2 (formal letter), very few candidates attempted Q2.3 (informal report) and Q2.4 (review). Had candidates known the relatively simple format required in the latter two questions, they might have done well there.
- (b) A lack of vocabulary and general awareness of topical issues was revealed in the work of some candidates who chose the dialogue but clearly did not know what 'litter' was. The same was true of Q2.3 (the informal report), where candidates misinterpreted 'community work'. Both these concepts are very basic and should fall within the experience of a school-leaver.
- (c) Candidates who chose the formal letter did well as far as the content is concerned, presenting their complaints in a logical and adult manner, some even providing sensible suggestions on how to improve matters. A lack of ability to express their ideas hampered some candidates.
- (d) Some candidates still used quotation marks in the dialogue, and wasted words and time with unnecessary and lengthy greetings at the beginning and end of their pieces.

Suggestions for improvement

- (a) The CAPS document is clear on all the different transactional pieces that must have been taught by the end of Grade 12. Teachers must expose learners to all of these so that the choice is not unfairly limited when it comes to the final examination.
- (b) Learners must be taught the format, tone and style used in the different transactional pieces. The CAPS document gives clear guidelines on all these.
- (c) Transactional pieces should be planned, proofread and edited. This process should help candidates to produce logically structured, coherent pieces.
- (d) Candidates must be provided with ample opportunity to write transactional pieces – this is a skill they should be able to acquire and refine.

SECTION C: SHORTER TEXTS

- (a) Candidates performed the best in this section. The diary entry (Q3.2) was the most popular choice and candidates wrote well, describing personal thoughts and feelings.
- (b) Q3.2 also elicited some good responses, although some candidates ended up adding bizarre, very juvenile instructions in an effort to write at least the minimum number of words. Many candidates neglected to give the instructions a suitable heading, resulting in a set of instructions that required the reader to come to his/her own conclusion as to what item he/she was dealing with. The choice of object also showed a lack of maturity in some candidates.
- (c) The same lack of focus as in Section A was apparent in many responses to the formal invitation (Q3.1). Candidates left out vital information like the time and venue, or constructed the invitation in such a haphazard way that it was quite confusing.
- (d) Throughout Section C it was obvious that some candidates did not make use of any planning or editing and went about their responses without much attention to correct language usage.

Suggestions for improvement

- (a) Candidates need to be encouraged not to treat this section as less important, even though it carries only 20 marks. This is often the section which boosts the candidates' marks, as the pieces are relatively easy.
- (b) Good planning is very important in this section and candidates should be encouraged not to neglect this aspect. Time management should be practised as running out of time may be the reason for the lack of attention to detail which often costs candidates marks in this last section.
- (c) Exposing learners to all prescribed pieces is not only the duty of each teacher, but it would certainly help candidates to choose the piece that suits them best and in that way improve their marks.
- (d) Proper, detailed feedback by teachers to learners after writing exercises is an essential part of providing them with skills and preventing the repetition of mistakes.

CHAPTER 7

GEOGRAPHY

The following report should be read in conjunction with the Geography question papers of the November 2014 Examination.

7.1 PERFORMANCE TRENDS (2011 – 2014)

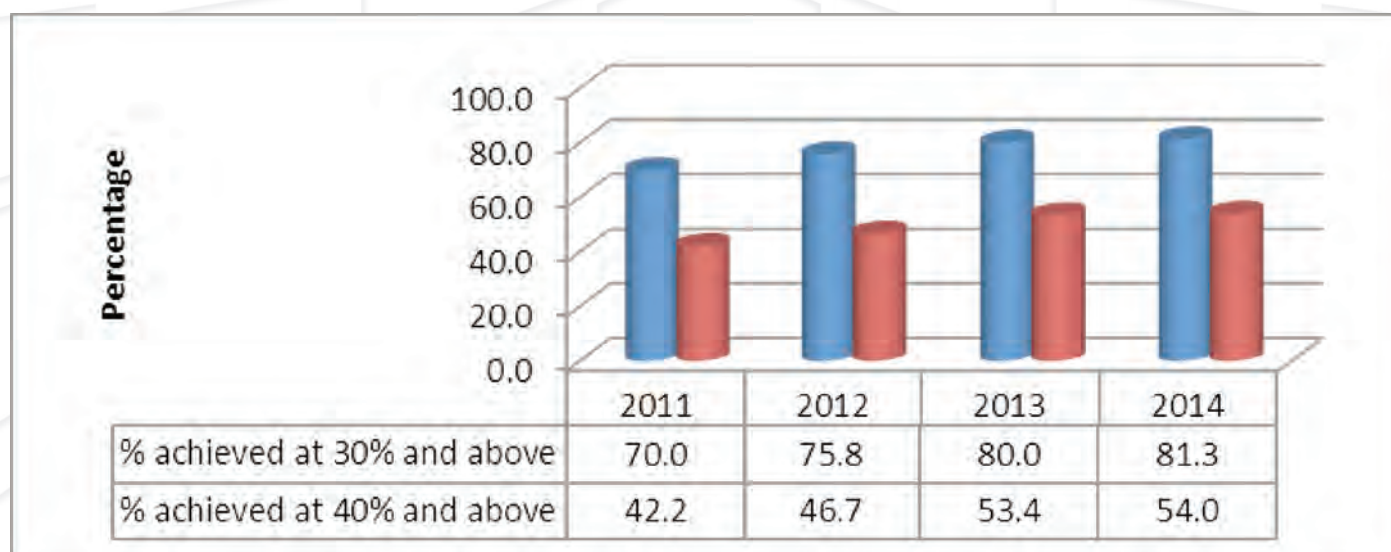
The general performance of candidates reflects a positive trend over the past four years. In comparison to 2013, the following features are noted:

- The number of candidates who wrote the subject decreased by 3 606.
- Candidates passing at the 30% level improved by 1.3 percentage points whilst candidates passing at the 40% level improved by 0.6 percentage points; and,
- Candidates achieving distinctions over 80% declined marginally from 1.7% to 1.5% of total candidates.

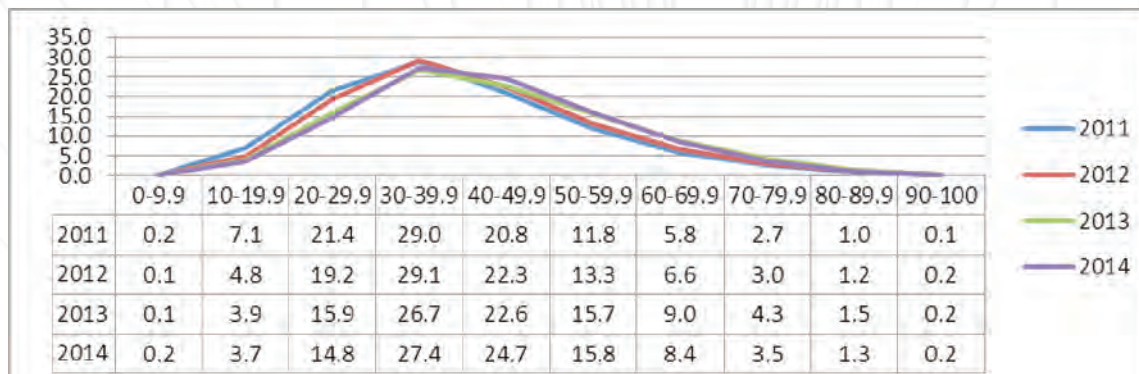
Table 7.1.1 Overall achievement in Geography

Year	No. Wrote	No. achieved at 30% and above	% achieved at 30% and above	No. achieved at 40% and above	% achieved at 40% and above
2011	199 248	139 405	70.0	84 169	42.2
2012	213 735	162 046	75.8	99 760	46.7
2013	239 657	191 834	80.0	127 873	53.4
2014	236 051	191 966	81.3	127 358	54.0

Graph 7.1.1 Overall achievement in Geography



Graph 7.1.2 Performance distribution curves in Geography



The percentage of candidates performing between 0 to 29.9% dropped. The performance in 2014 improved marginally with more candidates. Performing at the 30 - 59.9% level compared to the last 3 years. However, a slight decrease in performance at the category between the 60 - 100% level is noted compared to 2013.

7.2 OVERVIEW OF LEARNER PERFORMANCE IN PAPER 1

General comments

- Many candidates still showed lack of content knowledge and did not know the basic definitions of concepts.
- Candidates struggled with action words that demanded a particular response to questions. The following were noted as examples: *account for*, *critically analyse*, *describe*, *explain* and *predict*, to mention a few. This resulted in incorrect answers.

General suggestions for improvement

- Teachers should ensure that learners know all definitions by making a glossary of terms in their notebooks.
- Learners should have a clear understanding of the basic concepts taught in Geography. These should be mastered through repetitive formative tests.
- When teaching these basic concepts, teachers must ensure that they have the knowledge to teach effectively; in other words, in-depth knowledge of concepts is required. If, for example, a geographical problem is stated, learners should study the causes and effects of the geographical problem, as well as possible solutions to it.
- Teachers should collect sources on an ongoing basis and be aware of current events.
- Teachers are advised to research the topics that are commonly examined and ensure that content is taught correctly.
- Teachers should use a variety of fresh and interesting sources on which to base their questions. They should use source-based questions in class assignments, tests and examinations. They must make use of relevant and recent sources from the internet such as line sketches, photographs, line graphs, bar graphs, pie charts, tables, cartoons and newspaper extracts. These sources could also be used in combination with one another and should focus on interpretation skills.
- Learners should be taught to interpret the implied meanings of cartoons. The purpose of using cartoons is to evoke an emotion in the person studying the cartoon. Teachers and learners alike must be alerted to the fact that these emotions will vary from person to person, and this should be taken into account when marking questions based on cartoons.
- Teachers should be aware of relevant subject content by constantly referring to the CAPS document and Examination Guidelines. Prescribed textbooks do not always contain all the subject content.
- Teachers should provide learners with a copy of the examination guidelines to be used as a checklist when studying for tests/examinations.
- Learners should be trained in the meaning and use of action words as provided in the table below.

Table 7.2: Action words and their expected responses

VERB	MEANING
Account	to answer for – explain the cause of – so as to explain why
Analyse	to separate, examine and interpret critically
Annotate	to add explanatory notes to a sketch, map or drawing
Appraise	to form an opinion on how successful/effective something is
Argue	to put forward reasons in support of or against a proposition
Assess	to carefully consider before making a judgment
Categorise	to place things into groups based on their characteristics
Classify	to divide into groups or types so that things with similar characteristics are in the same group – to arrange according to type or sort
Comment	to write generally about
Compare	to point out or show both similarities and differences
Construct	to draw a shape
Contrast	to stress the differences, dissimilarities, or unlikeness of things, qualities, events or problems
Create	to develop a new or original idea
Criticise	to make comments showing that something is bad or wrong
Decide	to consider something carefully and come to a resolution on what should be done or to choose on what should happen
Defend	to say things to protect something
Define	to give the concise and clear meaning
Devise	to invent or plan a method to do something
Demonstrate	to show or make clear – to illustrate and explain – to prove by reasoning and evidence – examples can be given
Describe	to list the main characteristics of something – give an account of
Develop	to successfully develop and create a new method/idea
Differentiate	to show the difference between things
Discriminate	to recognise the difference between things
Discuss	to examine by means of argument, presenting both sides and reaching a conclusion
Distinguish	to recognise the difference between things
Draw	to show by means of a sketch
Evaluate	to make an appraisal or express an opinion concerning the value – to define, analyse and discuss
Examine	to look at something carefully – to analyse and discuss
Explain	to make clear, interpret and spell out the material you present
Find	to make a formal decision about something
Formulate	to express an idea/opinion in a carefully organised way
Give	to state facts without discussions
Identify	to give the essential characteristics of – to name
Illustrate	to show what something is like – to show that something is true

Interpret	to give an explanation of – to give the meaning of
Investigate	to try to find the facts about something
Justify	to prove or give reasons for decisions or conclusions, using logical argument
List	to write an itemised series of concise statements
Locate	to find the exact place where something is
Mention	providing relevant facts
Name	to state something – give, identify or mention
Outline	give a summary, using main points and leaving out minor details
Plan	to think carefully about a series of actions that you need to take in order to achieve something
Predict	to say what you think will happen – to foretell – to say in advance
Prioritise	to place in order of importance
Propose	to suggest a plan – to make a formal suggestion
Provide	to state facts without discussions
Question	to have or express doubts about something
Rate	to consider that something has a particular quality or achieved a particular quality/level
Recall	to remember something
Recognise	to accept that something is true or important - to give approval to something
Recommend	to advise that something should be done
Report	to produce an official statement or written document
Select	to choose something from a greater whole
Sketch	to illustrate with a simple drawing
Solve	to find a solution to something that is causing difficulties
State	to present information plainly without discussion
Suggest	to propose an explanation or solution
Show	to make clear – to point out – to explain
Support	to show that an idea/statement is true
Tell	to recognise something as a result of knowledge
Test	to examine something to find out if it is satisfactory or has a specific quality
Use	to do something using a specific skill or method
Value	to consider the importance/worth of something
Verify	to check/prove that something is correct
Write	to create a formal document

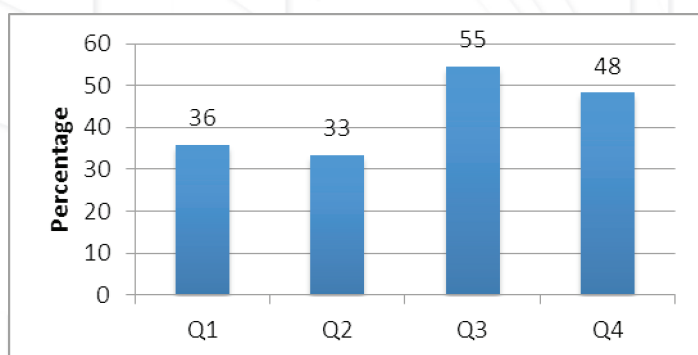
- (k) To improve learner performance, teachers should use previous examination papers to ensure that the standard of questions used in the assessments at school are appropriate. This would also assist teachers to acquaint candidates with the style of question-setting.
- (l) Teachers should ensure that the distribution of marks in the internal assessment tasks is according to the CAPS document. It is 25% lower order, 50% middle order and 25% higher order from 2014 onwards. If too many lower-order questions are asked in the internal assessments conducted at school, learners will not be exposed to the higher-order questions that are asked in the final examination and will therefore have a false notion of the level of performance required.

- (m) Where alternative terms exist for a specific concept, learners must be provided with all possible terms and not only the term preferred by the teacher.
- (n) Learners should be taught paragraph-writing and interpretation techniques. Areas which need attention are repetition and poor punctuation.
- (o) Many learners do not read questions properly. They see common words and fail to determine what the question actually requires. Learners should be guided in developing techniques for the interpretation of questions; for example, the practice of underlining key words.
- (p) As life-long learners, teachers must stay abreast of new developments in their subjects. These changes could be incorporated into internal tests/examinations as contextual questions.

7.3 DIAGNOSTIC QUESTION ANALYSIS FOR PAPER 1

The following graph is based on data from a random sample of candidates. While this graph might not accurately reflect national averages, it is useful in assessing the relative degrees of challenge of each question as experienced by candidates.

Graph 7.3.1 Average marks per question expressed as a percentage: Paper 1



Q1	Climate and Weather, and Geomorphology
Q2	Climate and Weather, and Geomorphology
Q3	Rural and Urban Settlements, and Economic Activities of South Africa
Q4	Rural and Urban Settlements, and Economic Activities of South Africa

7.4 ANALYSIS OF LEARNER PERFORMANCE IN INDIVIDUAL QUESTIONS

QUESTION 1: CLIMATE AND WEATHER, AND GEOMORPHOLOGY

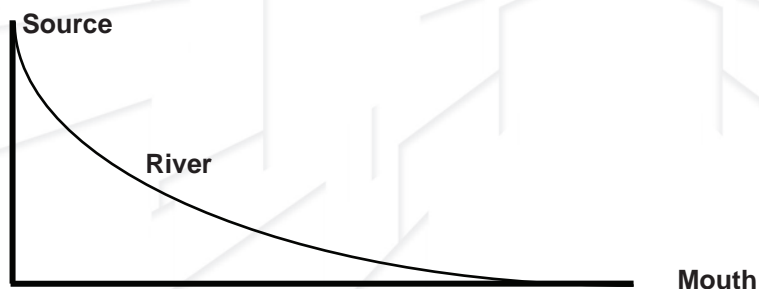
Common errors and misconceptions

- (a) Candidates did not know the definition of an *inversion layer* (Q1.3.1).
- (b) Although most candidates could identify the *katabatic wind*, they did not know how katabatic winds form (Q1.3.3).
- (c) Many candidates confused *smog* with *fog*. Most candidates did not know how *fog* forms.
- (d) Candidates misinterpreted Q1.3.4 by giving the conditions associated with *berg winds* and not the conditions under which they originate.
- (e) Very few candidates knew why the air in a *berg wind* heats up (Q1.4.4).
- (f) Candidates could not explain the clear skies associated with *berg winds* (Q1.4.5). Most candidates responded that clear skies are caused by high temperatures and no clouds, but neglected to explain the geographical process responsible for clear skies.
- (g) Candidates were under the impression that *berg winds* ignite *veld fires* as a result of friction with the grass. *Berg winds* only fan the flames of the *veld fires* as these winds blow very strongly.
- (h) Many candidates knew what a *longitudinal profile* was (Q1.5.3), but could not differentiate between a *graded profile* and an *ungraded profile*.

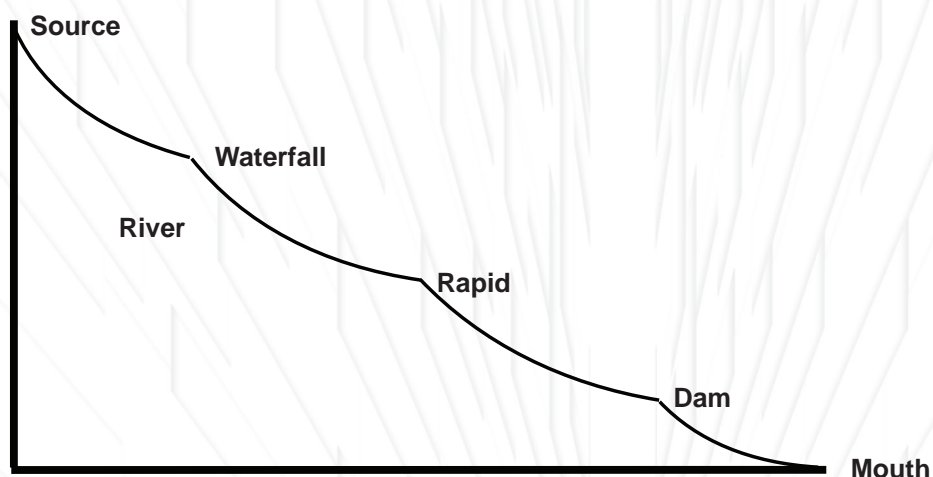
- (i) Q1.5.4 was poorly answered as most candidates gave the characteristics of the *river flow* instead of the *river bed*.
- (j) The geographical processes associated with the change of a river profile from an *ungraded profile* to a graded profile (Q1.5.5) were not understood by the majority of candidates.
- (k) The explanation of the development of a *levee* (Q1.6.4) was not known by the majority of candidates. Very few could link a *levee* to deposition – most thought it was caused by erosion. Even fewer students could link the *levee* to flooding events.

Suggestions for improvements

- (a) Candidates need to read and consider the entire question before attempting to answer it. This will prevent the misinterpretation of questions, and candidates will answer the question as intended and not provide facts based on what they know about the topic. Learners need to be taught how to interpret questions.
- (b) Candidates are aware of the high temperatures and clear skies associated with *berg winds*. However, when requested to provide an explanation for these high temperatures and clear skies, candidates could not provide one.
 - A *berg wind* develops when air subsides down the Escarpment towards the coast. Subsiding air heats up adiabatically. This explains why a *berg wind* is a warm wind.
 - Subsiding air heats up. This heating prevents condensation from taking place. The lack of condensation means that no clouds will form, explaining the clear skies associated with *berg winds*.
- (c) Teachers need to focus on the geographical processes responsible for the development of weather and/or climatic conditions. In the final examination, candidates are expected to explain the development of weather and/or climatic conditions. These explanations should be tested in all internal tests and examinations.
- (a) Learners must be able to distinguish between a *graded river profile* and an *ungraded river profile*.
 - The *longitudinal profile* of a river shows the shape of a river's profile from its source to its mouth.
 - A *graded profile* is smooth and concave, and erosion and deposition are in balance.



- An *ungraded profile* is multi-concave and shows various base levels of erosion along its course. Through the process of headward erosion, the profile may level out to form a *graded profile*.



- (a) Teachers need to focus on the geographical processes involved in the development of landforms. In the final examination, candidates should be able to identify landforms and explain their development. Teachers could use a series of diagrams to explain these processes. The explanation of the development of landforms should be tested in all internal tests and examinations.

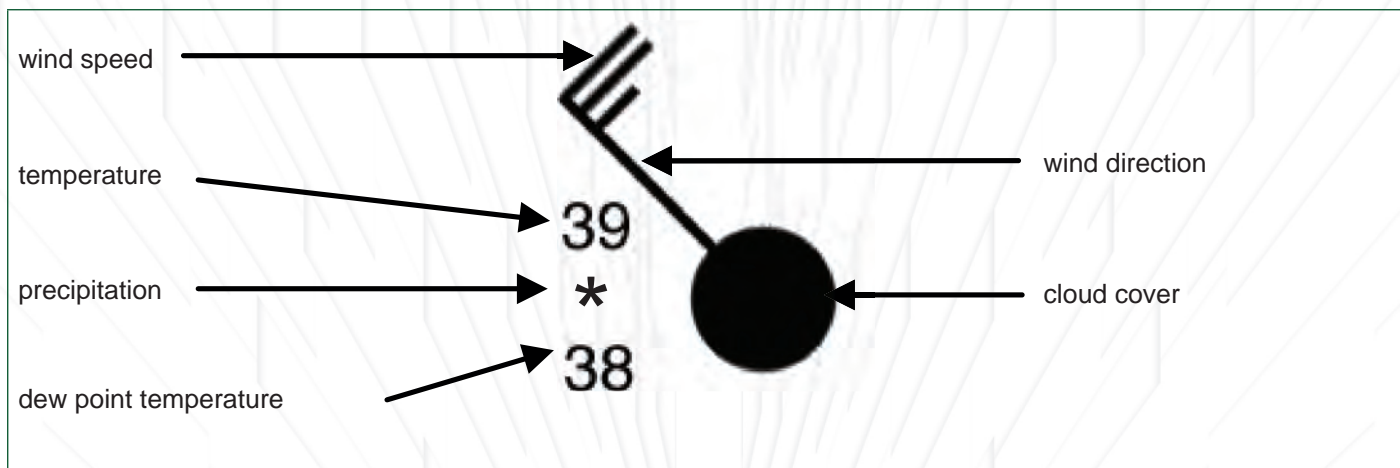
QUESTION 2: CLIMATE AND WEATHER, AND GEOMORPHOLOGY

Common errors and misconceptions

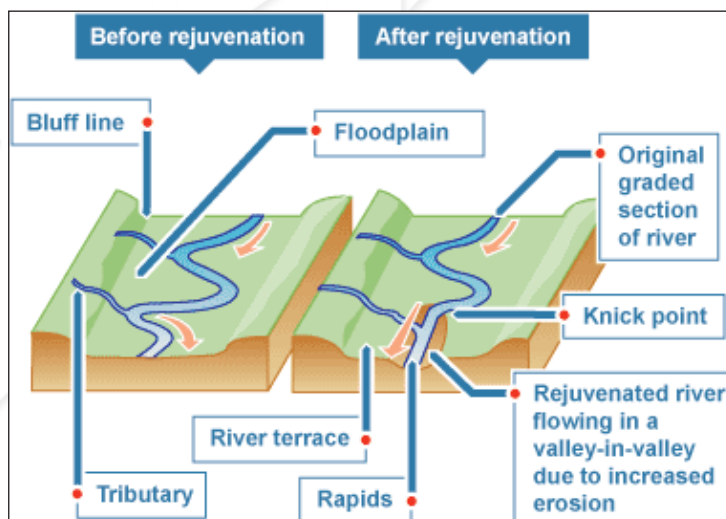
- (a) Many candidates did not know the term, *family of cyclones* (Q2.3.1).
- (b) Many candidates did not draw a cross-section, but rather a plan view of a *cold front* (Q2.3.2(a)).
- (c) Q2.3.3 was poorly answered. Candidates gave a broad description of the weather conditions, rather than the weather station readings. It is clear that candidates do not know how to read a *station model*.
- (d) Responses to Q2.4.5 were generally poor. Candidates could identify the differences in temperature between rural and urban areas, but had difficulty expressing why humidity, rainfall and wind differ.
- (e) It appears many candidates did not read the entire question (Q2.5.5) carefully before responding. Most gave examples of human interference and examples of how human interference affects the river, but very few gave examples of how it affects those living downstream.
- (f) Candidates confused *river rejuvenation* with *river capture* (Q2.6.1).
- (g) Candidates could not provide evidence of *river rejuvenation* (Q2.6.2) as they could not identify the landforms illustrated in the diagram.
- (h) Most candidates could not link the *incised meander* to vertical erosion (Q2.6.4).

Suggestions for improvement

- (a) The interpretation of synoptic weather maps, with emphasis on station models, need to be covered in detail in class. The different weather conditions experienced at a specific place are clearly indicated on the *station model*. All these weather conditions are always indicated in the same position on a *station model*. When asked to describe the weather conditions of a specific place, reference must be made to the specific weather conditions indicated on the *station model*. The units associated with the weather condition should always be given: for example, °C for temperature and knots for wind speed. The *station model* below indicates all weather conditions and their positions on a *station model*.



- (b) Teachers should explain the difference between identifying a system and identifying part of a system, e.g. the cold and warm fronts are part of a mid-latitude cyclone. Learners must be taught the difference between a cross-section and a plan view sketch of a *cold front* and/or *warm front*. Cross-sections are often asked. Learners should know the main cloud type and type of precipitation associated with each of the fronts respectively. The shape/gradient of the front, as well as general air movements and positions of warm and cold air, must be correctly shown.
- (c) Learners should be taught that it is not only temperature that differs between a city and rural areas, but also humidity, rainfall and wind speed.
- *Humidity* is lower in the city, as there are fewer water sources. Water is removed from the city by storm water drainage, leaving fewer sources for evaporation. Fewer trees in the city also reduce evapo-transpiration.
 - However, *rainfall* in the city is higher. More pollution produces more hygroscopic condensation nuclei, which increase condensation. As cities are warmer, air rises faster and higher, increasing the possibility of condensation.
 - Tall buildings can slow down *wind speed* as they block prevailing winds. They could also channel winds between them, increasing *wind speed*.
- (d) *River rejuvenation* should be properly taught. *River rejuvenation* occurs when a river gains energy and is able to cut down into the landscape through downward/vertical erosion. Landforms associated with *river rejuvenation* are important to know and identify. These include incised meanders, a valley-in-a-valley, terraces and knick point waterfalls.



- (e) Learners need to be taught the word *impact*. It needs to be considered that impacts can have a positive and/or negative effect.

QUESTION 3: RURAL AND URBAN SETTLEMENTS, AND ECONOMIC GEOGRAPHY OF SOUTH AFRICA

Common errors and misconceptions

- (a) Q3.4.1 was poorly answered. Many candidates referred to the rural population, and not to the poorer sector of the population living in cities. Some candidates referred to the informal sector or primary sector as the question referred to *sector of the population*.
- (b) It appears that many candidates did not read the last line of Q3.4.2, and so referred to the lack of planning in general, instead of the lack of planning with regard to transportation.
- (c) Candidates could not link *agriculture* to *infrastructure development* (Q3.5.5).
- (d) Candidates were unsure of what *unreliable rainfall* (Q3.5.6) was, and referred to high rainfall and flooding.
- (e) Candidates lacked the content knowledge of *Spatial Development Initiatives* (Q3.6.2 and Q3.6.3) to answer these questions concisely.
- (f) Candidates found the paragraph question (Q3.6.3) challenging, as linking *tourism* to *SDIs* and *infrastructure* was clearly not understood.

Suggestions for improvement

- (a) Please emphasise to the learners that a question should be read to the end. This should prevent candidates' answering questions based on what they know, rather than answering the question that is asked. Candidates should make sure about whether a question asks for general or specific tendencies. This could be taught by underlining key words in the question.
- (b) Learners should be taught that there are links between *features of the economy* and *economic development* of a country. These types of questions are often asked as was noted in Q3.5.5. Merely knowing the factors that contribute to economic development is not sufficient.
- (c) Teachers should keep up with economic development in South Africa, e.g. the development of *Spatial Development Initiatives (SDIs)*. Changes in economic development in South Africa should be brought to the attention of the learners.
- A *Spatial Development Initiative (SDI)* is a programme aimed at improving infrastructure and attracting business and investments to rural areas that were previously neglected.
 - By improving *infrastructure*, more *tourists* will be attracted, as rural areas will become more accessible. This in itself will provide a greater income for the rural communities, and will lead to their eventual elevation as communities.
 - *SDIs* should be studied as case studies with the aim of applying knowledge of infrastructure development, tourism, employment and economic development in previously underdeveloped areas.
 - This section is not covered well in many textbooks. Teachers need to look beyond textbooks for additional content.

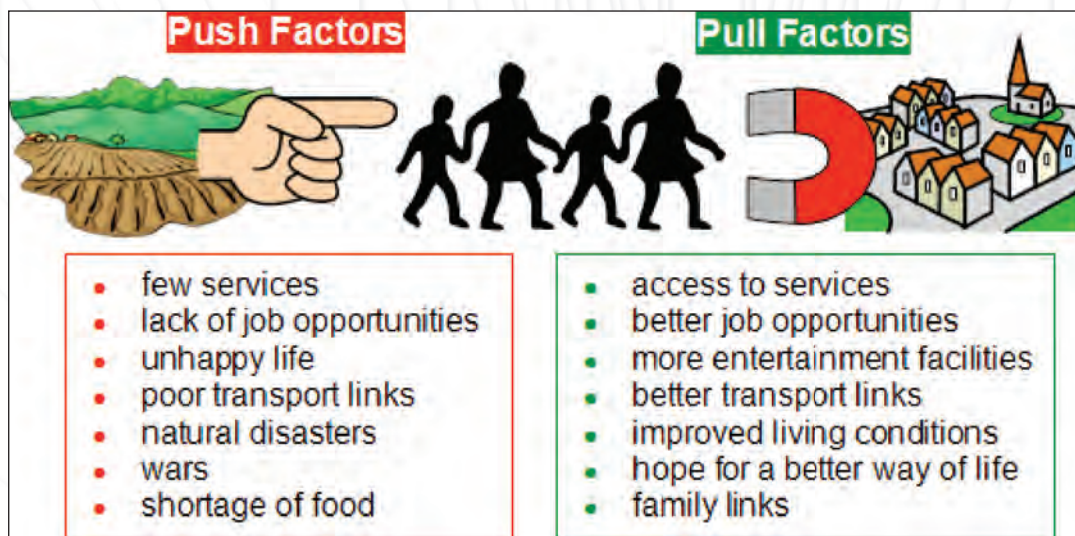
QUESTION 4: RURAL AND URBAN SETTLEMENTS, AND ECONOMIC GEOGRAPHY OF SOUTH AFRICA

Common errors and misconceptions

- (a) Candidates did not read Q4.3.3 properly and indicated how the services were declining instead of why the services were declining.
- (b) Some candidates took the literal meaning of *green lungs* (Q4.3.4) and could not relate the term to the parks or greenbelt areas.
- (c) Q4.3.5 was generally poorly answered as the learners got Q4.3.4 wrong. They therefore built their response on an initial incorrect response.
- (d) Q4.4.2 was generally well-answered, but some candidates still gave *pull factors* instead of *push factors*. One-word answers are not adequate for this question and this need to be emphasised in class.
- (e) Many candidates did not concentrate on housing and employment (Q4.4.4), but rather discussed all the pull factors to urban areas, which made their responses irrelevant.
- (f) Some candidates still confused the term *informal sector* with *informal settlements* or even with *illegal activities*.
- (g) Many candidates were unfamiliar with the term, *trading permit* (Q4.5.5 and Q4.5.6) and did not cope well with these questions.
- (h) Learners battled to link the Marikana Mine to the *GDP* (Q4.6.3), showing a lack of understanding of mining and Economic Geography. Candidates referred to the impact on the miners and not on the *GDP*.
- (i) Many candidates repeated the same fact, *safety measures*, in different ways (Q4.6.4), making their responses repetitive.

Suggestions for improvement

- (a) Learners should be made aware of the implied meaning of terms such as *green lungs*, which are often used to describe greenbelts or parks in an urban settlement. These greenbelts and parks act like lungs in a human being. They reduce carbon dioxide in the city, and release oxygen into the atmosphere.
- (b) The concept of push and pull factors is commonly tested in the final exam paper.
 - A *push factor* is a forceful/negative factor, and a factor which relates to the area the person is migrating from. It is generally a problem which results in people's wanting to leave.
 - A *pull factor* is something concerning the area a person migrates to. It is generally a good/positive thing that attracts people to a certain place.



- (c) Learners must show a common understanding of basic concepts by being able to provide definitions for specific concepts/terms used in Economic Geography.

7.5 OVERVIEW OF LEARNER PERFORMANCE IN PAPER 2

General comments

- (a) Middle- to higher-order questions posed a great challenge to the candidates.
- (b) The basic knowledge of calculations is lacking. It appears that many teachers are not well-versed in the various calculation techniques.
- (c) The fundamental knowledge of GIS is lacking. It seems as if many teachers are not familiar with GIS.
- (d) The teaching of map and photo interpretation is not purely textbook-based. Teachers must ensure that all topographic maps and orthophoto maps are kept safely at school. These topographic and orthophoto maps are valuable resource materials that should be engaged with on a regular basis.
- (e) The integration of theory and mapwork cannot be emphasised enough. Learners must be made aware that Geography Paper 1 and Geography Paper 2 are inter-related and not two separate entities. When certain concepts are taught in the theory section of Geography, this knowledge must be applied in mapwork.

General suggestions for improvement

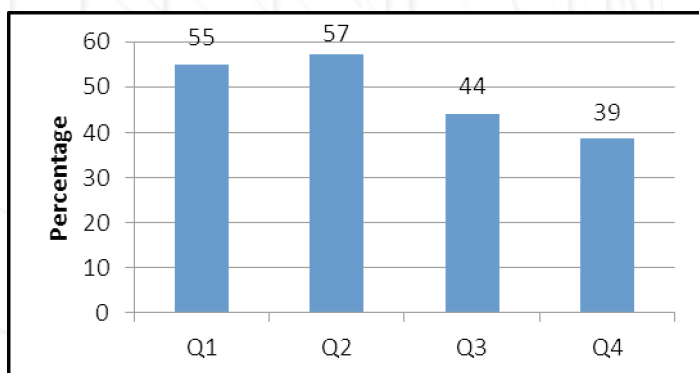
- (a) Teachers should help learners to relate the orthophoto map to a specific area on the topographic map, using latitude and longitude. The area covered by the orthophoto map is usually indicated as a red demarcated area on the topographic map. Learners must be made aware that even though the orthophoto map and the topographic map are similar in size, the orthophoto map represents a much smaller landscape in reality than the topographic map. Understanding the concept of *scale* is important.
- (b) The learners should be taught to recognise small differences in the options given in a multiple-choice question. Teachers should be trained in the correct way of setting multiple-choice questions.
- (c) The Climate, Geomorphology, Settlement and Economic Geography of South Africa sections of Geography should be taught by integrating content with topographic maps and orthophoto maps.
- (d) The integration between theory and mapwork must be taught in the classroom. Teachers should also emphasise the importance of geographic terminology in tests and examinations. For example, candidates often use words such as *left* and *right* instead of north, south, east or west.
- (e) Teachers should be trained in mapwork calculation techniques and GIS.

- (f) All schools should have a variety of topographic maps and orthophoto maps available at their schools as invigilators are instructed to collect these resources at the end of the examination. Teachers should use these resources and examination papers for the purpose of practising in class. All NSC examination papers can be used for practising purposes in CAPS as the content remains the same. Take note, however, that the mark allocation will differ.

7.6 DIAGNOSTIC QUESTION ANALYSIS FOR PAPER 2

The following graph was based on data from a random sample of candidates. While this graph might not accurately reflect national averages, it is useful in assessing the relative degrees of challenge of each question as experienced by candidates.

Graph 7.6.1 Average marks per question expressed as a percentage: Paper 2



Q1	Multiple Choice
Q2	Application and Calculation
Q3	Map and Photo Interpretation
Q4	Geographical Information Systems

7.7 ANALYSIS OF LEARNER PERFORMANCE IN INDIVIDUAL QUESTIONS

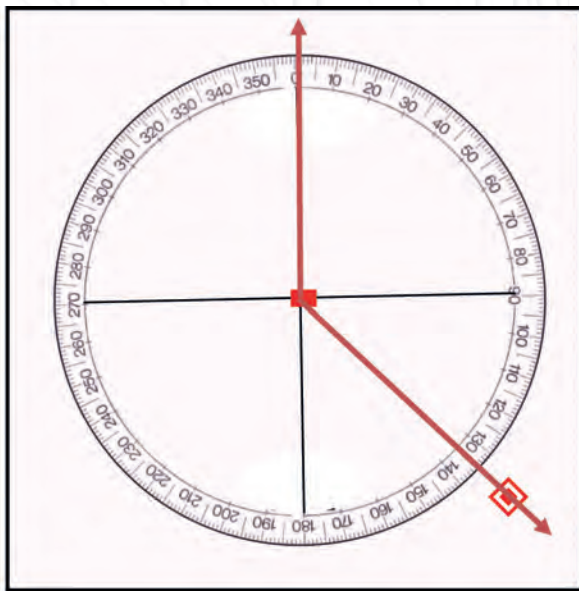
QUESTION 1: MULTIPLE-CHOICE QUESTIONS

Common errors and misconceptions

- Candidates had poor knowledge of *conventional signs*.
- Many candidates did not know how to use the *map index*.
- Candidates confused the irregular street pattern with the grid-iron pattern.
- Candidates struggled to identify *human-made features* on the orthophoto map.
- Candidates struggled to identify *natural features* on the orthophoto map.
- Candidates could not identify the correct *true bearing* on a map while using a protractor.
- Candidates had little knowledge of concepts such as *stream order*.

Suggestions for improvement

- (a) Teachers should emphasise the use of conventional signs, and learners should study the key of the map before attempting to answer questions. More tasks on the conventional signs should assist learners.
- (b) Learners should not only know the different types of landforms and slopes; they should also be able to identify them on the map and in the surrounding environment.
- (c) Slopes and landforms should be taught with simple hand-drawn contour maps.
- (d) Learners must be taught how to use a protractor correctly in Geography, as it differs from Mathematics. True bearing is measured clockwise from True North in degrees ($^{\circ}$). The centre of the protractor is placed on the feature that you are measuring from. The protractor reading to the feature that you are measuring to is referred to as the true bearing. In the adjacent diagram the true bearing from the \neg to the 2 is 135° . Take note that on a protractor 0° and 360° are in the same position. This point must always face north when measuring true bearing.



- (e) Learners should be made aware that to identify a human-made and/or natural feature on an orthophoto map the same feature must be located on the topographic map first. It is therefore important that the orthophoto map and the topographic map be correctly orientated. Once this has been done, learners must find similar-looking features on both the orthophoto map and the topographic map as points of orientation. Learners must be reminded that the distances between features on the orthophoto map will be much greater than the distances between the same two features on the topographic map, as the scales of the two maps differ.

QUESTION 2: CALCULATIONS AND APPLICATION

Common errors and misconceptions

- (a) Candidates were not able to identify information on the cross-section (Q2.1) and relate it to its position on the topographic map; that is, from **L** in block **A2** to **M** in block **B5**.
- (b) Candidates could not differentiate between a steep and a gentle slope (Q2.1.3). They confused gradient with contour interval.
- (c) Calculation of the *vertical exaggeration* (Q2.1.4) showed an improvement from previous years.
- (d) *Magnetic bearing* (Q2.2) was tested in the 2013 Geography Paper 2 Examination. This year it was expected of learners only to calculate the magnetic declination. Candidates performed better in this question than in previous years.

- (e) *Calculating area* (Q2.3) was tested in the 2013 Geography Paper 2 Examination. Candidates still struggled with this calculation, even though there was a slight improvement. Candidates swapped the length and breadth: candidates could not identify which side of the rectangle was the length and which side was the breadth.

Suggestions for improvement

- (a) Calculation of the *vertical exaggeration* (Q2.1.4) was extremely poorly answered. The use of a universal formula could reduce the number of errors made by teachers and learners alike.

$$\text{Vertical Exaggeration} = \frac{\text{vertical scale}}{\text{horizontal scale}}$$

- The horizontal scale will always be the scale of the map you are working on, therefore 1 : 50 000.
- The vertical scale can be determined by measuring the actual distance between the demarcations on the vertical line of the cross-section. For the specific example in the question paper (Q2.1.4), the measurement is 1 cm. The difference in height indicated by the demarcations on the vertical line is 20 m. The vertical scale can therefore be expressed as: 1 cm represents 20 m. This word scale must now be changed to a ratio scale: 1 : (20 x 100), therefore 1 : 2 000.
- The horizontal scale and the vertical scale must now be substituted into the formula.

$$\begin{aligned}\text{Vertical Exaggeration} &= \frac{1 : 2\,000}{1 : 50\,000} \\ &= \frac{1}{2\,000} \times \frac{50\,000}{1} \\ &= \frac{25}{1} \\ &= 25 \text{ times}\end{aligned}$$

- It is important to indicate *times* as this is the unit for the calculation of vertical exaggeration.

- (b) It is appropriate to explain the *calculation of magnetic declination* once again.

- Follow the steps in the example given below as this will allow candidates to score full marks in the final examination paper. The method below is set out in a logical fashion, following a specific sequence in order for candidates to answer in an organised way. An organised answer assists in the marking process.
- Refer to the following example, which is the question used in the November 2014 examination paper. It is Question 2.2: Calculate the magnetic declination of topographical map 2528DA CULLINAN for 2014. Show ALL calculations. Marks will be awarded for calculations.
- Show ALL calculations/steps followed. The desired answer is:

<u>Date of map:</u>	2002	Find printed below the map.
<u>Magnetic declination 2002:</u>	16°52'W	Find printed below the map.
<u>Mean annual change:</u>	8'W	Find printed below the map.
<u>Difference in years:</u>	12	2014 – 2002 (The current date will always be the year you are in).
<u>Total annual change:</u>	96'W/1°36'W	Mean annual change (8'W) x difference in years (12) = 96'W. Change 96'W to degrees and minutes i.e. 1°36'W.
<u>Magnetic declination 2014:</u>	18°28'W	Magnetic declination 2002 (16°52'W) + total annual change (1°36'W).
Always indicate West (W), as marks may be awarded for this.		

- Teachers should do similar exercises on as many different maps as possible to get a variety of answers. Using only ONE map will not give learners enough exercises, as the majority of readings will be the same.

(f) The following exercise/activity could be undertaken to overcome challenges relating to the *calculation of area*:

- Follow the steps in the example given below as this will allow learners to score full marks in the final examination paper. Use the following example, which is Question 2.3 in the November 2014 examination paper: Refer to the demarcated area in RED on the topographical map which represents the orthophoto map. Use the demarcated area to calculate the surface area of the orthophoto map in km². Show ALL calculations. Marks will be awarded for calculations.
- Determine the length (long side) and breadth (short side) of the demarcated red area on the topographic map in km.
- The formula given below can be applied to all maps with different scales. By using a universal formula, errors made by teachers and learners alike should be reduced.
- The formula to calculate area is: *Area = length x breadth*.

- Show ALL calculations/steps followed. The desired answer is:

$$\begin{aligned} \text{Length} &= \frac{\text{map distance (mm)} \times \text{map scale denominator}}{1\,000\,000} \\ &= \frac{91 \text{ mm} \times 50\,000}{1\,000\,000} \\ &= \frac{4\,550\,000}{1\,000\,000} \\ &= 4.55 \text{ km} \end{aligned}$$

$$\begin{aligned} \text{Breadth} &= \frac{\text{map distance (mm)} \times \text{map scale denominator}}{1\,000\,000} \\ &= \frac{71 \text{ mm} \times 50\,000}{1\,000\,000} \\ &= \frac{3\,550\,000}{1\,000\,000} \\ &= 3.55 \text{ km} \end{aligned}$$

$$\text{Area} = \text{Length} \times \text{Breadth}$$

$$= 4.55 \text{ km} \times 3.55 \text{ km}$$

$$= 16.15 \text{ km}^2$$

- Always remember to add the unit which is km^2 , to your final answer.
- (g) All calculations should have already been taught in Grade 10 and Grade 11 and practised regularly.
- (h) Learners should familiarise themselves with all the different formulas.
- (i) Ensure that all the different types of calculations are covered and that learners know how to follow the steps when doing calculations, as each step in the calculations is awarded marks.
- (j) Building of models by using contour lines will allow learners to see the correlation between contour lines, landforms and slopes immediately.
- (k) Learners should be shown how to identify landforms and slope types on topographic and orthophoto maps. This should be included in regular practice tests and exams.
- (l) All units of measurement must be included. Marks are lost if units of measurements are not included.

QUESTION 3: APPLICATION AND INTERPRETATION

Common errors and misconceptions

- (a) Candidates could not interpret information on the graph (Q3.1.1 and Q3.1.2).
- (b) Many candidates could not identify whether the photo was taken during winter or summer (Q3.2.1). Providing reasons for their answers was also a major problem for many candidates.
- (c) Candidates could identify the direction in which the river flowed. However, they could not provide evidence from the topographic map to support their answer (Q3.2.2).
- (d) In Q3.3.2, candidates offered disadvantages for the farmer, rather than for a farm labourer living in the settlement.
- (e) It appears that many candidates were unfamiliar with the term, *environmental injustice* (Q3.4.1).

- (f) Few candidates understood the meaning of the term, *restoration* (Q3.4.2).
- (g) Generally, few candidates could apply theoretical concepts to the topographic map and orthophoto map.
- (h) Candidates were not able to identify features studied in theory on the topographic map and the orthophoto map.
- (i) Many candidates did not use their theoretical knowledge when answering mapwork questions.

Suggestions for improvement

- (a) Teachers should create opportunities for learners to draw different types of graphs, for example line graphs and bar graphs. This would help learners to interpret graphs.
- (b) Interpretation of different orthophoto maps, and skills to interpret these orthophotos should be promoted. The following would have helped candidates to determine that the photo was taken during winter (dry season):
 - Limited/Lack of vegetation shows lack of water;
 - Light shading of dams shows little/no water; and,
 - Cloudless winter conditions ideal for taking a vertical aerial photograph.
- (c) To find evidence for the flow direction of a river, learners should be guided on how to extract information from a topographic map. This question demands that learners should have a thorough background on contour lines, value of contour lines, the way the tributaries join the mainstream and the position of a dam wall in relation to the dam itself.
- (d) Learners should be taught that an *injustice* refers to inequalities/unfairness/problems. Learners must be able to differentiate between three types of injustices that are regularly mentioned: economic, environmental and social injustices.
- (e) Geographical concepts should be used regularly and correctly in class to improve learners' understanding thereof.
- (f) Continual integration of content knowledge with mapwork should be introduced as early as Grades 10 and 11.
- (g) Teachers should give regular exercises to learners to improve map reading and interpretation skills.
- (h) Teachers should expose learners to previous examination papers where similar questions and questions of the correct difficulty levels are provided.
- (i) Exercises to identify landforms and drainage patterns on topographic maps must be practised in class when those concepts are taught theoretically.
- (j) Exercises to identify settlement outlines, street patterns and land-use zones on topographic maps must be provided when those concepts are taught theoretically.

QUESTION 4: GEOGRAPHICAL INFORMATION SYSTEMS (GIS)

Common errors and misconceptions

- (a) Candidates interpreted the diagram incorrectly (Q4.1.1). Candidates did not know the difference between *data* and *information*.
- (b) Candidates struggled with the concept of *layers of information* (Q4.2.1). They could not identify specific examples of *infrastructure* and/or *drainage*.
- (c) Candidates could not provide uses of data layering.
- (d) Candidates were unable to measure the demarcation of the *buffer zone*. They could not master the technique which was tested by this question (Q4.3.1).
- (e) The candidates' general idea of human-made buffer zones was *marshes*, and natural buffer zones were *a row of trees*. These buffer zones were interchanged in the candidates' responses (Q4.3.2).

Suggestions for improvement

- (a) Learners need to be conversant in GIS terminology. Definitions are often asked as part of GIS.
- (b) Teachers should encourage learners to make a glossary of GIS terms.
- (c) When providing examples of infrastructure and drainage, learners must be very specific in their answers. In block **F6**, for example, it is not just a *road*; it is an *other road* and, not just a *river*, but a *non-perennial river*.
- (d) GIS concepts should be taught in context. While it is important to know the concepts and be able to define them when required to, learners must be able to apply the concepts in practical life situations. Teachers must therefore be aware of the fact that GIS will not consist solely of theory and definitions but rather can be practically applied to the map examined.
- (e) Teachers are advised to create scenarios to challenge learners to apply their understanding of concepts and to apply GIS knowledge across the various topics of the subject (integration). Learners:
 - could be required to apply GIS in flood prevention (buffering);
 - should be able to apply GIS in choosing a site for the development of a settlement (data layering);
 - should be able to create a new map from different types and sizes of maps (data integration);
 - should know that GIS can contribute to solving social and environmental challenges; and,
 - should be aware that GIS can be used to manage various issues; for example, disasters and crime.
- (f) Teachers must integrate GIS knowledge across the various topics of the subject. Learners could be asked to apply GIS concepts to Climate and Weather, Geomorphology, Settlement Geography and the Economic Geography of South Africa. By so doing, learners will learn that GIS can contribute to solving social and environmental challenges.
- (g) There should be reference to previous question papers to get an idea as to how GIS questions are set. Teaching approaches should be adapted accordingly.
- (h) Teachers should devote ample time to planning GIS lessons. The curriculum currently requires learners to know and apply the GIS concepts. In developing lessons, teachers should make it a priority to communicate the material in a meaningful way that takes cognisance of learners' personal experience.

CHAPTER 8

HISTORY

The following report should be read in conjunction with the History question papers of the November 2014 Examination.

8.1 PERFORMANCE TRENDS (2011 – 2014)

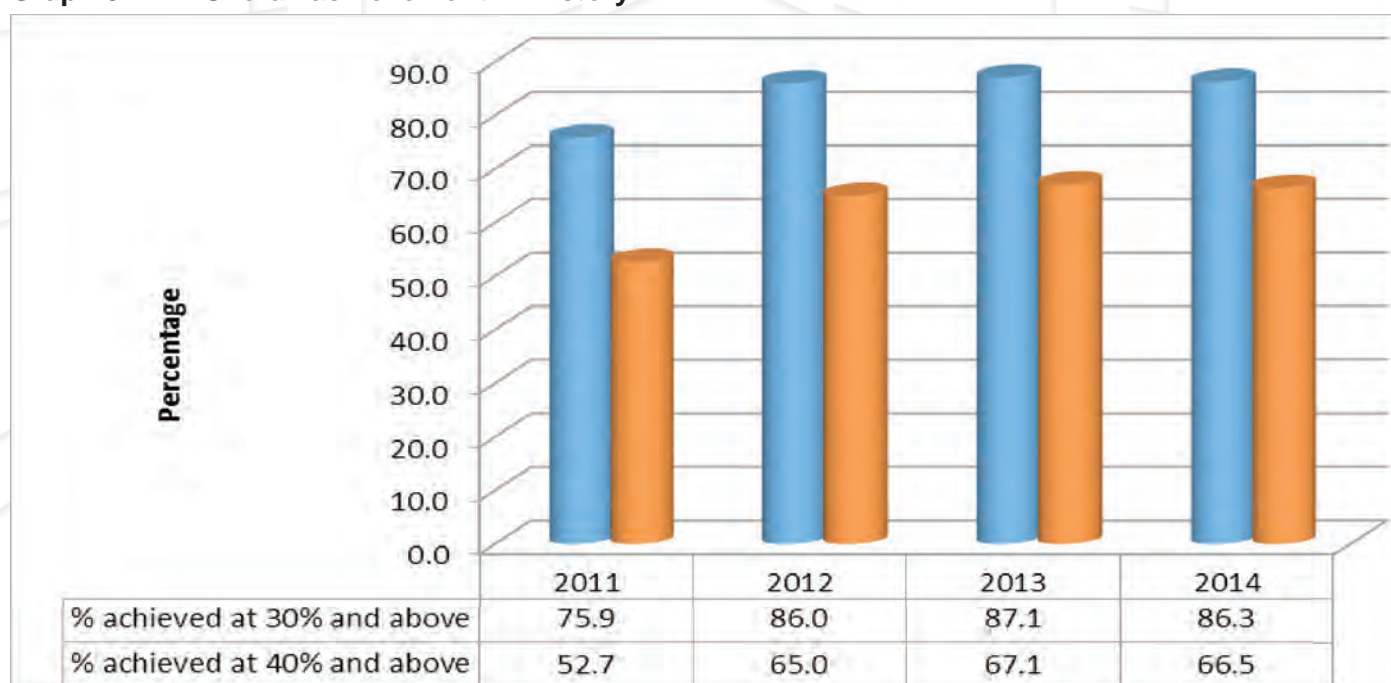
The overall performance of candidates is consistent with that of the previous two years. In comparison to 2013, the following performance trends are noted:

- The number of candidates writing the subject increased by 6 640 in 2014;
- Candidates passing at the 30% level declined marginally by 0.8 percentage points; and
- Candidates passing at the 40% level declined marginally by 0.6 percentage points whilst candidates achieving distinctions over 80% improved from 3.2% to 4.1% of the total enrolment for History.

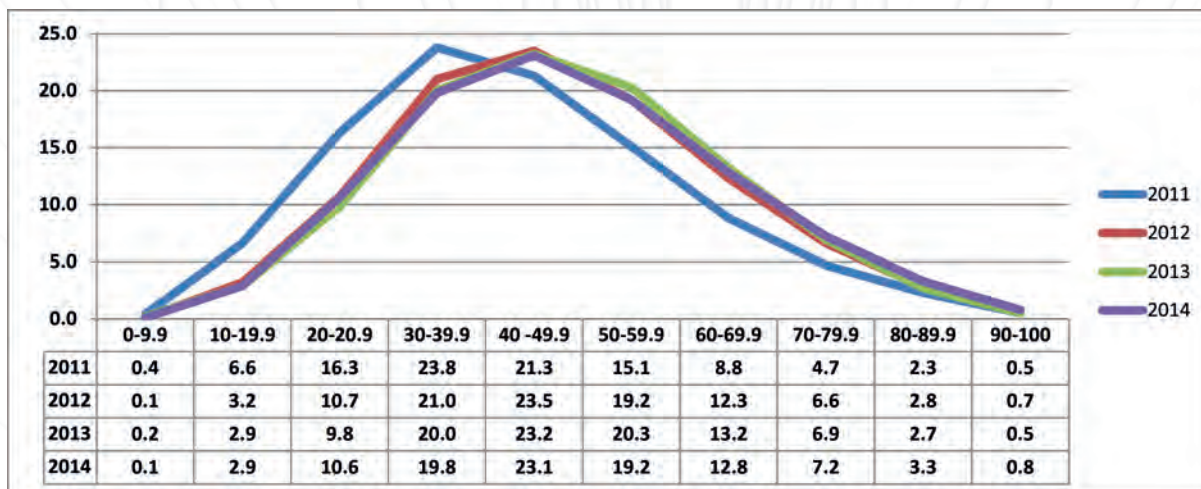
Table 8.1.1 Overall achievement in History

Year	No. Wrote	No. achieved at 30% and above	% achieved at 30% and above	No. achieved at 40% and above	% achieved at 40% and above
2011	85 928	65 239	75.9	45 277	52.7
2012	94 489	81 265	86.0	61 403	65.0
2013	109 046	94 982	87.1	73 136	67.1
2014	115 686	99 823	86.3	76 904	66.5

Graph 8.1.1 Overall achievement in History



Graph 8.1.2 Performance distribution curves in History (2011–2014)



Overall the performance of candidates decreased marginally. They were fewer candidates performing at all the categories between 30 - 69.9%. However there is a notable increase in the percentage of candidates between the 70 to 100% categories.

8.2 OVERVIEW OF LEARNER PERFORMANCE IN PAPER 1

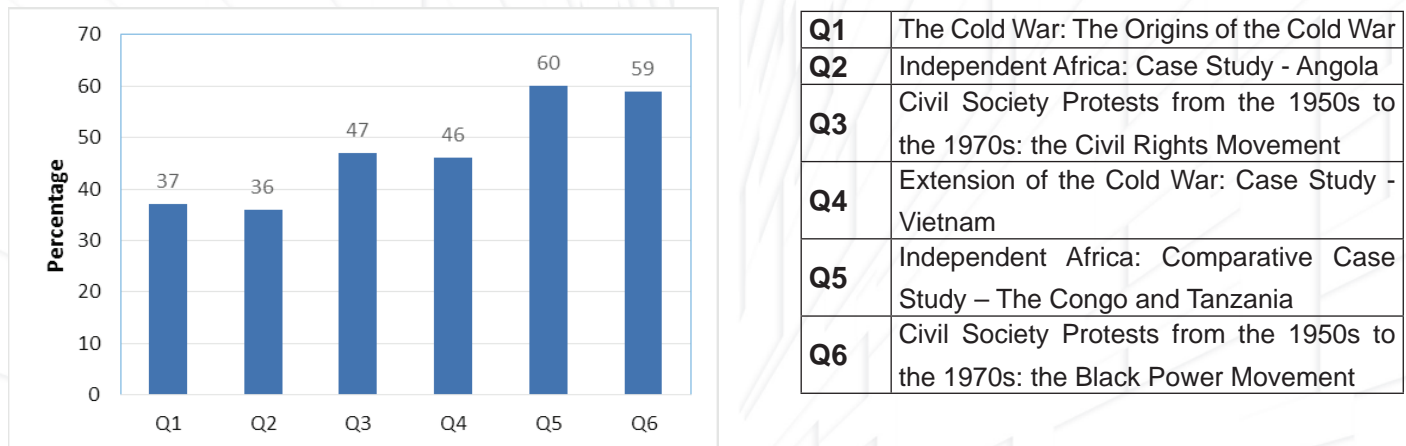
- (a) Generally, candidates' performances in this question paper ranged from fair to good.
- (b) Candidates struggled with source-based questions that require them to comment on the reliability, usefulness and validity of the sources used in a question, hence the answering of questions on source-based material was weaker than responses to essay questions.
- (c) However, what is noticeable is that the majority of candidates attempted to write their paragraphs with improved and direct references to the sources, which indicates that teachers have spent time teaching the skills of paragraph-writing for source-based questions
- (d) Successful candidates were able to interpret, analyse, evaluate and synthesise evidence from the given sources and also use their own knowledge to consolidate their responses. They were also able to comment on the usefulness, limitations and bias of the sources used.
- (e) Most candidates answered two source-based questions and one essay.
- (f) The most popular source-based questions were question 1 (The Cold War) and question 3 (The Civil Rights Movement).
- (g) The popular essay questions were question 4 (Case Study – Vietnam) and question 6 (The Black Power Movement).
- (h) There was a general improvement in essay-writing this year as most candidates could write and complete a comprehensive essay.
- (i) Candidates demonstrated the required content knowledge in the essays but could not develop relevant introductions and conclusions, or take a stance and defend it with more persuasive lines of argument.

8.3 DIAGNOSTIC QUESTION ANALYSIS FOR PAPER 1

The following graph is based on data from a random sample of candidates. While this graph might not accurately reflect national averages, it is useful in assessing the relative degrees of challenge of each question as experienced by candidates.

This graph indicates that the sample of candidates performed better in the essays than in the source-based questions. The sample of candidates performed best in Q3 of the source-based questions, and in Q5 of the essay questions. This graph indicates that candidates who answered two essays generally performed better than those who chose to answer two source-based questions.

Figure 8.3.1: Average marks per question expressed as a percentage: Paper 1



8.4 ANALYSIS OF LEARNER PERFORMANCE IN INDIVIDUAL QUESTIONS IN PAPER 1

SECTION A: SOURCE-BASED QUESTIONS

QUESTION 1: THE COLD WAR: THE ORIGINS OF THE COLD WAR

This proved to be a very popular question and was answered by many candidates. Generally, the candidates' performances ranged from fair to good.

Common errors and misconceptions:

- In Q1.1.3, the majority of candidates could not explain the historical concept, 'Iron Curtain'. Candidates did not understand the difference between the Iron Curtain, the Berlin Blockade and the Berlin Wall. A clear understanding of each of these concepts is of utmost importance when dealing with the Cold War.
- In Q1.3.2, candidates struggled with the concept of propaganda and could not link the publishing of the photograph to propaganda by the West. History learners should know the term, *propaganda* and be able to explain how it is applied as a strategy in specific contexts, by whom and why
- In Q1.4.2, some candidates had difficulty in identifying *bias*. It is evident that this skill has not been adequately practiced by learners and is still a major limitation to their interpretation of a text.
- In Q1.4.4, candidates did not indicate whether they agreed or disagreed with the statement. Some candidates simply extracted information from the source without substantiating it from a particular stance.

- (e) In Q1.5, candidates were not able to draw a comparison between Sources 1B and 1D. Candidates need to be taught the skill of how to apply relevant content knowledge to compare and contrast texts.
- (f) In Q1.6, candidates showed very poor competence in paragraph-writing skills and did not answer the question asked. Some candidates tended to look at sources in isolation. Candidates require the ability to utilise the sources to support their response to a question without a strong dependence on using direct quotes from the very source.

QUESTION 2: INDEPENDENT AFRICA: CASE STUDY – ANGOLA

The theme on Angola, especially in terms of the time frame covered, is a new introduction in the CAPS and was not answered by many candidates. However, according to the sample of scripts analysed, it was answered by more candidates than in previous years.

Common errors and misconceptions:

- (a) Q2.1.1 was poorly answered because candidates did not know the concepts, 'colonial war and civil war'. Understanding the difference between these concepts is essential. Teachers need to emphasise the importance of learning definitions and the interpretation of concepts to enhance the quality of learners' responses to questions..
- (b) The topic of Q2.1.4 was 'Why the USA became involved'.. This was poorly answered. Candidates did not provide adequate and substantive reasons as required by the adverb 'why' in the question.
- (c) Q2.2.3 was poorly answered because only a few candidates could exercise an important historical skill and explain the *usefulness* of the source which required them to be able to evaluate the source in terms of its reliability, being able to identify if a stereotype was used and identify if the source reflected the view or circumstances of its author (subjectivity).
- (d) In Q2.3.2, candidates struggled to use the source and their own knowledge to explain the relationship between Cuba and the Soviet Union in Angola.
- (e) The majority of candidates did not take a stance on Q2.4.2 could not explain the validity of the statement.
- (f) In Q2.5, most candidates were unable to compare and identify the differences between sources 2C and 2D regarding the involvement of both Castro and Vorster in the Angolan civil war. Candidates highlighted only one difference instead of two as required.
- (g) The topic of the paragraph-question Q2.6 'How foreign countries intervened' was poorly answered because candidates were not able to write a coherent paragraph and did not explain the manner in which the countries intervened, as prompted by the adverb 'how' in the question. Candidates were also not able to find relevant information in the sources. Learners should be urged to read the instructions on the questions carefully so that they can clearly understand and identify what the question requires them to do.

QUESTION 3: CIVIL SOCIETY PROTESTS FROM THE 1950s TO THE 1970s: CIVIL RIGHTS MOVEMENT

This was a very popular theme and was answered by most candidates. This question was moderately answered, particularly by centres where it is clear that the topic was chosen and taught thoroughly. That observation is informed by how the candidates responded to the questions, as well as by the application of skills required to answer history questions.

Common errors and misconceptions:

- (a) Candidates were not able to analyse, interpret or use their own knowledge in Q3.1.3. Some candidates concentrated on African Americans rather than the 'whole nation'.
- (b) Candidates struggled to define the concept, *human rights* in Q3.3.2. A simple explanation of the concept could not be provided. Some candidates were confused when asked to define the concept in the specific *context of the crisis at Central High School, Little Rock*.
- (c) In Q3.4.2, candidates struggled to evaluate the usefulness of the source. Responding to a question on the concept of usefulness remains a problem for most candidates.
- (d) The paragraph question Q3.5 was problematic for candidates. The question was misinterpreted by candidates in terms of the *role that the USA government played*. Candidates did not give an adequate explanation that demonstrated the relevant knowledge to show their understanding of the question.

SECTION B: ESSAY QUESTIONS

QUESTION 4: EXTENSION OF THE COLD WAR: CASE STUDY – VIETNAM

This was a very popular essay. After script analysis was conducted it was clear that this question was not the best-answered essay question, because candidates gave too much background information instead of answering the question by taking a line of argument and developing it with relevant evidence.

Common errors and misconceptions

- (a) Some candidates provided an unnecessary and detailed background about Vietnam. Learners need to be able to address what is required by the question.
- (b) The majority of candidates were unable to sustain their line of argument throughout the essay and tie up their arguments in their conclusion.
- (c) The majority of candidates wrote a narrative essay on the United States of America's containment of communism in Vietnam without showing *to what extent the United States was successful*.
- (d) Some candidates demonstrated a lack of adequate content knowledge. Learners should be encouraged to conduct research on their own in addition to what they are learning in the classroom to broaden their knowledge and ability to provide a well-balanced response to a question.
- (e) Some candidates' essays were completely out of context e.g. a question asked about the period 1965-1975, but candidates' responses strayed into the period of the French colonial rule, civil war, and the USA's early involvement under Eisenhower and Kennedy. Weaker candidates became confused between North and South Vietnam. It seems that some educators had taught their learners the essay only from the perspective of the Peace Movement back home, and as a result these candidates were able to only touch on two to three of the many points stipulated in the memorandum in order to justify being awarded 50 marks for this question.

QUESTION 5: INDEPENDENT AFRICA: COMPARATIVE CASE STUDIES – THE CONGO AND TANZANIA

This question posed a challenge because candidates were expected to compare the extent of economic development and political stability of the Congo and Tanzania. Comparing two countries was newly introduced in the CAPS. As a higher order question it required interpretation and analysis but most candidates lacked the required skills. The general quality of the answers to this question was fair.

Common errors and misconceptions:

- (a) Instead of juxtaposing content and events as they occurred in both countries, some candidates were only able to write a narrative about each country.
- (b) Some candidates responded to the comparison required in a tabular form. This was inappropriate because the structure and presentation elements required for an essay should have been followed to synthesise the information required, then develop a well-balanced and independent line of argument that was required by this argumentative essay question. .
- (c) In some cases there was no balance between economic and political aspects that candidates discussed and much information and emphasis was on Tanzania's success in development and Congo's failure to develop after independence. Some candidates wrote about the economic development of Tanzania only. The majority of candidates did not take a stance/ develop a line of argument as the question required.
- (d) Candidates who performed poorly answered the question with irrelevant information. They were able to give information on how the two countries gained independence and the leaders' biographical details, however, there was very little information provided on the political and economic development of the countries.

QUESTION 6: CIVIL SOCIETY PROTESTS FROM THE 1950s TO THE 1970s: BLACK POWER MOVEMENT

Most candidates answered this question and seemed to have prepared for the theme thoroughly. The marks obtained were marginally better than those for the other essays. Those who did not perform well enough appeared to be candidates who did not cover, or were not taught, this theme at school.

Common errors and misconceptions:

- (a) Many candidates found it difficult to construct a relevant introduction and conclusion for the essay.
- (b) Some candidates did not take a stance/line of argument, e.g. 'is this a fair assessment of the...' Candidates need to be taught to take a particular line of argument whether for or against the issue / topic in such questions and to be able to provide supporting information for the stance taken.
- (c) Some of the candidates focused on the biography of the different leaders instead of their impact on the Black Power Movement. Learners should be taught the ability to interpret and understand a question clearly so that they are able to respond appropriately to what the knowledge and skills required by the question. .
- (d) Some responses were descriptive of the key role players and did not focus on the influences of these individuals on the emergence of the movement.

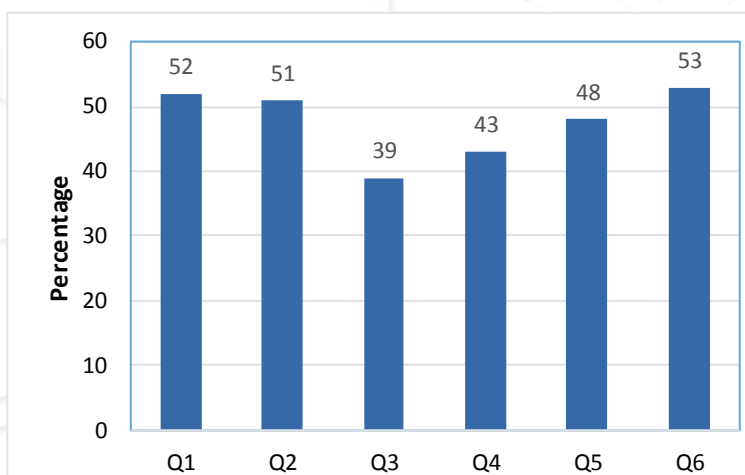
8.5 OVERVIEW OF LEARNER PERFORMANCE IN PAPER 2

- (a) Generally, candidates' performances in this paper ranged from fair to very good.
- (b) Source-based questions were satisfactorily answered. However, candidates struggled with the paragraph-type questions.
- (c) The most popular questions appeared to be Q1, Q2 and Q5.
- (d) Some candidates demonstrated a thorough understanding of both content and the associated historical skills required to answer the source-based questions and the essays, which enabled them to obtain full marks. Generally, these candidates excelled in answering source-based questions because they were able to interpret, analyse, evaluate and synthesise evidence from both the sources and their own knowledge.
- (e) Candidates who performed poorly generally displayed a poor command and understanding of the English language.
- (f) It is evident that some candidates had scant content knowledge and simply could not answer the questions.

8.6 DIAGNOSTIC QUESTION ANALYSIS FOR PAPER 2

The following graph is based on data from a random sample of candidates. While this graph might not accurately reflect national averages, it is useful in assessing the relative degrees of challenge of each question as experienced by candidates. The graph shows that Q1 was the best answered question from the sample of candidates, followed by Q2. The sample of candidates indicates that Q5 was best answered from the essay questions.

Graph 8.6.1 Average marks per question expressed as a percentage: Paper 2



Q1	Civil Resistance, 1970s to 1980s: South Africa
Q2	The coming of democracy to South Africa and coming to terms with the past
Q3	The end of the Cold War and a New World Order, 1989 to the present
Q4	Civil Resistance, 1970s to 1980s: South Africa: The crisis of apartheid in the 1980s
Q5	The coming of democracy to South Africa and coming to terms with the past
Q6	The end of the Cold War and a New World Order: The events of 1989

8.7 ANALYSIS OF LEARNER PERFORMANCE IN INDIVIDUAL QUESTIONS IN PAPER 2

SECTION A: SOURCE-BASED QUESTIONS

QUESTION 1: CIVIL RESISTANCE, 1970s TO 1980s: SOUTH AFRICA

Generally this question was well-answered. The vast majority of candidates answered this question.

Common errors and misconceptions:

- (a) The question on usefulness (Q1.3.4) presented many candidates with a challenge. Although there was an improvement in the technique and quality of answering of this question, many candidates lost marks because they did not state their point of view, e.g. 'The source is useful/not useful because of ...'
- (b) In the comparison (Q1.5) candidates highlighted only one aspect of how the two sources supported each other, instead of two as required. Learners should take note that mark allocation 2 x 2 (4) means two responses are required; in this case, on how they support each other, counting 2 marks each.

QUESTION 2: THE COMING OF DEMOCRACY TO SOUTH AFRICA AND COMING TO TERMS WITH THE PAST

This theme was not new but was assessed differently under the CAPS. In the past this was assessed as an essay question but it is now assessed as a source-based question. Candidates performed relatively well in this topic. It was a very popular question and was generally well-answered.

Common errors and misconceptions:

- (a) Some candidates struggled with the concept of *reconciliation* in Q2.1.3. This indicated that they did not have enough content knowledge.
- (b) In Q2.2.3, candidates were expected to 'explain to what extent...' but failed to take a stand, e.g. to a greater or a lesser extent.
- (c) In Q2.3, candidates were unable to compare sources 2A and 2B and explain whether they supported each other regarding the work of the TRC.

QUESTION 3: THE END OF THE COLD WAR AND A NEW WORLD ORDER, 1989 TO THE PRESENT

Very few candidates selected this topic. However, candidates who opted for it generally did well.

Common errors and misconceptions:

- (a) In Q3.1.3, where candidates were expected to use information in the source to explain the relationship between globalization and democracy, some candidates were not able to provide an explanation because of insufficient content knowledge.
- (b) Candidates could not interpret the cartoon in Q3.5.3. Teachers should teach learners the skills for interpreting a cartoon. Cartoons can be used productively as an interesting classroom discussion.

SECTION B: ESSAY QUESTIONS

QUESTION 4: CIVIL RESISTANCE, 1970s TO 1980s: SOUTH AFRICA: THE CRISIS OF APARTHEID IN THE 1980s

This question was satisfactorily answered. Candidates mostly gave a generalised response to the question and strayed from including more specific and factual information to enhance their answer.

Common errors and misconceptions:

- (a) Some candidates gave too much information on P W Botha's Total Onslaught / Total Strategy, but very little on the internal resistance. Learners need to be taught the ability to understand and interpret what the question requires and know how to select and apply the relevant information in constructing the answer.
- (b) Candidates provided too much background content that is not fully relevant to the answering of the question. They focused on the era of the Black Consciousness Movement prior to the period thus becoming irrelevant. On the role of COSAS in deepening the crisis for apartheid, some mentioned student activities of 1976 while others went further into discussing the activities of SASO.
- (c) Some candidates concentrated more on certain aspects such as the UDF, MDM, ECC or black-on-black violence without addressing themselves to the focus of the question.

QUESTION 5: THE COMING OF DEMOCRACY TO SOUTH AFRICA AND COMING TO TERMS WITH THE PAST

This was a very popular question and candidates performed satisfactorily in their responses to it.

Common errors and misconceptions:

- (a) Candidates displayed an inability to formulate an appropriate introduction. The introduction should spell out the line of argument which should be sustained throughout the essay.
- (b) Some candidates were not able to appreciate the value of the chronology of events in this topic. Content knowledge cannot be overemphasized.
- (c) A sizeable number of candidates struggled with the required structure of an essay.
- (d) Many candidates referred to obstacles on the road to democracy instead of linking or translating their argument into leadership, negotiations and compromise.
- (e) Some candidates were not sure about what happened in the different circumstances e.g. they mentioned CODESA 1 & 2, Groote Schuur and Pretoria Minute without actually elaborating on why and what was agreed there by the parties involved.

- (f) It was evident that the majority of candidates had content knowledge, but lacked the skill to demonstrate to what extent leadership and compromise by various political parties led to the birth of democratic SA.

QUESTION 6: THE END OF THE COLD WAR AND A NEW WORLD ORDER: THE EVENTS OF 1989

This question was not popular, even though it was generally fairly well answered.

Common errors and misconceptions:

- (a) Candidates did not take a stance on whether they agreed or disagreed with the statement.
- (b) Content control in this essay was problematic. Many candidates delved into the pre-Gorbachev background, which was not necessary.
- (c) Many learners wrote essays on Gorbachev and his reforms but did not discuss how they accelerated change in SA.
- (d) Many candidates were not able to discuss how the disintegration of the Soviet Union influenced the ANC. They only stated that the ANC lost its financial and military backing. Many essays were therefore totally unbalanced in dealing with all three aspects, the USSR under Gorbachev, the NP and the ANC.
- (e) Candidates who failed to obtain good marks dwelt a great deal on the reasons for the collapse of communism without linking the impact on how it accelerated political changes in South Africa in the 1990s, specifically the impact on the National Party and the African National Congress.

Suggestions for improvement: Paper 1 and Paper 2

- (a) Necessary and essential skills on how to work with sources such as interpretation, analysis, usefulness, comparison and how to integrate information from both the sources and illustration of candidates' own knowledge should be taught practically in class.
- (b) Teachers are requested to visit the DBE website. This website has useful information on 'Working with Sources' and the SBA document. Go to www.dbe.gov.za and follow the links for the NSC.
- (c) Teachers and learners should not rely on one textbook only, and they should be alert to new resource materials such as media articles or newspaper supplements. Radio or TV features can also be used productively.
- (d) User-friendly resource materials should be developed and used, especially for the new content areas such as Angola and case studies on the TRC.
- (e) Teachers should regularly focus on concepts and definitions in the classroom.
- (f) Greater emphasis should be placed on the teaching of paragraph-writing and essay-writing skills. Techniques used in the construction of a coherent, well-planned and structured paragraph and essay need to be understood by learners. To this end, educators are encouraged to use writing frames for essay-writing.
- (g) More exposure to the TRC is needed, especially on how to work with sources and the use of case studies. It is advisable for educators to visit the SAHO and the SAHA website, which uses case studies to highlight the workings of the TRC.
- (h) It is necessary to have a thorough knowledge of the content focus areas. The planning, preparation and teaching of History must be rigorous.
- (i) Learners should be exposed to a variety of sources and the related source-based skills such as reading, interpreting, analysing, evaluating, comparing, contrasting and ascertaining the limitations, usefulness and justification of such sources. Learners should be taught the relevant themes, using interactive/user-friendly teaching methodology and the relevant notes.

- (j) There should be interaction with the latest resource materials and teaching trends in History: e.g. listening to matric radio programmes, reading newspaper supplements, etc. Schools that have produced outstanding results should network with those which have difficulties, i.e. the twinning of schools.
- (k) Assessment, both informal and formal, should be ongoing and must assess historical skills such as interpretation, analysis, evaluation and synthesis of evidence from the given sources. It is also advisable for the educator to go beyond the Programme of Assessment and give more assessment tasks.
- (l) A detailed analysis of learners' results should be undertaken by teachers to identify common areas of concern/weakness. This should be done immediately after an assessment is given. After this is done, appropriate remediation measures should be put in place to assist learners to develop the skills necessary for historical analysis.
- (m) Past and exemplar examination question papers should be made available and learners should be required to work with them. This would assist in refining examiners' questioning techniques.
- (n) Reference to past question papers to benchmark the setting of questions for tests and classwork should be encouraged.
- (o) Under-performing schools should be regularly visited by the curriculum advisers so as to give support and assist development.
- (p) Common controlled tests would lead to an improvement in the quality of teaching, learning and assessment.
- (q) Cluster groups should practise the setting of test and examination question papers and have them moderated by curriculum advisers to ensure standardisation.
- (r) There should be rigorous monitoring of the History SBA programme with a view to improving quality assurance at all levels of the system.
- (s) Adequate support should be given to teachers in the form of seminars; workshops and presentations, especially on challenging content, essay-writing as well as regular monitoring.
- (t) Teachers need to familiarise themselves with the matrix and the assessment rubrics.
- (u) Teachers need to teach in the medium of English, as learners are required to write the examination paper in English and they require adequate practice in the language of assessment.
- (v) Teachers need to ensure that they make constant reference to the CAPS document and the National Examination Guidelines during the teaching and assessment of the prescribed sections. The Examination Guidelines are designed to provide clarity on the scope that needs to be taught, learned and assessed. Learners need to be taught examination techniques.

CHAPTER 9

LIFE SCIENCES

The following report should be read in conjunction with the Life Sciences question papers of the November 2014 Examination.

9.1 PERFORMANCE TRENDS (2011–2014)

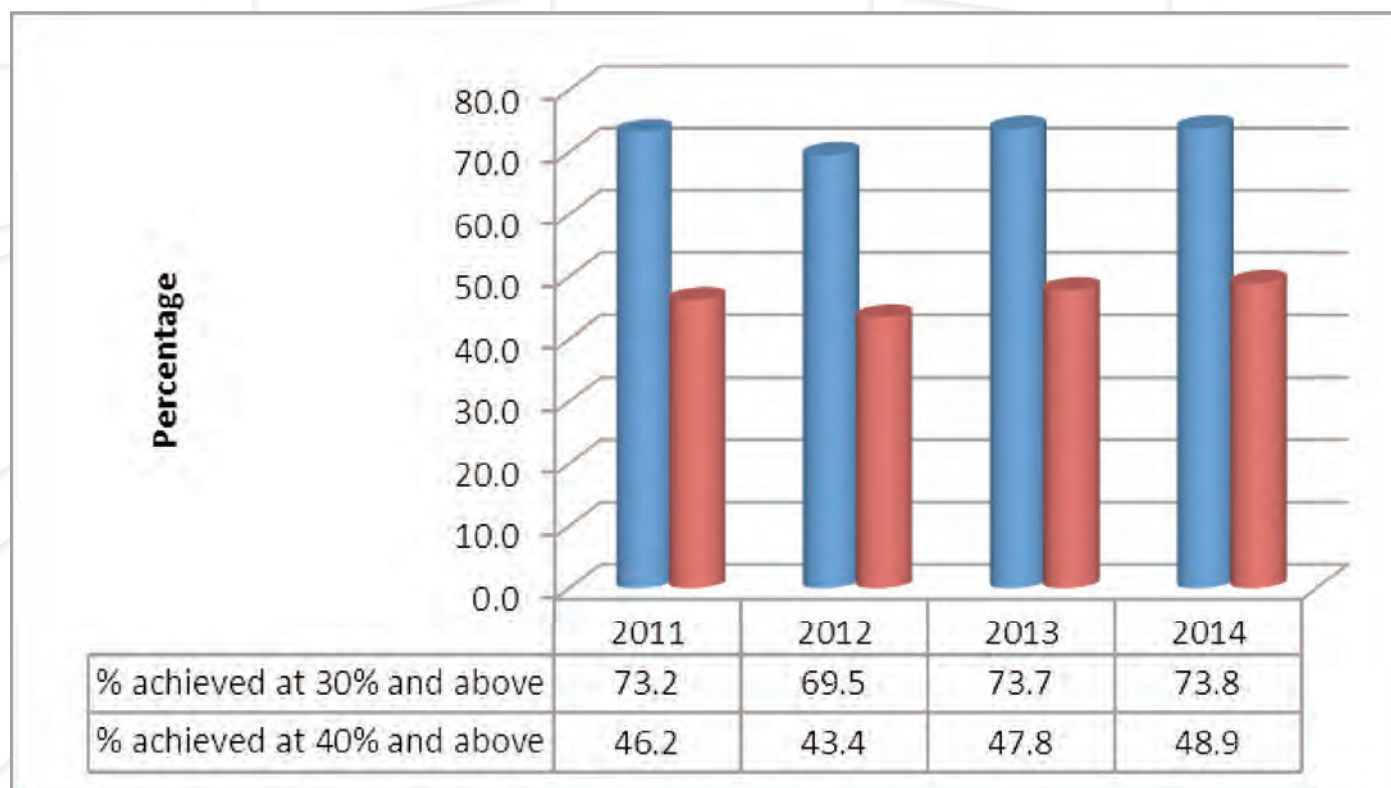
The general performance of candidates is in line with that of 2011 and 2013. In comparison to 2013, the following features were noted:

- The number of candidates who wrote the subject decreased by 17 420;
- Candidates passing at the 30% level improved marginally by 0.1 percentage points whilst candidates passing at the 40% level improved by 1.1 percentage points; and,
- Candidates achieving distinctions over 80% improved from 2.5% to 3.3% of the total candidates.

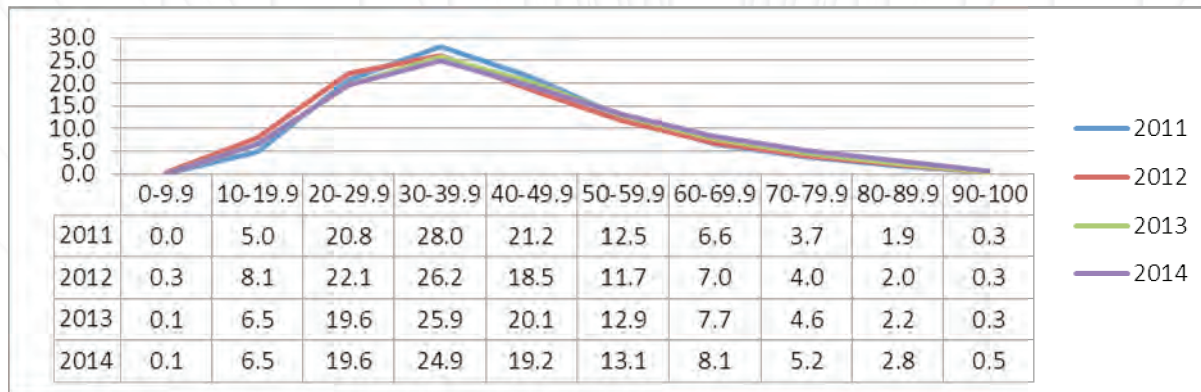
Table 9.1 Overall achievement in Life Sciences

Year	No. Wrote	No. achieved at 30% and above	% achieved at 30% and above	No. achieved at 40% and above	% achieved at 40% and above
2011	264 819	193 946	73.2	122 302	46.2
2012	278 412	193 593	69.5	120 734	43.4
2013	301 718	222 374	73.7	144 355	47.8
2014	284 298	209 783	73.8	139 109	48.9

Graph 9.1.1 Overall achievement in Life Sciences



Graph 9.1.2 Performance distribution curves in Life Sciences



As per the graphs, even though there was a marginal decline in candidates' performance at the 40-49% in 2014 compared to 2013, there was overall improvement in performance at both the 30% and 40% levels in 2014 compared to the three previous years.

9.2 OVERVIEW OF LEARNER PERFORMANCE IN PAPER 1

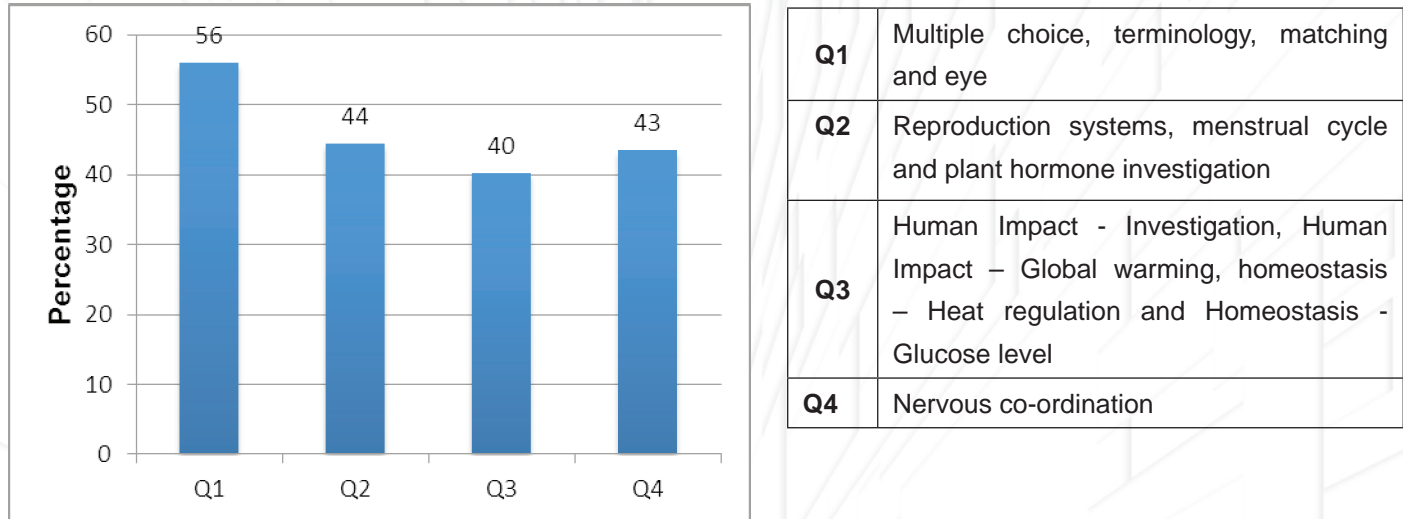
General comments

- Some candidates had problems distinguishing between action verbs such as: state, suggest, describe, explain, discuss, etc.
- Candidates should have used the correct scientific names and done away with the common names. Teachers should have also attended to the spelling of the terms.
- Many candidates were not familiar with basic terminology in the different topics. This resulted in the unnecessary loss of marks even in the lower-order questions.
- Poor performance was recorded in questions on scientific investigations based on plant hormones and on human impact.
- Candidates demonstrated limited knowledge of concepts relating to Human Impact.
- Many candidates demonstrated difficulty in interpreting the questions. They failed to give reasons when asked to do so, or they provided reasons that were not observable when observable reasons were asked for.

9.3 DIAGNOSTIC QUESTION ANALYSIS FOR PAPER 1

The following graph is based on data from a random sample of candidates. While this graph might not accurately reflect national averages, it is useful in assessing the relative degrees of challenge of each question as experienced by candidates.

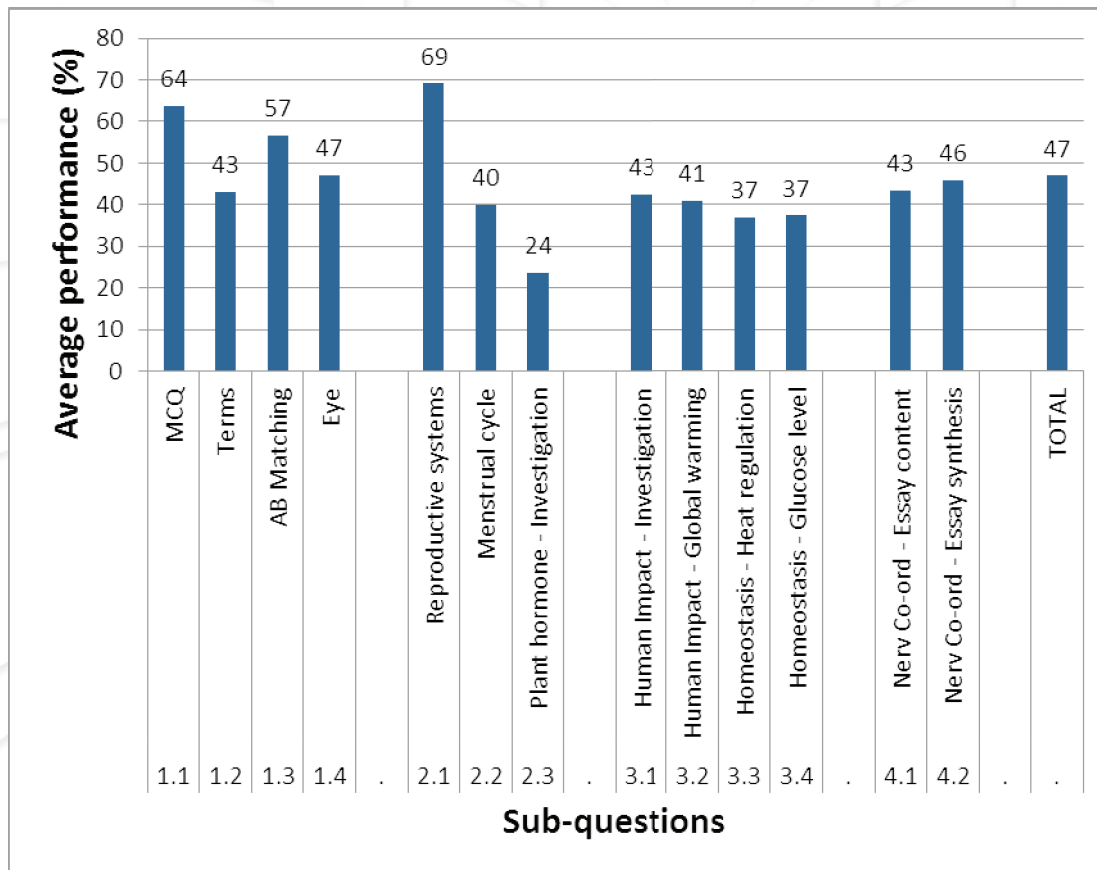
Graph 9.3.1 Average marks per question expressed as a percentage: Paper 1



Q1	Multiple choice, terminology, matching and eye
Q2	Reproduction systems, menstrual cycle and plant hormone investigation
Q3	Human Impact - Investigation, Human Impact – Global warming, homeostasis – Heat regulation and Homeostasis - Glucose level
Q4	Nervous co-ordination

The worst performance by candidates was in the questions on plant hormone investigation, homeostasis (heat regulation and glucose), menstrual cycle, human impact (global warming and investigation) and biological terminology.

Graph 9.3.2 Average performance per sub-question: Paper 1



9.4 ANALYSIS OF LEARNER PERFORMANCE IN INDIVIDUAL QUESTIONS IN PAPER 1

QUESTION ONE: Multiple Choice, Terminology, Matching and Eye

Common errors and misconceptions

- (a) Performance in Q1.1 showed that candidates lacked basic knowledge of terminology. Performance was poor in Q1.1.4 (application question on negative feedback), Q1.1.9 (gamete formation) and Q1.1.10 (crossing over and random arrangement of chromosomes).
- (b) Q1.2 on biological terminology once again posed a great challenge to many candidates. This poor understanding of basic terminology and concepts has an adverse effect on the interpretation of and responses to questions. In Q1.2.3/4, candidates were confused between the terms *autonomic nervous system*, *parasympathetic nervous system* and *sympathetic nervous system*. They confused similar terms such as *choroid* and *chorion* in Q1.2.5, and in Q1.2.10 *acrosome* and *chromosome*. Instead of writing *thyroid stimulating hormone* in Q1.2.8, some of the candidates wrote *thyroxine stimulating hormone*.
- (c) Candidates use unauthorized abbreviations or cell phone language: e.g. PNS cannot be accepted for *parasympathetic nervous system* but TSH is an acceptable abbreviation as it is recognized by scientific communities around the world. GHE cannot be accepted for *Green House Effect*.
- (d) In Q1.3, candidates did not follow the instructions when answers were given e.g. A + B or A, B instead of both A and B.
- (e) Marks for Q1.4 were forfeited because many of the candidates failed to read the whole question and hence lost half of the marks (5 out of 10). Candidates were expected to write the LETTER and the NAME of the part it represented. Some candidates wrote only the LETTER. From the candidates' responses it was evident that the structure of the eye was taught in isolation from the functions of parts.

Suggestions for improvement

- (a) There needs to be a greater emphasis on the learning of appropriate terminology related to the various topics, together with the correct spelling of these terms. Teachers should use the following strategies to improve the teaching of terminology:
 - Identify new terms in every lesson and write them on the board;
 - Instruct learners to take down these terms at the back of their notebooks, noting the correct spelling;
 - Encourage learners to write down the meanings of these words, as ascertained by being attentive during the lesson or finding the meaning in a dictionary or textbook;
 - Break down the terms where possible, giving the meanings of prefixes, suffixes and other components: for example, photo (light) + synthesis (to build up);
 - Make learners aware of the meanings of new terms by using them in sentences.
 - Include biological terms in all daily assessment tasks; and
 - Ensure that by the end of the year, all learners have a comprehensive glossary of all the relevant terms.

- (b) Teachers could also highlight the differences between the spellings of words that sound similar, e.g. ureter/urethra; glucagon/glycogen.
- (c) Learners should be warned about the use of unacceptable abbreviations e.g. PNS for parasympathetic nervous system, since learners will lose the marks during assessment.
- (d) Candidates must follow the instructions as prescribed in Q1.3. Answers should be written as *A only* (not A), *B only* (not B), *both A and B* (not A + B; A, B; A and B). In future, learners will be penalised if they do not follow the instructions. Teachers should enforce this in all assessment activities done at school.
- (e) Teachers are advised to provide learners with multiple opportunities to label drawings and write-in the functions next to the labels. Refer to the blank diagrams found in *Mind the Gap*.
- (f) After assessment has been done, feedback to the learners is important and should be provided by teachers on a continuous basis.

QUESTION 2: Reproductive systems, Menstrual cycle and Plant hormone Investigation

Common errors and misconceptions

- (a) Although Q2.1 was fairly well-answered, candidates still lost marks for the following errors: In Q2.1.1, many candidates wrote *ureter* instead of *urethra* for A. In Q2.1.6, an explanation of why the testes are kept 'outside' the body of males was required. Many candidates responded incorrectly by stating that the testes are kept at 2°C/-2°C for sperm production. Learners could not express what the optimum temperature is.
- (b) Q2.2 was generally poorly answered. In Q2.2.3, many candidates did not know the difference between the words *describe* and *explain*. They merely stated *presence of corpus luteum* and *secretion of progesterone* instead of explaining the concepts by using the diagram. In Q2.2.4, candidates had to describe the developmental changes from a fertilised ovum until implantation occurs, but could not provide all the details necessary to attain maximum marks. The sequence of events was often jumbled. Some could not identify the fertilised ovum as a zygote. Some candidates mentioned *meiosis* as a means of multiplication of cells after fertilisation, instead of *mitosis*. Others confused the development of the zygote with events of the menstrual cycle. Some candidates used words or flow charts instead of describing the events. In Q2.2.5, many of the candidates responded by naming progesterone as the hormone that is likely to be monitored by the ovulation monitor.
- (c) Q2.3 was the worst-answered question in this paper. Lack of exposure to practical investigations in the classroom was probably the main causative factor. The candidates' knowledge of geotropism was also poor. Many candidates were not familiar with how a clinostat worked. Candidates did not know the difference between the effect of auxins in roots and stems. In Q2.3.3, many candidates could not interpret the experiment; neither could they explain the results. In Q2.3.5, some candidates did not read the question properly and therefore failed to identify the factors to improve validity for this experiment.

Suggestions for improvement

- (a) In teaching the section on reproductive organs, it is always advisable that teachers use charts, pictures and diagrams from a variety of resources to reinforce and enhance understanding. In Q2.1.6, candidates should have explained that the testes are kept 'outside' the body to maintain a temperature that is 2°C lower than the body temperature for the production of healthy sperm.
- (b) Teachers must highlight the difference between different verbs used in the question papers, e.g. describe, explain, discuss. *Describe* means to give a detailed account of e.g. a process (Q2.2.4 describe the developmental changes). *Explain* means to give a reason in order to justify something (Q2.2.3: explain evidence from the diagram). To *discuss* means to write about a topic in detail, taking into account different ideas or issues e.g. giving views about the advantages and disadvantages of using an ovulation monitor.

In Q2.2.5 (b), progesterone was not accepted as an answer because the level of this hormone gradually rises and will remain constant for a long period after ovulation and not during ovulation. Therefore the level of progesterone does not serve as an indicator to confirm the actual day of ovulation. Whereas the rapid rise in the levels of LH, FSH and oestrogen trigger ovulation.

Teachers need to teach the role and function(s) of FSH, oestrogen, LH, progesterone and its effect on the menstrual cycle by using graphs and diagrams. There are many questions on this topic in previous examination papers that teachers can use.

- (c) Investigative skills can be effectively acquired only by exposure and practice. Practical work must be incorporated into daily teaching practice. Teachers must do the prescribed practical work. The practical on geotropism and phototropism are both prescribed in the CAPS document. It was obvious that candidates could not visualise the working of the clinostat in this question. Therefore if clinostats are available teachers should do the investigation. If not, the practical on geotropism should be done as a 'minds-on' investigation. A rotating clinostat eliminates the effect of gravity.
- (d) Teachers need to teach learners to differentiate between validity and reliability in scientific investigations, because the principles of validity and reliability are fundamental cornerstones of the scientific method. For example:

What is reliability?

- The idea behind reliability is that any significant results of an investigation must be more than a once-off finding and be repeatable.
- Other researchers must be able to perform exactly the same experiment, under the same conditions, and generate the same results.
- This would reinforce the findings of the experiment and ensure that the wider scientific community accepts the hypothesis.
- For the questions which required learners to state how the reliability of the investigation could have been improved, the following answers apply: Repeat the investigation OR Increase the sample size.

What is validity?

- Validity questions show how the experiment/investigation was carried out. It is important to be sure that all the factors/variables have been controlled/fixed except the variable/factor being tested.
- The samples must be chosen randomly.
- The design for the investigation must be appropriate.
- Validity therefore speaks to whether the scientific research method was used with the appropriate degree of care and diligence.
- In questions which require learners to suggest some factors that might have decreased the validity of an investigation, the answers should centre on the criticism of the scientific process; for example, some factors/variables that were not fixed/controlled when carrying out the investigation.

QUESTION THREE: Human Impact and Homeostasis

Common errors and misconceptions

- (a) Q3.1 and Q3.2 on Environmental Studies were poorly answered. Many candidates could not provide the correct response for the dependent variable in Q3.1.1. In Q3.1.2, many candidates could not explain the purpose of having a control in the investigations and in Q3.1.3 confused reliability with validity. In Q3.1.5, candidates confused the process of eutrophication in the river as a result of excess fertilizer run-off from the agricultural land with general water pollution. The process of eutrophication was not understood very well.
- (b) In Q3.2.1, definitions were not accurately provided by many candidates. Many lost at least 1 of the 2 marks for each definition.
- (c) Answers to Q3.3 showed that many candidates confused the physiological responses on hot and cold days. Others provided behavioral responses instead. In the questions that required extended writing, learners omitted specific details required. In Q3.3.2 and Q3.3.3, candidates wrote only part of the answer, e.g: 'sweat is formed' instead of 'more sweat is formed'. Sentences were also not completed, for example, 'more heat is lost instead of more heat is lost by radiation. Candidates lost important marks.
- (d) The words 'describe' and 'explain' were not understood by many candidates. They provided a description in Q3.4.1 and Q3.4.2 instead of the explanation part for Q3.4.2.

Suggestions for improvement

- (a) Teachers should clearly differentiate among the three types of variables as follows:

Controlled/fixed variable – refers to the factors that should be kept constant so that the results of an investigation can be considered valid.

Independent variable – refers to the factor that is being investigated. This factor is usually manipulated by the investigator either at the start of or during the course of the investigation. The independent variable appears on the X axis of a graph.

Dependent variable – refers to the effect of the independent variable. This effect is usually measured in some way and appears on the Y axis of a graph.

The control was Hectare A where no fertiliser was used. The purpose of this control was to ensure that the results that were obtained were due to the addition of fertilisers and not any other factor.

Teachers need to teach the concept of *eutrophication* and its effect on biodiversity.

- (b) Teachers should ensure that the section on Human Impact is properly taught and assessed in Grade 11 and should be thoroughly revised in Grade 12. Learners should have greater exposure to questions based on information extracted from newspapers and journals as these will better prepare them to answer questions based on Human Impact on the environment.
- (c) Learners should know that normal body temperature is 36,9°C in order for them to recognize if the hypothalamus will respond to higher or lower body temperature.
- (d) Refer to the meaning of *explain* as described in Q2 under suggestions for improvement. Level C and D questions must become part of the learning experience. These questions must be included in classwork, homework and in formal assessment throughout the year.

QUESTION 4: NERVOUS CO-ORDINATION

Common errors and misconceptions

- (a) Marks attained ranged from extremely poor to exceptionally good. Marks ranged from 0 to 20.
- (b) Some candidates used flow charts in their answers in spite of the instruction below the essay question indicating that 'No marks will be awarded for answers in the form of flow charts, diagrams or tables'.
- (c) The concepts of pupillary mechanism and accommodation in the eye were confused. Some candidates confused distant and near vision. Many learners provided a detailed account of the soccer game instead of focusing on accommodation, hearing and balance in humans.
- (d) The process of balance was poorly answered and often confused with equalizing the pressure on the tympanic membrane.
- (e) The words *taut*, *slack*, *relaxed*, *loose* and *tension* were incorrectly applied in the candidates' responses. Some also confused the terms *constrict* and *contract*, as well as *convex* and *concave*. Some candidates' responses revealed that they were not conversant with the receptors for balance (ear) in terms of their location and function.
- (f) Some candidates still wrote the heading *Synthesis* and wrote information under it.

Suggestions for improvement

- (a) Teachers should offer more opportunities for learners to write answers in paragraph and essay formats. The logical sequence of an account is best obtained through a good understanding of the cause-effect sequence. Teachers must teach the cause and effect e.g. the ciliary muscle contracts; therefore the suspensory ligament moves closer to the lens, etc. This would allow learners to write better accounts of various processes such as accommodation, hearing and balance.
- (b) Teachers must make use of the 'Mind the Gap' study guide, p110 to explain how learners should make use of mind maps in the planning of an essay.
- (c) Candidates should be reminded that *synthesis* is made up of three parts: relevance, logical presentation and a comprehensive answer. The synthesis should be explained to them and used from grades 10 to 12.

Criterion	Relevance (R)	Logical sequence (L)	Comprehensive (C)
Generally	All information provided is relevant to the topic	Ideas are arranged in a logical/cause-effect sequence	All aspects required by the essay have been sufficiently addressed
In this essay	Only information relating to accommodation, hearing and balance & equilibrium is included. (There is no irrelevant information)	Logical sequence of events in accommodation, hearing and balance & equilibrium	Includes sufficient information on all 3 processes, i.e. accommodation (min 3/5), hearing (min 4/7) and balance & equilibrium (min 3/5)
Mark	1	1	1

- (d) Teachers should use as examples, the current and past examination essay questions to deliberately teach learners the skill of interpreting questions to determine what is required. Key words in the question should be underlined.

9.5 OVERVIEW OF LEARNER PERFORMANCE IN PAPER 2

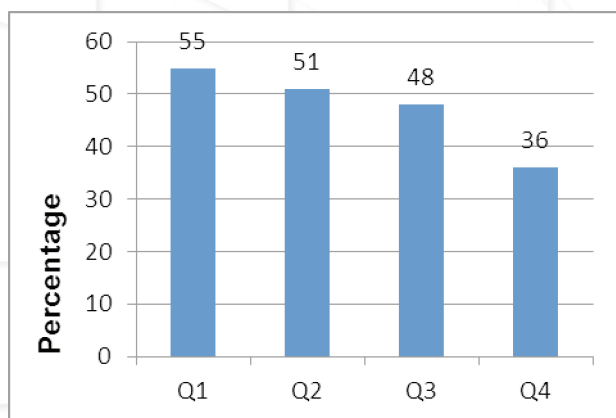
General comments

- (a) Essay writing has improved, but many candidates still lack the skill of putting a good essay together.
- (b) Graph-drawing skills have improved. However, some candidates still lost marks for aspects such as working out a scale, stating a caption and correctly labelling the axes.
- (c) Many candidates were not familiar with basic terminology in the different topics. This resulted in poor performance even in the lower-order questions.
- (d) The question on the dihybrid cross which is 'new' content was not well answered.
- (e) Poor performance was recorded in questions based on scientific investigations and hypothesis testing.

9.6 DIAGNOSTIC QUESTION ANALYSIS FOR PAPER 2

The following graph is based on data from a random sample of candidates. While this graph might not accurately reflect national averages, it is useful in assessing the relative degrees of challenge of each question as experienced by candidates.

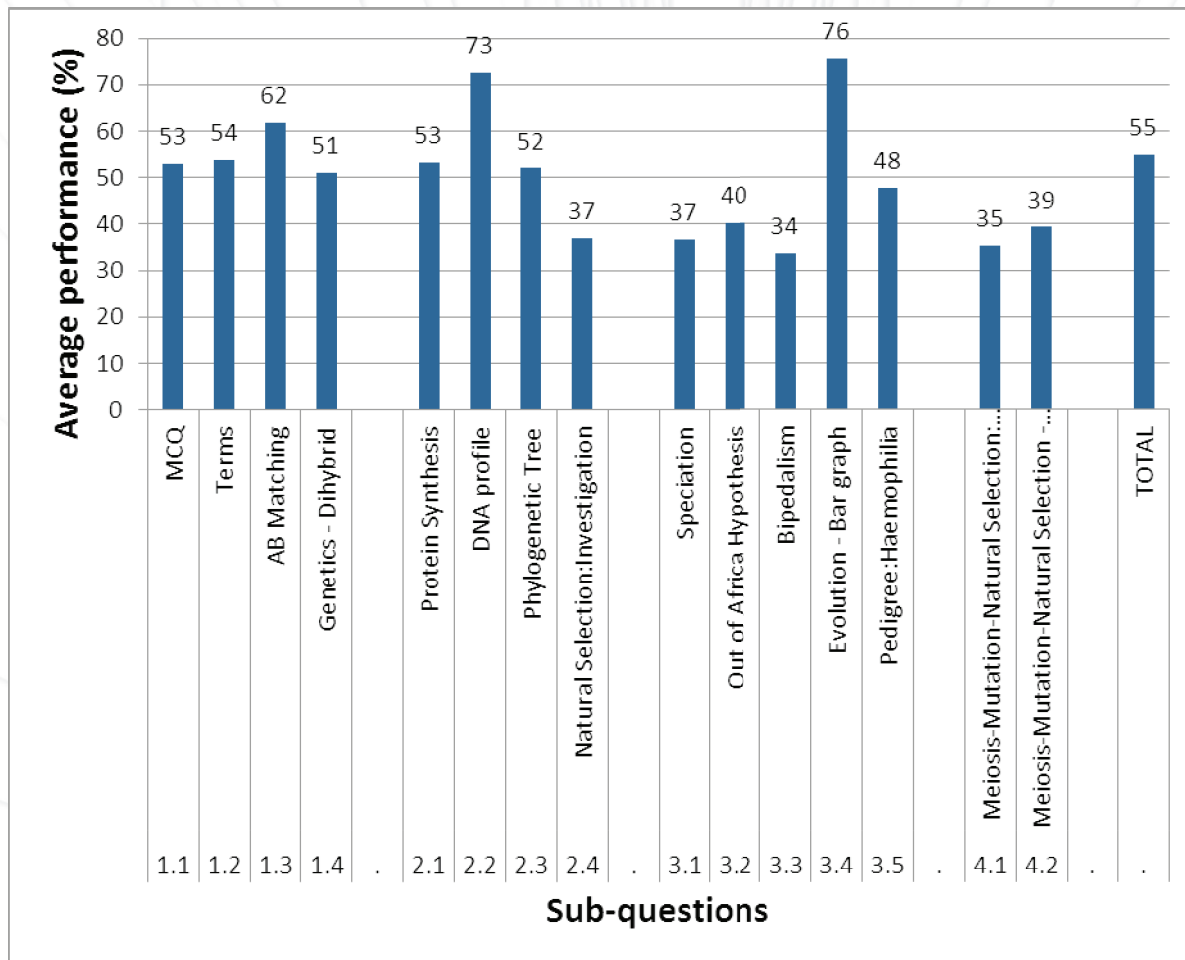
Graph 9.6.1 Average marks per question expressed as a percentage: Paper 2



Q1	Multiple choice, terminology, matching, logistic growth and Genetics - Dihybrid
Q2	Protein Synthesis, DNA profile, Phylogenetic Tree and Natural Selection: Investigation
Q3	Speciation, Out of Africa Hypothesis, Bipedalism, Evolution - Bar graph and Pedigree: Haemophilia
Q4	Meiosis-Mutation-Natural Selection: Content

The worst performance by candidates was in the questions on the significance of bipedalism, the essay on causes of variation, investigation on natural selection, speciation and 'Out of Africa' hypothesis.

Graph 9.6.2 Average performance per sub-question: Paper 2



9.7 ANALYSIS OF LEARNER PERFORMANCE IN INDIVIDUAL QUESTIONS

QUESTION 1: MULTIPLE CHOICE, MATCHING, TERMINOLOGY AND GENETICS-DIHYBRID

Common errors and misconceptions

- Q1.2 on biological terminology still posed a great challenge to many candidates. This poor understanding of basic terminology and concepts had an adverse impact on the interpretation of questions and the responses to them. Some candidates confused the terms *genetic engineering*, *genetically modified organisms* and *biotechnology*. In Q1.2.7, many candidates mentioned *Anaphase* only instead of *Anaphase I* and were therefore not credited. In Q1.2.8, candidates were not familiar with the term *Non-disjunction* and many used the terms *trisomy* or *Down's syndrome*.
- In Q1.3, candidates did not follow the instructions when answers were given e.g. A + B or A, B instead of both A and B.
- Q1.4 which dealt with the application of the dihybrid cross was poorly answered by many of the candidates. Many candidates did not identify a dihybrid cross as being a cross involving two genetic traits/characteristics, but stated that it was a cross involving two alleles, which is actually a description of a monohybrid cross. Stating the genotypes of the parents for the dihybrid cross was a challenge for many candidates.

Suggestions for improvement

- (a) There needs to be a greater emphasis on the learning of appropriate terminology related to the various topics, together with the correct spelling of these terms. Teachers should use the strategies identified in Paper 1.
- (b) Learners must follow the instructions as prescribed in Q1.3. Answers should be written as A only (NOT A), B only (NOT B), both A and B (NOT A + B; A, B; A and B). In future, learners will be penalised if they do not follow the instructions. Teachers should enforce this in all assessment activities conducted at school.
- (c) Learners need a lot more exposure to working out dihybrid crosses using examples from different books, *Mind the Gap* and other study guides. Teachers must clearly explain the concepts of genes, alleles, traits, and characteristics when explaining a dihybrid cross. It should be emphasised to learners during the teaching of genetic crosses that the allele combinations of parents and offspring in a dihybrid cross need to be indicated correctly with no spaces or punctuation between the letters: e.g. ttnn (not tt nn or tt; nn) or TTNN (not TT NN or TT:NN) because spaces and/ or punctuation mean that they are referring to gametes.

QUESTION 2: PROTEIN SYNTHESIS, DNA PROFILE, PHYLOGENETIC TREE AND NATURAL SELECTION: INVESTIGATION

Common errors and misconceptions

- (a) In Q2.1, candidates lost marks because they confused the concept of *transcription* with *translation* as well as *nucleotides* with *nucleic acids*. In Q2.1.6, the question required a description of a process in the nucleus and many candidates confused *transcription* with *DNA replication*.
- (b) Many of the candidates failed in Q2.2 to identify the biological offspring of the parents.
- (c) Analysing a phylogenetic tree posed problems for many candidates.
- (d) Q2.4.1 is based on the scientific investigation and most candidates failed to perform well in it. Hypothesis, reliability, precautions, etc still pose a problem to many candidates. In answers to Q2.4.4, many candidates mentioned some of the 'precautions' that should be taken into consideration in this investigation, but they could not provide a reason for their statements.

Suggestions for improvement

- (a) Learners should be given sufficient exercises on how to do 'base pairing in protein synthesis' i.e. from DNA to mRNA (codons) to tRNA (anticodons) to amino acids, and the reverse process. Teachers can use the questions on this section from previous national question papers.
- (b) The biological children will have bands that correspond to the banding patterns from both parents. Learners must identify that each of the DNA bands came from one or the other parent.
- (c) Teachers should expose learners to more questions on the interpretation of phylogenetic trees. Teachers can expose learners to interpretation of phylogenetic trees by using the many questions available in previous national question papers.
- (d) Teachers in Grades 10, 11 and 12 must ensure that their SBA tasks include an investigation in which skill 7 is emphasised. Special attention should be paid to the following:
 - the stating of a hypothesis;
 - dependent and independent variables;
 - precautionary measures;
 - reliability; and
 - validity.

Teachers can use the following guide to assist learners with the stating of a hypothesis.

What is a hypothesis?

A hypothesis is an attempt to explain some event or observation using whatever information is currently available.

How to state an hypothesis

A hypothesis must:

- (a) have two variables (dependent and independent variables);
- (b) state the relationship between the two variables;
- (c) be testable; and
- (d) state the independent variable first (cause) and then the dependent variable (effect).

An example of a hypothesis question is as follows:

The peppered-moth, *Biston betularia*, has two phenotypes for body colour, dark (blackish) and pale (whitish). The trunks of the trees on which the moths rest are black in polluted environments compared to the white trunks of trees in unpolluted environments. In both unpolluted and polluted environments, birds are the predators of the moths.

An investigation was carried out to determine the number of dark and pale pepperedmoths present in polluted and unpolluted environments, using a sampling technique.

Formulate a hypothesis for the above investigation.

More/fewer dark peppered moths/ pale peppered moths survive in the polluted /unpolluted environment than in the unpolluted / polluted environment

OR

No difference in the number of dark/ pale peppered moths that survive in both environments

A precaution comprises steps that are taken when conducting an investigation, to ensure that the design of the investigation gives valid and reliable results.

Refer to validity and reliability in Paper 1.

QUESTION 3: SPECIATION, OUT OF AFRICA HYPOTHESIS, BIPEDALISM, EVOLUTION – BAR GRAPH AND PEDIGREE: HAEMOPHILIA

Common errors and misconceptions

- (a) Some candidates struggled with Q3.1.1 and Q3.1.2 because their knowledge of the concept, *species* appeared questionable. In Q3.1.2, many candidates could not explain why there are only 2 species represented by the 3 populations in the diagram – many simply copied the text above the diagram and provided that as an answer to Q3.1.2.
- (b) In Q3.1.3, many candidates gave only a general account of *speciation* when populations are separated by a *geographical barrier*, but could not put it into context with the given example. Some also confused *speciation* with the process of *natural selection*.
- (c) In Q3.2, the question on the Out of Africa hypothesis was poorly answered by many of the candidates as it is taught on the basis of fossil and genetic evidence according to the CAPS policy; however, candidates found it difficult analysing, comprehending and applying their knowledge to the text.
- (d) Q3.3.3 was the worst-answered question because learners could state but not explain the advantages of bipedalism.
- (e) Many candidates are still finding the interpretation of the pedigree diagram in Q3.5 and the solving of a genetic cross challenging.

Q3.5.1(a) and Q3.5.1(b): Some candidates have swapped their answers to questions (a) and (b) and clearly did not know the difference between *phenotype* and *genotype*. Many candidates stated that the phenotype in (a) is 'carrier female' instead of 'normal female'. They could not work out the genotype of individual 2 in (b) as $X^H X^h$ i.e. that two different phenotypes for males (normal and haemophiliac) in the offspring are only possible if the female parent is heterozygous for haemophilia because the male parent is normal.

Q3.5.2: Many candidates could not explain or could only partially explain why females have a smaller chance of suffering from haemophilia.

Suggestions for improvement

- (a) Terminology and concepts such as *species*, *population* and *speciation through geographic separation* need to be thoroughly explained by teachers. It is not enough that learners know only the general account of processes such as *natural selection*, *speciation*, etc, but they also need to be given exercises on how to apply their knowledge of these processes in unfamiliar/new contexts with the use of examples.
- (b) Learners should be given more opportunities to read contextual passages and answer questions based on them.
- (c) Refer to the meaning of 'explain' in Paper 1.
- (d) Refer to the *Mind the Gap study guide*, where the steps to understand and interpret pedigree diagrams are described thoroughly.

Many candidates could score only a maximum of 1 mark for Q3.5.2 because they could give only the following common answer to this question, i.e. 'Females have two X chromosomes/Males have only one X chromosome'. They seldom mentioned that haemophilia is caused by a recessive allele that is carried on the X chromosome and females must inherit two copies of the recessive allele in order to be haemophiliac.

QUESTION 4: MEIOSIS-MUTATION-NATURAL SELECTION

Common errors and misconceptions

- (a) Many candidates wrote the essay in a non-logical manner by mixing parts of the content of the respective topics.
- (b) Many candidates listed all possible mutations, e.g. *frame shift-*, *point-*, *lethal-*, *harmful-*, *harmless-*, *insertion-*, *deletion-*, *inversion-*, *substitution* etc. without stating how mutations contribute to genetic variation.
- (c) Some candidates confused *speciation* with *natural selection*.

Suggestions for improvement

- (a) Teachers should use examples of the current and past essay questions to deliberately teach learners the skill of interpreting the question to determine what is required.
- (b) Teachers need to emphasize to learners that the format of the Life Sciences 'essay' is not similar to that of a 'language essay' i.e. there is no need for an introduction and conclusion and *synthesis* refers to the style/format of the 'essay' and not to a process.
- (c) Use p110 of the *Mind the Gap* study guide to explain how learners should make use of mind maps in the planning of an essay.
- (d) Inform learners about the criteria for assessing the presentation of the essay (synthesis) i.e. 3 marks are allocated for relevance, logical sequence and comprehensiveness. Use these criteria when setting the essay question in tests and internal examination papers.

Criterion	Relevance (R)	Logical sequence (L)	Comprehensive (C)
Generally	All information provided is relevant to the topic.	Ideas are arranged in a logical/ cause-effect sequence.	All aspects required by the essay have been sufficiently addressed.
In this essay in Q4	Only information relevant to the contribution of crossing over, random arrangements of chromosomes and natural selection is given.	Information regarding crossing over, random arrangements of chromosomes and natural selection is arranged in a logical way.	At least three correct points are included on each of the three aspects: crossing over, random arrangements of chromosomes and natural selection.
Mark	1	1	1

CHAPTER 10

MATHEMATICS

The following report should be read in conjunction with the Mathematics question papers of the November 2014 Examination.

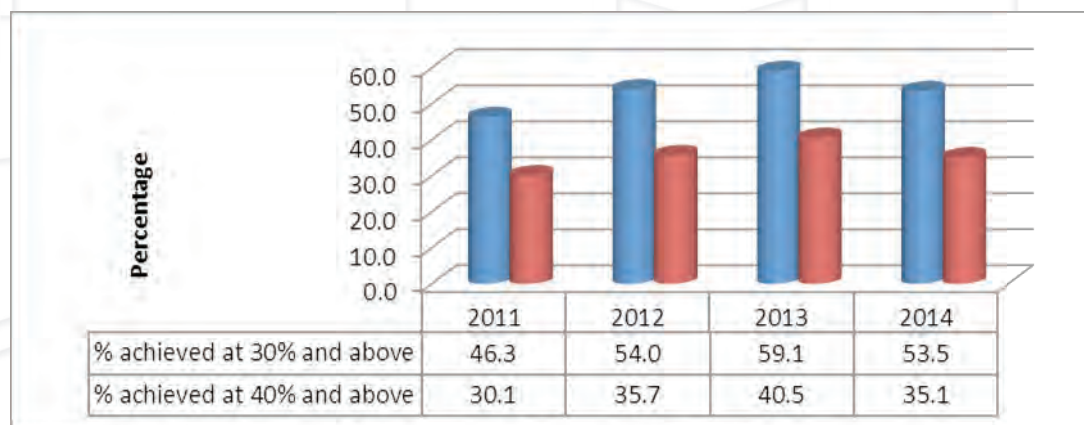
10.1 PERFORMANCE TRENDS (2011–2014)

The general performance of candidates reflects a decline from that of 2013, although it is in line with the performance of 2012. In comparison to 2013, it was noted that the number of candidates who wrote the subject decreased by 16 051. The number of candidates that passed at the 30% level declined by 5.6 points and those that passed at the 40% level also declined by 5.4 percentage points. Candidates that achieved distinctions over 80% declined marginally from 3.4% to 3.2% of the total candidates.

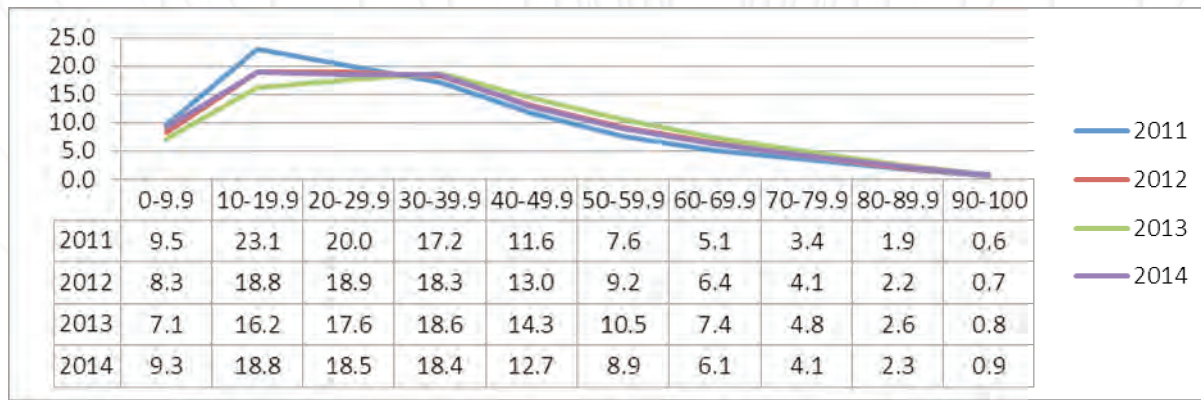
Table 10.1.1 Overall achievement in Mathematics

Year	No. Wrote	No. achieved at 30% and above	% achieved at 30% and above	No. achieved at 40% and above	% achieved at 40% and above
2011	224 635	104 033	46.3	61 592	30.1
2012	225 874	121 970	54.0	80 716	35.7
2013	241 509	142 666	59.1	97 790	40.5
2014	225 458	120 523	53.5	79 050	35.1

Graph 10.1.1 Overall achievement in Mathematics



Graph 10.1.2 Performance distribution curves in Mathematics



There was a decline in the performance of candidates at the 30% and 40% levels, including the category 80-89.9% level. A marginal increase of 0.1% at the 90 - 100% level is noted. On the whole there was a decline in the overall performance compared to 2013.

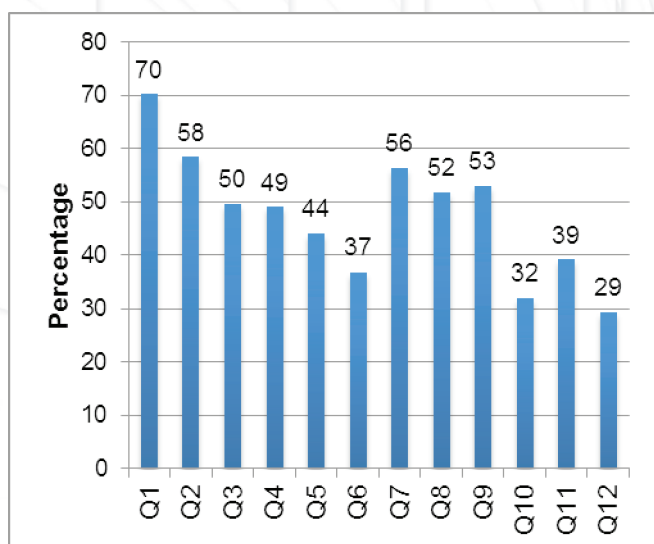
10.2 OVERVIEW OF LEARNER PERFORMANCE IN PAPER 1

- The paper had a good distribution of questions across the cognitive levels and candidates coped well with the paper. However, some candidates did not show how they reached the answers. Learners should be encouraged to show all working steps in their answers instead of simply providing the final answers.
- Application of calculus remains a concern as this was the question in which candidates performed most poorly. Most candidates struggled to determine the derivative using first principles even though this problem has been highlighted in previous diagnostic reports. Teachers are encouraged to drill and practise the rules of differentiation correctly. Teachers are also encouraged to integrate Differential Calculus with other sections in Mathematics.
- The algebraic skills of the candidates were poor. Solving inequalities is still an area of concern. Many struggled with the Mathematics of Grades 11 and 12 because they could not do the basic Mathematics of Grades 8, 9 and 10. If the problems that the candidates experienced in the earlier grades were addressed, they would have performed much better in the Grade 12 examination.
- Problem-solving and answering non-routine, unseen questions should form an integral part of classroom teaching.

10.3 DIAGNOSTIC QUESTION ANALYSIS FOR PAPER 1

The following graph is based on data from a random sample of candidates. While this graph might not accurately reflect national averages, it is useful in assessing the relative degrees of challenge of each question as experienced by candidates.

Graph 10.3.1 Average marks per question expressed as a percentage: Paper 1



Q1	Equations, Inequalities and Algebraic Manipulation
Q2	Number Patterns & Sequences
Q3	Number Patterns & Sequences
Q4	Functions and Graphs – Hyperbola
Q5	Functions and Graphs – Exponential and Logarithmic Graphs
Q6	Functions and Graphs – Parabola and Inverse of parabola
Q7	Annuities and Finance
Q8	Calculus – First principles, rules of differentiation and concavity
Q9	Calculus – Cubic graphs
Q10	Calculus – Applications in optimisation
Q11	Probability – Independent Events
Q12	Counting Principles

10.4 ANALYSIS OF LEARNER PERFORMANCE IN INDIVIDUAL QUESTIONS IN PAPER 1

QUESTION 1: ALGEBRA

All the candidates attempted this question. With the exception of Q1.4, this question was reasonably well answered by many who did not cope well with the rest of the paper.

Common errors and misconceptions

- (a) Candidates wrote down the quadratic formula incorrectly from the information sheet. Some might have learnt the formula incorrectly and did not use the information sheet and this was also noted in the previous diagnostic report. Some candidates substituted the value of 2 instead of -2 for b . A few candidates were unable to write the equation in standard form.

- (b) When solving exponential equations, candidates displayed no understanding of the basic exponential laws and struggled to manipulate expressions involving the addition and subtraction of exponents. Some candidates used incorrect Mathematics and arrived at the correct answer.

$$2^{x+2} + 2^x = 2^4 + 2^2$$

$$x + 2 + x = 4 + 2$$

$$x = 2$$

They were awarded no marks for this response.

- (c) Some candidates were unable to simplify the quadratic equation in y correctly. In cases where candidates used the quadratic formula to solve for y first, they wrote their answers as $x = \dots$ instead of $y = \dots$. This created confusion when they then tried to solve for x as their answers already indicated solutions for x .
- (d) Most candidates could obtain the critical values but were unable to provide the solution for the quadratic inequality.
- (e) Candidates did not recall the theory of the nature of roots.

Suggestions for improvement

- (a) Learners should be required to reproduce and use the quadratic formula correctly. Teachers should use the correct mathematical language in the classroom and learners should understand the concept of standard form.
- (b) Teachers should allow learners to practise solving quadratic equations requiring the formula, in variables other than x . This should be done from the beginning of Grade 11 in an attempt to teach learners to be more discerning about the variable that needs to be solved.
- (c) Learners should be taught to round off their answers correctly to the required number of places. Unless the question states otherwise, learners are expected to round off all answers to two decimal places. This needs to be reinforced in school-based assessments.
- (d) Learners should be provided with additional tasks to enable them to become proficient in using factorization when simplifying exponents.
- (e) Teachers should show learners how to solve quadratic inequalities with the aid of graphs. Teachers should explain the difference between the words 'or' and 'and' when used in Mathematics. In assessment tasks, critical values should be awarded marks only in the context of the solution of an inequality. Learners should be exposed to questions that are of a higher cognitive demand.
- (f) Nature of roots should be done in the context of the quadratic formula as well as integrated into functions. Learners need to understand the nature of the roots of an equation rather than to simply work with the discriminant.

QUESTION 2: PATTERNS

Many candidates performed well in this question, Q2.5 excepted.

Common errors and misconceptions

- (a) In Q2.2, candidates confused the 251st term with the term value of 251. In this question, n was supposed to equal 251 and not T_n . This caused follow-on errors.
- (b) Candidates who made the initial mistake of making $T_n = 251$, went on to obtain a non-natural number for n . These candidates did not realise their mistake and accepted this value of n as a valid solution.
- (c) Candidates tended to determine the general term of the series easily, but had difficulty in writing the series in sigma notation.

- (d) In Q2.4, candidates again did not use the value of $n = 251$. Some candidates incorrectly used the decimal number for n obtained in Q2.2.
- (e) In Q2.5, candidates struggled to express themselves well when trying to calculate the number of terms divisible by 4. The problem was that a new series needed to be generated in order to calculate the answer correctly. Some candidates simply worked with the multiples of 4, i.e. 4; 8; 12; .

Suggestions for improvement

- (a) Teachers should make sure that learners know and understand the difference between an arithmetic sequence and a geometric sequence.
- (b) The definition and meaning of n in a pattern needs to be emphasised by teachers. Emphasis must be placed on the fact that n can be a natural number only in the context of patterns.
- (c) Substitution of variables should be done in brackets. This will make the subsequent calculations easier and provide the learner with more opportunities to get them correct. When learners do not substitute with brackets, they tend to make many more calculation errors.
- (d) Teachers should require learners to gather and list all the data required or needed for solving the problem. An idea for an arithmetic series is to get learners to list
 $a = \dots d = \dots \quad n = \dots \quad T_n = \dots \quad S_n = \dots$ and then fill in the relevant information from the question. In this way, learners can identify the information they have and what they still need to calculate.
- (e) Teachers need to allow learners to practise converting effectively between sigma notation and the series.
- (f) Learners need to be taught to show all the relevant working in arriving at their answer.
- (g) Learners need to be exposed to higher-order thinking questions involving patterns. Teachers must guide learners to create a new sequence or series with the required information.
- (h) Questions entailing multi-step procedures should be dealt with frequently in assessment tasks.

QUESTION 3: PATTERNS

This question was well answered by candidates, except for Q3.3. The quadratic pattern required candidates to understand how a quadratic pattern is generated.

Common errors and misconceptions

- (a) In Q3.1.2, a common error was for candidates to calculate $2a = -2$ instead of $2a = 2$.
- (b) In Q 3.1.3, candidates struggled to understand exactly what was required of them. They confused the first difference of 96 with $T_n = 96$.
- (c) The most common errors in Q3.2.1 and Q3.2.2 were errors in calculation. Moreover, candidates did not follow the instruction to leave their answer in simplest form.
- (d) Candidates were unable to devise a strategy to answer Q3.3. Many did not simplify each bracket and were unable to identify the pattern that was created in the process. They also struggled to calculate the last factor of the pattern.

Suggestions for improvement

- (a) Basic algebraic and exponential manipulation needs attention. This involves being able to substitute correctly, solve quadratic equations correctly and simplify exponential expressions accurately.
- (b) Theory is an integral part of sequences and series. Learners must be taught how to distinguish which formulae to use and they must understand that the sequence of first differences in a quadratic pattern forms a linear pattern.

- (c) Learners need to be familiar with the terminology of Mathematics. Teachers should use the correct terminology in class so that learners understand various mathematical concepts.
- (d) Teachers should challenge learners in informal and formal assessment tasks by using different types of problems, including sequences that have negative values, fractions and word-type problems.

QUESTION 4: FUNCTIONS (HYPERBOLA)

Q4.1 and Q4.2 were answered well. Q4.4 and Q4.5 were of a higher order nature and required careful thinking.

Common errors and misconceptions

- (a) Candidates were unfamiliar with the format $y = \frac{a}{x+p} + q$ for the hyperbola. This meant that candidates wrote down the incorrect value for p .
- (b) Although Q4.3 was a basic translation question, candidates failed to apply the translation to the graph. Candidates did not write the asymptote as an equation and often gave the answer as only -6 instead of $x = -6$.
- (c) Candidates were unable to calculate the coordinates of S on account of poor algebraic manipulation. This meant that candidates could not calculate the distance OS.
- (d) For the most part, candidates did not understand what was being asked of them in Q4.5. This question required higher-order thinking skills as it involved applying the theory of the nature of roots in a graph question. Candidates failed to make the connection between the given line and the line $y = x + k$.

Suggestions for improvement

- (a) Learners must be taught to write intercepts in coordinate form at all times. They should also show substitution when applicable.
- (b) Learners should be taught the correct form of the hyperbola. According to the CAPS document, it is $y = \frac{a}{x+p} + q$.
- (c) Teachers should strongly and repetitively emphasise that an asymptote is a straight line and hence is defined by an equation, either $x = \dots$ for a vertical asymptote or $y = \dots$ for a horizontal asymptote.
- (d) It is necessary for the basic functions to be practised on a regular basis.
- (e) Basic Mathematical principles and rules need to be practised continually. As noted in previous Diagnostic Reports, problems include factorisation of expressions, the difference between intercepts and coordinates and solving an equation in which one side contains a fractional expression and the other a linear expression.
- (f) Teachers should train learners on how to sketch a graph when the equation is given and conversely to derive its equation if the graph is drawn.
- (g) Learners should be taught to interrogate the validity or reasonableness of an answer they obtain in the context of the problem.
- (h) Teachers need to make connections between Grade 10 content on solving of equations and the solution of simultaneous equations for the intersection of graphs. The skill of solving equations such as $\frac{2}{x+1} + 1 = x$ should be mastered in Grade 10.
- (i) Transformations of functions must be given attention in all the grades in which functions is taught.

QUESTION 5: FUNCTIONS (EXPONENTIAL AND LOGARITHMIC)

With the exception of Q5.4 and Q5.5, this question was well answered.

Common errors and misconceptions

- (a) Many candidates did not know how to prove that the value for a was 3. Instead, they used the given value of a in the initial steps of their attempted proof.
- (b) Many candidates understood the algorithm of deriving the inverse equation. However, the concepts of domain, range and the asymptotic behaviour of functions were lacking.
- (c) Candidates struggled with the interpretation of Q5.5. The problem stemmed from not knowing the correct x value for which $f(x) = -3$.

Suggestions for improvement

- (a) Teachers need to spend more time explaining application questions about graphs such as: $f(x) < 0$, $f(x) > g(x)$ and $f(x).g(x) < 0$, as well as the transformations of graphs.
- (b) Learners need to be exposed to more higher-order questions involving solving inequalities from graphs.
- (c) The exponential graph and the logarithmic graph need to be taught in conjunction with each other. Teachers should ensure that learners can convert easily between logarithmic form and exponential form.
- (d) It is very important to teach inverses as an extension of functions so that learners can understand what restrictions apply to functions, domains, ranges etc. Teachers should ensure that learners are able to convert flexibly from symbolic expression to words.
- (e) The formal definition and understanding of a function should be emphasised.
- (f) Learners should be taught problem-solving skills in the context of all sections in Mathematics.
- (g) Teachers must expose learners to reflection over the lines $y = 0$, $x = 0$ and $y = x$.

QUESTION 6: FUNCTIONS (PARABOLA AND INVERSE PARABOLA)

Candidates were able to answer Q6.1 and Q6.2 but found Q6.3 very challenging.

Common errors and misconceptions

- (a) In Q6.1, candidates did not follow the instruction given in the question to give the answer correct to two decimal places. Instead they either left the answer in surd form or they rounded to one decimal place.
- (b) Candidates struggled to determine an expression for the length of a vertical line between two graphs. This could have been because one graph was an inverse parabola and looked different from many of the questions that learners would have encountered in class.
- (c) A common mistake was $f(x) - g(x) = 0$, which means that candidates are not cognisant that if the distance between two graphs is zero they are actually considering the point of intersection between the graphs.
- (d) Candidates do not understand that graphs represent the relationship between x and y . If $f(x) = 2\sqrt{x}$ then every point on the graph will have coordinates $(x; 2\sqrt{x})$ for $x \geq 0$.
- (e) Candidates struggled to integrate the concept of optimisation from Calculus into this question. Many candidates treated the expression as being quadratic and used the method of calculating the axis of symmetry, which is incorrect.

Suggestions for improvement

- (a) Teachers should expose learners to questions that are asked in a different way and questions in which different topics in Mathematics are integrated. Past examination papers should serve a valuable resource for this purpose.
- (b) Learners need to interrogate the validity of their answers in the context of the problem.
- (c) Learners need to be exposed to manipulation of surds and exponents in the context of differentiation to effectively answer questions that require this skill.

QUESTION 7: FINANCE

With the exception of Q7.1, the question was well answered by candidates.

Common errors and misconceptions

- (a) Candidates did not understand the concept of depreciation and were unable to calculate the rate of depreciation given the cost price and the book value of the car. They commonly confused the values of A and P in the formula by making the assumption that A is always bigger than P.
- (b) Candidates were able to solve for n by applying the log to both sides of the equation but did not understand that the log of a negative number is undefined.
- (c) The detail, 'one month after the loan was granted' was misinterpreted and candidates took the value of n to be either 239 or 241.
- (d) Candidates confused the future value formula and the present value formula and did not know which one was applicable to this question. In the present value formula, candidates forgot to use the exponent as ' $-n$ '.

Suggestions for improvement

- (a) Teachers need to emphasise the concepts of present value and future value, the use of the appropriate formula and the calculation of the effective interest rate.
- (b) Learners must be required to check whether their solutions seem 'reasonable'. If answers do not seem reasonable, then teachers should train learners how to find their mistakes.
- (c) Teachers need to expose learners to all terminology applicable to Financial Mathematics, i.e. reducing balance/diminishing balance/compound decay/ compound decrease; straight-line depreciation/linear reduction/straight line decay; compound increase/compound growth/inflation.
- (d) As language presents problems in the correct interpretation of finance questions, teachers must at all times focus on using the correct language while teaching and in the setting of assessment tasks.
- (e) Teachers must emphasise the importance of not rounding off in the middle of a mathematical problem. Rounding off should be done only at the end of the process.
- (f) Teachers should also emphasise that, if a loan takes 180,1 months to repay, it will actually take 181 months to repay the loan. Learners must understand that payments are made only at the end of the month and not at any time during the month.
- (g) Teachers need to emphasise to learners that in a loan calculation, the first payment is always made one payment period after the loan is granted. This has no effect on the value of n .

QUESTION 8: CALCULUS

Candidates' performance in this question was fair.

Common errors and misconceptions

- (a) With regard to the question on first principles, candidates continued to make the error of incorrectly copying the formula from the information sheet. Many notation errors occurred in this question; for example: $f'(x) = \lim_{h \rightarrow 0} \frac{f(x+h) - f(x)}{h}$ was written down as $f(x) = \lim_{h \rightarrow 0} \frac{f(x+h) - f(x)}{h}$ or as $f'(x) = \frac{f(x+h) - f(x)}{h}$ or as $\lim_{h \rightarrow 0} = \frac{f(x+h) - f(x)}{h}$.
- (b) Candidates struggled to correctly multiply out $(x+h)^3$. The simplification and adding of like terms led to many algebraic errors.
- (c) Some candidates did not follow the instruction of first principles. Instead, they applied the rules and wrote down only the answer. No marks were awarded in this case.
- (d) Candidates struggled to differentiate when there was a y in the derivative. In the case of Q8.3, many candidates started with the answer and attempted to work backwards. This led them to ultimately calculate the second derivative. This was due to not understanding what expression they were working with.
- (e) Notation in Q8.2 was also handled poorly. Candidates wrote out the function and then continued on the next line into the derivative without using the notation for the derivative. It would seem that candidates did not understand the difference between a function and its derivative.
- (f) Candidates did not understand the concept of concavity. They did not understand that the concavity of a cubic function changes at the point of inflection; nor did they understand the meaning of 'concave up'.

Suggestions for improvement

- (a) Teachers need to stress the importance of notation in answering a first principles question. It seems that a question in which there is complex simplification is easier to answer in two parts: first by simplifying $f(x+h) - f(x)$ or even the fraction $\frac{f(x+h) - f(x)}{h}$ and then applying the limit as $h \rightarrow 0$ of the simplified fraction.
- (b) In order to gain sufficient practice, learners must be required to undertake a number of tasks covering first principles, e.g.:
- $$f(x) = 2 - 3x^2 \qquad f(x) = -\frac{2}{x}$$
- $$f(x) = -x^2 \qquad f(x) = 5x^2 - 4$$
- $$f(x) = \frac{1}{x}$$
- (c) Drill and practice in the correct notation and rules of differentiation are necessary. Each term of the original function must be such that one can correctly identify the coefficient, variable and exponent before the rules of differentiation can be applied.
- (d) When differentiating by rules, learners must understand what the original expression comprises. They must be able to identify the fractions, exponents and $\sqrt{\quad}$ in the original expression. Teachers must make sure that learners know how to simplify before differentiation.
- (e) Fractions and exponential laws must be emphasised when working with Calculus.

When working with fractions, it is always better for the learners to write the expression as separate fractions and then simplify. For example:

$$\frac{x+5}{\sqrt{x}} = \frac{x}{x^{\frac{1}{2}}} + \frac{5}{x^{\frac{1}{2}}}$$

$$= x^{\frac{1}{2}} + 5x^{-\frac{1}{2}}$$

- (a) Using colours to distinguish between the original function and the derivative is a strategy that might assist learners with correct notation.
- (b) The difference between gradient and average gradient and that the derivative of a constant term is zero must be emphasised.
- (c) Teachers need to teach point of inflection and how the concavity changes on either side of the point of inflection. Concavity needs to be taught with the correct underlying theory. If a function is concave up, then $f''(x) > 0$ and if a function is concave down, then $f''(x) < 0$. The algebraic solution then requires the solution of an inequality. The algebraic solution must be taught in conjunction with graphs. Teachers must not allow learners to take short cuts to the concepts of concavity of a graph.

QUESTION 9: CALCULUS (GRAPHICAL APPLICATION)

Aside from Q9.3, this question was well answered.

Common errors and misconceptions

- (a) In Q9.1, candidates were able to calculate the derivative correctly, but often did not explicitly equate it to zero. They did however arrive at the correct answers for the turning points.
- (b) Candidates failed to realise that they had to draw a cubic function in this question. Instead, candidates incorrectly drew the cubic function in the shape of a parabola as they failed to identify that the x-intercept at (3 ; 0) was also a turning point. Candidates did not indicate the values of the critical points on their sketch.
- (c) Candidates did not read the requirements of Q9.3 correctly. Many of them only wrote down the answer for where $f'(x) < 0$ and not for where $x.f'(x) < 0$.

Suggestions for improvement

- (a) Teachers and learners need to be more careful when calculating the critical points of a function. All working details must be shown. Learners must indicate the critical points on the sketch.
- (b) Teachers need to emphasise that if (a ; b) is a stationary point of $y = f(x)$, it follows that $f(a) = b$ and $f'(a) = 0$.
- (c) Learners need to be exposed to all the different types of questions that can be asked when reading off graphs. These include:

$$f(x) > 0 \quad f(x) < 0 \quad f'(x) > 0 \quad f'(x) < 0 \quad f(x) > g(x)$$

$$f(x) < g(x) \quad x.f(x) > 0 \quad x.f(x) < 0 \quad x.f'(x) > 0 \quad x.f'(x) < 0$$

$$f(x)g(x) > 0 \quad f(x)g(x) < 0 \quad \text{etc}$$

- (d) Teachers must expose learners to higher-order-thinking questions and the interpretation of graphs. Teachers should provide the learner with an understanding of what is being asked, what it looks like on the picture and which x-values are relevant to the interval required in the solution.

QUESTION 10: CALCULUS (APPLICATION)

This question was generally very poorly answered.

Common errors and misconceptions

- (a) The application of Calculus has always been a problem. Candidates generally did not understand the relevance of the given net and the rectangular prism drawn, and did not understand the connection between the two diagrams and the problem.
- (b) As stated in previous Diagnostic Reports, the conceptual understanding of the application of Differential Calculus is still seriously problematic.
- (c) Candidates struggled to expand the expression for the volume. The simplification and adding of like terms led to many algebraic errors. Candidates often incorrectly simplified the volume to a quadratic or a linear expression.
- (d) Candidates seemed to lack confidence when they had to use the quadratic formula to find the solutions of the equation in which the derivative was equated to zero. Yet in earlier questions, these same candidates used the quadratic formula with ease to solve a routine quadratic equation that could have been solved by using factorisation. Hence exposure to these types of questions is essential.

Suggestions for improvement

- (a) Teachers must expose learners to a variety of different questions involving rates of change, including rates of change in practical situations. For this purpose, teachers should use questions that have appeared in past examination papers. With sufficient exposure, learners should gain confidence in answering these questions.
- (b) Teachers need to show learners how to extract essential information from the question and how to translate these words into the language of Mathematics.
- (c) Teachers must explain why the derivative is equated to zero and how this concept is used in solving problems to do with rates of change and optimisation. Teachers ought to make learners aware of the difference between a stationary point and a turning point.
- (d) When answering questions based on real-life contexts, learners need to check the validity of their answers. This is essential when the x -coordinate of two stationary points are positive. One stationary point yields a maximum value and the other yields a minimum value.

QUESTION 11: PROBABILITY INCLUDING INDEPENDENT EVENTS

This question was fairly well answered, except for question 11.2.

Common errors and misconceptions

- (a) Candidates did not know the difference between the notations $n(A)$ and $P(A)$. Very often they gave the answer as $n(A)$ instead of $P(A)$.
- (b) Candidates could not read off correctly from the contingency table. They read off from either the incorrect row or the incorrect column.
- (c) Many candidates did not understand the concepts, *mutually exclusive events* and *independent events*. Some assumed that the two were synonymous.

Suggestions for improvement

- (a) Teachers and learners must become familiar with the notations used in this topic. This is one of the reasons for confusion amongst learners.
- (b) Learners should be taught the concepts, *mutually exclusive events*, *mutually inclusive events* and *independent events*. When explaining these concepts, the focus should be on the intersection of two events.

If A and B are mutually exclusive events, then $P(A \text{ and } B) = 0$

If A and B are mutually inclusive events, then $P(A \text{ and } B) \neq 0$

If A and B are independent events, then $P(A \text{ and } B) = P(A) \times P(B)$

For any two events A and B, $P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$.

- (c) Teachers ought to also explain the concept of complementary events. The complement of the event A occurring is the event 'not A' occurring.
- (d) Teachers need to emphasise that when the test for independence of two events fails, then the events are said to be 'not independent'. It is incorrect to conclude that if two events are not independent, they are dependent events.

QUESTION 12: COUNTING PRINCIPLE

This question was generally poorly answered.

Common errors and misconceptions

- (a) Candidates did not know how many letters there are in the English alphabet.
- (b) Candidates displayed poor understanding of the arrangement of a subgroup of objects within an entire group of objects. In this regard, they were unable to calculate the different number of ways in which the 3 silver cars could be parked next to each other among the remaining cars.

Suggestions for improvement

- (a) Teachers should teach the counting principle by real-life demonstrations. For example, teachers could ask 'In how many different ways can 4 learners sit in a row?' and actually demonstrate the different arrangements to the class. This practical demonstration would allow learners to grasp an abstract concept. Teachers should use other real-life situations where people choose pin codes and passwords for accessing their documents or opening their cell phones. Also include examples where letters and/or digits are or are not.
- (b) Learners ought to know certain information that is regarded as general knowledge, e.g. that there are 26 letters in the alphabet, that the English alphabet consists of 5 vowels and 21 consonants, that there are six sides to a regular dice, that there are 52 cards in a standard deck of cards, etc.
- (c) Teachers should provide learners with a sufficient number of tasks so that they can develop understanding and competence in this section of work.

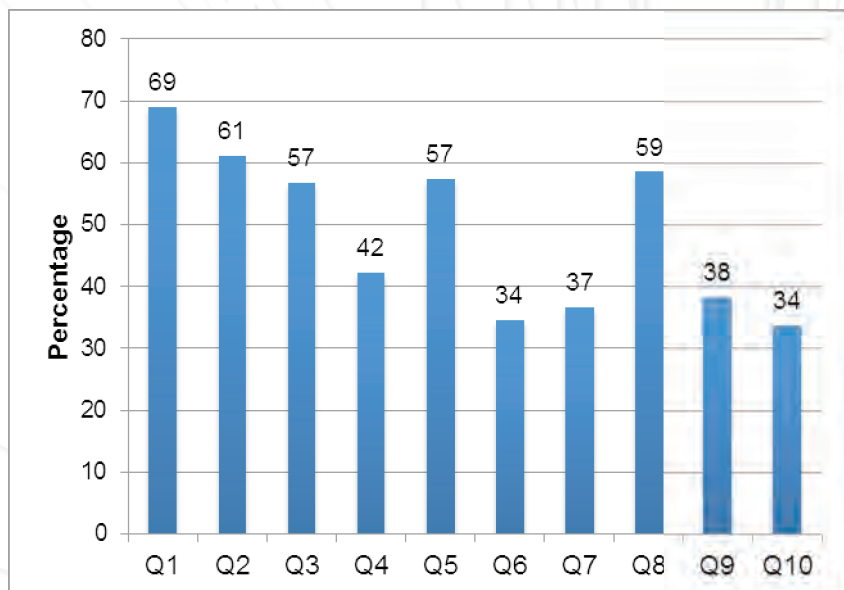
10.5 OVERVIEW OF LEARNER PERFORMANCE IN PAPER 2

- (a) Many candidates attempted all the questions in the paper. There were some unseen and unfamiliar questions which challenged the top candidates. However, there were still enough marks for the weak to average candidate to achieve a pass.
- (b) Candidates' performance in Data Handling has improved. This can be attributed to the fact that Data Handling did not contain any high-level interpretation questions. Candidates performed reasonably well in the lower order questions in Analytical Geometry and Euclidean Geometry. Performance in the Trigonometry section is a cause for concern as candidates performed poorly in questions that tested basic knowledge.
- (c) The literacy level of many candidates is a cause for concern. Candidates drew the least square line when it was not required. Some candidates are not familiar with terminology that is frequently used in Mathematics, namely 'estimate', 'hence', 'show that' and 'prove that'.
- (d) It is evident that many of the errors made by candidates in answering this paper have their origins in a poor understanding of the basics and foundational competencies taught in the earlier grades. These include: the inability to make the relationship between angle of inclination and gradient; a lack of knowledge that a trigonometric ratio is equal to some numeric value; the inability to recall the formula for area of a triangle; the poor recall of reduction formula and trigonometric identities; the inability to relate angles in a diagram; and the inability to provide justification for statements.
- (e) The item-by-item analysis reveals that many candidates are mostly exposed to knowledge and routine type questions. Candidates show confidence in dealing with work that they have seen previously. They struggled with concepts in the curriculum that required deeper conceptual understanding. Questions where candidates had to interpret information or provide justification presented challenges to most.
- (f) A number of candidates lacked the necessary insight to deal with questions based on compound angles, interpretative questions on trigonometric functions and complex questions in Euclidean Geometry. Many candidates did not answer Question 10 or they made a poor attempt at it.
- (g) In general, candidates need to exercise caution with algebraic manipulation skills as overlooking certain basic principles or practices results in the unnecessary loss of marks. Although the calculator is an effective and necessary tool in Mathematics, learners appear to believe that the calculator provides the answer to all their Mathematics problems. Some candidates need to realise that conceptual development and algebraic manipulation are often impeded as a result of the dependence on the calculator.

10.6 DIAGNOSTIC QUESTION ANALYSIS ON PAPER 2

The following graph was based on data from a random sample of candidates. While this graph might not accurately reflect national averages, it is useful in assessing the relative degrees of challenge of each question as experienced by candidates.

Graph 10.6.1 Average marks per question expressed as a percentage: Paper 2



Q1	Data Handling
Q2	Data Handling
Q3	Analytical Geometry
Q4	Analytical Geometry
Q5	Trigonometry
Q6	Trigonometry
Q7	Trigonometry
Q8	Euclidean Geometry
Q9	Euclidean Geometry
Q10	Euclidean Geometry

10.7 ANALYSIS OF LEARNER PERFORMANCE IN INDIVIDUAL QUESTIONS IN PAPER 2

QUESTION 1: DATA HANDLING

Common errors and misconceptions

- Some candidates were confused between mean and median. This shows a lack of understanding of basic concepts. Some candidates arrived at an unreasonable value of the mean, e.g. 102, and did not question how it was possible to get a mark of 102% in the examination. Some candidates added all the values and divided by 24. These candidates did not read the question carefully.
- Some candidates calculated the variance and not the standard deviation. Others used the s_x (or s_{n-1}) key on the calculator instead of the s_x (or s_n) key. These candidates did not know the difference between population standard deviation and sample standard deviation. A few candidates entered the data incorrectly into the calculator.

It is disconcerting that some candidates still use the table method to calculate the standard deviation. These candidates wasted a lot of time just to score 1 mark.

- Some candidates calculated the one standard deviation from the mean interval as either $(s - \bar{x}; s + \bar{x})$ or $(\bar{x}; s + \bar{x})$ instead of $(\bar{x} - s; \bar{x} + s)$. These candidates show a lack of understanding of basic concepts. Some candidates calculated the required interval correctly but did not state the number of candidates who lie within this interval.

- (d) There were candidates who showed no understanding of the equation of the least squares regression line. They took two arbitrary points from the data set and calculated the equation of the straight line passing through these points. A number of candidates calculated the value of a and b correctly but swapped them in the equation. There were some candidates who did not write down the equation despite having calculated the value of a and b correctly. Some candidates drew the line of best fit even though it was not required. There were some candidates who drew an intuitive line of best fit.
- (e) A number of candidates failed to round off correctly to the nearest integer as was required in the question. Some candidates failed to realise that the data was a set of percentages and substituted 0.6 instead of 60. A few candidates substituted $y = 60$ instead of $x = 60$.
- (f) Some candidates did not understand the concept of outlier. A number of candidates had some idea of this concept but were unable to state the point that was an outlier correctly. They gave the answer as (62 ; 82) instead of (82 ; 62) or just 82 instead of an ordered pair.

Suggestions for improvement

- (a) Teachers should thoroughly explain the different concepts that learners will encounter in this topic. Poor understanding of these terms is a contributing factor to the learners' confusion.
- (b) Teachers should demonstrate to learners the correct use of the calculator. A Calculator Emulator can be used effectively for this purpose. Learners need to be made aware that the operation procedure varies from one brand of calculator to the next. It is in their interest to use the same brand regularly.
- (c) Teachers may use the table as an introduction in the teaching of the concept of standard deviation. This allows learners the opportunity to understand the concept as well as the formula for standard deviation. Once the understanding is established, learners should use a calculator when required to calculate the standard deviation.
- (d) Learners should be made aware that the answer to 'within one standard deviation from the mean' is an interval and not a single point. It refers to the interval that is one standard deviation distance on either side of the mean.
- (e) Statistical literacy is not only about procedures to calculate an answer or to draw a graphical representation. Interpreting data and drawing appropriate and valid conclusions is much needed in everyday life. Hence analysing data must be a vital component of teaching this topic.

QUESTION 2: DATA HANDLING

Common errors and misconceptions

- (a) There was a lack of understanding of the concept of modal class. Many candidates simply gave the highest frequency of 17 as the answer. Some gave the answer as 1 because there were two classes that had the frequency of 1. Some candidates were able to identify the modal class correctly but wrote the answer incorrectly. They gave the answer as $50 \leq 60$ instead of $50 < x \leq 60$.
- (b) It is disappointing that some candidates drew a tally of the frequency in response to completing the cumulative frequency column. Clearly these candidates have very little understanding of Data Handling.
- (c) Many candidates plotted the cumulative frequencies at the midpoint of the class intervals rather than at the upper boundaries. Some plotted the cumulative frequencies at the lower boundaries. A significant number of candidates did not ground the cumulative frequency graph at (20 ; 0). Candidates also joined the points with a ruler instead of drawing a smooth curve. Some candidates drew a frequency polygon.
- (d) In Q2.3, some candidates were unaware that they could use the cumulative frequency curve to obtain the answer. Instead they used the table to guess some random value in the interval $60 < x \leq 70$. Some candidates read off correctly from the cumulative frequency graph and gave the answer as 44. They did not realise that the question required a 'more than' solution and that they had to subtract 44 from 55.

Suggestions for improvement

- (a) The curriculum states that Data Handling must include ungrouped and grouped data sets. In this regard, teachers need to explain clearly the difference between ungrouped and grouped data.
- (b) It is advisable to discuss the measures of central tendency of ungrouped data and grouped data alongside each other so that learners may be able to see the similarity between the concepts and the differences between the answers. For example, the mode of an ungrouped data set is a single value number whilst the answer to modal class of a grouped data set is an interval.
- (c) The concept of cumulative frequency needs to be explained as an accumulation of the total number of observations up to that value. If the value under consideration is the upper boundary of a class interval, then the total number of observations is the sum of all the frequencies up to that value. If the value is not at the upper boundary of an interval, then the cumulative frequency graph must be used to establish the total number of observations up to that value.
- (d) The concepts of 'less than', 'between' and 'more than' should be explained in conjunction with the cumulative frequency graph.
- (e) Data Handling should be seen as more than just doing procedural calculations. Due attention must be paid to analysis and interpretation type questions. In this way, an appreciation for Data Handling will be instilled in learners.

QUESTION 3: ANALYTICAL GEOMETRY

Common errors and misconceptions

- (a) Candidates used the coordinates of M(5 ; 4) in $x^2 + y^2 = r^2$ and calculated the radius to be $\sqrt{4}$ instead of realising that M was the centre of the circle.
- (b) Some candidates did not square the radius when determining the equation of the circle. Others ignored the squares at the brackets and wrote the equation as $(x - 5) + (y - 4) = 25$. A reasonable number of candidates used a and b as variables in the equation instead of x and y and gave the answer as $(a - 5)^2 + (b - 4)^2 = 25$. This is incorrect.
- (c) Some candidates substituted $x = 0$ instead of $y = 0$ when calculating the coordinates of A. The use of the incorrect value of the radius from Q3.1 resulted in candidates arriving at solutions where the coordinates of A were invalid. Candidates simply continued even though their solutions did not correspond with the position of A in the given diagram. Some candidates only wrote down the coordinates of A are (2 ; 0). They did not show any working. They were not awarded full marks for this.
- (d) Some candidates substituted incorrectly into the gradient formula. The common error was swapping the x and y values.
- (e) A fair number of candidates used the same gradient found in Q3.4.1 in the equation in Q3.4.2. These candidates either ignored the fact that the two lines were perpendicular to each other or they could not recall the relationship of the gradients of two lines that are perpendicular to each other. Many candidates substituted the point (5 ; 4) in the equation instead of (8 ; 0). These candidates did not realise that the point M did not lie on PB.
- (f) Many candidates failed to recall that the gradient of a horizontal line is zero. Instead they wrote long arguments and performed tedious calculations to determine the equation of a horizontal line. Some candidates were confused between the tangent ratio and the straight line called the tangent and wrote $\tan \theta$ straight line. Many candidates failed to realise that K was 5 units away from M in the vertical sense.
- (g) Candidates did not realise that L is the point of intersection of two straight lines whose equations have been established. Many candidates substituted the point (20 ; 9) into the equation $y = \frac{3}{4}x - 6$ and arrived at $9 = 9$. Some candidates incorrectly applied the midpoint formula to 3.6.

- (h) Candidates substituted incorrectly into the distance formula. Many gave their answer correct to two decimal places instead of surd form as was required.
- (i) Many candidates failed to see that ML was a diameter of the circle and hence could not answer this question. A large number of candidates did not provide a reason as to why ML is a diameter of circle KLM. Candidates took M to be the centre instead of the circle passing through M.

Suggestions for improvement

- (a) Learners must be told that they may not use the result of a later question to prove an earlier question. In Q3.6 the coordinates of L are given to be (20 ; 9). Learners may not use these coordinates to calculate the gradient of the line PL in Q3.4.
- (b) Learners need to realise that when making a statement, they are in fact making a claim. Such claims must be justified. Therefore, learners must provide reasons for statements in Analytical Geometry.
- (c) The different topics in Mathematics can be integrated. Learners must be able to establish the connection between Euclidean Geometry and Analytical Geometry. Learners must also be able to perform algebraic manipulations within Analytical Geometry but must be mindful of the results. In this regard, learners must check the validity of their answers.
- (d) The answers to some questions might seem trivial and learners are tempted to write down the answer only. However, there is high powered reasoning behind this so-called trivial solution. Learners should show that they understand the high powered reasoning in their answers and not because it happens to be so. Learners must show all their workings, especially where the answer requires more than one step of working.
- (e) When proving an identity, learners need to show that the LHS = RHS. By starting off as an equation, learners are making the assumption that the LHS = RHS and in doing so, there is nothing to prove. Learners should understand that “Prove that ...” or “Show that” questions must be answered as calculate the LHS so that the answer is equal to the RHS or vice versa.
- (f) Learners should be given tasks on how to determine the equation of the circle where the centre is not given.

QUESTION 4: ANALYTICAL GEOMETRY

Common errors and misconceptions

- (a) Some candidates calculated the y-intercept instead of the x-intercept.
- (b) Many candidates assumed that the inclination of EF was 45° or they used some value of the gradient that was not related to EF. They overlooked the fact that the equation of EF was given. Some calculated the size of $\hat{D}\hat{E}O$ and stopped without calculating the size of $\hat{D}\hat{A}E$. Some candidates used the gradient given in Q4.4 and worked backwards. Other candidates assumed that $\hat{D}\hat{A}E$ and $\hat{F}\hat{D}A$ were equal as they were corresponding angles
- (c) Many candidates did not see that Q4.3 was a follow on from Q4.2. They used a different angle of inclination other than the one calculated in Q4.2. Some assumed that AB was perpendicular to EF. Candidates used 45° or 135° as the inclination of AB. Candidates worked backwards by using the gradient given in Q4.4. No marks were given for this. Many candidates calculated the gradient using (0 ; 0) and (1 ; 5). This was wrong.
- (d) Candidates struggled to solve a system of simultaneous equations to calculate the coordinates of D. Many equated both equations as: $x - 2y + 9 = 3x + 8$ and could go no further. The most common error was that candidates calculated the x-intercept and the y-intercept of AB and stated that these were the coordinates of D. Others calculated the coordinates of D as the midpoint of EF. Where candidates used incorrect equations, they did not check that the coordinates that they calculated were consistent with the diagram. They accepted a positive answer for the x-coordinate of D.

- (e) Many candidates did not attempt Q4.5. Some candidates assumed that DMOE was a trapezium. They did not realise that DMOE had to be broken into at least 2 known shapes. Many candidates used incorrect heights or even heights that were negative in value. It was disappointing that some candidates could not recall the formulae for the area of simple shapes. Some calculated the perimeter of DMOE.

Suggestions for improvement



- (a) Teachers should emphasise that points that lie on the x -axis have a y -coordinate of 0 and points that lie on the y -axis have an x -coordinate of 0.
- (b) The concept of angle of inclination should be clearly explained as the angle formed between the line and the x -axis in the positive direction, i.e. the positive direction of the x -axis is one of the arms of the angle of inclination.
- (c) Learners should develop competence in applying the formula $\tan \theta = m$ in both ways. That is, they should be able to calculate the gradient given the angle of inclination as well as calculate the angle of inclination given the gradient.
- (d) Learners must be taught to refrain from assuming facts that are not given.
- (e) Learners should see the link between the angle of inclination and other shapes, in particular triangles. They should be able to apply the theory of triangles in these situations.
- (f) Learners should revise the formulae for area and volume of basic shapes. They should be taught how to deconstruct a composite shape into basic shapes.
- (g) In class, learners should be encouraged to briefly explain their strategy when answering higher order questions. Other learners should be asked to point out error/s in the explanation and to provide alternate approaches. This collaborative learning strategy should develop the creative thinking skills that are required in solving unseen problems.

QUESTION 5: TRIGONOMETRY

Common errors and misconceptions

- (a) Candidates experienced difficulty in selecting and applying the correct trigonometric ratio in a right-angled triangle. They did not understand the instruction: 'Show, by calculation, that $x = 60^\circ$ '.
- (b) Many candidates did not make the relationship between the sides and angles of the triangles. Hence they did not know when to use the sine and cosine formulae. It was very disappointing that some candidates used the sine ratio in the cosine formula:

$AD^2 = AP^2 + DP^2 - 2(AP)(DP) \sin \hat{DPA}$. This formula is given in the information sheet. Some candidates did not understand that PA bisected \hat{DPC} and used the incorrect angle in their calculation. Some candidates assumed that $\hat{D} = 90^\circ$ or used the Theorem of Pythagoras when the triangle was not right-angled.

- (c) Candidates assumed that $\hat{D} = 90^\circ$ and concluded that $y = 60^\circ$. Some candidates substituted incorrectly into the sine rule when trying to calculate the size of y . Some candidates first calculated the size of \hat{D} by using the sine rule. But instead of using the obtuse angle of $126,25^\circ$, they used $53,75^\circ$. These candidates did not realise that the ambiguous case of the sine rule applied to $\triangle DAP$.
- (d) The notations at the angles:  and  confused some candidates to believe that $y = 2x$. They believed that the double lines at y meant that y was double the size of x . This was not the case.
- (e) Candidates rounded off their answers to whole numbers instead of working to 2 decimal places.

Suggestions for improvement

- (a) The solution of right-angled triangles is taught in Grade 10. Learners should be reminded that using trigonometric ratios to solve right-angled triangles is an acceptable method in Grade 12. They need not only use the sine or cosine formulae in the examinations.
- (b) Learners should be able to identify the sides of a right-angled triangle in relation to the required angle. A good starting point would be to write out the relationship as $\sin x = \frac{CP}{AP}$ and then proceed.
- (c) Learners should be able to distinguish when they need to use sin and when they need to use \sin^{-1} functions on the calculator.
- (d) When in doubt, learners should be encouraged to refer to the information sheet for the correct formula. It is unacceptable for learners to write any formula that is given in the information sheet incorrectly.
- (e) Learners should interpret 'Show, by calculation, that $x = 60^\circ$ ' as 'calculate the size of x and the answer you should arrive at is 60° '.
- (f) Teachers need to discuss the prerequisites for using the sine and cosine formulae.

QUESTION 6: TRIGONOMETRY

Common errors and misconceptions

- (a) Candidates mixed the signs in the reductions formulae. The most common mistake was reducing $\cos^2(180^\circ - x)$ to $-\cos^2 x$. Candidates did not know the difference between $-\cos^2 x$ and $(-\cos x)^2$. Other errors were reducing $\sin(720^\circ - x)$ to $\sin x$ and $\tan(x - 180^\circ)$ to $-\tan x$. Some candidates omitted the + sign between the terms on the LHS of the question. They worked with a single term on the LHS that did not reduce to any expansion of $\cos 2x$. Candidates did not simplify their answers fully.
- (b) Many candidates could not earn any marks in Q6.2. They merely wrote out the expansion $\cos(a + b) = \cos a \cos b - \sin a \sin b$. Some used $\cos(a - b)$ to derive $\sin(a - b)$. That was not required.
- (c) Many candidates did not realise that $\sin^2 76^\circ - \cos^2 76^\circ = -(\cos^2 76^\circ - \sin^2 76^\circ)$. Instead they assumed that $\sin^2 76^\circ - \cos^2 76^\circ = \cos 2(76^\circ)$ and proceeded to simplify further. Candidates were unable to perform basic algebraic operations when simplifying. Candidates wrote $x^2 - y^2 = 76^2 - 76^2$ instead of $\sin^2 76^\circ - \cos^2 76^\circ$. Very few candidates were able to simplify using co-ratios. Some treated this question as the equation: $\sin^2 76^\circ - \cos^2 76^\circ = \sin 62^\circ$ and worked with both sides at the same time.

Suggestions for improvement

- (a) Teachers need to emphasise the use of brackets when working with the squares of trigonometric ratios and when multiplying trigonometric ratios. Showing all the steps in the simplification is crucial in the understanding. For example:

$$\begin{aligned}\cos^2(180^\circ + x) &= [\cos(180^\circ + x)]^2 \\ &= [-\cos x]^2 \\ &= \cos^2 x\end{aligned}$$

Understanding the details in the reasoning should make learners feel empowered and hence will give them confidence.

- (b) Teachers must teach the theory for compound angles and double angles and not only focus on the application thereof.

- (c) Learners need to make the link between basic algebra taught in earlier grades with Trigonometry, i.e. factorisation, fractions, substitution and multiplying brackets. This should help them with the manipulation required in Trigonometry. For example,

$$\begin{aligned}\sin(\alpha - \beta) &= \cos[90^\circ - (\alpha - \beta)] \\ &= \cos[90^\circ - \alpha + \beta] \\ &= \cos[(90^\circ - \alpha) + \beta]\end{aligned}$$

- (d) Learners need to be reminded that when a question requires that you must 'Show that' or 'Prove that....', they are required to simplify one of the sides to arrive at the answer that is given on the other side.
- (e) Teachers should give learners sufficient examples for practice to enable them to develop competence in the manipulation and simplification of trigonometric expressions.

QUESTION 7: TRIGONOMETRY

Common errors and misconceptions

- (a) Many candidates wrote down the domain or $0^\circ \leq x \leq 90$ instead of the range. Some candidates wrote down $y = 2$ as the range and did not realise that the range is an interval of values. Others wrote the range as $(0 ; 2)$, $(2 ; 0)$ or $2 \leq y \leq 0$. Candidates did not know the difference between $[;]$ and $(;)$ in the interval notation. Some candidates also swapped the upper and lower boundaries and gave their answers as $[2 ; 0]$.
- (b) Candidates wrote down the expansion of $\cos 2x$ as $1 - \sin^2 x$ instead of $1 - 2 \sin^2 x$. Many candidates mixed up the sign because they omitted the brackets when substituting for $\cos 2x$.

$$\sin x + 1 - \cos 2x = 0$$

$$\sin x + 1 - 1 - 2 \sin^2 x = 0$$

$$\sin x - 2 \sin^2 x = 0$$

They were unable to proceed any further.

- (c) Candidates did not see Q7.3 as a follow on from Q7.2. These candidates did not understand the meaning of the word 'hence'. Many candidates ignored the equation $\sin x = 0$ or wrote 'not applicable' next to it and only solved the equation $\sin x = \frac{1}{2}$. Candidates also divided the equation by $\sin x$. Candidates omitted $k \in \mathbb{Z}$ from their general solution. Some wrote $x \in \mathbb{Z}$ or $k \in \mathbb{R}$ or $k360^\circ; k \in \mathbb{Z}$. They did not understand the meaning of $+k360^\circ; k \in \mathbb{Z}$ in the general solution.
- (d) It was disappointing that some candidates were unable to draw an accurate graph of $y = \cos 2x$. In many cases, candidates drew graphs that exceeded the range or could not get the shape of the graph correct. Some drew the graph of $y = \cos x$.
- (e) Many candidates did not realise that Q7.5 required a transformation of the points of intersection of f and g . Some tried to solve the equations graphically. Some tried to solve the equation: f and g . Some tried to solve the equation without any success.
- (f) Many candidates could not integrate what is learnt in Paper 1 with Paper 2. Many wrote the answer to Q7.6 as $-1 < x < 1$; they merely took the value of r to be x . Some started their answer as $-1 \leq r \leq 1$. Some candidates used $1 + 2\cos 2x$ as the first term of the series. Some calculated r as $\frac{4 \cos 2x}{2 \cos 2x} = 2 \cos$. Some calculated r correctly and did not go any further. There were some candidates who managed to arrive at $-\frac{1}{2} < \cos 2x < \frac{1}{2}$ but could not read off the solution from the graph. Some wrote down the answer incorrectly as $60^\circ < x < 30^\circ$ or $30^\circ > x > 60^\circ$.

Suggestions for improvement

- (a) Learners should be encouraged to use the information sheet. It is unacceptable for learners to write any formula that is given in the information sheet incorrectly
- (b) Learners should be encouraged to introduce brackets when substituting into an expression so that signs are not omitted or confused.
- (c) Teachers need to explain the meaning of 'hence' and how it is applied in the context of a question paper. Learners should be told that they do not have to redo the part that has already been done in a previous question. If a learner was unable to answer the previous question, they may assume that it is true and continue with the latter question.
- (d) Teachers should teach the solution of trigonometric equations in conjunction with graphs.
- (e) Teachers should use point by point plotting of graphs as an introduction to graph sketching. Thereafter, they should promote an intuitive understanding of the shapes of trigonometric functions. They should show the basic trigonometric graphs are transformed to obtain the new functions. For example, $y = 2 \cos(x + 30^\circ)$ is a transformation of $y = 2 \cos x$ shifted 30° to the left and not 60° .
- (f) Learners need to be exposed to more questions on interpretation of graphs in class. Exposure to these types of questions should build confidence in answering similar questions in the examination.

QUESTION 8: EUCLIDEAN GEOMETRY

Common errors and misconceptions

- (a) In Q8.1.1, candidates made the mistake of dividing by 2 instead of multiplying by 2. Many did not give the reason or gave an incomplete reason such as 'angle at centre'. Some gave either 'angle at circumference is twice angle at centre' or 'centre of circle theorem' as the reason. These were incorrect.
- (b) Some candidates made unnecessary constructions to answer Q8.1.2. Others incorrectly used angles in the same segment to answer this question. Some candidates knew how to answer this question but did not give the size of y . They gave their answer as $y = \hat{B}_2$ or $y = \frac{180^\circ - x}{2}$.
- (c) Many candidates wrote down the correct value of \hat{F}_1 but either omitted the reason or wrote the incorrect reason. The most common incorrect reason was $OF \perp CD$. Candidates were confused between the theorem and the converse and gave the reason as line from centre \perp to chord. Others wrote the reason as $CF = FD$ or 'radius \perp to chord' or 'angle subtended by diameter'. None of these was correct.
- (d) In Q8.2.2, many candidates stated that $\hat{B} = 30^\circ$ and gave the reason as 'opposite angles of a cyclic quadrilateral are equal'. A fair number indicated that $\hat{B} = 90^\circ$. Some candidates did not identify the cyclic quadrilateral in Q8.2.
- (e) In Q8.3.1, candidates gave the incorrect reasons. The most common incorrect reasons were 'tan-chord theorem' and $AB = AE$.
- (f) In Q8.3.2, many candidates did not make the substitution that AB was equal to x . They wrote $13^2 = AB^2 + (x + 7)^2$ and could go no further. Some could not identify the hypotenuse in the $\triangle ABC$. Others wrote $AB^2 = x^2 + 14x - 120 = 0$ and solved this equation. There were also a number of candidates who were able to answer this question but lost a mark for accepting that x was a negative value. Some lost a mark for not providing a reason.

Suggestions for improvement

- (a) Learners should be encouraged to scrutinise the given information and the diagram for clues about which theorems could be used in answering the question.
- (b) Teachers must cover the basic work thoroughly. An explanation of the theorem should be accompanied by showing the relationship in a diagram. Teachers should use the exploratory method for teaching Euclidean Geometry. In this way, learners should be able to remember the facts learnt more effectively.
- (c) Learners should be taught that all statements must be accompanied by reasons. Teachers and learners must refer to the Examination Guidelines for a list of acceptable reasons to be used in Euclidean Geometry. Teachers should insist that learners use the correct shortened forms of reasons in class. Teachers should explain the difference between a theorem and its converse.

QUESTION 9: EUCLIDEAN GEOMETRY

Common errors and misconceptions

- (a) In Q9.1.1, many candidates gave only one part of the reason, either 'same base' or 'same height' but not both. Some stated 'proportional intercept theorem' as the reason.
- (b) In Q9.1.2, candidates used h for the height instead of k .
- (c) In Q9.2.1, candidates did not know the difference between the value of a ratio and a length. They could not relate the sides and parallel lines. They were unable to identify the corresponding sides in the appropriate proportion. A number of candidates gave their answer as $\frac{EM}{AE} = \frac{DF}{AF} = \frac{3}{4}$. Whilst this statement is valid, they did not answer the question. Some gave midpoint theorem as the reason instead of proportional theorem.
- (d) Many candidates failed to recall that the diagonals of a parallelogram bisect each other and hence could not conclude that $AM = CM$. Some stated as a reason that the diagonals of a parallelogram intersect each other. Some candidates used $\triangle CEF$ to answer this question but were unsuccessful in their attempt as they did not have any information about the lengths of the sides in this triangle.
- (e) Many candidates did not attempt Q9.2.3 while other candidates struggled in answering this question as the heights were not given nor was there any information given about $\triangle BCD$. Many candidates used DC as the common height of the two triangles. $\frac{\text{area } \triangle AFD}{\text{area } \triangle BDC} = \frac{\frac{1}{2} FD \times DC}{\frac{1}{2} BC \times DC}$. Some incorrectly used the value of 7 as the height.

Suggestions for improvement

- (a) Teachers should be aware that they need to discuss the ratio of areas of triangles having equal heights. This is pre-knowledge to the Proportionality Theorem.
- (b) Teachers should allow learners to present their solutions in the classroom situation. Other learners should be asked to point out errors and to provide alternate solutions to the same question. This kind of discussion should encourage problem-solving skills.
- (c) In the classroom, teachers and learners should use terminology that is expected of them in the examination. In this regard, learners should be forced to use acceptable reasons in Euclidean Geometry. The acceptable notation for area of triangle ABC is $\text{area } \triangle ABC$. It is not acceptable to omit either area or \triangle from this notation.
- (d) Learners need to be told that success in answering Euclidean Geometry comes from regular practice, starting off with the easy and progressing to the difficult. There is no short-cut to this process.

QUESTION 10: EUCLIDEAN GEOMETRY

Common errors and misconceptions

- (a) Many candidates have a good understanding of the tan-chord theorem and used it correctly in Q10.1.1 and Q10.1.2. However some candidates gave irrelevant reasons as their answers. In Q10.1.3, many candidates simply gave the answer as 'corresponding angles' rather than 'corresponding angles are equal'. Some candidates did not realise that \hat{S}_1 and y were subtended by the same chord PQ. In 10.1.5, candidates gave the reason 'alternate angles' instead of 'alternate angles WT \parallel SP'.
- (b) Some candidates stated the correct proportion but failed to give a reason. Some did not realise that the answer required using the Proportionality theorem but wasted time trying to prove a pair of triangles similar. Many candidates attempted to work backwards from the question and could not arrive at the correct proportion.
- (c) Candidates did not read Q10.3 correctly and gave \hat{S}_1 and \hat{T}_2 as answers. No marks were awarded for these answers as they were already known.
- (d) Many candidates did not link Q10.1 and Q10.3 to Q10.4 and therefore found it difficult to answer. Candidates were unable to make relationships between angles. Some merely stated that $\hat{Q}_3 = \hat{V}_2$ because the exterior angle of a cyclic quadrilateral is equal to the interior opposite angle. These candidates did not realise that RWTQ is not a cyclic quadrilateral. Some assumed that SQ and PR are diameters of the circle. Candidates incorrectly referred to $\hat{P}\hat{S}\hat{R}$ as \hat{S}_{1+2} .
- (e) In Q10.5, some candidates proved the two triangles congruent instead of proving them similar. Candidates gave incorrect reasons for two angles being equal. Often candidates would use 'proven above' as a reason for a pair of angles claimed to be equal but these angles were not proven to be equal elsewhere. Candidates would say that \hat{R} is common without realising that the two angles in question actually occur in two different triangles and therefore are not common.
- (f) In Q10.6, candidates created incorrect ratios and/or proportions and used these to solve the question. Many candidates were able to deduce the proportion from the similar triangles in Q10.5 but could not go any further as they did not see the link with Q10.2 in this question. Some candidates attempted to work backwards. This proved to be fruitless.

Suggestions for improvement

- (a) More time needs to be spent on the teaching of Euclidean Geometry in all grades. Time must be spent on teaching the theory, recognising the theorems in a simple diagram and deconstructing a complex diagram to identify theorems.
- (b) Learners need to be told that there is no short-cut to mastering the skills to answering questions in Euclidean Geometry. This requires continuous and deliberate practice.
- (c) Teachers need to insist on learners naming angles properly. For example, the smaller angles at S may be referred to as $\hat{P}\hat{S}\hat{Q}$ (or \hat{S}_1) and $\hat{R}\hat{S}\hat{Q}$ (or \hat{S}_2). However, the full angle at vertex S has to be referred to as $\hat{P}\hat{S}\hat{R}$ and not as \hat{S} (as this creates confusion as there are too many angles at S) or as \hat{S}_{1+2} (in order to make it clear that they are talking about one angle and not two).

CHAPTER 11

MATHEMATICAL LITERACY

The following report should be read in conjunction with the Mathematical Literacy question papers of the November 2014 Examination.

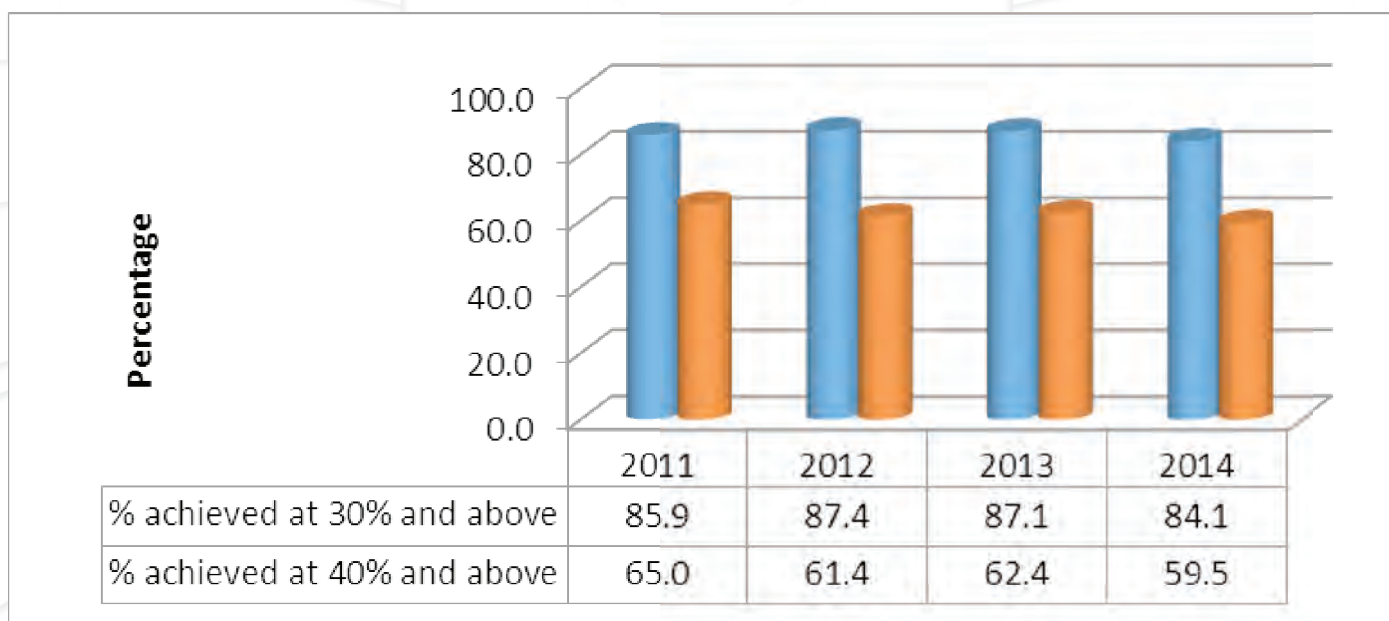
11.1 PERFORMANCE TRENDS (2011 – 2014)

- The general performance of candidates reflects a decline from that of the three previous years. In comparison to 2013, the following features are noted:
- The number of candidates writing the subject decreased by 12 043. Candidates passing at the 30% level declined by 3.0 percentage points whilst candidates passing at the 40% level declined by 2.9 percentage points. Candidates achieving distinctions over 80% improved from 1.8% to 2.4% of the total candidates.

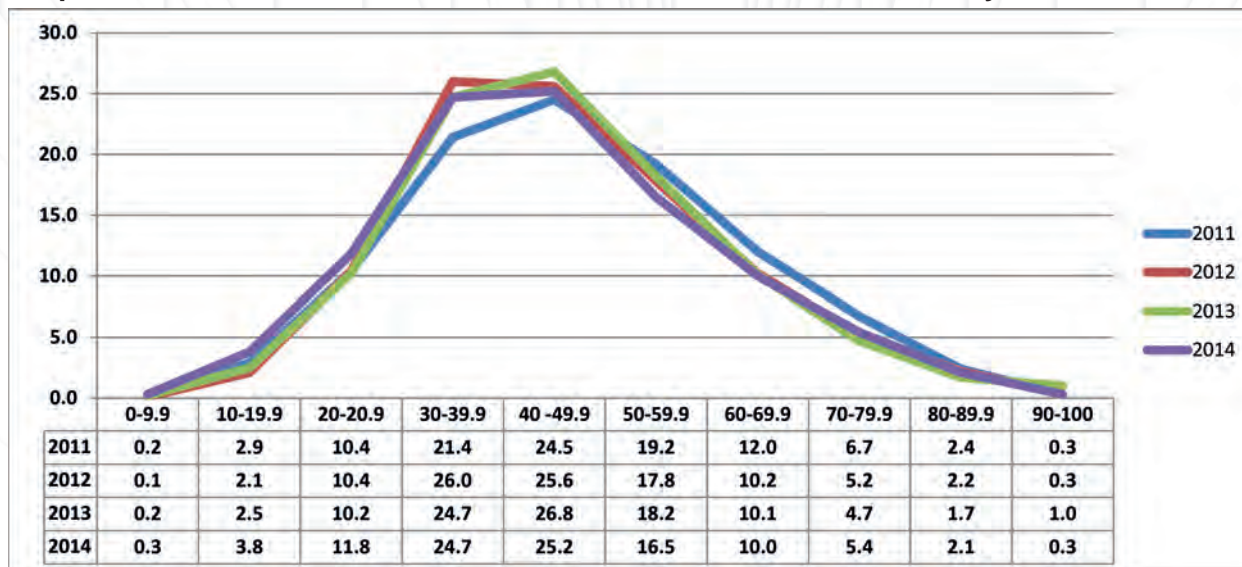
Table 11.1.1 Overall Achievement in Mathematical Literacy (2011–2014)

Year	No. Wrote	No. achieved at 30% and above	% achieved at 30% and above	No. achieved at 40% and above	% achieved at 40% and above
2011	275 380	236 548	85.9	178 899	65.0
2012	291 341	254 611	87.4	178 498	61.4
2013	324 097	282 270	87.1	202 291	62.4
2014	312 054	262 495	84.1	185 528	59.5

Graph 11.1.1 Overall achievement rates in Mathematical Literacy



Graph 11.1.2 Performance distribution curves in Mathematical Literacy



The distribution curve shows an increase in the percentage of candidates performing at the 0-29.9% categories which specifies a drop in performance. The percentage of candidates performing at the 30% level remained the same as in 2013, but decrease at the categories between 40 to 69.9%. However an increase in the percentage of candidates performance between the 70 to 100% level is noted.

11.2 OVERVIEW OF LEARNER PERFORMANCE IN PAPER 1

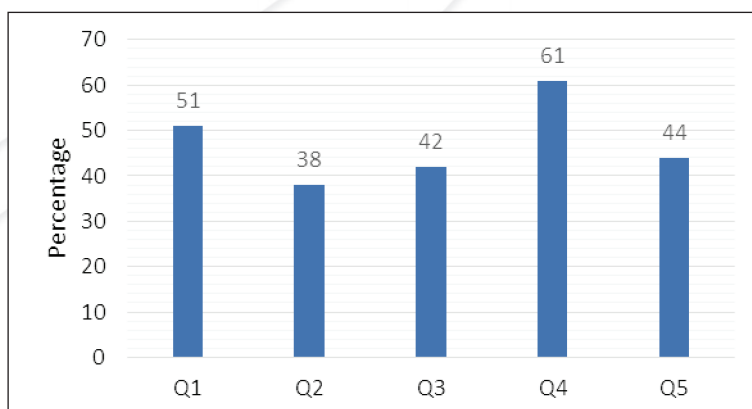
General comments

- (a) The introduction of the CAPS in 2014 has resulted in a change in the format of the Mathematical Literacy question paper. All questions are set in contexts based on real-life scenarios.
- (b) In Paper 1 all contexts are familiar but Paper 2 has to have at least one unfamiliar context as stipulated in the CAPS document. Subsequently candidates' performance has decreased.

11.3 DIAGNOSTIC QUESTION ANALYSIS FOR PAPER 1

The following graph is based on data from a random sample of candidates. While this graph may not accurately reflect national averages, it is useful in assessing the relative degree of the challenges of each question as experienced by candidates.

Graph 1.3.1 Average marks per question expressed as a percentage: Paper 1



Q1	Finance
Q2	Measurement
Q3	Maps and Plans
Q4	Data Handling
Q5	Functional Relationships; graphs and probability.

11.4 ANALYSIS OF LEARNER PERFORMANCE IN INDIVIDUAL QUESTIONS IN PAPER 1

Learners performed poorly in relation to previous years (NCS). In the past no level 3 questions were asked in Paper 1. The questions in Paper 1 in CAPS are set differently from what the learners have been used to in the past. In the NCS Mathematical literacy Paper 1 examination; Questions 1 and 2 of the examination were based on short questions, mainly level 1 type questions. This accounted for ± 60 marks of the 150 marks of the paper. The first 13 to 15 marks of Question 1 had no - context and were straight forward calculator work. With NCS CAPS, all questions have to be set in – context thus no straight forward calculator work may be included, without a story line. This led to more reading required from candidates before they could answer the questions.

QUESTION 1: FINANCE (ADVERTISEMENT; TILL SLIP)

The performance of learners in this question ranged from moderate to good with an average of 51%.

Common errors and misconceptions

- (a) In Q1.1.1, the majority of candidates reflected the correct interest rate of 17% but some candidates performed a calculation with the 17%.
- (b) In Q1.1.2 (a), candidates confused the selling price of R2 100.00 with the total cost of R2 443.49.
- (c) In Q1.1.2 (c), the fact that Kitchen Pro had two prices, namely: R2 100.00 and R2 443.49 led to different possible answers. Candidates were given partial credit for calculating the deposit using R2 443.49 instead of R2 100.00.
- (d) In Q1.1.2 (d), candidates calculated up to R2 640.00 and did not continue to add the deposit to this figure. Some candidates mentioned the list of vegetables together with milk, due to lack of understanding regarding which products are exempted from VAT.
- (e) Reflection of units in answers was often omitted or incorrect. In Q1.1.8. (b) many candidates incorrectly wrote the answer as 0,25% or as 0,25 while the correct answer is 25%.
- (f) In Q1.2.2, most of the candidates could not take note of R1 less promotion (discount) and as a result they divided the total cost by R16.95 instead of R15.95. Understanding of when rounding up can be applied, as opposed to rounding down, also appeared to be problematic for candidates.
- (g) Candidates found it difficult to read the date format on the till slip. Most candidates failed to count the number of days or months allowed for the return of bought goods.
- (h) In Q1.2.8 (a), candidates confused the dozen (12) with 6. Some learners did not answer the question fully. They calculated the profit on 1 packet only instead of on a dozen packets.
- (i) Candidates generally struggled with instruction 7: “Round off **all final** answers appropriately according to the given context, unless stated otherwise.”

Suggestions for improvement

- (a) Learners must be taught from Grade 10 how supermarkets and chain stores, in the case of cash sales, round down to the nearest 5c or 10c on the total due.
Real-life, authentic till slips from a variety of stores and petrol stations must be used in the classroom when teaching the analysis of a till slips.
- (b) In the Mathematical Literacy classroom the concept of rounding off must be practised without the aid of a calculator.
- (c) Teachers are advised to study the CAPS document when planning lessons and setting SBA tasks in order to ensure that learners are familiar with Mathematical Literacy terminology.

- (d) Teachers must enhance learners' skill to interpret and sift the information given in assessment questions in order to select the correct information to be used in calculations.
- (e) Learners should be trained to identify the specific information of each item reflected in tables, graphs or till slips.
- (f) The learners should be drilled on basic operations, such as using a calculator, applying the BODMAS rule, rounding off and conversions.
- (g) Calculations involving including or excluding VAT should be drilled in classroom practice exercises.
- (h) Candidates should be encouraged to round off monetary answers to two decimal digits.

QUESTION 2: MEASUREMENT (PERIMETER, AREA; VOLUME; TIME)

The performance of learners in this question was poor with an average of 38%

Common errors and misconceptions

- (a) Most candidates did not understand the layout plan in Q2.1. This showed a lack of classroom exercises on layout plans.
- (b) In Q2.1.2(a), candidates included the existing wall length of 95m, hence they arrived at the incorrect calculation $33\text{m} + 33\text{m} + 95\text{m} = 161\text{m}$, instead of $33\text{m} + 33\text{m} = 66\text{m}$. Candidates could not round off to the nearest 5m.
- (c) In Q2.1.3, the phrasing of the question (*write down the ratio of the total length*), confused the candidates. Candidates interpreted *total* as perimeter, hence obtained partial marks for their calculation using perimeter.
- (d) In Q2.2.1, candidates could read the 2 200 mm from the table but most of the candidates could not convert 2 200 mm to 2,2m. Candidates divided by 100 instead of 1 000.
- (e) In Q2.2.2, candidates could not calculate the radius if a diameter was given, showing a lack of understanding of the relationship between diameter and radius.
- (f) When multiplying in the volume formula, candidates did not know that all units must be the same before multiplying. The candidates incorrectly substituted the radius in metres and the height in millimetres or vice versa.
- (g) Candidates ignored the instruction to round off final answers, with most rounding off before the final answer.
- (h) In Q2.3.1, candidates could read the analogue time but when they had to do time calculations they confused the 09h11 (9 hours and 11 minutes) with 09:11 (eleven minutes past nine). The candidates did not see the difference between the two notations.
- (i) Candidates could not do time calculations. For example, they could not subtract hours and minutes. Some of them subtracted time by using 10 as a base. Some candidates wrote 11 hours 56 minutes – 2 hours 45 minutes = 9 hours 11 minutes = 9,11 hours, instead of $9\frac{1}{8}$ hours = 9,18 hours.

Suggestions for improvement

- (a) It is imperative to revise basic computational skills at the beginning of each academic year.
- (b) Learners need to gain the experience of using analogue clocks as well as digital clocks in the classroom.
- (c) Re-enforcement of mathematical terms such as radius and diameter must be done on a regular basis in the classroom.
- (d) Teachers should teach learners time measurement and the difference between formats such as 11h56 and 11:56.
- (e) Learners should be taught to copy the formula as it is given, to avoid making mistakes when changing the subject of the formula. More activities on substitution should be given in the classroom to assist learners in obtaining all the substitution marks.
- (f) The use of Mathematical Dictionaries as a resource in the classroom is valuable to teach learners Mathematical Literacy terminology.
- (g) Basic skills topics must be taught throughout the FET phase to ensure that learners obtain the marks for calculations in Mathematical Literacy.
- (h) Refresher workshops on methodology regarding measurement topics should be conducted for teachers.

QUESTION 3: MAPS AND PLANS

The question was fairly answered with an average of 42%.

Common errors and misconceptions

- (a) Candidates struggled with the interpretation of the question due to language barriers. For example: When given the ratio scale of 1:18, most candidates wrote *one is to eighteen* when the correct response was “one unit on the plan represents 18 units in reality” (unit could be substituted with mm, cm or m). Most candidates gave the correct response but did not use the same unit and therefore lost marks. They wrote “one cm on the plan represents 18m in reality”.
- (b) The candidates’ answers were correct but their calculations were wrong, e.g.:
 $18 \div 486 = 27 \text{ mm}$
 $486 \div 180 = 27 \text{ mm}$
 $356 \div 180 = 27 \text{ mm}.$
- (c) In Q3.1.4 candidates did not measure the strip of piping of the shirt.
- (d) Candidates had different views on Q3.1.5, and came up with different versions such as that the buttons are on the left when one looks at the shirt from the front. Others mentioned that buttons will be on the left if you are wearing the shirt.
- (e) Candidates could not provide compass directions.

Suggestions for improvement

- (a) Learners must do activities with real measuring equipment such as rulers and scales and create scale drawings of simple mathematical shapes in the classroom.
- (b) Learners should be taught the meaning of a number scale and how to use it.
- (c) Learners must be taught the difference between the left-hand side, right-hand side and mirror images. These concepts must be explained and demonstrated in class.
- (d) The measurement of space between furniture should be done practically in their classrooms, using their desks and tables.
- (e) Mathematical Literacy teachers must develop learners' vocabulary as well as their mathematical skills.
- (f) When working with scale and units of measurement, concrete material must be used to make the abstract concepts clear. Scale questions should be practised.

QUESTION 4: DATA HANDLING

Learners' performance in this question was good, with an average of 61%.

Common errors and misconceptions

- (a) In Q4.1.2 candidates gave more than two gantries or read values from the wrong table.
- (b) Most of the candidates could not give the reason why the median represents the tariffs best.
- (c) Candidates confused the mean and median calculations.
- (d) Candidates calculated the mean and median "correctly" but with a different set of data.
- (e) In Q4.1.4 some candidates added instead of subtracting. Candidates did not know the meaning of the word "difference".
- (f) In Q4.1.7 accuracy in plotting points on the graph was a challenge, resulting in learners losing marks.
- (g) Candidates could not write the values in a ratio and could not simplify the ratio.
- (h) Candidates found it very difficult to write out large numbers in words because they generally stated numbers in digits instead of words, e.g. 1234 was stated as one, two, three four instead of one thousand two hundred and thirty-four.

Suggestions for improvement

- (a) Learners must do measures of central tendencies with more than one data set given.
- (b) Learners must be taught how the mode, mean and median are used to predict patterns or to influence decision-making in a variety of contexts.
- (c) Teachers should encourage learners to read numbers aloud in class and not just give digits.
- (d) The language/terminology used in the topic on probability must be regularly practised, used and explained in class.
- (e) Sketching of statistical graphs such as bar graphs must be practised. Learners who had been taught, knew how to draw these graphs and scored good marks in this question.

QUESTION 5: FINANCE AND PROBABILITY

Learners' performance in this question was satisfactory, with an average of 44%.

Common errors and misconceptions

- (a) In Q5.1.1 candidates did not have the correct skill to formulate the equation.
- (b) The table for Q5.1.2 gave the point as (0, 0) and candidates interpreted this point as part of the graph and therefore plotted this point as a closed circle rather than an open circle.
- (c) The expression of a probability was given as a ratio in some cases instead of as a decimal, fraction or percentage.
- (d) In Q5.1.3 candidates found it difficult to calculate an input value when the output value was given. This type of question is not new to national papers, yet candidates still struggle with this calculation.

Example: Input value Output value

$$1\ 214 = 50 + [12 \times (n-3)]$$

- (e) In Q5.1.4 candidates did not add the 3 free kilometers but subtracted it.
- (f) Some candidates failed to complete the tree diagram.
- (g) Candidates failed to read outcomes from the tree diagram.

Suggestions for improvement

- (a) Learners need to do more drill work in respect of reading information from tables.
- (b) Learners can do activities in classrooms where they translate words into Mathematical equations.
- (c) Learners should practise changing the subject of the formula, and substituting into formulae.
- (d) The language/terminology used in the topic on probability must be regularly practised, used and explained in class.
- (e) Question banks on tariffs and the completion of tree diagrams should be developed by lead teachers and subject advisors for teachers to use in the classroom.

11.5 OVERVIEW OF LEARNER PERFORMANCE IN PAPER 2

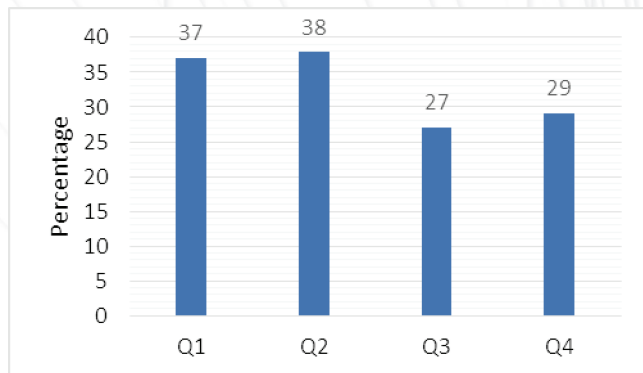
General comments

The performance of candidates is lower than that recorded in the past, due to the introduction of more demanding content in the CAPS. The introduction of the contexts in questions being based on real life situations as stipulated in CAPS added a further dimension.

11.6 ANALYSIS OF LEARNER PERFORMANCE IN INDIVIDUAL QUESTIONS IN PAPER 2

The following graph is based on data from a random sample of candidates. While this graph may not accurately reflect national averages, it is useful in assessing the relative degree of challenge of each question as experienced by candidates.

Graph 11.6.1 Average percentage performance per question: Paper 2



Q1	Bar graph; box and whisker plot; functions; probability
Q2	Cost of running a car; growth chart
Q3	Income tax; Defence and national budgets; graphical representation
Q4	Analysis of seating plan and cost of seats; time calculation; distance chart; surface area and painting; assembly instructions

11.7 ANALYSIS OF LEARNER PERFORMANCE IN INDIVIDUAL QUESTIONS IN PAPER 2

QUESTION 1: BAR GRAPH; BOX AND WHISKER PLOT; FUNCTIONS; PROBABILITY

In general this question was poorly answered by candidates, with the main problem being a lack of understanding of the requirements of the question. The average percentage for this question was 37%.

Common errors and misconceptions

- Candidates did not understand discrete (whole number) and continuous data.
- Many candidates could not interpret the stacked bar graph and thought that the number of girls = total of the boys and girls.
- Most of the candidates could identify that cyber bullying is the modal incident, but could not explain why.
- Candidates confused the values when calculating the quartile.
- In Q1.3.1 most candidates could not write a formula from a given graph.
- Many learners subtracted the first 15 passengers from the R50 and worked with R35.
- In working with the ratio of teachers: learners, many candidates did not realise that the teachers are part of the total passengers and would write the ratio 27 : 3 (i.e. 30 passengers) instead of 24 : 3 (i.e. 27 passengers).
- Candidates displayed poor reasoning skills when answering the probability question.

Suggestions for improvement

- Candidates need to be exposed to a far wider range of graphs from magazines, newspapers and the internet as indicated in the CAPS.
- Basic definitions of concepts as indicated in the CAPS policy document should be taught.
- Candidates need to be exposed to more CAPS-oriented question papers.
- Constructing a formula under different situations should be practiced.
- Teachers should not be textbook bound in their teaching.

QUESTION 2: COST OF RUNNING A CAR; GROWTH CHART

On the whole, learners' performance in this question was very weak. The average scored for this question was 38%.

Common errors and misconceptions

- (a) Candidates were unable to comprehend the question and did not have the ability to express themselves.
- (b) In Q2.1.1 many candidates did not understand the consumption rate 6.7 per 100 km. They tended to multiply with the figure of 6.7 but leave out the division by 100.
- (c) Many of the candidates would add unlike terms such as volume to kilometers.
- (d) In Q2.2.2 learners struggled to give two reasons and to express themselves when it came to non-mathematical reasons.
- (e) In Q2.2.4 they misinterpreted the question about the stages where the child development stages for boys are longer than for girls. They tried to respond by saying who is taller and at what age.

Suggestions for improvement

- (a) Learners must be exposed to more and different types of examples of graphs in class. Teachers can use graphs from newspapers and magazines as resources.
- (b) Candidates must be exposed to describing trends in graphs.

QUESTION 3: INCOME TAX; DEFENCE AND NATIONAL BUDGETS; GRAPHICAL REPRESENTATION

This question was challenging for almost all the candidates. The average percentage performance in this question was 27%.

Common errors and misconceptions

- (a) Many candidates were unable to identify the correct tax bracket. They also forgot to use the answer from the previous question.
- (b) In Q3.1.2 many candidates failed to subtract the rebate after calculating the tax.
- (c) In Q3.2.2 inability to read with understanding made many confuse the national budget with the defence budget.
- (d) In Q3.2.3 candidates did not understand how to interpret the growth figures and did not cover the increases for the two consecutive years.
- (e) In Q3.2 most candidates could identify the type of graph suitable for displaying two years' data, but failed to explain why it was suitable.

Suggestions for improvement

- (a) Candidates must read questions carefully. For example, in Q3.3.1, after reading the word 'taxable', they simply calculated the tax instead of answering the question.
- (b) Tax and interest rates must be given more attention by teachers. Learners should be provided with numerous exercises to understand the concepts better.
- (c) More formative exercises on the income tax formulae and tables should be given to learners.
- (d) Classroom assignments should include working with large numbers e.g. millions and trillions.
- (e) The method of increasing by a percentage should be taught to a greater extent.

QUESTION 4: ANALYSIS OF SEATING PLAN AND COST OF SEATS; TIME CALCULATION; DISTANCE CHART; SURFACE AREA AND PAINTING; ASSEMBLY INSTRUCTIONS

This question was challenging for almost all the candidates. The average percentage performance in this question was 29%.

Common errors and misconceptions

- (a) Candidates were not exposed to a variety of floor plans and seating plans so they had no idea on how to attempt this question.
- (b) Very few learners were able to locate the correct seats in the correct rows.
- (c) Question 4.1.1 (b): Many candidates could not understand the layout and failed to just count the number of seats when they were asked to find X, the number of seats.
- (d) Candidates generally found the exchange table provided and unfamiliar currency difficult to interpret.
- (e) Candidates could not do time calculations or write time in the correct notation.
- (f) Candidates could not substitute correctly into the formula because the standard formula for total surface area was allocated different letters. Many candidates confused the measurements and conversions.
- (g) A few candidates only listed the parts as given next to the diagram but could not write instructions to assemble the display cabinet. Many renamed the parts: *vertical poles* would become *legs* and *screws* would become *nails* or *it is welded together*.

Suggestions for improvement

- (a) Teachers should give learners more exercises on unfamiliar contexts.
- (b) Learners should practise multiple-step conversions with monetary amounts.
- (c) Assembly instructions must be included as part of teaching the learner to write a logical, step-by-step set of instructions.

CHAPTER 12

PHYSICAL SCIENCES

The following report should be read in conjunction with the Physical Sciences question papers of the November 2014 Examination.

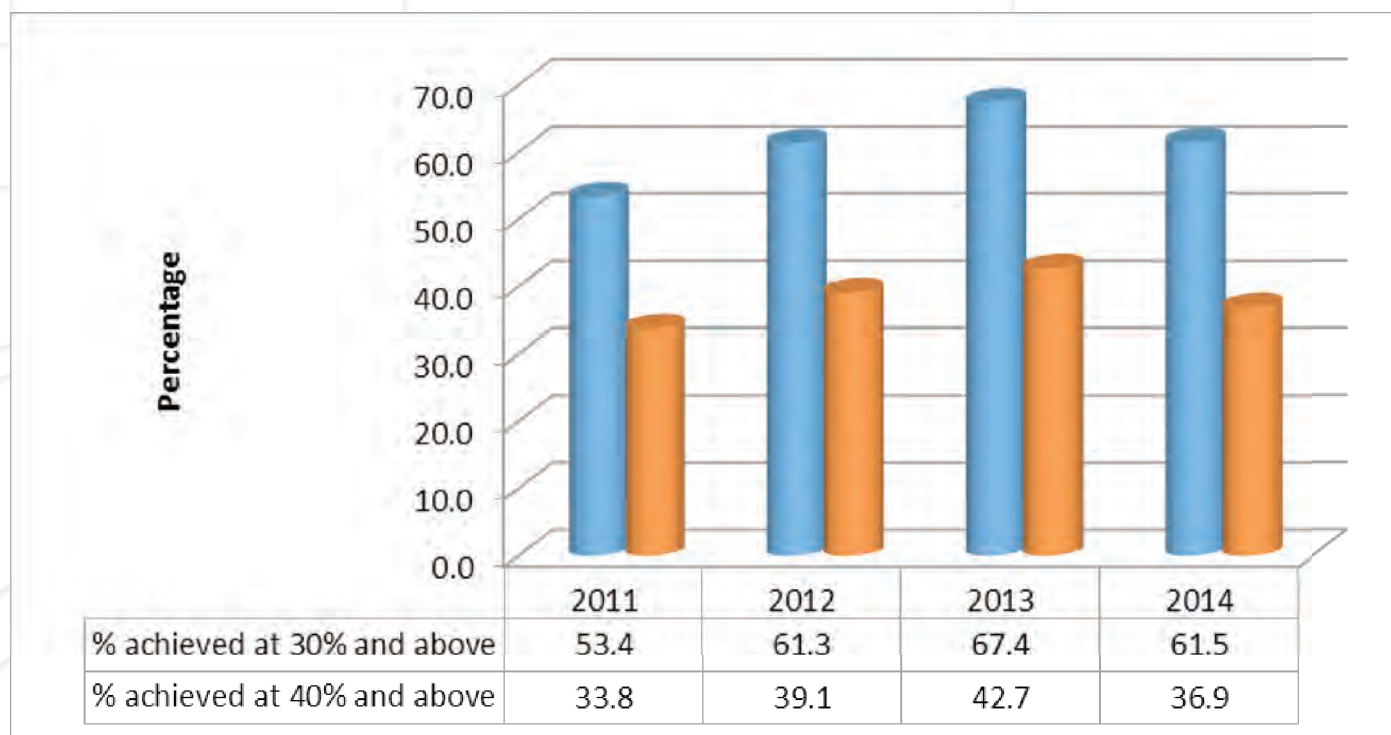
12.1 PERFORMANCE TRENDS (2011–2014)

The general performance of candidates reflects a decline from that of the past two years. In comparison to 2013, it was noted the number of candidates writing the subject decreased by 16 386. The number of candidates who passed at the 30% level declined by 5.9 percentage points and those who passed at the 40% level also declined by 5.8 percentage points. Candidates achieving distinctions over 80% increased marginally from 3.1% to 3.3% of total candidates.

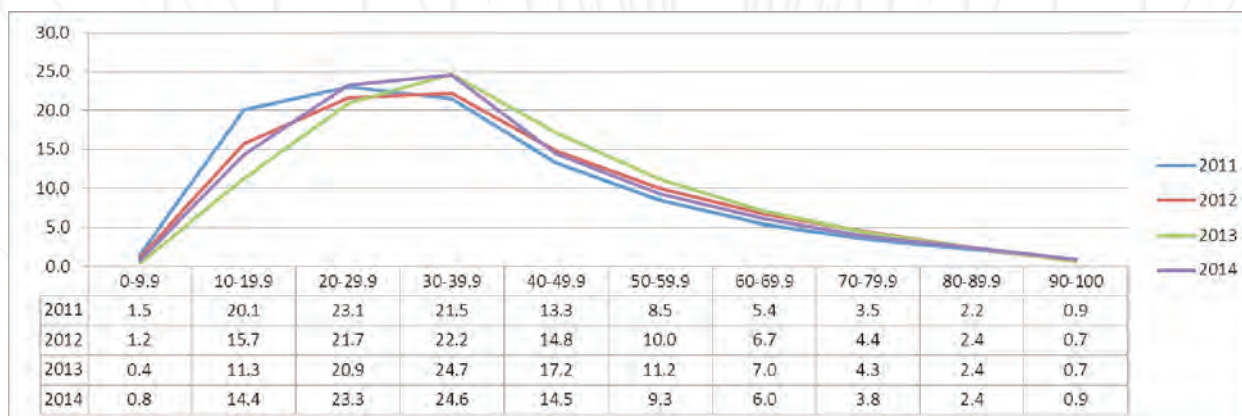
Table 12.1.1 Overall achievement in Physical Sciences

Year	No. Wrote	No. achieved at 30% and above	% achieved at 30% and above	No. achieved at 40% and above	% achieved at 40% and above
2011	180 585	96 441	53.4	61 109	33.8
2012	179 194	109 918	61.3	70 076	39.1
2013	184 383	124 206	67.4	78 677	42.7
2014	167 997	103 348	61.5	62 032	36.9

Graph 12.1.1 Overall achievement in Physical Sciences



Graph 12.1.2 Performance distribution curves in Physical Sciences



The percentage of candidates performing at the 0 - 29.9% categories increased compared to 2013. This signifies a drop in the overall performance. There is also a decrease in the percentage of candidates achieving at all levels from 30 to 80% which means fewer candidates passing. The percentage of candidates performing at the 80 - 100% categories marginally increased. The percentage of candidates performing at the 80 - 100% category marginally increased showing an increase in the number of distinctions compared to 2013.

12.2 OVERVIEW OF LEARNER PERFORMANCE: PAPER 1 & PAPER 2

General comments: Paper 1 & Paper 2

- Candidates performed very well in answering questions on Vertical Projectile Motion, Momentum and the Doppler Effect (Q3, Q4 and Q6: Paper 1) and Organic Chemistry (Q2, Q3 and Q4: Paper 2). They also performed very well in Acids and Bases, a new topic in CAPS.
- Despite the relatively stronger performances in Q3, Q4 and Q6 of Paper 1 in comparison to other questions, as noted in previous Diagnostic Reports, many candidates still lacked understanding of the basic concepts, conceptual interpretation of questions and basic calculation skills.
- The majority of candidates battled with definitions, particularly in Q9.4.1 of Paper 1, a question for which they earned very few marks.
- Learners lacked mathematical skills related to graphs and trigonometry.
- Questions involving scientific explanations also posed extensive problems for candidates. Lack of skills to interpret and analyse data to answer questions which require explanations led to poor performance in Q5 and Q6 (Paper 2). Another contributing factor was lack of skills to perform stoichiometric calculations.
- Q9 (Paper 2): This question on electrolytic cells was also poorly answered with many candidates obtaining zero for this question.

General suggestions for improvement: Paper 1 & Paper 2

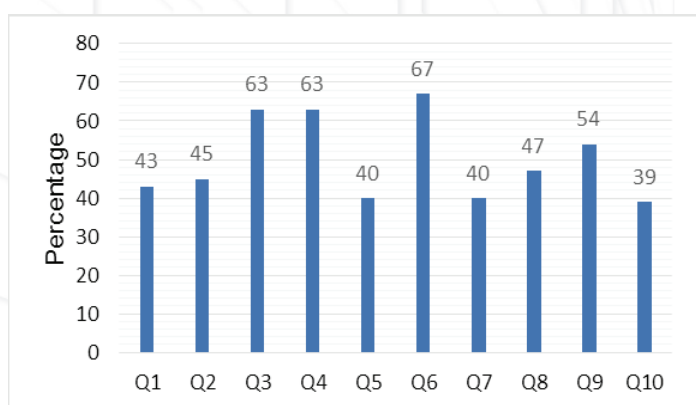
- Teachers are advised to make greater use of short formative assessment tasks in order to reinforce basic concepts and principles. This can be used to good effect in content relating to definitions listed in the examination guideline.
- The prescribed experiments in CAPS should be done by the learners so that they are able to enhance the applicable skills for example in the analysis of data.
- The drawing of free-body diagrams is central to solving problems involving forces acting on objects and as such, teachers should emphasise this during their teaching.
- Each learner should be provided with a graph book. Problem solving exercises that involve graphs should be done in a variety of topics and the graph book/paper should also be utilised for some of these problems. However, learners should also be given the opportunity to sketch graphs without the use of graph paper. The scale of graphs and ordered-pairs need to be emphasised in science contexts.

- (e) Teachers should emphasise the use of the relevant formula provided on the formula sheet, correct substitution and providing the answer with the correct unit and direction if required.
- (f) Teachers need to be aware that Van der Waals forces' is used as a synonym for intermolecular forces and NOT as a type of intermolecular force. The examination guideline requires knowledge of London forces, dipole-dipole forces and hydrogen bonds as a special type of dipole-dipole force.

12.3 DIAGNOSTIC QUESTION ANALYSIS: PAPER 1

The following graph was based on data from a random sample of candidates. While this graph might not accurately reflect national averages, it is useful in assessing the relative degrees of challenge of each question as experienced by candidates.

Graph 12.3.1 Average marks per question expressed as a percentage: Paper 1



Q1	Multiple choice questions
Q2	Newton's laws of motion
Q3	Vertical projectile motion
Q4	Momentum
Q5	Work, energy and power
Q6	Doppler effect
Q7	Electrostatics
Q8	Electric circuits
Q9	Motors, generators and alternating current
Q10	Photo-electric effect

12.4 ANALYSIS OF LEARNER PERFORMANCE IN INDIVIDUAL QUESTIONS: PAPER 1

QUESTION 1: MULTIPLE CHOICE QUESTIONS (ALL TOPICS)

Performance on this question was generally satisfactory, except .Q1.6, Q1.8, Q1.9 and Q1.10. Candidates' performance in this question did not correlate with their performance in the rest of the paper.

Common errors and misconceptions

- (a) Q1.1: This question covers the property of inertia, which was taught in Grade 11. It was not well answered. It was evident that there was not sufficient revision done for this topic.
- (b) Q1.2: This question covers the use of proportionality to arrive at the correct answer. As figures are not provided in such a question, many candidates could not provide the correct answer.
- (c) Many candidates had difficulty applying the principle of conservation of momentum to the situation in Q1.4 without using values for mass and velocity. Many learners failed to see that the total Kinetic Energy of the system had changed and then conclude that the mechanical energy (i.e. $E_p + E_k$) had changed and therefore was not conserved.
- (d) In Q1.6, most candidates could not associate the spacing between the energy levels with the amount of energy gained or lost by the electron and the direction of the arrows with the gain or loss in energy.
- (e) In Q1.8, most candidates failed to understand that when Z burns out, no current will pass through A_3 . Consequently, the total resistance in the circuit will increase and the current will therefore decrease. Since A_2 is a bigger resistor, less current will pass through it while more current passes through A_1 . Furthermore many

learners could not calculate the fraction by which the current in the circuit would change if one of the resistors burnt out.

- (f) In Q1.9, many candidates could not associate position B with 90° when the plane of the coil turns, as they could not interpret the angle of the plane of the coil. Many learners still fail to interpret the graph correctly.
- (g) In Q1.10, many candidates failed to understand that the number of electrons ejected from the metal surface depends on the intensity of the incident light and not on its frequency.
- (h) Suggestions for improvement (see also 12.2 above)
- (i) Teachers are advised to make use of multiple choice questions as part of homework, tutorials and revision tasks. Teachers must use daily drilling exercises to develop skills in answering this type of question.
- (j) With regard to Q1.9, teachers should perform demonstrations to show learners the rotation of the coil and relate it to the concept to the sine and cosine graphs.

QUESTION 2: NEWTON'S LAWS OF MOTION

This question was fairly well answered with exception of Q2.3.

Common errors and misconceptions

- (a) Although the definition of Newton's second law was answered better than in previous years, some candidates still wrote force is directly proportional to acceleration and inversely proportional to mass.
- (b) In Q2.2, candidates were unable to identify forces acting on the 5 kg object. Learners lacked the skill to isolate the bodies. They did not differentiate between T_1 and T_2 . F_N and T_2 were taken as normal force. They were unable to interpret direction of forces and incorrectly used P & Q as labels for the forces. Many candidates failed to identify all the forces and the direction in which they act on each mass.
- (c) Q2.3: Many candidates were unable to identify individual forces acting on different objects and as a result F_{net} was wrongly identified. The value of $9,8 \text{ m}\cdot\text{s}^{-2}$ was incorrectly substituted for acceleration, e.g. $T_1 + 250 - 5(9.8)$ and $T_1 + 20(9.8) = 20a$
- (d) Many candidates were unable to apply direction convention.
- (e) Many candidates lacked the skill of solving simultaneous equations.
- (f) Some learners failed to understand what the purpose of a pulley is. Many learners indicated the 250N force in the free body diagram for the 5kg mass, as a horizontal force.
- (g) Many learners failed to use subscripts correctly. Some learners left them out completely, thus causing confusion between the two masses and the two tensions.

Suggestions for improvement (see also 12.2 above)

- (a) The simultaneous equation/two system method has to be extensively revised, possibly through the use of formative testing which can be peer- or self-marked under teacher supervision. Teachers should expose learners to problem solving exercises in all knowledge areas in Physics that involve simultaneous equations.
- (b) Learners need to be exposed to more informal assessment tasks involving pulleys where learners have to identify all the forces acting on different masses and use simultaneous equations to arrive at the answer. Teachers need to explain to learners the purpose of pulleys in a system.
- (c) Teachers should emphasize the drawing of the free body diagrams, especially the skill to *isolate* the bodies and then identify the forces acting on each body.
- (d) Teachers should expose learners to many problem solving activities that involve the use of subscripts and emphasize this skill.

QUESTION 3: VERTICAL PROJECTILE MOTION

This question was well answered.

Common errors and misconceptions

- (a) In Q3.1, candidates confused gravitational acceleration and the force of gravity with the concept of free fall.
- (b) Most candidates were able to calculate the time taken to reach the maximum height but did not apply symmetry to calculate the total time to return to the point of projection.
- (c) As noted in previous Diagnostic Reports, candidates still lack the skills to allocate and use sign conventions.
- (d) Q3.2 & Q3.3: As a result of not making any distinction between ball A and ball B, candidates made numerous incorrect substitutions in these questions.
- (e) Q3.4: Many candidates confused displacement-time graphs with velocity-time graphs. Many learners could not interpret the motion and depict the values correctly on the graph. They failed to interpret that at time zero, the velocity is 15 ms^{-1} .

Many learners clearly do not understand the concept of “ordered pairs”.

Suggestions for improvement (see also 12.2 above)

- (a) Learners should be provided with more practical tasks in translating graphs to diagrams and diagrams to graphs so that they can gain an understanding of objects moving in the vertical plane. Learners must be given practice in interpreting graphs in a narrative as well as depicting a narrative on a graph. Graph sketching / skills must be given more attention. Most sections in Physics lend themselves to problems that involve graphs. Teachers must expose learners to such problems in all knowledge areas of Physics.
- (b) Learners should be advised to determine and show the frame of reference of motion before they start with the question e.g. upward motion as positive / downward motion as negative.
- (c) Teachers should emphasise that the direction of the gravitational acceleration does not change in a question. It remains constant.
- (d) Teachers should teach concepts in an integrated manner. Teachers must be encouraged to use concept maps with learners so that they can understand how all the laws and concepts are inter-related.
- (e) Teachers should give learners practice on using sign convention in problem solving.
- (f) Teachers should remind learners of the rules when answering questions, e.g. rounding off.

QUESTION 4: MOMENTUM

This question was well answered.

Common errors and misconceptions

- (a) Q4.1: Although this question was well answered, many candidates still erred by using the wrong unit for momentum and calculating Δp instead of p .
- (b) Q4.2: Although this question was satisfactorily answered, some candidates incorrectly defined impulse from the formula $F_{\text{net}}\Delta t = \Delta p$ as ‘impulse is the change in momentum’.
- (c) Q4.3: Candidates appeared to not know the difference between the magnitude of a vector quantity and the vector quantity itself.
- (d) Q4.5: Many candidates were unable to explain the relationship between variables as they did not mention all three variables i.e. independent, dependent and constant variables.

- (e) Many learners failed to understand / state the relationship between F_{net} , Δp and Δt . Those who understood the relationship also failed to relate the relationship to the scenario that was given to them. Key concepts (contact time, same momentum change) were left out when reasoning in Q4.5.

Suggestions for improvement (see also 12.2 above)

- (a) Teachers need to emphasise the difference between momentum, change in momentum and rate of change of momentum and apply these to real-life scenarios.
- (b) Teachers should ensure that learners are fully familiar with the data sheet and that they should be able to identify the relevant equation applicable to a specific calculation.

QUESTION 5: WORK, ENERGY AND POWER

This question was poorly answered.

Common errors and misconceptions

- (a) Q5.1.1: Candidates wrote the principle of conservation of momentum instead of conservation of mechanical energy.
- (b) Q5.1.3: Candidates used equations of motion despite the specific instruction that they should not use them. Common errors were:

- Incorrect use of conservation of mechanical energy e.g. $E_p \text{ top} = E_k \text{ bottom}$;
- Incorrect use of the work-energy theorem;
- Incorrect angle for the work done by friction. Friction opposes the motion therefore $\theta = 180^\circ$ instead of 0° ;
- Incorrect copying of W_{nc} formula from the data sheet;
- Inability to differentiate between friction along AB and BC;
- The formula $W_{\text{nc}} = \Delta K + \Delta U$ being confused with $W_{\text{net}} = \Delta K + \Delta U$;
- Inability to identify an isolated system; and,
- Confusion between E_{ki} and E_{kf} .

- (a) Q5.2.1: Many candidates used $F_{\text{net}} = ma$ instead of $f_k \mu_k$. They were not aware that N equals the perpendicular component of weight.

- (b) Q5.2.2: Most candidates did not calculate F_{applied} before calculating power.

Many candidates:

- Substituted the force calculated in Q5.2.1 as the only force applicable in Q5.2.2 for the calculation of power;
- Could not integrate w with P ;
- Did not know that W_{net} is the sum of all the work done by all the individual forces;
- Calculated F_{net} instead of F_{applied} ;
- Used the wrong equation for power;
- Not including all the forces when calculating F_{applied} i.e. not drawing a free body diagram to ensure that all forces are identified;
- Used $\sin 25^\circ$ instead of $\cos 25^\circ$ to calculate component F_g ; and

- Used the correct equation $P_{ave} = Fv_{ave}$, but incorrectly substituted the frictional force for F . They failed to calculate the applied force which was not given.

Suggestions for improvement (see also 12.2 above)

- Teachers should use the free body / force diagrams whenever dealing with work or forces.
- Teachers should revise Grade 11 content on static and kinetic friction and Newton's second law.
- Learners need to be taught that both $W_{net} = \Delta Ek$ and $W_{nc} = \Delta K + \Delta U$ can be used to solve the problem.
- Learners should know that the normal force for the same object differs in magnitude when it is on an inclined surface and when it is on a horizontal surface.
- Teachers should expose learners to more problem-solving exercises at cognitive levels 3 and 4 on this section.
- More exposure to problems on inclined planes is required.
- The trigonometry of the inclined plane as it relates to F_g and N and their components must be sharpened.

QUESTION 6: DOPPLER EFFECT

Candidates performed well in this question.

Common errors and misconceptions

- Q6.1.1: The definition of the Doppler Effect was confused with 'red-shift' and 'blue shift'. Key words such as 'apparent change', 'observed/detected' and 'relative motion' were left out of the definition by many candidates.
- Q6.1.3: Many candidates used the incorrect formula or applied incorrect substitution for f_L e.g. 70 instead of 1200. The mathematical manipulation to calculate v_s was done poorly.
- Candidates could not interpret the spectral line diagram given. Common errors were:
 - blue light has a higher wavelength than red light;
 - blue light has a lower frequency than red light; and,
 - blue light is stronger than red light.

Suggestions for improvement (see also 12.2 above)

- Learners need to practice their mathematical skills by doing more of these types of questions in class.
- Teachers need to explain the Doppler equation to learners so that they can understand when and why to add or subtract the velocities of the source or listener to that of sound.

QUESTION 7: ELECTROSTATICS

This question was poorly answered. In each of the sub-questions candidates only managed to obtain an average score of 30%.

Common errors and misconceptions

- Q7.1: Candidates could not associate the wooden stand with insulation of the charges.
- Q7.2: This question covers Grade 10 content. Because of the use of the word 'net', learners added the charges only.
- Q7.3: Most candidates drew the electric field pattern for original charges as single positive charges. Those who calculated the net charge correctly drew the field pattern for the opposite charges.

- (d) Q7.4: some candidates drew the electric field pattern but many could not draw it correctly or draw it at all. Incorrect labelling of forces was a prevalent problem.
- (e) Q7.5: Most candidates could not calculate the net electrostatic force and used the original charges of the spheres in their calculations. Units were converted incorrectly.
- (f) Q7.6: Most candidates could define electric field but omitted 'per unit positive charge'.
- (g) Q7.7: Candidates used original charges instead of the charges after contact.

Suggestions for improvement (see also 12.2 above)

- (a) Revision of electrostatics done in Grades 10 and 11 should be ongoing throughout the Grade 12 year.
- (b) Teachers should give more attention to the drawing of the electrostatic force on one charge due to the other charge(s).
- (c) Force is a vector quantity therefore it must have direction and magnitude at all times. The correct direction of forces must be emphasized.
- (d) Q7.3: Learners did not use the statement relating to the question which meant that they used the original charges. Reading the problem statement must be emphasized during teaching.
- (e) Q7.6: Teachers should emphasise the difference between describing and defining an electric field.
- (f) Focus on calculating the net electric field and the net force when teaching this topic in Grade 11.

QUESTION 8: ELECTRIC CIRCUITS

This question was satisfactorily answered. Candidates had difficulty in answering Q8.1.3, Q8.1.4 and Q8.2.5

Common errors and misconceptions

- (a) Q8.1.1: The question was based on a prescribed compulsory experiment. Learners needed to conduct the experiment to enable them to interpret and analyse data.
- (b) Q8.1.2: Many candidates were unable to plot the points correctly, draw a line of best fit and extrapolate the graph to cut the y-axis. Many learners did not understand "ordered pairs" and how to obtain the scale of a graph.
- (c) Q8.1.3: Candidates were unable to use the graph and make correct interpretations. Candidates did not realize that the graph had a negative gradient.
- (d) Q8.1.4: Many candidates did not realise that the gradient / slope of the graph was the internal resistance of the battery.
- (e) Q8.2.2: Candidates were unaware that they were given only the parallel circuit and that in a parallel circuit, V is the same.
- (f) Q8.2.3: Candidates used 5 A instead of 12.5 A in their calculations. They did not realise that 5 A is not the total current but current through X.
- (g) Q8.2.3 and Q8.2.4: tested basic knowledge that candidates should know. However most candidates did not know the device.

Suggestions for improvement (see also 12.2 above)

- (a) There should be ongoing revision of electric circuits done in Grades 10 and 11.
- (b) Teachers should do more examples of circuits with branching and using all electrical variables (electric current, resistance, power and potential difference) with learners.
- (c) Teachers need to perform more experiments to explain why each component is connected in a particular way. For example, voltmeters are always connected in parallel.

- (d) More exercises involving explanations should be done in class.
- (e) Graphs (sketching and interpretation) should be an integral part of teaching in all knowledge areas.
- (f) Each learner should be given a graph book for Physics. Problems involving graphs should be done in all sections in Physics and the graph book should be utilized by learners for these problems.
- (g) When teaching internal resistance in Grade 12, all concepts done in grades 10 and 11 should be included in classwork and homework exercises so as to encourage learners to revise the basic concepts of electricity.
- (h) Prescribed Experiments must be done.

QUESTION 9: MOTORS, GENERATORS AND ALTERNATING CURRENT

This question was satisfactorily answered.

Common errors and misconceptions

- (a) Q9.1: Many candidates could not name the principle while some gave the name as Faraday's Law.
- (b) Candidates were confused with parts of the motor and generator. For example, they struggled to tell the difference about the slip-ring and commutator.
- (c) Q9.4.1 was asked for the first time. Many candidates could not define root mean square value.
- (d) Many candidates did not indicate the subscripts "rms" and "max" for the voltage in the formula.

Suggestions for improvement (see also 12.2 above)

- (a) Learners need to be taught to differentiate between I_{rms} and V_{rms} .
- (e) Practical work need to be done on this section. Learners could build their own electric motors, electromagnets, solenoids, etc which would help them in understanding the principle and use of electromagnetic induction. This could be started in Grade 11.

QUESTION 10: PHOTO-ELECTRIC EFFECT

This question was poorly answered.

Common errors and misconceptions

- (a) Q10.1: Candidates referred to "minimum energy" and not "frequency".
- (b) Candidates did not understand the concept behind $E = hf_0 + K_{\text{max}}$ in order to answer Q10.3 and Q10.4.
- (c) It seems as if the majority of the candidates did not have enough time to practice this section of the work or there were gaps in their knowledge.

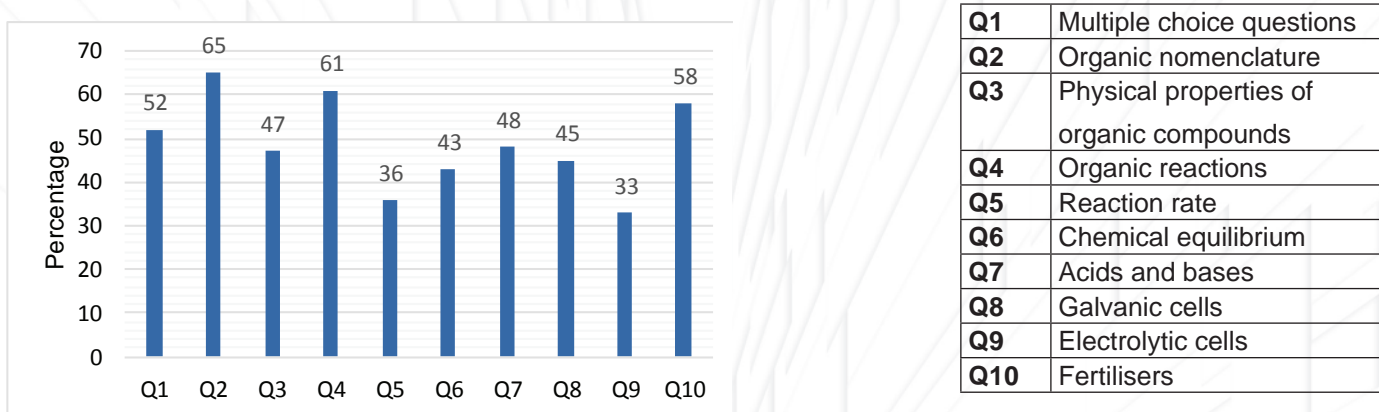
Suggestions for improvement (see also 12.2 above)

- (a) Learners need to understand the meaning of every symbol in the equation $E = hf_0 + K_{\text{max}}$. Teachers should ensure that learners understand this formula and not memorise it. It is through understanding the formula that they will be in a position to explain.
- (b) Teachers need to explain the difference between the concept of work function of a material and the energy of a photon of the light that is incident on the material.

12.5 DIAGNOSTIC QUESTION ANALYSIS: PAPER 2

The following graph was based on data from a random sample of candidates. While this graph might not accurately reflect national averages, it is useful in assessing the relative degrees of challenge of each question as experienced by candidates.

Graph 12.6.1 Average marks per question expressed as a percentage: Paper 2



12.6 ANALYSIS OF LEARNER PERFORMANCE IN INDIVIDUAL QUESTIONS: PAPER 2

QUESTION 1: MULTIPLE CHOICE QUESTIONS (ALL TOPICS)

Q1.1, Q1.2, Q1.3 and Q1.5 were well answered whilst Q1.6, Q1.8 and Q1.10 were poorly answered.

Common errors and misconceptions

- Candidates who answered Q1.1 incorrectly mainly gave *B (carbon)* as their answer. These candidates did not know their work. Learners did not understand the difference between the concepts carbon and oxygen, and when the two are applicable for plant life.
- Q1.2 was the best answered multiple choice question (82% average for sample). The most common incorrect answer was *A. (Alkenes have the general formula C_nH_{2n+2})*.
- Candidates who answered Q1.3 incorrectly mainly gave *A* as the answer. These candidates identified copper as the oxidising agent instead of the reducing agent. Learners did not appear to know or understand the difference between the concepts oxidising agent and reducing agent.
- Most of the candidates who answered Q1.4 incorrectly thought that a *positive catalyst increases the activation energy* and gave *A* as answer. Others got confused and thought that a *catalyst has no effect on the activation energy, but lowers ΔH instead*. The use of the word positive catalyst is outdated. The IUPAC agreed to use catalyst only for those reagents that increase the rate of reaction. The use of "positive catalyst" may have confused learners. However those who did not get it right displayed a general lack of understanding on the role of a catalyst and the meaning of activation energy.
- The most common incorrect response to Q1.5 was *B* (propane instead of prop-1-ene).
- The most common incorrect answer in Q1.6 was *D* (butan-2-ol). These candidates could not distinguish between reaction conditions for elimination and substitution. Elimination of a haloalkane takes place in the presence of strong heat and a concentrated strong base. Hydrolysis takes place in the presence of mild heat and a dilute strong base.

- (g) The most common incorrect answer to Q1.7 was C. Candidates who chose this option knew that an increase in temperature will increase reaction rate, but did not know that if $\Delta H < 0$, it is an exothermic reaction and that an increase in temperature will favour the reverse reaction resulting in a decrease in yield of product. A sizeable number of learners chose C. This shows that they related an increase in temperature to the definition of rates of reaction. They failed to recognise that this is only true for endothermic reactions.
- (h) The question on the hydrolysis of ammonium chloride (Q1.8) was poorly answered. The most common incorrect answer chosen was B. Most candidates did not know what hydrolysis was and gave *the products of dissociation of ammonium chloride* (NH_4^+ & Cl^-), as the answer. It could also be because they did not know the molecular formula for ammonium chloride as well as the meaning of the term hydrolysis.
- (i) Candidates who answered Q1.9 incorrectly gave C as the answer. They possibly thought of a galvanic cell where reduction takes place at the positive electrode. In an electrolytic cell, oxidation takes place at the anode which is the positive electrode. A positive electrode is a misnomer in the sense that reactions occur that leave the constituents separated and therefore carrying charge that is positive or negative.
- (j) A and B were the most common incorrect answers in Q1.10. Candidates who gave the answer as A did not know how a decrease in pressure would influence the number of moles of reactants and products, and applied Le Chatelier's principle incorrectly. Those who answered B thought that an increase in the number of moles of O_2 will also result in an increase in $[\text{O}_2]$. Due to the increase in volume, the K_c expression must be used to determine the effect on concentration.

Suggestions for improvement (see also 12.2 above)

- (a) Learners should be exposed to more questions in which they can apply Le Chatelier's principle. The language difficulties of learners who are second language speakers of English should be taken seriously.
- (b) A question bank of different multiple choice questions on challenging topics such as reaction rate, chemical equilibrium, redox reactions and acids and base would be very useful to prepare learners for the final examination. When answering these, learners/teachers should be encouraged to write down their reasoning when selecting their answer. In doing so, misconceptions would be identified and corrected. Contexts in these topics should be pointed out to learners, otherwise questions remain abstract and irrelevant.

QUESTION 2: NOMENCLATURE OF ORGANIC COMPOUNDS

General comment on performance

The question was generally well answered.

Common errors and misconceptions

- (a) Most of the candidates who did not obtain full marks in Q2.1.1 chose the ketone (F) or the condensation polymer (E). These candidates did not know their work.
- (b) Many candidates could not identify the condensation polymer in Q2.1.2. Most selected the addition polymer (D). A condensation polymer was a challenge to many learners. This is a straight forward question but considering that polymer chemistry is new to most teachers, more activities on polymer chemistry are needed. Learners who were able to relate condensation to water should not have had a problem
- (c) Many candidates did not know what a carbonyl group is and therefore answered Q2.1.3 incorrectly. The most common incorrect answer was E (condensation polymer).

- (d) In Q2.2.1, candidates wrote the IUPAC name of the haloalkane correctly. Common errors were:
- Omitting hyphens between numbers and words;
 - Omitting the methyl substituent;
 - Non-alphabetical arrangement of substituents;
 - Numbering of parent chain from the wrong side resulting in the incorrect numbering of substituents; and
 - Writing numbers of substituents as a group in front of the substituents (2.3,4-bromochloromethylpentane).
- (a) The most common incorrect answer to Q2.2.2 was *ethane*. At the time of the final examination all Grade 12 learners should at least know the structure of *polyethene* and that *ethene* is the monomer. Some did not read the question and gave the IUPAC name of the polymer instead of the monomer. Others drew the structural formula of *ethene* without giving the IUPAC name.
- (b) Most candidates were well prepared to write structural formulae. Common errors when writing the structural formula of 2,2,4-trimethylhexane in Q2.3.1 were:
- Adding an extra C atom to the parent chain; and,
 - Omitting H atoms and/or bonds between C atoms and/or between C atoms and H atoms.
- (c) Common errors when writing the structural formula of pentan-2-one in Q2.3.2 were:
- Adding an H atom on the carbonyl C atom (no marks);
 - Using an incorrect functional group, especially – OH (no marks); and
 - Omitting H atoms and/or bonds between C atoms and/or between C atoms and H atoms.
- (a) Most candidates were not familiar with the term *functional isomer* in Q2.4. They wrote the definition of a *structural isomer* and obtained only one mark. Others wrote the definition of a *positional isomer*.
- (b) Candidates often spelt words incorrectly, e.g. *pentane*, and *chloro*.

Suggestions for improvement (see also 12.2 above)

- Teachers should emphasise the different types of structural isomers.
- Carbonyl compounds need to be taught in a manner that emphasises the difference between these structures that share carbon and oxygen in their molecule and their close association to aldehydes.

QUESTION 3: PHYSICAL PROPERTIES OF ORGANIC COMPOUNDS

Q3 was not as well answered compared to previous years. The investigative question in Q3.3.1 was particularly poorly answered.

Common errors and misconceptions

- (a) Many candidates were vague in their answers to Q3.1 and so forfeited the mark. *Alkanes have single bonds* is not a reason why they are saturated because alkenes and alkynes also have single bonds. The answer should make reference to the definition of saturated hydrocarbons.
- (b) Many candidates knew the functional group of alcohols but could not write the correct structural formula of the functional group. Common errors were:
- Drawing the structural formula of an alcohol e.g. methanol;
 - Omitting the bonds on the C atom bonded to the – OH i.e. C – OH;

- Adding H atoms and/or R groups to the C atom bonded to the – OH; and
- Omitting the bond on the hydroxyl group i.e. OH instead of –OH

Learners drew alcohol molecules instead of just the functional group and such, these learners lost marks.

(c) Many candidates did not know what a tertiary alcohol was. Common errors were:

- Drawing the structural formula of butan-1-ol (no marks) or butan-2-ol (1 mark);
- Drawing the structural formula of the tertiary group, but placed the – OH group on the first C atom instead of on the second C atom; and
- Drawing the structural formula of 2-methylpropane (omitting the – OH).

(d) Most candidates failed to write a correct investigative question in Q3.3.1. Many used the first introductory sentence to formulate a question and did not see that the boiling points of the first three alkanes are determined. Those who identified the correct variables, failed to ask a question about the relationship between the two variables. Common incorrect/vague questions were:

- What would be the boiling points of the first three alkanes? (incorrect variables - no marks);
- Does higher surface area increase the boiling points of alkanes? (correct variables, no relationship – 1 mark); and,
- Will the boiling point increase with increase in chain length? (correct variables, no relationship – 1 mark).

(e) When explaining the increase in boiling point from methane to propane in Q3.3.2, many candidates did not mention either *the increase in strength of intermolecular forces* or *the increase in energy needed to overcome the intermolecular forces* and forfeited one mark. A number of candidates referred to *stronger intermolecular forces between C atoms* and forfeited a mark. A common misconception is that learners think that *more energy is needed to break the chains*. Common incomplete/incorrect statements regarding the energy involved were:

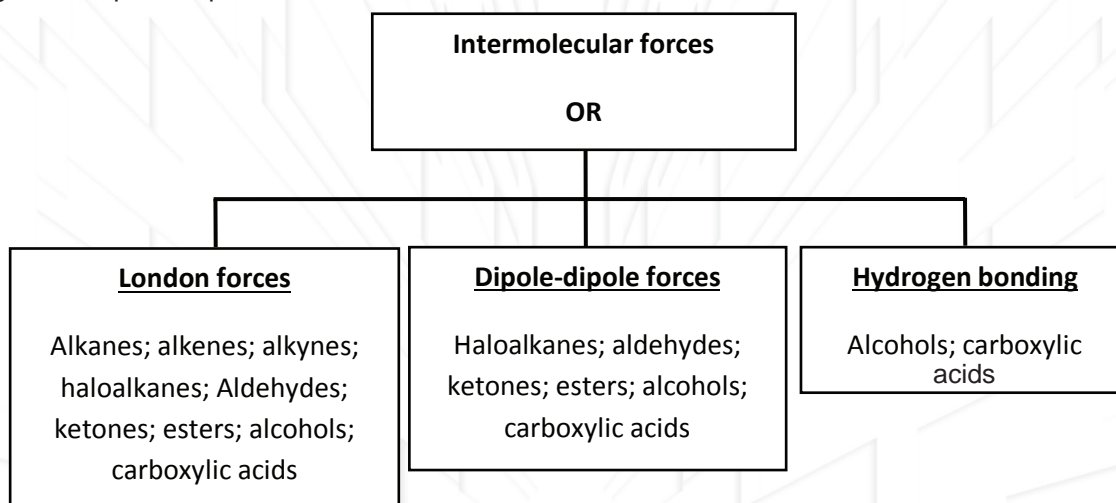
- More energy needed to break bonds;
- More energy needed to break the chains; and,
- More energy is needed for propane than for methane.

(f) Candidates who answered Q3.4 incorrectly failed to identify the type of Van der Waals forces/intermolecular forces between propane molecules correctly. They only referred to Van der Waals forces instead of naming the type of Van der Waals forces i.e. London forces. Some also referred to dipole-dipole forces between alcohol molecules without mentioning hydrogen bonding. Common incomplete answers were:

- Alcohols have hydrogen bonds ü which are stronger. ü ($\frac{2}{3}$ - no mentioning of London forces); and,
- Propan-1-ol has strong hydrogen bonding üand propane has weak Van der Waals forces. ü ($\frac{2}{3}$ - no mentioning of London forces)

Suggestions for improvement (see also 12.2 above)

- (a) When formulating an investigative question, the following steps should be followed:
- Identify the independent and dependent variables;
 - Ask a question about the relationship between the two variables; and,
 - A handy test to determine whether the question is indeed a relationship between the two variables is to determine whether the answer to the question can be *yes* or *no*. If this is so then the question is not a relationship.
- (b) The flow diagram below summarises the type of Van der Waals forces present between molecules of the organic compounds prescribed in CAPS.



Learners should be regularly exposed to questions that require explanations to improve their skills in answering such questions.

QUESTION 4: REACTIONS OF ORGANIC COMPOUNDS

This question was well answered.

Common errors and misconceptions

- (a) Many candidates were able to identify the correct type of reaction in Q4.1.1. Some candidates started with an incorrect answer e.g. *addition reaction* followed by a correct answer e.g. *halogenation* or *chlorination*. Other common incorrect answers used were *hydrohalogenation* & *halogen*. A common spelling mistake was *substituent* (*instead of substitution*). This emphasises the language challenges of the learners who are second language speakers of English.
- (b) Many candidates were able to identify the correct type of reaction in Q4.1.2. Some learners started by saying *addition reaction* and then gave a correct answer e.g. *halogenation* or *chlorination*. No mark was allocated in such cases.
- (c) In Q4.2.1, many candidates did not know the type of addition reaction and used *hydrogen addition* as answer. Other incorrect answers were: hydration. Hydrolysis and hydration seem like the same thing to second language speakers of English. The difference needs to be clearly articulated

- (d) Candidates were able to write the balanced equation using structural formulae. *Common errors were:*
- Adding five H atoms around the C atom of prop-1-ene;
 - Omitting bonds between C atoms of an otherwise completely correct structural formula;
 - Using H or even H₂O instead of H₂ as reactant;
 - Omitting the arrow between reactants and products or using an equal sign (=) instead of an arrow;
 - Omitting the plus sign (+) between the two reactants;
 - Using condensed formulae instead of structural formulae;
 - Adding a second product;
 - Omitting bonds between C atoms and between C and H atoms; and,
 - Giving only the product i.e. *the structural formula of propane* as answer.
- (e) In Q4.3, candidates had to use propan-1-ol as a clue to determine the haloalkane formed during reaction Q. Many candidates overlooked this and wrote the structural formula of 1,2-dichloropropane or 1,1-dichloropropane. Other common errors were:
- Drawing the structural formula of 2-chloropropane instead of 1-chloropropane;
 - Adding an extra C atom in the parent chain; and,
 - Using Cl₂ or even Br instead of Cl as substituent.
- (f) Candidates who knew their work answered Q4.4.1 very well. Many simply took a guess – incorrect answers included *oxidation, reduction, addition* etc. Spelling mistakes such as *esterification* were also common.
- (g) Candidates who knew their work answered Q4.4.2 well. Many wrote an incorrect formula for sulphuric acid e.g. H₂SO₄⁺.
- (h) Drawing the structural formula in Q4.4.3 was also a challenge to many candidates. Common errors were:
- Drawing the structural formula of an incorrect functional group;
 - Drawing the structural formula of ethyl propanoate instead of propyl ethanoate; and,
 - Adding an extra H atom on the carbon of the carbonyl group.
- (i) Many candidates, who drew the structural formula of the ester in Q4.4.3 correctly, gave the incorrect IUPAC name in Q4.4.4. Although many gave ethyl propanoate as answer, IUPAC names of carboxylic acids were often used. Incorrect spelling was also a huge problem. Different variations of propyl were: *proply; propanly; and prophyl*.
- (j) Very few candidates knew that *sulphuric acid* or *phosphoric acid* must be used for the dehydration of the alcohol in Q4.5. Common incorrect answers were: NaOH or H₂O.
- (k) A concern is that many candidates did not understand the question and gave the following as answers: catalyst; cracking; and elimination.
- (l) Candidates omitted bonds between C atoms and between C and H atoms when drawing structural formulae.

QUESTION 5: REACTION RATE

This question was poorly answered. Candidates found the question challenging.

Common errors and misconceptions

- (a) Candidates could not answer questions that required explanations properly.
- (b) Most candidates were unable to perform stoichiometric calculations correctly.
- (c) The definition of reaction rate in Q5.1 was a challenge to most candidates. Many defined reaction rate as *the time taken for a reaction* or *the speed of a reaction*. Another common incorrect definition was: *Change in products per unit time* instead of *change in amount of products per unit time*.
- (d) Most candidates failed to identify the correct variables in Q5.2.1 and Q5.2.2. They chose any of the factors given in the table as variables. Most chose concentration as independent variable, possibly because it is written in the first row of the table.
- (e) In the comparison between experiments 3 and 4 in Q5.3, many candidates failed to identify the larger mass of CaCO_3 in experiment 4 as the factor responsible for its higher rate. Most of those who obtained no marks in Q5.3 explained in terms of temperature. Many of those who identified the higher mass as the factor did not get full marks due to the omission of 'effective' and 'per unit time'. The full statement for the second and third marks should be *more effective collisions per unit time*.
- (f) The interpretation of the graphs and the data in the table in Q5.4 was a challenge for most candidates. The following observations were made from candidates' answers:
- Weaker candidates rewrote the data given in the table without comparing reaction conditions and reaction rate of the four experiments and failed to link graph C to experiment 1. They obtained no marks;
 - Some obtained one mark for the answer i.e. *graph C is experiment 1*, but failed to give any explanations. They only compared reaction conditions in the four experiments without mentioning the effect of the conditions on reaction rate. No reference to the graphs was made in such explanations;
 - Many candidates, who were able to compare the reaction conditions and link each of the graphs to the correct experiment, forfeited two marks because they did not explain in terms of the gradient of the graphs why they linked a graph to a specific experiment; and,
 - Candidates struggled to explain themselves. For example, many referred to a *higher graph* instead of a *steeper gradient of the graph* and forfeited the gradient marks.
- (g) The stoichiometric calculation in Q5.5 was a challenge to most candidates. Very few obtained full marks. Those who attempted the calculation made one or more of the following errors:
- Calculation of the number of moles of CaCO_3 that has reacted as the final answer. The mass of the impurities was thus not calculated;
 - Using the molar gas volume at STP ($22,4 \text{ dm}^3$) instead of the $25,7 \text{ dm}^3$ given in the question to calculate the number of moles of CO_2 ;
 - Using an incorrect molar mass for CaCO_3 ;
 - Using an incorrect formula e.g. $c = \frac{m}{MV}$; and,
 - Calculating number of moles of the impure CaCO_3 using the molar mass of CaCO_3 i.e. $n(\text{CaCO}_3) = \frac{25}{100}$. No mark was allocated for this step because the impure substance cannot have a molar mass of $100 \text{ g}\cdot\text{mol}^{-1}$.

Suggestions for improvement (see also 12.2 above)

- Learners should be taught the definition of reaction rate. It is not “time taken”. When defining reaction rate it is important to refer to a change in any one of mass, volume, number of moles, amount or concentration per unit time.
- Interpretation of data and identification of variables need to be addressed in class. Learners must be exposed to more exercises which require practical skills, starting from Grade 10.
- More tasks need to be given to learners that require explanations. This should improve their ability to answer such questions in an examination.

QUESTION 6: CHEMICAL EQUILIBRIUM

The performance in this question remains the same from year to year. The mark allocation in the K_c calculation enabled most candidates to score some marks.

Common errors and misconceptions

- Many candidates did not know the definition of chemical equilibrium in Q6.1. As in previous years, many defined it as *the stage where the forward reaction equals the reverse reaction*. No marks were allocated for such a definition in which *rate* is omitted. Another common incorrect definition for which no marks were allocated was *the stage when the reaction rate of reactant equals reaction rate of product*.
- As mentioned before, the mark allocation for the K_c calculation in Q6.2 enabled most candidates to obtain some marks. However, many candidates did not even attempt this question. Most common errors were:
 - No K_c expression or incorrect K_c expression;
(Note that $\frac{[\text{products}]}{[\text{reactants}]}$ is not a K_c expression);
 - Using the coefficients in the balanced equation as the number of moles of reactants that reacted and products that formed instead of an unknown;
 - Using the $[\text{NO}_2]$ at equilibrium i.e. $0,2 \text{ mol}\cdot\text{dm}^{-3}$, as the equilibrium concentration of N_2O_4 ;
 - Writing the K_c expression without squaring the numerator due to negligence i.e. $[\text{NO}]$ instead of $[\text{NO}]^2$;
 - Adding the concentrations of reactants in the denominator of the K_c expression; and,
 - Converting volume incorrectly i.e. 0,8 instead of 0,08 (dm^3).
- Many incorrectly used Le Chatelier’s principle to explain the darker colour in the syringe after the increase in pressure in Q6.3.1. These candidates explained that an increase in pressure favours the reverse reaction. The reaction is a twister because the concentration that gives a dark colour seems to suggest the opposite of Le Chatelier Principle..
- Following from Q6.3.1, many candidates, in Q6.3.2, contradicted themselves. They reasoned that the increase in pressure favours the reverse reaction and due to the high $[\text{NO}_2]$ the forward reaction is then favoured causing the colour to become lighter.

Other common errors were:

- *When the pressure is increased the equilibrium shifts to the right – should be equilibrium position shifts to the right or else the forward reaction is favoured;*
- Not mentioning that *an increase in pressure favours the reaction that forms the least number of moles;* and,
- Only referring to the colour of the gas and not to the amount of gas e.g. *the forward reaction is favoured and the gas/it becomes lighter* instead of *the forward reaction is favoured and the amount of the colourless gas increases.*

(e) In their answer to Q6.3.2, many candidates started by stating Le Chatelier's principle before answering the question. They were supposed to use the principle in their answer.

Suggestions for improvement (see also 12.2 above)

- (a) Place more emphasis on explanations requiring Le Chatelier's principle. Learners struggled to express themselves when explaining in terms of Le Chatelier's principle. Learners should be exposed to more exercises to practise such explanations.
- (b) Give learners enough practice in solving K_c related problems starting from the basics to the extremely difficult. It is a given that each final paper will have a K_c calculation question of 7–10 marks. Therefore it is worth spending an adequate amount of time to ensure that candidates understand how to solve such problems.

QUESTION 7: ACIDS AND BASES

Although this is a new topic in CAPS, performance in this question was satisfactory and far better than some of the other topics.

Common errors and misconceptions

- (a) There seemed to be a perception that after neutralisation of an acid and base, the pH = 7.
- (b) Many candidates defined a strong acid in terms of pH or $[H^+(aq)]$. The concept of *complete ionisation* was not well understood. Some wrote that *a strong acid dissolves completely in water*. This could also be a language issue especially for second language speakers.
- (c) Most candidates could not identify the conjugate base of HNO_3 in Q7.1.2. Common incorrect answers given were: NO_3^- ; HNO_2^- ; H^- ; H_2O ; $[H^-][NO_3^+]$.
- (d) The pH calculation in Q7.1.3 was correctly or partially correctly answered by most candidates. Common errors were:
- Writing the formula as $pH = -\log[HNO_3]$;
 - Rounding the final answer to one decimal place; and,
 - Adding a unit to the final answer e.g. 0,52 mol·dm⁻³.
- (e) Most candidates obtained marks in Q7.2.1. Common errors were:
- No or incorrect conversion of cm³ to dm³.
 - Using an incorrect formula e.g. $c = \frac{m}{MV}$ or $n = \frac{C}{V}$
- (f) Many candidates did not know that the apparatus Q is a *burette* in Q7.2.2. Incorrect spelling was also a problem and answers such as *brunette* and *buretta* were given. Common incorrect answers were: *pipette*; *syringe*; *measuring cylinder*; and, *tube*.

- (g) Although some candidates could identify the correct indicator in Q7.2.3, many failed to give a correct explanation. A common incorrect explanation was that *neutralisation takes place*.
- (h) Very few candidates could give the correct response to Q7.2.4. The most common incorrect answers were:
- Water is an ampholyte and can act as acid and base. Therefore the solution will stay neutral;
 - Water is neutral and will not affect the concentration of the solution;
 - Water is neutral and will not affect the neutralisation reaction; and,
 - Distilled water is pure and no additional substances/ions are added.
- (i) Most candidates obtained 1 to 3 marks in Q7.2.5. However, many candidates did not realise that the number of moles of excess acid is the first answer ($4,2 \times 10^{-3}$ mol) of their calculation and went on to subtract this answer from the initial moles of acid as their final answer. Common errors were:
- No or incorrect conversion of cm^3 to dm^3 ; and,
 - Using an incorrect formula e.g. $c = \frac{m}{MV}$ or $n = \frac{c}{V}$
- (j) Many candidates did not attempt Q7.2.6. Only a few obtained full marks for this question. Common errors were:
- Using the original number of moles of acid calculated in Q7.2.1 as the number of moles of acid that has reacted. Maximum 3 of the 5 marks were allocated in such cases; and
 - Calculating number of moles of the MgO using the mass of the impure MgO (4,5 g) $n(\text{MgO}) = \frac{4,5}{40}$. No mark was allocated for this step because the impure sample does not have a molar mass of $40 \text{ g} \cdot \text{mol}^{-1}$. The assumption was made that the 4,5 g sample is pure.

Suggestions for improvement (see also 12.2 above)

- (a) Practical work is an important part of the teaching of chemistry. From the answers of many learners it is clear that they did not see or use a burette during their Grade 12 year. Learners should be at least exposed to the apparatus needed for the prescribed experiments.
- (b) Ensure learners understand the concept of neutralisation. Neutralisation does not mean that an acid and a base reacts to form a solution of $\text{pH} = 7$. *Neutralisation is the reaction of an acid and base to form a salt and water*. After the neutralisation reaction of a strong acid and a strong base, the pH will be 7. However, after neutralisation of e.g. a weak acid and a strong base, the pH will be greater than 7.
- (c) Stoichiometry is still a huge problem in most schools. Teachers must ensure that learners are proficient in performing this calculation.

QUESTION 8: GALVANIC CELLS

Although performance in this question improved since 2012, it is fairly satisfactory and needs further improvement.

Common errors and misconceptions

- (a) Candidates did not fully grasp the meaning of reduction potential and how to determine it when one of the half-cells is the hydrogen half-cell.
- (b) Many candidates did not obtain marks for the standard conditions for a galvanic cell in Q8.1. Common errors were:
- Using standard temperature (273 K) instead of 298 K (25 °C);
 - Omission of the unit of a correct temperature value;
 - Incorrect value for standard pressure e.g. 101 kPa and 103,1 kPa;
 - Giving temperature and pressure, without values, as answer; and,
 - Using $1 \text{ mol}\cdot\text{dm}^{-3}$ as one of the conditions, despite the question stating *besides concentration*.
- (c) Very few candidates attempted Q8.3.2. Candidates did not know how to determine the reduction potential of the half-cell. Some wrote incorrect reduction potentials e.g. +0,31 V, -1,51 V, -0,28 V or any other reduction potential of their choice.
- (d) In Q8.3.3, many wrote the equation for a half-reaction e.g. $\text{Pt}^{2+} + 2\text{e}^- \rightarrow \text{Pt}$
- (e) Most candidates obtained two marks for the calculation of the reduction potential in Q8.4.1. They wrote the correct formula and substituted 2,05 V as the cell potential. Common errors were:
- Using abbreviations in the formula e.g. $E_{\text{cell}} = E_{\text{red}} - E_{\text{ox}}$;
 - Substituting the reduction potential of the cathode (-0,31 V) as that of the anode; and,
 - Ignoring the minus sign in front of E_{anode} and consequently obtained a positive answer.
- (f) In Q8.5, most candidates did not know that the voltmeter drops to zero when the *cell reaction reaches equilibrium*. Common incorrect reasons were:
- The reading of the hydrogen half-cell is 0,00 V; and,
 - The cell is flat / the cell reaches equilibrium.

Suggestions for improvement (see also 12.2 above)

- (a) The use of the Table of Standard Reduction Potentials to determine an unknown half-cell should be practised. Ensure that learners understand the difference between a reduction potential and oxidation potential.
- (b) Spend more time explaining the use of the Table of Standard Reduction Potentials. Once learners grasp how to use the table, they will be able to answer any redox reaction question.

QUESTION 9: ELECTROLYTIC CELLS

This question was poorly answered.

Common errors and misconceptions

- Most candidates could not identify the electrodes that would show a mass increase in Q9.2. However, many wrote the correct reduction half-reaction to explain the mass increase. It appears that learners may have thought that they only needed to show one or they did not know the answer. The question did not indicate that there could be more than one electrode, thus making it ambiguous and a language issue could also have played a role in disadvantaging the learners from understanding the question fully.
- Very few candidates could identify the product that will form at electrode P in Q9.3.1. Common incorrect answers were: Cl^- ; chloride; Cu
- In Q9.3.2, many of those who knew that Cu will be oxidised at electrode R to form ions, wrote the incorrect formula or name of the ion e.g. Cu^+ and Cu(III). Some used copper chloride instead of copper (II) chloride as answer and forfeited the mark.
- Q9.4 was the poorest answered question in the paper. Most candidates did not attempt the question. Candidates, who answered Q9.3.2 incorrectly, automatically forfeited the three marks in Q9.4. Most of those who attempted this question showed a poor understanding of the concepts reducing agent, oxidising agent, reduction and oxidation. For example, explanations such as *Cu²⁺ is a strong reducing agent and Cu will be oxidised* was often encountered in Q9.4.

Suggestions for improvement (see also 12.2 above)

- More time should be spent on teaching of this topic.
- Expose learners to the different prescribed electrolytic cells.
- The simple language of reduction, reducing agent, oxidation and oxidising agent is very confusing to learners.

QUESTION 10: FERTILISERS

This question was well answered and many candidates got full marks for this question.

Common errors and misconceptions

- When answering Q10.1.1, many candidates were confused with the different processes in the fertiliser industry. Common incorrect answers given were: N_2 and O_2 ; N_2 and SO_2 ; N_2 and ammonia.
- Q10.1.1: Candidates did not know the basics e.g. the reactants used in the Haber process. Instead of writing the equation for the preparation of ammonium nitrate in Q10.1.2, many wrote the equation for the preparation of ammonium sulphate or the Haber reaction. Some of those who started with the correct reactants failed to give the correct formula for ammonium nitrate and wrote $(\text{NH}_4)_2\text{NO}_3$ instead.
- Q10.2 Although many candidates obtained full marks for this question, many others seemed to have no idea what to do with the data given and therefore added, multiplied, divided and even subtracted the given data. Many of the manipulations require knowledge of BODMAS. Common errors were:
 - Calculation of the percentage of each nutrient in the – fertiliser;
 - Mixing of two methods to solve the problem e.g. $\frac{3}{9} \times 36 = 12\%$ and $36\% \times 20 \text{ kg} = 7,2 \text{ kg}$ were often used together without realising that the 36 was used twice. For the final answer 12% of 7,2 kg was then calculated resulting in an incorrect answer ($12\% \times 7,2 \text{ kg} = 0,864 \text{ kg}$); and,

- Omission of the unit or using *g* as unit instead of *kg*.

Suggestions for improvement (see also 12.2 above)

- (a) More attention should be paid to fertilisers as a topic. Learners should be encouraged to study the topic as they can obtain marks easily if they know their work.
- (b) Use the fertiliser revision document to ensure that learners are well prepared for the final examination. Learners must be exposed to as many as possible questions to ensure they know the different processes.

Conclusion

The 2014 Diagnostic Report notes improvements in the quality of responses presented by a large group of candidates.

The Diagnostic Report needs to become the centre piece of teaching and learning in all Grade 12 classrooms.

The Curriculum Branch of the DBE has developed an Improvement Framework which must be used in conjunction with the, and is attached to this Diagnostic Report.

PEDs are encouraged to monitor districts and schools to ensure that the reports reach the schools, and that they are effectively utilised.

The DBE will on the other hand monitor trends in improvement more closely over the coming year.

FURTHER EDUCATION AND TRAINING (FET)

IMPROVEMENT FRAMEWORK

2015

FOREWORD: FET 2015 FRAMEWORK FOR SUBJECT IMPROVEMENT

The FET 2015 Framework for Subject Improvement should be put into action in conjunction with the following four National Senior Certificate 2014 reports:

- I. The National Senior Certificate Technical Report;
- II. Schools Performance Report;
- III. Schools Subject Report; and,
- IV. National Diagnostic Report.

The Schools Subject Report and the National Diagnostic report focus mainly on the eleven high enrolment subjects offered by the majority of learners in the system. However, in the case of the Framework for Subject Improvement (2015), all twenty nine subjects are addressed.

The 2014 NSC Diagnostic Report gives a detailed description informed by specific item analysis which is then used to develop the Framework for Subject Improvement (2015). The purpose of the Framework for Subject Improvement (2015) is to highlight misconceptions and content knowledge gaps in learners that need special attention in order to improve performance in the 2015 NSC examination results. This will therefore play a critical role in the development of Subject Improvement Plans at Provincial, District/School levels and moreover, inform teacher development and support programmes.

As part of the National Strategy for Learner Attainment (NSLA), Provinces, Districts and Schools are therefore expected to develop specific and customised interventions for subjects by utilising the five reports. Provincial intervention plans will therefore differ taking contextual factors into consideration.

It is envisaged that the provincial intervention plans will address the drop in performance experienced in the 2014 NSC results especially in Business Studies, Economics, English Home Language Physical Sciences, Mathematical Literacy and Mathematics. However, greater emphasis should be given to improve the overall performance of all subjects.

FET IMPROVEMENT FRAMEWORK FOR 2015

Grade	Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector				Resources	Time Frames
			DBE	PED	District	Teachers		
Grade 10-12	Accounting	<p>Basic Concepts and Accounting Equation</p> <ul style="list-style-type: none"> Understand the different types of assets, liabilities, income and expenses. <p>Calculations:</p> <ul style="list-style-type: none"> Calculation of depreciation especially on diminished balance method. <p>Stock valuation and validation</p> <ul style="list-style-type: none"> Calculation of the value of closing stock at the end of the financial period using the weighted average method. <p>Balance sheet and notes: Could not:</p> <ul style="list-style-type: none"> Prepare notes on retained income and share capital. Feed information into the balance sheet. Identify relevant financial indicators, ratios and the trends. Understand the basic concepts of equity, assets and liabilities, and the sub-categorisation into current and non-current items. <p>Ratios:</p> <ul style="list-style-type: none"> Concepts of profitability, liquidity, solvency, return, and gearing/risk were not properly understood. <p>Format:</p> <ul style="list-style-type: none"> Candidates could not do direct labour cost and note for factory overhead and Production Cost statement. Cash budget Could not do cash budget and its calculations. 	<ul style="list-style-type: none"> Self-Study guides for Grade 10 to 12. Increase in sales, and all other calculations as well as Accounting Concepts to be reprinted and distributed to provinces. All the study guides are already uploaded on Thutong for easy access by subject advisors and teachers. Mediation of study guides during Subject Advisors training workshops. 5 Coordinators and cluster leaders in problem areas. Print study guides which were not printed and reprint those which were printed and send them to schools. Monitor and support training and implementation of the challenging content. 	<ul style="list-style-type: none"> Mediate the study guides to district officials. Cascade training to district officials. Download from Thutong, print and distribute study guides to schools. Monitor and support training in the districts. 	<ul style="list-style-type: none"> Mediate the study guides for teachers. Train teachers on how to use the study guides. Support, guide and monitor performance in the challenging content. C o n d u c t demonstration lessons in challenging content areas. 	<p>The teacher should:</p> <ul style="list-style-type: none"> Teach the basic concepts of Accounting equation and terminology before engaging in applications in each topic. Teach learners both methods of calculating depreciation. Teach them cost price and diminishing balance method. Revise all stock valuation methods and stock validation. Format of the balance sheet and all other financial statements should be taught thoroughly. Teach all the basic concepts required to understand balance sheets and notes concepts. Teach all the basic concepts of ratios. Introduce ratios as from grade 10, as per CAPS/ annual teaching plan. Revise the format of the cash budget and its calculations. Revise the format of the cash budget and its calculations. 	<p>Accounting Grade 11 and 12 Study Guides.</p> <p>GAAP study guide DBE self-study guide on content and concepts.</p> <p>Mind the Gap Study Guide.</p> <p>Textbooks.</p> <p>Calculator.</p>	<p>Jan to Dec 2015</p>

Grade	Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector				Resources	Time Frames
			DBE	PED	District	Teachers		
Grade 10-12	Agricultural Sciences	<ul style="list-style-type: none"> • knowledge, especially in dealing with biological concepts. • Failure to grasp concepts such as Pearson square method and current labour was affecting farm workers. • Inability to solve questions involving Agricultural scenarios in terms of Agricultural marketing and Management Practices. • Agricultural Sciences learners still grapple with the composition of a balanced feed. 	<ul style="list-style-type: none"> • Develop manual, Mediate & Monitor biological compounds and content knowledge in Agricultural Sciences. • Develop scripted lessons in the problematic content sections in the Agricultural Sciences curriculum. 	<ul style="list-style-type: none"> • Print, distribute & Monitor use of Agricultural vocabulary list and monitor use of the vocabulary list for Agricultural Sciences. 	<ul style="list-style-type: none"> • Distribute, Implement & assess the usefulness of the Agricultural vocabulary list. 	<ul style="list-style-type: none"> • Teacher should address gaps in content knowledge. • Teacher to teach learners to solve Agricultural case studies. • Teacher should teach learners on how to deal with Farm cash flow statements and budgets. 	Jan to Dec 2015	

Grade	Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector				Time Frames	
			DBE	PED	District	Teachers		Resources
Grade 10-12	Business Studies	<p>BUSINESS VENTURES Learners could not understand:</p> <ul style="list-style-type: none"> • Government retail bonds; • Forms ownership e.g. Personal Liability Company and state owned company; • Different types of shares; and • Definition of concepts e.g. debentures, dividend simple and compound. • Business Operations <p>Quality of performance</p> <ul style="list-style-type: none"> • Total quality management (TQM) and its impact on small and large businesses e.g. public company versus sole trader. • Elements of TQM and continuous improvement cycle e.g. plan-Do-Check and Act. <p>Verbs:</p> <ul style="list-style-type: none"> • Instructions such as differentiate, evaluate, interpret and analyse were problematic to many learners. • Language is still a problem to learners. It is still difficult for majority of learners to express their opinions because of lack of competence in the language of both instruction and examination. 	<p>Compile document to explain these verbs, what learners need to look for an answer for each in subject specific context.</p>	<p>Provincial officials to print and mediate the document.</p>	<p>The district officials distribute and monitor the implementation of the document.</p>	<ul style="list-style-type: none"> • Teachers should take note of the recent developments of legislation or any other issues related to the subject. • The use of case studies should form part of teaching and learning. • Scaffold questions e.g. start with lower order questions and move to middle and higher order questions. • Give learners more essay type questions. • Familiarize yourself with the marking of essay type questions. • Take note of the verbs when assessing learners. Ensure that learners are familiar and understand the verbs that are used in Business Studies. • Teachers should use English when teaching in class. Avoid code switching. 	<ul style="list-style-type: none"> • DBE self-study guide. • Textbooks. • Previous question papers. 	<p>Jan to Dec 2015.</p>

Grade	Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector				Time Frames
			DBE	PED	District	Teachers	
Grade 10-12	Business Studies	<p>Concepts: Learners could not:</p> <ul style="list-style-type: none"> Outline how the strategic management process can be applied by businesses; and Discuss ways in which managers can deal with difficult employees who may have different personalities. <p>Application of Knowledge:</p> <ul style="list-style-type: none"> Candidates could not apply knowledge obtained in a different situation. 	<ul style="list-style-type: none"> Self-Study guides for Grade 10 to 12 containing Business Studies concepts and terminologies. The self-study guide is already loaded on Thutong, but it needs to be printed and distributed to provinces. Mediating the study guide during subject advisor workshop. 	<ul style="list-style-type: none"> Print more self-study guides and distribute to districts and schools. Monitor utilisation of materials developed. 	<ul style="list-style-type: none"> Distribute materials to all the schools and mediate during workshops. Monitor utilisation of materials developed. 	<ul style="list-style-type: none"> Teachers should allocate time for teaching and assessment of Business Studies concepts. 	Jan to Dec 2015.
		<p>Application of Knowledge:</p> <ul style="list-style-type: none"> Candidates could not apply knowledge obtained in a different situation. 	<ul style="list-style-type: none"> Subject Advisors and teachers are provided with the guidelines on how to write and analyse a case study and scenarios. Compile case studies where learners need to apply knowledge and can be used to practise skills such as application, interpretation, evaluation, etc. Train subject advisors and teachers on the use of case studies and problem-based learning. 	<ul style="list-style-type: none"> Provinces will print and Distribute the guidelines to districts. Provinces will monitor the distribution of the guidelines. 	<ul style="list-style-type: none"> Districts will monitor the implementation of the guidelines. 	<ul style="list-style-type: none"> Assist learners to attach meaning to knowledge or learning. 	Jan to Dec 2015

Grade	Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector				Resources	Time Frames
			DBE	PED	District	Teachers		
Grade 10	Civil Technology	<ul style="list-style-type: none"> Lack of content knowledge and concepts. 	<ul style="list-style-type: none"> Provide notes advanced construction, applied mechanics and Civil Services. Distribute CDs of Exemplar Question Papers. 	<ul style="list-style-type: none"> Provide CAPS aligned textbooks. Distribute CDs of Exemplar Question Paper Booklet. 	<ul style="list-style-type: none"> Print notes and distribute CDs of Exemplar Question Paper Booklet. 	<ul style="list-style-type: none"> Teach content and concepts on advanced construction, applied mechanics and Civil Services. 	<ul style="list-style-type: none"> Textbooks Previous Question Papers. 	Jan to Dec 2015
			<ul style="list-style-type: none"> Distribute CDs of advanced construction, applied mechanics and Civil Services. 	<ul style="list-style-type: none"> Distribute CDs of advanced construction, applied mechanics and Civil Services. 	<ul style="list-style-type: none"> Print notes and distribute CDs of advanced construction, applied mechanics and Civil Services. 	<ul style="list-style-type: none"> Gather a variety of sources from textbooks internet & Engineering magazines from which examples can be obtained to benefit learners and the teaching of learners. 	Distribute Mediate Monitor	Jan to Dec 2015
		<ul style="list-style-type: none"> Failure to calculate centroids and beams in applied mechanics. 	<ul style="list-style-type: none"> Distribute previous question papers. 	<ul style="list-style-type: none"> Distribute previous question papers. 	<ul style="list-style-type: none"> Distribute previous question papers. 	<ul style="list-style-type: none"> Teachers should use real life situations and practicals during teaching and assessment. Excursions to construction site during the year will help learners to understand advanced construction, applied mechanics and Civil Services. 		Jan to Dec 2015
		<ul style="list-style-type: none"> Failure to draw and analyze steel reinforcement in advanced construction. E.g. columns and beams. 	<ul style="list-style-type: none"> Print DBE question papers on reinforcement of beams and columns. 	<ul style="list-style-type: none"> Distribute DBE question papers on reinforcement of beams and columns. 	<ul style="list-style-type: none"> Distribute DBE question papers on reinforcement of beams and columns. 	<ul style="list-style-type: none"> Excursions to construction site by schools will improve on the understanding of these sections as they are more practical. 	<ul style="list-style-type: none"> Distribute DBE question papers on reinforcement of beams and columns. 	Jan to Dec 2015

Grade	Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector					Resources	Time Frames
			DBE	PED	District	Teachers			
Grade 11	Civil Technology	<ul style="list-style-type: none"> Lack of concepts and content knowledge. Failure to differentiate materials in the building industry and their uses. Failure to differentiate tools and equipment's used in the building industry. Failure to write draw sections on Graphic. Communication. 	<ul style="list-style-type: none"> Distribute booklets and notes on these topics and concepts. 	<ul style="list-style-type: none"> Distribute booklets and notes on these topics and concepts. Set different questions on these topics. 	<ul style="list-style-type: none"> Distribute booklets on materials in the building industry and their uses. 	<ul style="list-style-type: none"> Distribute booklets and notes on these topics and concepts. Set different questions on these topics. 	<ul style="list-style-type: none"> Teach content and concepts on tools and different materials used in construction industry. 	<ul style="list-style-type: none"> Distribute booklets and notes on these topics and concepts. Set different questions on these topics. 	Jan to Dec 2015
			<ul style="list-style-type: none"> Print booklets on materials in the building industry and their uses. 	<ul style="list-style-type: none"> Distribute booklets on materials in the building industry and their uses. 	<ul style="list-style-type: none"> Distribute booklets on materials in the building industry and their uses. 	<ul style="list-style-type: none"> Gather a variety of sources from textbooks & internet for materials in the building industry and their uses. 	<ul style="list-style-type: none"> Distribute, Mediate & Monitor booklets on materials in the building industry and their uses. 	Jan to Dec 2015	
			<ul style="list-style-type: none"> Distribute charts of tools and equipment's used in the building industry using recapitalisation funds. 	<ul style="list-style-type: none"> Distribute charts of tools and equipment's used in the building industry using recapitalisation funds. 	<ul style="list-style-type: none"> Distribute charts of tools and equipment's used in the building industry using recapitalisation funds. 	<ul style="list-style-type: none"> Teachers should use these tools and equipment's used in the building industry for teaching and classroom assessment. 	<ul style="list-style-type: none"> Distribute charts of tools and equipment's used in the building industry using recapitalisation funds. 	Jan to Dec 2015	
			<ul style="list-style-type: none"> Print booklets of sections on Graphic. Communication. 	<ul style="list-style-type: none"> Distribute booklets of sections on Graphic. Communication. 	<ul style="list-style-type: none"> Distribute booklets of sections on Graphic. Communication. 	<ul style="list-style-type: none"> Reinforce sections on Graphic Communication. Teachers should teach various components of sections on graphic communication. 	<ul style="list-style-type: none"> Distribute booklets of sections on Graphic. Communication. Communication. 	Jan to Dec 2015	

Grade	Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector				Resources	Time Frames
			DBE	PED	District	Teachers		
Grade 12	Civil Technology	<ul style="list-style-type: none"> Lack of content knowledge, especially on themes dealing with Casement window. Failure to interpret historical sources. Failure to interpret advanced construction, applied mechanics and Civil Services. 	Distribute the charts of Casement windows. <ul style="list-style-type: none"> Print Casement windows sources & sections booklet. Distribute CDs of advanced construction, applied mechanics and Civil Services. 	<ul style="list-style-type: none"> Purchase & Distribute approved charts of Casement windows. Print Casement windows sources & sections booklet. Distribute CDs of advanced construction, applied mechanics and Civil Services. 	<ul style="list-style-type: none"> Monitor & Distribute charts of different Casement windows. Print windows sources & sections booklet. Print notes and distribute CDs of advanced construction, applied mechanics and Civil Services. 	<ul style="list-style-type: none"> Teacher should teach content and concepts of Casement window. Gather a variety of sources from textbooks & internet for Casement window. Gather a variety of sources from textbooks internet & Engineering magazines. 	<ul style="list-style-type: none"> Lack of content knowledge, especially on themes dealing with window. Failure to interpret historical sources. Distribute. Mediate. Monitor. Textbooks. Previous papers.	Jan to Dec 2015 Jan to Dec 2015 Jan to Dec 2015 Jan to Dec 2015.
Grade 10	Computer Applications Technology	General Poor understanding of verbs: Learners are unable to respond to the verbs used in the question. Poor response to higher order questions: <ul style="list-style-type: none"> Learners are unable to make connections and to apply knowledge, e.g. to answer case studies, make recommendations, etc. – lack of higher order thinking skills. Learners not exposed to a variety of question types, i.e. they struggled to answer questions from 'all angles'. Learners not exposed to higher order thinking questions. 	<ul style="list-style-type: none"> Compile document to explain common key words Exemplar questions and expected responses 	<ul style="list-style-type: none"> Mediate strategies. support 	<ul style="list-style-type: none"> Distribute, mediate and monitor the use and impact of support strategies. 	<ul style="list-style-type: none"> Teach and explain the meanings of key words in questions. Use exemplar questions and question papers as a teaching tool to expose learners to the different types of questions and how to respond appropriately. Ensure that class activities and homework include work/questions on all cognitive and difficulty levels. Teach learners how to solve problems – strategies and different ways/solutions. Compare different solutions to problems. 	Textbooks. Previous papers.	Jan to Dec 2015.

Grade	Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector				Resources	Time Frames
			DBE	PED	District	Teachers		
Grade 10	Computer Applications Technology	<p>Theory content</p> <ul style="list-style-type: none"> Learners lack basic knowledge and understanding of theory concepts. Learners do not see 'connections' between different theory content/topics. As a result, learners are not able to integrate knowledge to answer higher order questions. 	<ul style="list-style-type: none"> Teaching methodologies to teach theory. 	<ul style="list-style-type: none"> Mediate to district officials. Distribute to schools. Monitor and support use in schools. Monitor and support training in the districts. 	<ul style="list-style-type: none"> Identify and address gaps in teacher content knowledge. Mediate support strategies. Support, guide and monitor performance in the challenging content. Mediate appropriate methodologies. C o n d u c t demonstration lessons in the challenging content area. 	<ul style="list-style-type: none"> Teachers need to teach theory. Basic concepts and terminology need to continuously be reinforced and revised to improve learners' basic understanding of a topic. H i g h l i g h t / d e m o n s t r a t e connections between topics/content. Theory concepts must be demonstrated practically as far as possible, e.g. show learners a blog and a wiki so that they understand the difference or download YouTube videos on theory concepts that learners can benefit from. Ensure that learners receive homework on a daily basis – Theory homework should be given at the end of each theory lesson. Homework should include higher order questions and integration of content. Self-marking quizzes covering basic knowledge/terminology. Use Case studies / scenario-based questions to develop understanding and higher order thinking skills. 	<p>Jan to Dec 2015</p>	

Grade	Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector				Time Frames	
			DBE	PED	District	Teachers		
Grade 10	Computer Applications Technology	<p>Practical content Spreadsheet</p> <ul style="list-style-type: none"> • Spreadsheets are used for calculations and learners struggled with mathematical concepts. • Learners did not understand the purpose of a specific function or when to use which function, e.g. COUNT vs. SUM. • Poor mathematical skills. • Learners did not understand the purpose of graphs. • Could not interpret graphs and draw conclusions. <p>Word processing</p> <ul style="list-style-type: none"> • Learners were unable to answer problem solving questions on the word processing content. 	<ul style="list-style-type: none"> • Examples of questions integrating theory and skills. • Examples of problem solving questions. 	<ul style="list-style-type: none"> • Distribute to schools. • Monitor and support use in schools. • Monitor and support training in the districts. • Monitor impact. 	<ul style="list-style-type: none"> • Identify and address gaps in teacher content knowledge. • Mediate support strategies. • Support, guide and monitor performance in the challenging content. • Mediate appropriate methodologies. • C o n d u c t demonstration lessons in the challenging content area. 	<ul style="list-style-type: none"> • Teach understanding of functions and formula. • Explain differences between functions such as SUM and COUNT. • Practical homework should be given on a daily basis. Learners need to practice and reinforce the skills learnt at school. • Where learners do not have computers at home, theory questions on spreadsheets should be provided which they can complete at home, e.g. completing a spreadsheet manually by writing down the functions/formula for a specific exercise which they can test on the computer the following day. • Expose learners to a variety of question types. • Expose learners to problem solving questions. • Use self-marking quizzes to drill theory/ knowledge underlying the skills. • Provide questions that integrate knowledge and skills. 	<ul style="list-style-type: none"> • Textbooks. • Self-marking quizzes. • Case studies / scenario-based questions. • E x a m p l e s of teaching methodologies. 	Jan to Dec 2015

Grade	Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector				Time Frames	
			DBE	PED	District	Teachers		
Grade 10	Computer Applications Technology	<p>Information Management</p> <ul style="list-style-type: none"> Teachers neglect teaching of IM content. Learners lack basic knowledge and understanding of IM content. Learners lack reading skills. Learners lack writing skills. Learners could interpret data and information. Learners could not summarise information. Learners could not analyse data. Learners could not write a report. Learners did not realise the connection between computer applications technology and what they learn in Home Language or in Mathematics/Maths Literacy. 	<p>Guidelines on:</p> <ul style="list-style-type: none"> How to summarise, etc. Report format. 	<ul style="list-style-type: none"> Distribute to schools. Monitor and support use in schools. Monitor and support training in the districts. Monitor impact. 	<ul style="list-style-type: none"> Identify and address gaps in teacher content knowledge. Mediate support strategies. Support, guide and monitor performance in the challenging content. Mediate appropriate methodologies. C o n d u c t demonstration lessons in the challenging content area. 	<ul style="list-style-type: none"> Teach IM content prior to exposing learners to the PAT. Ensure that learners do a lot of prior reading on the PAT topic. Teach learners to identify relevant content from sources. Teach learners to summarise content in their own words. Teach learners how to analyse data, what to look for. Teach learners how to write a report. 	<p>Textbooks.</p> <p>Previous papers.</p>	Jan to Dec 2015
Grade 11	Computer Applications Technology	<p>General</p> <p>Poor understanding of verbs: Learners are unable to respond to the verbs used in the question.</p> <p>Poor response to higher order questions:</p> <ul style="list-style-type: none"> Learners were unable to make connections with various concepts/ ideas and to apply knowledge, e.g. to answer case studies, make recommendations, etc. – lack of higher order thinking skills. Learners not exposed to a variety of question types, i.e. struggle to answer questions from 'all angles'. Learners were not exposed to higher order thinking questions. 	<ul style="list-style-type: none"> Compile document to explain common key words. Exemplar questions and expected responses. 	<ul style="list-style-type: none"> Mediate support strategies. 	<ul style="list-style-type: none"> Distribute, mediate and monitor the use and impact of support strategies. 	<ul style="list-style-type: none"> Teach and explain the meanings of key words in questions. Use exemplar questions and question papers as a teaching tool to expose learners to the different types of questions and how to respond appropriately. Ensure that class activities and homework include work/questions on all cognitive and difficulty levels. Teach learners how to solve problems – strategies and different ways/solutions. Compare different solutions to problems. 	<p>Textbooks.</p> <p>Home Language writing guide.</p>	Jan to Dec 2015

Grade	Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector				Resources	Time Frames
			DBE	PED	District	Teachers		
Grade 11	Computer Applications Technology	<p>Theory content</p> <ul style="list-style-type: none"> Learners seemed to lack basic knowledge and understanding of theory concepts. Learners did not see 'connections' between different theory content/topics. Learners struggled with the following: <ol style="list-style-type: none"> Correct use of terminology; and, Network / Internet concepts – they seemed to find these abstract as generally did not get practical exposure. As a result, learners are not able to integrate knowledge to answer higher order questions. 	<ul style="list-style-type: none"> Teaching methodologies to teach theory. 	<ul style="list-style-type: none"> Mediate to district officials. Distribute to schools. Monitor and support use in schools. Monitor and support training in the districts. 	<ul style="list-style-type: none"> Identify and address gaps in teacher content knowledge. Mediate support strategies. Support, guide and monitor performance in the challenging content. Mediate appropriate methodologies. C o n d u c t demonstration lessons in the challenging content area. 	<ul style="list-style-type: none"> Teachers need to teach theory. Basic concepts and terminology should be continuously reinforced and revised to improve learners' basic understanding of a topic. Highlight/demonstrate connections between topics/content. Theory concepts must be demonstrated practically as far as possible, e.g. show learners a blog and a wiki so that they understand the difference or download YouTube videos on theory concepts to show to learners. Self-marking quizzes covering basic knowledge/terminology. Use Case studies / scenario-based questions to develop understanding and higher order thinking skills. Ensure that learners receive homework on a daily basis – Theory homework should be given at the end of each theory lesson, e.g. provide an article on new technology with questions they need to answer at home. Homework should include higher order questions and integration of content. 	Textbooks. Previous papers.	Jan to Dec 2015

Grade		Subject	Identified Weaknesses	DBE	PED	District	Teachers	Resources	Time Frames
Grade 11		Computer Applications Technology	<p>Practical content Spreadsheet</p> <ul style="list-style-type: none"> Spreadsheets are used for calculations and learners seemed to struggle with mathematical concepts. Learners did not understand the purpose of a specific function or when to use which function, e.g. COUNT vs. SUM. Poor mathematical skills. Learners did not understand the purpose of graphs. Could not interpret graphs and draw conclusions. <p>Database</p> <ul style="list-style-type: none"> Learners appear to lack logical thinking skills to formulate queries. Database content generally not taught well – teacher knowledge is a problem. Learners did not understand the query, i.e. what information needed to be extracted – reading comprehension. <p>Word processing</p> <ul style="list-style-type: none"> Learners struggled with the following: <ol style="list-style-type: none"> Sections/section breaks; Referencing functions; Advanced table functions; and Manipulating graphics. <p>Integration of packages and skills</p> <ul style="list-style-type: none"> Learners seemed to lack decision making and problem solving skills. 	<ul style="list-style-type: none"> questions integrating theory and skills. Examples of problem solving questions. 	<ul style="list-style-type: none"> Distribute to schools. Monitor and support use in schools. Monitor and support training in the districts. Monitor impact. 	<ul style="list-style-type: none"> Identify and address gaps in teacher content knowledge. Mediate support strategies. Support, guide and monitor performance in the challenging content. Mediate appropriate methodologies. C o n d u c t demonstration lessons in the challenging content area. 	<ul style="list-style-type: none"> Teach understanding of functions and formula. Explain differences between functions such as SUM and COUNT. Practical homework should be given on a daily basis. Learners need to practice and reinforce the skills learnt at school. Where learners do not have computers at home, theory questions on spreadsheet and database should be provided which they can complete at home, e.g. completing database queries manually by writing down the query for a specific exercise which they can test on the computer the following day. Revise Grade 10 word processing skills, especially those that are not repeated in Grade 11, e.g. table skills, manipulation of graphics – classroom/ homework should include new skills learnt as well as skills learnt previously. Teach learners the theory underlying the practical skills, e.g. difference between editing and formatting, difference between text, paragraph and page formatting. A good understanding of page formatting is necessary to understand breaks (section breaks, column breaks, etc.). Use self-marking quizzes to drill theory/ knowledge underlying the skills. Provide questions that integrate knowledge and skills. Expose learners to a variety of question types. Expose learners to problem solving questions. 	<p>Textbooks.</p> <p>Self-marking quizzes.</p> <p>Case studies / scenario-based questions.</p> <p>Examples of teaching methodologies.</p>	<p>Jan to Dec 2015</p>

Grade	Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector				Time Frames	
			DBE	PED	District	Teachers		
Grade 12	Computer Applications Technology	<p>General poor understanding of verbs</p> <ul style="list-style-type: none"> • Learners were unable to respond to the verbs used in the question. • Poor response to higher order questions. • Learners are unable to make connection between theories and to apply knowledge, e.g. to answer case studies, make recommendations, etc. – lack of higher order thinking skills. • Learners did not seem to have been exposed to variety of question types, i.e. struggle to answer questions from 'all angles'. • Learners do not seem to have been exposed to higher order thinking questions. 	<ul style="list-style-type: none"> • Compile document to explain common key words. • Exemplar questions and expected responses. 	<ul style="list-style-type: none"> • Mediate strategies. 	<ul style="list-style-type: none"> • Distribute, mediate and monitor the use and impact of support strategies. 	<ul style="list-style-type: none"> • Teach and explain the meanings of key words in questions. • Use exemplar questions and question papers as a teaching tool to expose learners to the different types of questions and how to respond appropriately. • Expose learners to a variety of question types. • Ensure that class activities and homework include work/questions on all cognitive and difficulty levels. • Teach learners how to solve problems. 	Textbooks. Previous papers.	Jan to Dec 2015

Grade	Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector				Time Frames	
			DBE	PED	District	Teachers		
Grade 12	Computer Applications Technology	<p>Theory content</p> <ul style="list-style-type: none"> Learners lack basic knowledge and understanding of theory concepts. Learners could not see 'connections' between different theory content/topics. As a result, learners were not able to integrate knowledge to answer higher order questions. 	<ul style="list-style-type: none"> Teaching methodologies to teach theory. 	<ul style="list-style-type: none"> Mediate to district officials. Distribute to schools. Monitor and support use in schools. Monitor and support training in the districts. 	<ul style="list-style-type: none"> Identify and address gaps in teacher content knowledge. Mediate support strategies. Support, guide and monitor performance in the challenging content. Mediate appropriate methodologies C o n d u c t demonstration lessons in the challenging content area. 	<ul style="list-style-type: none"> Teachers must teach theory Basic concepts and terminology must continuously be reinforced and revised to improve learners' basic understanding of a topic. Highlight/demonstrate connections between topics/content. Theory concepts must be demonstrated practically as far as possible, e.g. show learners a blog and a wiki so that they understand the difference or download YouTube videos on theory concepts to show to learners. Self-marking quizzes covering basic knowledge/terminology. Use Case studies / scenario-based questions to develop understanding and higher order thinking skills. Ensure that learners receive homework on a daily basis - Theory homework should be given at the end of each theory lesson, e.g. provide an article on new technology with questions they need to answer at home. Homework should include higher order questions and integration of content. 	<ul style="list-style-type: none"> Textbooks. Self-marking quizzes. Case studies / scenario-based questions. Examples of teaching methodologies. 	Jan to Dec 2015

Grade	Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector				Time Frames
			DBE	PED	District	Teachers	
Grade 12	Computer Applications Technology	<p>Practical content Spreadsheet</p> <ul style="list-style-type: none"> Spreadsheets were used for calculations and learners struggled with mathematical concepts. Learners did not understand the purpose of a specific function or when to use which function, e.g. COUNT vs. SUM. Combining functions/formulae. Poor mathematical skills. Learners did not understand the purpose of graphs. Could not interpret graphs and draw conclusions. <p>Database</p> <ul style="list-style-type: none"> Database content generally was not taught well – teacher knowledge is a problem. <p>Queries</p> <ul style="list-style-type: none"> Learners seemed to lack logical thinking skills to formulate queries. Learners did not understand the query, i.e. which information needs to be extracted – reading comprehension. <p>Calculations in queries and reports</p> <ul style="list-style-type: none"> Learners appear to have struggled with calculations – same as for spreadsheet. <p>Word processing</p> <ul style="list-style-type: none"> Learners appear to have struggled with the following: <ol style="list-style-type: none"> Sections/section breaks; Referencing functions; Advanced table functions; Manipulating graphics; Linking and embedding objects; and, Advanced file manipulation. 	<ul style="list-style-type: none"> Examples of questions integrating theory and skills Examples of problem solving questions 	<ul style="list-style-type: none"> Distribute to schools Monitor and support use in schools Monitor and support training in the districts Monitor impact 	<ul style="list-style-type: none"> Identify and address gaps in teacher content knowledge Mediate support strategies Support, guide and monitor performance in the challenging content. Mediate appropriate methodologies C o n d u c t demonstration lessons in the challenging content area. 	<ul style="list-style-type: none"> Teach understanding of functions and formulae; Explain differences between functions such as SUM and COUNT Teach learners to use 'building blocks' when a solution requires combining functions/formulae (breaking up in more than one column, then combine) Practical homework should be given on a daily basis. Learners need to practice and reinforce the skills learnt at school. Where learners do not have computers at home, theory questions on spreadsheet and database should be provided which they can complete at home, e.g. completing database queries manually by writing down the query for a specific exercise which they can test on the computer the following day Revise Grades 10 and 11 word processing skills, especially those that are not repeated in Grade 12, e.g. table skills, manipulation of graphics – classwork/ homework should include new skills learnt as well as skills learnt previously – cumulative revision should be done at all times Teach learners the theory underlying the practical skills, e.g. difference between editing and formatting, difference between text, paragraph and page formatting A good understanding of page formatting is necessary to understand breaks (section breaks, column breaks, etc.) Expose learners to questions that integrate content/packages and skills Expose learners to problem solving questions 	<ul style="list-style-type: none"> Textbooks Previous papers

Grade	Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector				Resources	Time Frames
			DBE	PED	District	Teachers		
Grade 10	Consumer Studies	<p>Learners lack basic foundational knowledge Learners struggled to answer basic knowledge questions; they were unfamiliar with terminology and concepts</p>	<ul style="list-style-type: none"> Develop self-study guides on The Consumer, Food and Nutrition and Housing. Compile and distribute a basic terminology/ concept list on The Consumer, Food and Nutrition and Housing per topic 	<p>Mediate the study guides to district officials. Distribute study guides to schools. Monitor and support training in the districts.</p>	<ul style="list-style-type: none"> Identify and address gaps in teacher content knowledge Mediate the study guides for teachers Support, guide and monitor performance in the challenging content. C o n d u c t demonstration lessons in the challenging content area. 	<ul style="list-style-type: none"> Teachers must teach basic concepts and terminology before teaching the topic. Basic concepts and terminology must continuously be reinforced and revised to improve learners basic understanding a topic Introduce regular short terminology tests Use appropriate subject lexicon during teaching Introduce a terminology book / section on every topic 	<ul style="list-style-type: none"> Self-study guides Textbooks 	Jan to Dec 2015
Grade 11	Consumer Studies	<p>Poor understanding of verbs: Learners could not sufficiently respond to the verbs used in the question. When required to explain or describe, many learners wrote incomplete phrases.</p> <p>Learners lack basic foundational knowledge Learners struggled to answer basic knowledge questions; they are unfamiliar with terminology and concepts</p>	<p>Compile document to explain common verbs and the expected responses.</p> <ul style="list-style-type: none"> Develop self-study guides for Grade on The Consumer, Food and Nutrition and Housing. Compile and distribute a basic terminology/ concept list on The Consumer, Food and Nutrition and Housing per topic. 	<p>Provincial officials to print and mediate the document</p> <p>Mediate the study guides to district officials. Distribute study guides to schools. Monitor and support training in the districts.</p>	<ul style="list-style-type: none"> The district officials distribute, mediate and monitor the utilisation of the document. Identify and address gaps in teacher content knowledge Mediate the study guides for teachers Support, guide and monitor performance in the challenging content. C o n d u c t demonstration lessons in the challenging content area. 	<ul style="list-style-type: none"> Teachers should be taught the meanings of common verbs Use verbs during formal and informal assessment Expose learners to the different types of questions being asked and how to respond appropriately Teachers must teach basic concepts and terminology before teaching the topic. Basic concepts and terminology must continuously be reinforced and revised to improve learners basic understanding a topic. Introduce regular short terminology tests. Use appropriate subject lexicon during teaching. 	<ul style="list-style-type: none"> Textbooks Past question papers. Self-study guides Textbooks 	Jan to Dec 2015
		<p>Poor response to higher order questions</p>	<p>Develop guide outlining expected responses to higher order questions</p>	<ul style="list-style-type: none"> Distribute and mediate guide to Subject Advisors. Monitor teacher training and implementation at school level. 	<ul style="list-style-type: none"> Distribute and mediate guide to Teachers. Apply guidelines in context 	<ul style="list-style-type: none"> Textbooks Guide book 	Jan to Dec 2015	

Grade	Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector					Resources	Time Frames
			DBE	PED	District	Teachers			
Grade 11		Below average paragraph writing skills	Use LAC framework to develop guide outlining paragraph writing skills.	Distribute and mediate guide to Subject Advisors Monitor teacher training and implementation at school level	Demonstrate and train advisors on LAC focussing on paragraph writing.	Demonstrate and train teachers on LAC focussing on paragraph writing.	<ul style="list-style-type: none"> LAC framework textbooks 	Jan to Dec 2015	
Grade 12	Consumer Studies	Learners lack basic foundational knowledge	Develop self-study guides for Grade 12 on The Consumer, Housing and Interior and Entrepreneurship topics.	Mediate the study guides to district officials. Distribute study guides to schools.	Identify and address gaps in teacher content knowledge. Mediate the study guides for teachers.	<ul style="list-style-type: none"> Teachers must teach basic concepts and terminology before teaching the topic. Basic concepts and terminology must continuously be reinforced and revised. 	<ul style="list-style-type: none"> Self-study guides Textbooks 	Jan to Dec 2015	
		<p>Poor understanding of verbs: Learners could not sufficiently respond to the verbs used in the question. When required to explain or describe, many learners wrote incomplete phrases.</p> <p>Poor response to higher order questions:</p> <ul style="list-style-type: none"> Lack of sound reasoning ability and were unable to express themselves clearly. Learners struggled to evaluate and if they did, many could not explain the reason for their opinion. They could not substantiate their choice, indicating limited or no understanding of a topic 	Compile guide outlining common verbs and the expected responses.	Provincial officials to print and mediate the document.	The district officials distribute, mediate and monitor the utilisation of the document.	<ul style="list-style-type: none"> Learners should be taught the meanings of verbs. Use previous question papers as a teaching tool and informal assessment tool to expose learners to the different types of questions being asked and how to respond appropriately. 	Textbooks Past question papers	Jan to Dec 2015	
			Develop guide outlining expected responses to higher order questions.	Offer training to district officials on the use of past question papers. Distribute and mediate the use of the 2014 Consumer Studies exemplification guide.	Ensure all schools have copies of past question papers. Offer training to teachers on the use of past question papers	<ul style="list-style-type: none"> Teach learners how to respond to evaluation questions. Set questions requiring various cognitive abilities as part of teaching and informal assessment. Teach learners how to substantiate answers, this will ensure that learners are exposed to the way content can be tested and the type of questions that can be asked. Practice the skill of responding to higher order questions in class. 	<ul style="list-style-type: none"> Use previous question papers as a teaching tool and informal assessment. Use exemplification guide as a teaching tool. 	Jan to Dec 2015	

Remedial Measures & Responsibility at each Level in the Sector							Resources	Time Frames
Grade	Subject	Identified Weaknesses	DBE	PED	District	Teachers		
Grade 12	Consumer Studies	Learners misinterpret questions: Learners struggled to identify the gist of questions leading to incorrect responses.	Develop and distribute examples of how to identify the crux of a question from the 2014 NSC Consumer studies examination paper.	Provincial officials to print and mediate the document.	District officials to distribute and mediate the document.	Teach learners the skills of analysing a question to determine the focus of the question.	Past question papers	Jan to Dec 2015
		Lack of basic visual literacy Struggled to interpret and respond to pictures and other visual stimuli.	Develop and distribute basic guide on visual literacy and how to use and respond to visual stimuli.	Provincial officials to print and mediate the document.	District officials to distribute and mediate the document	<ul style="list-style-type: none"> Teach visual literacy skills. Expose learners to several examples. Practice regularly in class to reinforce skill. Expose learners to various forms of visual stimuli and how to respond appropriately. 	2014 Exemplification guide	Jan to Dec 2015
Grade 12	Consumer Studies	Comprehension <ul style="list-style-type: none"> Inability to interpret texts. Inability to answer questions using own words. Inability to infer meaning, i.e. implied/literal/figurative. 	Use LAC framework to develop a guideline on responding to comprehension tests.	Provide information and offer training to advisors.	District officials to distribute and mediate the document	<ul style="list-style-type: none"> Teach comprehension skills Set regular comprehension exercises or tests. 	Textbooks Newspaper / magazine/ internet articles	Jan to Dec 2015
		Recipe costing Calculations: Learners struggle to perform calculations relating to costing.	Distribute lessons on calculations to provinces.	Print and distribute lessons to districts. Offer methodology training to advisors on how to teach the topic.	Offer content training to teachers Distribute self-study guide to schools Offer methodology training to teachers on how to teach the topic	Develop short (10 minute) informal monthly tests on costing to keep skills current. Learners lack basic theoretical knowledge about calculations relating to meal costing. Lack of arithmetical skills. Learners to be given regular calculation exercises to practice.	Past question papers Textbook	Jan to Dec 2015
Grade 12	Consumer Studies	Paragraph responses: <ul style="list-style-type: none"> Showed a lack of in-depth knowledge. Candidates were not able to provide enough detail to earn full marks. Many learners struggled to express themselves in paragraph format. 	Offer training on paragraph writing using exemplars. Provincial officials train district officials on language across curriculum.	Provincial officials train teachers on the application of language across curriculum.	Teachers must teach paragraph writing skills to learners. Expose learners to the various types of paragraphs. Infuse LAC into all topics and focus on developing and strengthening the 4 language pillars	Set exemplar paragraph questions on various topics. Mediate LAC processes. Provide examples of how to infuse LAC into Consumer Studies lessons.	Textbook LAC booklet	

Grade	Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector				Time Frames	
			DBE	PED	District	Teachers		
Grade 10-12	Dance Studies	<p>Comprehension: Inability to fully comprehend the Indigenous Dance Forms.</p>	<ul style="list-style-type: none"> Build a data bank of previous papers for developing the understanding of the Indigenous Dance Forms. Train Subject Advisors and Coordinators on setting and answering questions at different cognitive levels. Train Subject Advisors and Coordinators on how to develop the love of Indigenous Dance Forms. Monitor training and support. Print and send the study guide for the intervention guide to schools. Train Subject Advisors and teachers in the use of study guides. Reprint and send study guides for teaching the understanding of the origins of drama. Retrain Subject Advisors and cluster leaders on the various Indigenous Dance Forms. Monitor training in provinces and districts. 	<ul style="list-style-type: none"> Print and distribute resources to districts. Cascade DBE training to SAs in the province. Version training to suit the needs of the province. Duplicate and flight lessons for districts. Set target performance in the paper. Monitor training and support. Reprint and deliver study guide on literature to schools. Train district officials in the use of the study guide. Monitor training of teachers in the use of study guides. Mediate script lessons to district officials. Reprint and distribute study guides. Cascade training to SAs. Monitor training in districts. 	<p>District</p> <p>Support, guide and monitor teaching.</p> <p>Print and distribute study guides to schools.</p> <p>Use material from data bank to train teachers and conduct demonstration lessons.</p>	<p>The teacher should:</p> <ul style="list-style-type: none"> Expose learners to prescribed texts, give learners notes, and guide them in the various Indigenous Dance Forms; Teach different interventions in a bid to develop vocal and physical skills. 	<p>Resources</p> <p>Previous years' examination papers & memoranda. Teacher's notes. Internet. Textbooks.</p>	<p>Time Frames</p> <p>Jan to Dec 2015</p>

Grade		Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector				Resources	Time Frames
				DBE	PED	District	Teachers		
Grade 10-12	Design	Inability to comprehend the History of Design	fully	<ul style="list-style-type: none"> Build a data bank of question papers for developing the understanding of the origins of drama. Train Subject Advisors and Coordinators on setting and answering questions at different cognitive levels. Train Subject Advisors and Coordinators on how to teach History of Design. Monitor training and support. Print and send the study guide for the intervention guide to schools. Train Subject Advisors and teachers in the use of study guides. Reprint and send study guides for teaching the understanding of the History of Design. Retrain Subject Advisors and cluster leaders on the use of study guides for teaching the History of Design Monitor training in provinces and districts. 	<ul style="list-style-type: none"> Print and distribute resources to districts. Cascade DBE training to SAs in the province. Version training to suit the needs of the province. Duplicate and flight lessons for districts. Set target performance in the paper. Monitor training and support. Reprint and deliver study guide on literature to schools. Train district officials in the use of the study guide. Monitor training of teachers in the use of study guides. Mediate script lessons to district officials. Reprint and distribute study guides. Cascade training to SAs. Monitor training in districts. 	<ul style="list-style-type: none"> Support, guide and monitor teaching. Print and distribute study guides to schools. Use material from data bank to train teachers and conduct demonstration lessons. 	<ul style="list-style-type: none"> The teacher should: Expose learners to prescribed texts, give learners notes, and guide them in the History of Design. Teach different interventions in a bid to teach History of Design. 	<ul style="list-style-type: none"> Previous years' examination papers & memoranda. Teacher's notes; Internet; Textbooks. 	<ul style="list-style-type: none"> Jan to Dec 2015

Grade		Remedial Measures & Responsibility at each Level in the Sector					Resources		Time Frames	
Subject	Identified Weaknesses	DBE	PED	District	Teachers					
10-12 Dramatic Arts	<p>Comprehension:</p> <ul style="list-style-type: none"> Inability to understand the origins of drama; Inability to understand the development of vocal and physical skills 	<ul style="list-style-type: none"> Build a data bank of previous papers for developing the understanding of the origins of drama. Train Subject Advisors and Coordinators on setting and answering questions at different cognitive levels. Train Subject Advisors and Coordinators on how to develop vocal and physical skills. Monitor training and support. Print and send the study guide for the intervention guide to schools. Train Subject Advisors and teachers in the use of study guides. Reprint and send study guides for teaching the understanding of the origins of drama. Retrain Subject Advisors and cluster leaders on the use of study guides for teaching the development of vocal and physical skills. Monitor training in provinces and districts. 	<ul style="list-style-type: none"> Print and distribute resources to districts. Cascade DBE training to SAs in the province. Version training to suit the needs of the province. Duplicate and flight lessons for districts. Set target performance in the paper. Monitor training and support. Reprint and deliver study guide on literature to schools. Train district officials in the use of the study guide. Monitor training of teachers in the use of study guides. Mediate script lessons to district officials. Reprint and distribute study guides. Cascade training to SAs. Monitor training in districts. 	<ul style="list-style-type: none"> Avail training material and train teachers on how to prepare for Paper 1. Use material from data bank to train teachers and conduct demonstration lessons. Mediate script lessons to teachers and learners. Support, guide and monitor teaching. Avail training material and train teachers on how to prepare for the Question Paper. Use material from data bank to train teachers and conduct demonstration lessons. Mediate script lessons to teachers and learners. Support, guide and monitor teaching. Train teachers in using the study guide and the rubric. C o n d u c t demonstration lessons for teachers. Support, guide and monitor implementation in the understanding of the origins of drama. Moderate the marking of the origins of drama. 	<p>Comprehension</p> <p>The teacher should:</p> <ul style="list-style-type: none"> Expose learners to prescribed texts, give learners notes, and guide them in the origins of drama; Teach different interventions in a bid to develop vocal and physical skills. 	<p>Different types of origins of drama compiled from past examination papers</p> <p>Previous years' examination papers & memoranda.</p> <p>Gr 12: Examination Guidelines.</p> <p>Circulars on the understanding of the origins of drama.</p> <p>Previous years' examination papers & memoranda.</p> <p>Gr 12: Examination Guidelines, Language</p> <p>Previous years' examination papers & memoranda.</p> <p>Gr 12: Examination CAPS document.</p> <p>Self-study Guide on the understanding of the origins of drama.</p> <p>Previous years' examination papers & memoranda.</p> <p>Gr 12 Examination Guidelines.</p> <p>Circulars on set-works.</p> <p>Teacher's notes</p> <p>Internet</p> <p>Textbooks</p>	<p>Jan to Dec 2015</p>			

Grade	Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector				Time Frames
			DBE	PED	District	Teachers	
Grade 10-12	Economics	<p>Language ability:</p> <ul style="list-style-type: none"> • Candidates struggled to reason and debate issues. • Learners did not understand the verbs. • Candidates could not: <ul style="list-style-type: none"> ◦ Differentiate between monopoly and monopolistic competition. ◦ Apply knowledge to real life situation. ◦ Did not understand market failure and could not link the content to the question. ◦ Majority of candidates referred to the causes of market failure. ◦ Calculations from the information provided in the graphs are still a challenge to most of the candidates. ◦ Could not connect the immobility of the factors of production to market failure, instead they discussed the factors of production. 	<p>Compile document to explain these verbs, what learners need to look for an answer for each in subject specific context.</p>	<p>Provincial officials to print and mediate the document.</p>	<p>The district officials distribute and monitor the implementation of the document.</p> <ul style="list-style-type: none"> • Learners could not debate issue due to language barriers. • Learners not taught the meanings of verbs that are used in Economics. • Teachers must expose learners to data response questions. • Learners should be guided in terms of expressing their opinions. Many of them express their opinions out of context. 	<p>DBE self-study guides Textbooks Previous papers</p>	<p>Jan to Dec 2015</p>
Grade 10-12	Economics	<p>Basic concepts:</p> <p>Learners were unable to explain the essential basic concepts and terminology applicable to Economics.</p> <p>The interpretation and analysis of statistical information still remain a problem. Candidates lacked content knowledge and application.</p> <p>Unable to provide detailed discussion on how industries contribute to land and water pollution.</p>	<ul style="list-style-type: none"> • Self-Study guides for Grade 10 to 12 containing Economic concepts, principles and dynamic markets. The self-study guide is already loaded on Thutong, but it needs to be printed and distributed to provinces. • Mediating the study guide during subject advisor workshop 	<p>Print more self-study guides and distribute to districts and schools.</p> <p>Monitor utilisation of materials developed.</p>	<p>Distribute materials to all the schools and mediate during workshops.</p> <p>Monitor utilisation of materials developed.</p>	<ul style="list-style-type: none"> • Teachers should teach Economics concepts when starting a new topic. • Incorporate recent Economic events in teaching and assessment. Reference can be made to the Quarterly bulletin of the SARB and SSA and newspapers. • Subject advisors should conduct training on the above mentioned challenges to help teachers. 	<p>Jan to Dec 2015</p>

Grade	Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector				Resources	Time Frames
			DBE	PED	District	Teachers		
Grade 10-12	Economics	<p>Paragraph responses: Showed a lack of in-depth knowledge. Candidates were not able to provide enough detail to earn full marks.</p>	<p>Provincial officials should be guided on how to use the verbs to draw the Words Charts, vocabulary trees and Economics. what learners need to look for an answer for each in subject specific context.</p>	<p>Provincial officials train district officials on language across curriculum.</p>	<p>Provincial officials train teachers on language across curriculum.</p>	<ul style="list-style-type: none"> Schools should not only assess learners on short and objective questions. Paragraph questions should be introduced and assessed in the classroom, before learners encounter them in the examination. 	Jan to Dec 2015	
		<p>Graphs: Incorrect drawing and labelling of curves.</p>	<ul style="list-style-type: none"> Self-Study guides for Grade 10 to 12 containing Economic concepts, principles and dynamic markets need to be printed and distributed. The DBE will monitor the use of the self-study guide and Mind the Gap. 	<p>Provincial Coordinators mediate and monitor the distribution of the use of study guides.</p>	<p>Subject advisors mediate and monitor the use of study guides.</p>	<ul style="list-style-type: none"> Teachers should provide opportunities for learner to practise different graphs and supply detailed information as part of each graph. 		Jan to Dec 2015
Grade 10-12	Economics	<p>Calculations: Used the wrong formula to do the calculations. Data response items were misunderstood or misinterpreted. Candidates could not 'see' the data to be used in the calculations, even though it was clearly indicated in the graph.</p>	<ul style="list-style-type: none"> Extract a module on self-study guide and distribute to provinces. Mediate the guide and monitor progress. Include application of calculations in case studies. 	<p>Provinces will print and distribute the module to districts.</p> <p>Provinces will monitor the distribution of the guide.</p>	<p>Districts will monitor the implementation of the guide.</p>	<ul style="list-style-type: none"> Teachers should teach learners arithmetical skills. Learners should be given regular calculation exercises to practice. 	Jan to Dec 2015	
Grade 10	Electrical Technology	<ul style="list-style-type: none"> Lack of basic concepts and content knowledge of Occupational health and safety Act. 	<ul style="list-style-type: none"> Provide content notes on Occupational health and safety Act. Mediate. Monitor. 	<ul style="list-style-type: none"> Provide content notes on Occupational health and safety Act. Distribute previous question papers. 	<ul style="list-style-type: none"> Teachers should teach Occupational health and the safety Act. 	<ul style="list-style-type: none"> Distribute, Mediate. Monitor. 		Jan to Dec 2015
		<ul style="list-style-type: none"> Failure to interpret the distribution systems with either generation or motors. 	<ul style="list-style-type: none"> Distribute DBE Question Paper Exemplar. Booklet on the distribution systems with either generation or motors. 	<ul style="list-style-type: none"> Distribute DBE Question Paper Exemplar. Booklet on the distribution systems with either generation or motors. 	<p>Teachers should do more than just teach the distribution systems with either generation or motors.</p>	<ul style="list-style-type: none"> Distribute DBE Question Paper Exemplar. Booklet on the distribution systems with either generation or motors. 	Jan to Dec 2015	

Grade	Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector					Time Frames
			DBE	PED	District	Teachers	Resources	
Grade 10	Electrical Technology	<ul style="list-style-type: none"> Lack of basic concepts and content knowledge to use of the correct formulae, and the applicable SI units. 	<ul style="list-style-type: none"> Provide calculations on use of the correct formulae, and the applicable SI units. Monitor content coverage. 	<ul style="list-style-type: none"> Print and distribute to teachers. Provide booklets on calculations on the use of the correct formulae, and the applicable SI units. Monitor content coverage. 	<ul style="list-style-type: none"> Print and distribute. Provide training to teachers. Monitor. 	<ul style="list-style-type: none"> Teacher should teach basic concepts and content on use of the correct formulae, and the applicable SI units. 	<ul style="list-style-type: none"> Booklets. Previous question papers. 	Jan to Dec 2015
		<ul style="list-style-type: none"> Lack of understanding of concepts and processes of describing what happens to the current of the transformer if the load was increased. 	<ul style="list-style-type: none"> Provide models of transformer if the load was increased. 	<ul style="list-style-type: none"> Print and distribute. Organize workshops with Skills training centres. 	<ul style="list-style-type: none"> Print and distribute. Offer. Specialist training to teachers through Skills centres. 	<ul style="list-style-type: none"> Teachers should teach basic concepts of transformer if the load was increased. 	<ul style="list-style-type: none"> Print and distribute. Offer. Specialist training to teachers through Skills centres. 	Jan to Dec 2015
Grade 11	Electrical Technology	<ul style="list-style-type: none"> Lack of basic concepts and content knowledge on the difference between the terminal block of an induction motor and when to draw the coils of an induction motor. 	<ul style="list-style-type: none"> Provide drawings and models on difference between the terminal block of an induction motor and when to draw the coils of an induction motor. Monitor content coverage. 	<ul style="list-style-type: none"> Print and distribute to teachers. Provide booklets of terminal block of an induction motor. Monitor content coverage. 	<ul style="list-style-type: none"> Print and distribute. Provide training to teachers. Monitor. 	<ul style="list-style-type: none"> Teachers should teach basic concepts and content on the difference between the terminal block of an induction motor and when to draw the coils of an induction motor. 	<ul style="list-style-type: none"> Booklets. Previous question papers. 	Jan to Dec 2015
		<ul style="list-style-type: none"> Lack of basic concepts and content knowledge skills on the control circuit of a sequence starter. 	<ul style="list-style-type: none"> Provide Question Paper Exemplar Booklet. 	<ul style="list-style-type: none"> Distribute Question Paper Exemplar Booklet. 	<ul style="list-style-type: none"> Distribute Question Paper Exemplar Booklet. 	<ul style="list-style-type: none"> Gather sources from the internet on concepts and content knowledge skills on Sections. 	<ul style="list-style-type: none"> Internet resource & Engineering articles on various topics should be used. 	Jan to Dec 2015

Grade	Subject	Remedial Measures & Responsibility at each Level in the Sector					Resources	Time Frames
		Identified Weaknesses	DBE	PED	District	Teachers		
Grade 12	Electrical Technology	<ul style="list-style-type: none"> Lack of basic concepts and content knowledge. 	<ul style="list-style-type: none"> Distribute models. Provide notes on content on star-delta starter and a forward reverse starter. Monitor content coverage. 	<ul style="list-style-type: none"> Print and distribute to teachers. Provide workbooks. Monitor content coverage. 	<ul style="list-style-type: none"> Textbooks. Internet sources. Previous question papers. Monitor. 	<ul style="list-style-type: none"> Teachers should teach basic concepts and content on star-delta starter and a forward reverse starter. 	<ul style="list-style-type: none"> Print and distribute. Provide training to teachers. Monitor. 	Jan to Dec 2015
		<ul style="list-style-type: none"> Lack of basic concepts and content knowledge of calculation of the power factor. 	<ul style="list-style-type: none"> Provide content notes on calculation of the power factor. 	<ul style="list-style-type: none"> Provide content notes on calculation of the power factor. Mediate. Monitor. 	<ul style="list-style-type: none"> Provide content notes on calculation of the power factor. Distribute previous question papers. 	<ul style="list-style-type: none"> Teachers should teach basic calculation of the power factor. 	<ul style="list-style-type: none"> Distribute. Mediate & Monitor. 	Jan to Dec 2015
		<ul style="list-style-type: none"> Calculations on the capacitance that will result in resonance. 	<ul style="list-style-type: none"> Provide exemplar on rules for scales and how to do simple calculations. Monitor teacher training. 	<ul style="list-style-type: none"> Access exemplar on rules for scales and how to do simple calculations from Thutong and print for distribution. Train teachers. Monitor implementation. 	<ul style="list-style-type: none"> Distribute booklets for calculations on the capacitance that will result in resonance. 	<ul style="list-style-type: none"> Teachers to teach calculations on the capacitance that will result in resonance. 	<ul style="list-style-type: none"> Distribute to schools. Teacher training. Monitor. 	Jan to Dec 2015
Grade 12	Electrical Technology	<ul style="list-style-type: none"> Derive the equivalent ladder logic diagram of the circuit. 	<ul style="list-style-type: none"> Print previous question papers on deriving the equivalent ladder logic diagram of the circuit. 	<ul style="list-style-type: none"> Print and distribute question papers on deriving the equivalent ladder logic diagram of the circuit. 	<ul style="list-style-type: none"> Print and distribute question papers on deriving the equivalent ladder logic diagram of the circuit. 	<ul style="list-style-type: none"> Print and distribute question papers on deriving the equivalent ladder logic diagram of the circuit. 	<ul style="list-style-type: none"> Print and distribute question papers on deriving the equivalent ladder logic diagram of the circuit. 	Jan to Dec 2015
		<ul style="list-style-type: none"> Lack of understanding of concepts and processes on the amplification or the phase shift. 	<ul style="list-style-type: none"> Provide Skills centres with module containing examples of the phase amplification or the phase shift. 	<ul style="list-style-type: none"> Print and distribute. Organize workshops with Skills centres to train teachers on the amplification or the phase shift. 	<ul style="list-style-type: none"> Print and distribute. Offer Specialist training to teachers through Skills training centres. 	<ul style="list-style-type: none"> Teachers should teach basic concepts and processes on the amplification or the phase shift. 	<ul style="list-style-type: none"> Print and distribute. Offer Specialist training to teachers through Skills training centres. 	Jan to Dec 2015
		<ul style="list-style-type: none"> Lack of understanding of concepts and processes to draw the output of the Schmitt trigger op amp. 	<ul style="list-style-type: none"> Provide Skills centres with module containing examples of how to draw the output of the Schmitt trigger op amp. 	<ul style="list-style-type: none"> Print and distribute. Organize workshops with Skills centres to train teachers on how to draw the output of the Schmitt trigger op amp. 	<ul style="list-style-type: none"> Print and distribute. Offer Specialist training to teachers through Skills training centres. 	<ul style="list-style-type: none"> Teachers need to teach basic concepts and processes on to draw the output of the Schmitt trigger op amp. 	<ul style="list-style-type: none"> Print and distribute. Offer Specialist training to teachers through Skills training centres. 	Jan to Dec 2015

		Remedial Measures & Responsibility at each Level in the Sector						Time Frames
Grade	Subject	Identified Weaknesses	DBE	PED	District	Teachers	Resources	
Grade 10	Engineering Graphics and Design	Lack of basic concepts and content knowledge of SANS 10143.	Provide content notes on SANS document.	Provide content notes on SANS 10143 document Print. Mediate. Monitor.	Provide content notes on SANS 10143 document Distribute previous question papers.	Teachers should teach basic drawing principles according to SANS10143.	Distribute, Mediate & Monitor.	Jan to Dec 2015
		Failure to interpret terrain plans and plans.	Distribute DBE Question Paper Exemplar. Booklet on terrain plans and plans.	Distribute DBE Question Paper Exemplar Booklet on terrain plans and plans.	Distribute DBE Question Paper Exemplar Booklet on terrain plans and plans.	Teachers should do more than just teach the theory, and show learners real life situations (terrain plans and plans).	Distribute DBE Paper Exemplar. Booklet on terrain plans and plans.	Jan to Dec 2015
		Skills such as drawing, measuring, calculation, interpenetration, to draw all three views and orthographic projections.	Provide teaching models of different types of views. Provide teaching models of interpenetration, to draw all three views and orthographic projections.	Distribute DBE study guides and booklets on interpenetration, to draw all three views and orthographic projections.	Distribute DBE study guides and booklets on interpenetration, to draw all three views and orthographic projections.	Teach basic and advanced drawing, measuring, calculation, interpenetration, to draw all three views and orthographic projections. Teach learners how to draw different views. Apply teaching strategies to teach interpenetration.	Textbooks. Previous question papers and teaching models.	Jan to Dec 2015
Grade 11	Engineering Graphics and Design	Lack of understanding of concepts and processes of pentagonal pyramid.	Provide models of pyramids and pentagonal pyramids.	Print and distribute. Organize workshops with South African institute of Architects and South African Institutes of Civil Engineers.	Print and distribute. Offer. Specialist training to teachers through Skills centres.	Teachers should teach basic concepts such as pyramids	Print and distribute Offer Specialist training to teachers through Skills centres	Jan to Dec 2015
		Lack of basic concepts and content knowledge on THREE different POLYGONS (HEXAGON, SQUARE and PENTAGON).	Provide drawings on THREE different POLYGONS (HEXAGON, SQUARE and PENTAGON). Monitor content coverage.	Print and distribute to teachers. Provide booklets of THREE different POLYGONS (HEXAGON, SQUARE and PENTAGON). Monitor content coverage.	Print and distribute. Provide training to teachers. Monitor.	Teachers should teach basic concepts and content on THREE different POLYGONS (HEXAGON, SQUARE and PENTAGON).	Booklets. Previous question papers.	Jan to Dec 2015
		Lack of basic concepts and content knowledge skills on Sections.	Provide Question Paper Exemplar Booklet.	Distribute Question Paper Exemplar Booklet.	Distribute Question Paper Exemplar Booklet.	Gather sources from the internet on concepts and content knowledge skills on Sections.	Internet resource & Engineering articles on various topics should be used.	Jan to Dec 2015
Grade 11	Engineering Graphics and Design	Skills such as drawing, measuring, calculation, interpretation and analysis of using the standing point line.	Reprint DBE study guides.	Distribute DBE study guides.	Distribute DBE study guides.	Use skills such as drawing, measuring, calculation, interpretation and analysis of using the standing point line.	Distribute study guides.	Jan to Dec 2015

Grade	Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector				Resources	Time Frames
			DBE	PED	District	Teachers		
Grade 11	Engineering Graphics and Design	<ul style="list-style-type: none"> Lack of understanding of concepts and processes on lengthening the sides towards the Picture Plane, then work vertically to the Ground Line and then across to the alternate Vanishing Point. 	<ul style="list-style-type: none"> Provide support through DBE training workshops on lengthening the sides towards the Picture Plane, then work vertically to the Ground Line and then across to the alternate Vanishing Point. 	<ul style="list-style-type: none"> Print and distribute. Organize workshops with Skills training centres on lengthening the sides towards the Picture Plane, then work vertically to the Ground Line and then across to the alternate Vanishing Point. 	<ul style="list-style-type: none"> Print and distribute. Offer specialist training to teachers through Skills centres and South African Institute of Architects. 	<ul style="list-style-type: none"> Teachers should teach basic concepts on lengthening the sides towards the Picture Plane, then work vertically to the Ground Line and then across to the alternate Vanishing Point. 	<ul style="list-style-type: none"> Print and distribute. Offer specialist training to teachers through Skills centres and South African Institute of Architects. 	Jan to Dec 2015
Grade 12	Engineering Graphics and Design	<ul style="list-style-type: none"> Lack of basic concepts and content knowledge. Lack of basic concepts and content knowledge of SANS 10143. Rules for scales and how to do simple calculations. 	<ul style="list-style-type: none"> Distribute models on interpret of two openings ("cut outs") in the walls (rectangle and half circle). Monitor content coverage. Provide content notes on SANS document. Provide exemplar on rules for scales and how to do simple calculations. Monitor teacher training. 	<ul style="list-style-type: none"> Print and distribute to teachers. Provide workbooks. Monitor content coverage. 	<ul style="list-style-type: none"> Textbooks Internet sources Previous question papers Monitor 	<ul style="list-style-type: none"> Teachers should teach basic concepts and content on interpreting of two openings ("cut outs") in the walls (rectangle and half circle). 	<ul style="list-style-type: none"> Print and distribute Provide training to teachers. Monitor. 	Jan to Dec 2015
			<ul style="list-style-type: none"> Provide content notes on SANS 10143 document Mediate Monitor Access exemplar on rules for scales and how to do simple calculations from Thutong and print for distribution. Train teachers. Monitor implementation. 	<ul style="list-style-type: none"> Provide content notes on SANS 10143 document Distribute previous question papers. 	<ul style="list-style-type: none"> Teachers should teach basic drawing principles according to SANS 10143. 	<ul style="list-style-type: none"> Distribute, Mediate & Monitor. 	Jan to Dec 2015	
			<ul style="list-style-type: none"> Provide exemplar on rules for scales and how to do simple calculations. Monitor teacher training. 	<ul style="list-style-type: none"> Distribute rules for scales and how to do simple calculations. 	<ul style="list-style-type: none"> Teachers to teach rules for scales and how to do simple calculations. 	<ul style="list-style-type: none"> Distribute to schools. Teacher training. Monitor. 	Jan to Dec 2015	

Grade	Subject	Remedial Measures & Responsibility at each Level in the Sector					Time Frames			
		Identified Weaknesses	DBE	PED	District	Teachers		Resources		
Grade 12	Engineering Graphics and Design	<ul style="list-style-type: none"> Lack of basic concepts and content knowledge on functions of the parts is, e.g. the oil hole and key, or the function of bearings and Bushes. 	<ul style="list-style-type: none"> Print charts of parts of the oil hole and key, or the function of bearings and Bushes. 	<ul style="list-style-type: none"> Print and distribute charts of parts of the oil hole and key, or the function of bearings and Bushes. 	<ul style="list-style-type: none"> Print and distribute charts of parts of the oil hole and key, or the function of bearings and Bushes. 	<ul style="list-style-type: none"> Teach basic concepts and content knowledge on functions of the parts is, e.g. the oil hole and key, or the function of bearings and Bushes. 	<ul style="list-style-type: none"> Print and distribute charts of parts of the oil hole and key, or the function of bearings and Bushes. 	Jan to Dec 2015		
		<ul style="list-style-type: none"> Lack of understanding of concepts and processes on how to draw the THIRD ANGLE PROJECTION SYMBOL. Include centre lines on it. 	<ul style="list-style-type: none"> Provide Skills centres with module containing examples of how to draw the THIRD ANGLE PROJECTION SYMBOL. Include centre lines on it. 	<ul style="list-style-type: none"> Print and distribute. Organize workshops with Skills centres to train teachers on how to draw the THIRD ANGLE PROJECTION SYMBOL. Include centre lines on it. 	<ul style="list-style-type: none"> Print and distribute. Offer. Specialist training to teachers through Skills training centres. 	<ul style="list-style-type: none"> Teachers need to teach basic concepts and processes on how to draw the THIRD ANGLE PROJECTION SYMBOL. Include centre lines on it. 			<ul style="list-style-type: none"> Print and distribute. Offer. Specialist training to teachers through Skills training centres. 	Jan to Dec 2015
		<ul style="list-style-type: none"> Lack of understanding of concepts and processes third angle orthographic projection and Assembly drawings. 	<ul style="list-style-type: none"> Provide Skills centres with module containing examples of how to draw the third angle orthographic projection and Assembly drawings. 	<ul style="list-style-type: none"> Print and distribute. Organize workshops with Skills centres to train teachers on how to draw the third angle orthographic projection and Assembly drawings. 	<ul style="list-style-type: none"> Print and distribute. Offer. Specialist training to teachers through Skills training centres. 	<ul style="list-style-type: none"> Teachers need to teach basic concepts and processes on third angle orthographic projection and Assembly drawings. 				

Grade	Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector				Time Frames			
			DBE	PED	District	Teachers				
Grade 10	Geography	<ul style="list-style-type: none"> Lack of basic concepts and content knowledge. Failure to interpret cartoons, graphs, sketches and photos. 	<ul style="list-style-type: none"> Provide content notes on geography learning space. 	<ul style="list-style-type: none"> Provide textbooks and other relevant material. Print. Mediate. Monitor. 	<ul style="list-style-type: none"> Provide Textbooks. Distribute previous question papers. 	<ul style="list-style-type: none"> Teachers should teach basic geography concepts regarding the atmosphere, geomorphology, and population and water resources. 	<ul style="list-style-type: none"> Distribute. Mediate & Monitor. 	Jan to Dec 2015		
			<ul style="list-style-type: none"> Distribute DBE Question Paper Exemplar. Booklet 	<ul style="list-style-type: none"> Distribute DBE Question Paper Exemplar. Booklet 	<ul style="list-style-type: none"> Use of internet resources. Distribute DBE Question Paper Exemplar. Booklet 	<ul style="list-style-type: none"> Teachers should use various sources from textbooks, internet and print media. 			<ul style="list-style-type: none"> Use of internet resources. Distribute DBE Question Paper Exemplar. Booklet Textbooks. Previous question papers. 	Jan to Dec 2015
			<ul style="list-style-type: none"> Provide DBE Map work self-study guide 	<ul style="list-style-type: none"> Distribute DBE Map work self-study guide 	<ul style="list-style-type: none"> Distribute DBE Map work self-study guide. 	<ul style="list-style-type: none"> Teach basic and advanced map reading skills to learners. Teach learners how to orientate different maps. Apply teaching strategies to teach map work. 				
<ul style="list-style-type: none"> Provide Department of Rural Development and Land Reform Guide and DBE Guide. 	<ul style="list-style-type: none"> Print and distribute. Organize workshops with Department of Rural Development and Land Reform. 	<ul style="list-style-type: none"> Print and distribute. Offer specialist GIS training to teachers through Department of Rural Development and Land Reform. 	<ul style="list-style-type: none"> Teachers should teach basic concepts such as spatial object, line, point, node, scale. 	<ul style="list-style-type: none"> Print and distribute. Offer specialist GIS training to teachers through Department of Rural Development and Land Reform. 	Jan to Dec 2015					
<ul style="list-style-type: none"> Geography information system (GIS) Lack of understanding of concepts and processes. 										

Grade	Subject	Remedial Measures & Responsibility at each Level in the Sector					Time Frames	
		Identified Weaknesses	DBE	PED	District	Teachers		Resources
Grade 11		<ul style="list-style-type: none"> Lack of basic concepts and content knowledge. Failure to interpret cartoons, graphs, sketches and photos. 	<ul style="list-style-type: none"> Provide notes on geography learning space. Monitor content coverage. 	<ul style="list-style-type: none"> Print and distribute to teachers. Provide textbooks. Monitor content coverage. 	<ul style="list-style-type: none"> Print and distribute. Provide training to teachers. Monitor. 	<ul style="list-style-type: none"> Teachers should teach basic concepts and content on the global circulation, weather and climate, rocks and land forms, slopes, mass movements, development. 	<ul style="list-style-type: none"> Textbooks. Internet sources. Previous question papers. 	Jan to Dec 2015
			<ul style="list-style-type: none"> Provide Question Paper Exemplar Booklet 	<ul style="list-style-type: none"> Distribute Question Paper Exemplar Booklet. 	<ul style="list-style-type: none"> Distribute Question Paper Exemplar Booklet 	<ul style="list-style-type: none"> Gather sources from the internet and newspapers to integrate in classroom teaching to help with analysis. 	<ul style="list-style-type: none"> Internet resource & newspaper articles on various topics should be used. 	Jan to Dec 2015
		<p>Map work</p> <ul style="list-style-type: none"> Skills such as drawing, measuring, calculation, interpretation and analysis. <p>Geography information system (GIS)</p> <ul style="list-style-type: none"> Lack of understanding of concepts and processes. 	<ul style="list-style-type: none"> Reprint DBE Map work self-study guide and Mind the Gap. Provide Department of Rural Development and Land Reform Guide and DBE Guide. 	<ul style="list-style-type: none"> Distribute DBE Map work self-study guide and Mind the Gap. Print and distribute. Organise workshops with Department of Rural Development and Land Reform. 	<ul style="list-style-type: none"> Distribute DBE Map work self-study guide and Mind the Gap. Print and distribute Offer specialist training to teachers through Department of Rural Development and Land Reform. 	<ul style="list-style-type: none"> Use 1:50 000 topographical maps and orthophoto and aerial photographs to teach this section. Teachers should teach basic concepts such as spatial object, line, point, node, scale. 	<ul style="list-style-type: none"> Distribute DBE Map work self-study guide and Mind the Gap. Print and distribute Offer specialist GIS training to teachers through Department of Rural Development and Land Reform. 	Jan to Dec 2015

Grade	Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector				Resources	Time Frames
			DBE	PED	District	Teachers		
Grade 12	Geography	<ul style="list-style-type: none"> Lack of basic concepts and content knowledge. Failure to interpret cartoons, graphs, sketches and photos. 	<ul style="list-style-type: none"> Distribute mind the gap. Provide notes on geography learning space. Monitor content coverage. 	<ul style="list-style-type: none"> Print and distribute to teachers. Provide textbooks. Monitor content coverage. 	<ul style="list-style-type: none"> Textbooks. Internet sources. Previous question papers. Monitor. 	<ul style="list-style-type: none"> Teachers should teach basic concepts and content on climate and weather, geomorphology, settlement and economic geography. 	<ul style="list-style-type: none"> Print and distribute. Provide training to teachers. Monitor. 	Jan to Dec 2015
			<ul style="list-style-type: none"> DBE question paper exemplar booklet. 	<ul style="list-style-type: none"> DBE question paper exemplar booklet. 	<ul style="list-style-type: none"> Gather various and paste on geography learning space. 	<ul style="list-style-type: none"> Provide DBE question paper exemplar booklet. 	<ul style="list-style-type: none"> Internet newspapers. 	<ul style="list-style-type: none"> Jan to Dec 2015
		<ul style="list-style-type: none"> Paragraph writing improved but basic content lacks. 	<ul style="list-style-type: none"> Provide exemplar paragraphs from previous exam papers and paste on geography learning space. Monitor teacher training. 	<ul style="list-style-type: none"> Access exemplar paragraphs from Thutong and print for distribution. Train teachers. Monitor implementation. 	<ul style="list-style-type: none"> Text to practice paragraph writing. Extract paragraph from previous question papers. 	<ul style="list-style-type: none"> Teachers to teach summary writing after each content session. Provide case studies on geographical phenomenon and guide learners to write paragraphs. 	<ul style="list-style-type: none"> Distribute to schools Teacher training. Monitor. 	<ul style="list-style-type: none"> Jan to Dec 2015
		<p>Map work</p> <ul style="list-style-type: none"> Skills such as drawing, measuring, calculation, interpretation and analysis. 	<ul style="list-style-type: none"> Reprint self-Map work study guide. Mind the Gap Study Guide to be distributed to other provinces. Mediate Monitor. 	<ul style="list-style-type: none"> Print and distribute self-study guides and Mind the Gap. 	<ul style="list-style-type: none"> Print and distribute self-study guides and Mind the Gap. 	<ul style="list-style-type: none"> Teach basic and advance map reading skills to learners. Teach learners how to orientate different maps. Apply teaching strategies to teach map work. 	<ul style="list-style-type: none"> Print and distribute self-study guides and Mind the Gap. 	<ul style="list-style-type: none"> Jan to Dec 2015
		<p>Geography Information system (GIS)</p> <ul style="list-style-type: none"> Lack of understanding of concepts and processes 	<ul style="list-style-type: none"> Provide Department of Rural Development and Land Reform Guide and DBE Guide. 	<ul style="list-style-type: none"> Print and distribute. Organise workshops with Department of Rural Development and Land Reform. 	<ul style="list-style-type: none"> Print and distribute. Offer specialist GIS training to teachers through Department of Rural Development and Land Reform. 	<ul style="list-style-type: none"> Print and distribute. Offer specialist GIS training to teachers through Department of Rural Development and Land Reform. 	<ul style="list-style-type: none"> Jan to Dec 2015 	

Remedial Measures & Responsibility at each Level in the Sector							Time Frames	
Grade	Subject	Identified Weaknesses	DBE	PED	District	Teachers		Resources
Grade 10	History	<ul style="list-style-type: none"> Lack of content knowledge and concept. Failure to interpret historical sources. Failure to grasp words such as 'limitations', 'bias', 'similarities' and 'differences'. Failure to write paragraphs and essays. 	<ul style="list-style-type: none"> Provide notes on history learning space. Distribute CDs of Exemplar Question Paper Booklet. 	<ul style="list-style-type: none"> Provide CAPS aligned textbooks. Distribute CDs of Exemplar Question Paper Booklet. 	<ul style="list-style-type: none"> Print notes and distribute CDs of Exemplar Question Paper Booklet. 	<ul style="list-style-type: none"> Teach content and concepts on the major empires of China, Songhai and European societies: colonization of Africa by Europe; French Revolution; Transformations in southern Africa (1750); Colonial expansion after 1750; and The SA War and Union. 	<ul style="list-style-type: none"> Textbooks. Previous Question Papers. 	Jan to Dec 2015
			<ul style="list-style-type: none"> Print DBE Self-study Guide on how to teach Historical sources & skills. 	<ul style="list-style-type: none"> Distribute the self-study guides. 	<ul style="list-style-type: none"> Distribute Self-study Guide on Historical sources & skills. 	<ul style="list-style-type: none"> Gather a variety of sources from textbooks & internet for reading and interpretation, e.g. cartoons, speeches, photographs, tables, graphs, maps, etc. 	<ul style="list-style-type: none"> Distribute. Mediate. Monitor. 	Jan to Dec 2015
			<ul style="list-style-type: none"> Distribute question papers. 	<ul style="list-style-type: none"> Distribute question papers. 	<ul style="list-style-type: none"> Distribute previous question papers 	<ul style="list-style-type: none"> Teachers should use these words during teaching and assessment 	<ul style="list-style-type: none"> Distribute. 	Jan to Dec 2015
Grade 11	History	<ul style="list-style-type: none"> Failure to write paragraphs and essays. Lack of concepts and content knowledge. Failure to interpret historical sources. Failure to grasp words such as 'limitations', 'bias', 'similarities' and 'differences'. Failure to write essays. 	<ul style="list-style-type: none"> Print DBE guide on exemplar essays. 	<ul style="list-style-type: none"> Distribute DBE guide on exemplar essays. 	<ul style="list-style-type: none"> Distribute. DBE guide on exemplar essays. 	<ul style="list-style-type: none"> Reinforce paragraph writing and summary writing. Teachers should teach various components of an essay and help learners on how to develop and follow a line of argument. 	<ul style="list-style-type: none"> Distribute. DBE guide on exemplar essays. 	Jan to Dec 2015
			<ul style="list-style-type: none"> Distribute DBE guide on concepts. 	<ul style="list-style-type: none"> Distribute DBE Self-study guide on these topics and concepts. Provide textbooks. 	<ul style="list-style-type: none"> Distribute DBE Self-study guide on these topics and concepts. Provide textbooks. 	<ul style="list-style-type: none"> Teach content and concepts on Communism in Russia; Capitalism; Nationalism; pseudo-scientific ideas of race; and Apartheid South Africa. 	<ul style="list-style-type: none"> Distribute DBE Self-study guide on these topics and concepts. Provide textbooks. 	Jan to Dec 2015
			<ul style="list-style-type: none"> Print DBE Self-study Guide on Historical sources & skills. 	<ul style="list-style-type: none"> Distribute DBE Self-study Guide on Historical sources & skills. 	<ul style="list-style-type: none"> Distribute DBE Self-study Guide on Historical sources & skills. 	<ul style="list-style-type: none"> Gather a variety of sources from textbooks & internet for reading and interpretation in the classroom e.g. cartoons, speeches, photographs, tables graphs, maps, etc. 	<ul style="list-style-type: none"> Distribute, Mediate & Monitor. DBE Self-study Guide on Historical sources & skills. 	Jan to Dec 2015
Grade 11	History	<ul style="list-style-type: none"> Failure to grasp words such as 'limitations', 'bias', 'similarities' and 'differences'. Failure to write essays. 	<ul style="list-style-type: none"> Distribute DBE Question Paper Exemplar Booklet containing previous question papers from various provinces. 	<ul style="list-style-type: none"> Distribute DBE Question Paper Exemplar Booklet containing previous question papers from various provinces. 	<ul style="list-style-type: none"> Distribute DBE Question Paper Exemplar Booklet containing previous question papers from various provinces. 	<ul style="list-style-type: none"> Teachers should use these words during daily teaching and classroom assessment. 	<ul style="list-style-type: none"> Distribute DBE Question Paper Exemplar Booklet containing previous question papers from various provinces. 	Jan to Dec 2015
			<ul style="list-style-type: none"> Print DBE guide on exemplar essays. 	<ul style="list-style-type: none"> Distribute. DBE guide on exemplar essays. 	<ul style="list-style-type: none"> Distribute DBE guide on exemplar essays. 	<ul style="list-style-type: none"> Reinforce paragraph writing and summary writing. Teacher should teach various components of an essay and help learners on how to follow a given line of argument. 	<ul style="list-style-type: none"> Distribute DBE guide on exemplar essays 	Jan to Dec 2015

Grade	Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector				Time Frames
			DBE	PED	District	Teachers	
Grade 12	History	<ul style="list-style-type: none"> Lack of content knowledge, especially on themes dealing with Independent Africa. 	Distribute the list of approved history textbooks.	Purchase & Distribute approved history textbooks.	Monitor & Distribute history textbooks.	<ul style="list-style-type: none"> Teachers should teach content and concepts of the Cold War, the impact of the Cold War on Angola, US Civil Rights Movement, and Civil Resistance in South Africa, TRC, & Globalisation. 	Jan to Dec 2015 Distribute, Monitor. History content coverage.
Grade 11	History	<ul style="list-style-type: none"> Failure to interpret historical sources Failure to grasp words such as 'limitations', 'bias', 'similarities' and 'differences'. Inability to write a coherent and well-balanced essay. by developing and sustaining a line of argument. 	<ul style="list-style-type: none"> Print Self-study Guide on Historical sources & skills Quality assure SBA tasks. Print DBE exemplar Guide on History essays (2013). 	<ul style="list-style-type: none"> Distribute the self-study guide Quality assure SBA tasks. Distribute the DBE guides. 	<ul style="list-style-type: none"> Distribute the self-study guide. Quality assure SBA tasks. Distribute the DBE guides. 	<ul style="list-style-type: none"> Teachers should use these words during teaching and assessment. Teachers should teach content for essays: Vietnam & USA in the Cold War, The comparative case studies of Congo and Tanzania after independence, Black Power Movement, The crisis of apartheid in the 1980s, the GNU in the 1990s, and Gorbachev's reforms in the Soviet Union. 	Jan to Dec 2015 Quality assure SBA tasks Distribute the DBE guides. Mediate. Monitor.

Grade	Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector				Time Frames	
			DBE	PED	District	Teachers		
Grade 10	Hospitality Studies	<ul style="list-style-type: none"> Learners lack basic foundational knowledge and subject terminology Learners lack deep understanding of concepts and are unable to explain basic terminology. 	Develop terminology guide on these topics: Sectors and careers, Kitchen and restaurant operations and Food and beverage service.	Mediate the guides to district officials. Distribute study guides to schools. Monitor and support training in the districts.	Identify and address gaps in teacher content knowledge. Mediate the study guides for teachers. Support, guide and monitor performance in the challenging content. Conduct demonstration lessons in the challenging areas.	Teachers need to teach basic concepts and terminology before teaching the topic and constantly test understanding. Basic concepts and terminology must continuously be reinforced and revised to improve learners' basic understanding of each topic. Teachers must use the appropriate subject terminology during teaching to expose learners to the meaning of the concepts.	<ul style="list-style-type: none"> Terminology guide. Textbooks. 	Jan to Dec 2015
		<p>Poor understanding of verbs: Learners could not respond to the verbs used in the question.</p> <p>Lack of basic comprehension skills: Inability to interpret texts; Inability to answer questions using own words; Inability to infer meaning, i.e. implied/literal/figurative.</p>	Develop guide outlining expected responses to higher order questions.	<ul style="list-style-type: none"> Distribute and mediate guide to Subject Advisors. Monitor teacher training and implementation at school level. Provincial officials to print and mediate the document.	<ul style="list-style-type: none"> Distribute and mediate guide to teachers. Apply guidelines in context. District officials to distribute and mediate the document.	<ul style="list-style-type: none"> Teach learners how to respond to higher order questions. Set sample questions for informal and formal tests Practise regularly in class to reinforce skills. Expose learners to various forms of visual stimuli and how to respond appropriately.	<ul style="list-style-type: none"> Textbooks Guide book. Past question papers. LAC application guide.	Jan to Dec 2015

Grade	Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector					Resources	Time Frames
			DBE	PED	District	Teachers			
Grade 11	Hospitality Studies	<p>Learners lack basic foundational knowledge</p> <ul style="list-style-type: none"> Learners struggled to answer basic knowledge questions, they are unfamiliar with terminology and concepts. 	<ul style="list-style-type: none"> Develop terminology guide on the following topics: Sectors and careers, Kitchen and restaurant operations and Food and beverage service. 	<ul style="list-style-type: none"> Mediate the guides to district officials. Distribute study guides to schools. Monitor and support training in the districts. 	<ul style="list-style-type: none"> Identify and address gaps in teacher content knowledge. Mediate the study guides for teachers. Support, guide and monitor performance in the challenging content. C o n d u c t demonstration lessons in the challenging content areas. 	<ul style="list-style-type: none"> Teachers should teach basic concepts and terminology before teaching the topic and constantly test understanding. Basic concepts and terminology must continuously be reinforced and revised to improve learner's basic understanding of each topic. Teachers should use the appropriate subject terminology during teaching to expose learners to the meaning of the concepts. 	<p>Mediate the guides to district officials.</p> <p>Distribute study guides to schools.</p> <p>Monitor and support training in the districts.</p>	Jan to Dec 2015	
Grade 11	Hospitality Studies	<p>Poor understanding of verbs:</p> <ul style="list-style-type: none"> Learners could not respond to the verbs used in the question. 	<ul style="list-style-type: none"> Compile document to explain common verbs and the expected responses. 	<ul style="list-style-type: none"> Provincial officials to print and mediate the document. 	<ul style="list-style-type: none"> The district officials to distribute, mediate and monitor the utilisation of the document. 	<ul style="list-style-type: none"> Ensure all formal and informal assessment comply quality and validity criteria. Learners should be taught the meaning of verbs. Use previous question papers as a teaching tool and informal assessment tool to expose learners to the different types of questions being asked and how to respond appropriately. 	<p>Textbooks.</p> <p>Previous question papers.</p>	Jan to Dec 2015	
Grade 11	Hospitality Studies	<p>Poor response to higher order questions:</p> <p>Lack of sound reasoning ability and are unable to express themselves clearly.</p>	<p>Develop guide outlining expected responses to higher order questions.</p>	<ul style="list-style-type: none"> Distribute and mediate guide to Subject Advisors. Monitor teacher training and implementation at school level. 	<ul style="list-style-type: none"> Distribute and mediate guide to Teachers. Apply guidelines in context. 	<ul style="list-style-type: none"> Teach learners how to respond to higher order questions. Set sample questions for informal and formal subjects. 	<p>Textbooks.</p> <p>Guidelines.</p>	Jan to Dec 2015	
Grade 12	Hospitality Studies	<p>The basic knowledge from grade 10 and 11 and 12 of learners is limited.</p> <p>Learners lack deep understanding of concepts and are unable to explain basic terminology.</p> <p>Learners struggled to answer basic knowledge questions, they are unfamiliar with terminology and concepts.</p>	<ul style="list-style-type: none"> Develop terminology guide on these topics: Sectors and careers, Kitchen and restaurant operations and Food and beverage service. Compile and distribute a basic and concept terminology list per topic. 	<ul style="list-style-type: none"> Mediate the study guides to district officials. Distribute study guides to schools. Monitor and support training in the districts. 	<ul style="list-style-type: none"> Identify and address gaps in teacher content knowledge. Mediate the study guides for teachers. Support, guide and monitor performance in the challenging content. C o n d u c t demonstration lessons in the challenging content areas. 	<ul style="list-style-type: none"> Teachers should teach basic concepts and terminology before teaching the topic and constantly test understanding. Basic concepts and terminology must continuously be reinforced and revised to improve learner's basic understanding of each topic. Teachers should use the appropriate subject terminology during teaching to expose learners to the meaning of the concepts. 	<ul style="list-style-type: none"> Textbooks. Terminology lists. 	Jan to Dec 2015	

Grade	Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector				Time Frames	
			DBE	PED	District	Teachers		
Grade 12	Hospitality Studies	<p>Poor understanding of verbs:</p> <ul style="list-style-type: none"> Learners could not respond to the verbs used in the question. 	<ul style="list-style-type: none"> Compile document to explain common verbs and the expected responses, 	<ul style="list-style-type: none"> Provincial officials to print and mediate the document. 	<ul style="list-style-type: none"> The district officials to distribute, mediate and monitor the utilisation of the document. 	<ul style="list-style-type: none"> Learners need to be taught the meanings of verbs. Use previous question papers as a teaching tool and informal assessment tool to expose learners to the different types of questions being asked and how to respond appropriately. 	Textbooks. Past question papers.	Jan to Dec 2015
		<p>Poor response to higher order questions:</p> <ul style="list-style-type: none"> Lack of sound reasoning ability and are unable to express themselves clearly. Learners struggled to evaluate concepts and if they did, many could not explain the reason for their opinion or make a deduction. They could not substantiate their choice, indicating limited or no understanding of a topic. 	<ul style="list-style-type: none"> Use previous question papers as a teaching tool and informal assessment. 	<ul style="list-style-type: none"> Offer training to district officials on the use of past question papers. 	<ul style="list-style-type: none"> Ensure all schools have copies of past question papers. Offer training to teachers on the use of past question papers. 	<ul style="list-style-type: none"> Teach learners how to respond to evaluation questions. Set questions requiring various cognitive abilities as part of teaching and informal assessment. Teach learners how to substantiate answers, this will ensure that learners are exposed to the way content can be tested and the type of questions that can be asked. Practice the skill of responding to higher order questions in class. 	<ul style="list-style-type: none"> Textbooks. Terminology lists. Past question papers and memos. 	Jan to Dec 2015

Grade	Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector				Resources	Time Frames
			DBE	PED	District	Teachers		
Grade 12	Hospitality Studies	<p>Learners misread / misinterpret questions:</p> <ul style="list-style-type: none"> Learners struggled to identify the gist of questions leading to incorrect responses. <p>Lack of basic comprehension skills:</p> <ul style="list-style-type: none"> Inability to interpret texts. Inability to answer questions using own words. Inability to infer meaning, i.e. implied/literal/figurative. <p>Menu and Recipe Calculations:</p> <p>Learners struggled to perform calculations relating to costing.</p> <p>Paragraph responses:</p> <ul style="list-style-type: none"> Showed a lack of in-depth knowledge. Candidates were not able to provide enough detail to earn full marks. Many learners struggled to express themselves in paragraph format. 	<ul style="list-style-type: none"> Develop and distribute examples of how to identify the crux of a question from the 2014 NSC Hospitality Studies examination paper. Develop and distribute basic guide on visual literacy and how to use and respond to visual stimuli. Distribute lessons on calculations to provinces. Set exemplar paragraph questions on various topics. Mediate LAC processes. Provide examples of how to infuse LAC into tourism lessons. 	<ul style="list-style-type: none"> Provincial officials to print and mediate the document. Provincial officials to print and mediate the document. Print and distribute lessons to districts. Offer methodology training to advisors on how to teach the topic. Offer training on paragraph writing using exemplars. Provincial officials train district officials on language across curriculum. 	<ul style="list-style-type: none"> District officials to distribute and mediate the document. District officials to distribute and mediate the document. Offer content training to teachers. Distribute self-study guide to schools Offer methodology training to teachers on how to teach the topic Provincial officials train teachers on the application of language across curriculum. 	<ul style="list-style-type: none"> Teach learners the skills of analysing a question to determine the focus of the question. Practise regularly in class to reinforce skills. Expose learners to various forms of visual stimuli and how to respond appropriately. Develop short (10 minute) informal monthly tests on costing to keep skills current. Learners lack basic theoretical knowledge about calculations relating to menu and meal costing. Teach learners arithmetical skills. Learners need to be given regular calculation exercises to practice. Teachers should teach paragraph writing skills to learners. Expose learners to the various types of paragraphs. Infuse LAC into all topics and focus on developing and strengthening the 4 language pillars. 	<p>2014 Examination guide.</p> <p>Past question papers. LAC application guide.</p> <p>Past question papers. Textbook.</p> <p>Textbook. LAC booklet.</p>	<p>Jan to Dec 2015</p> <p>Jan to Dec 2015</p> <p>Jan to Dec 2015</p> <p>Jan to Dec 2015</p>

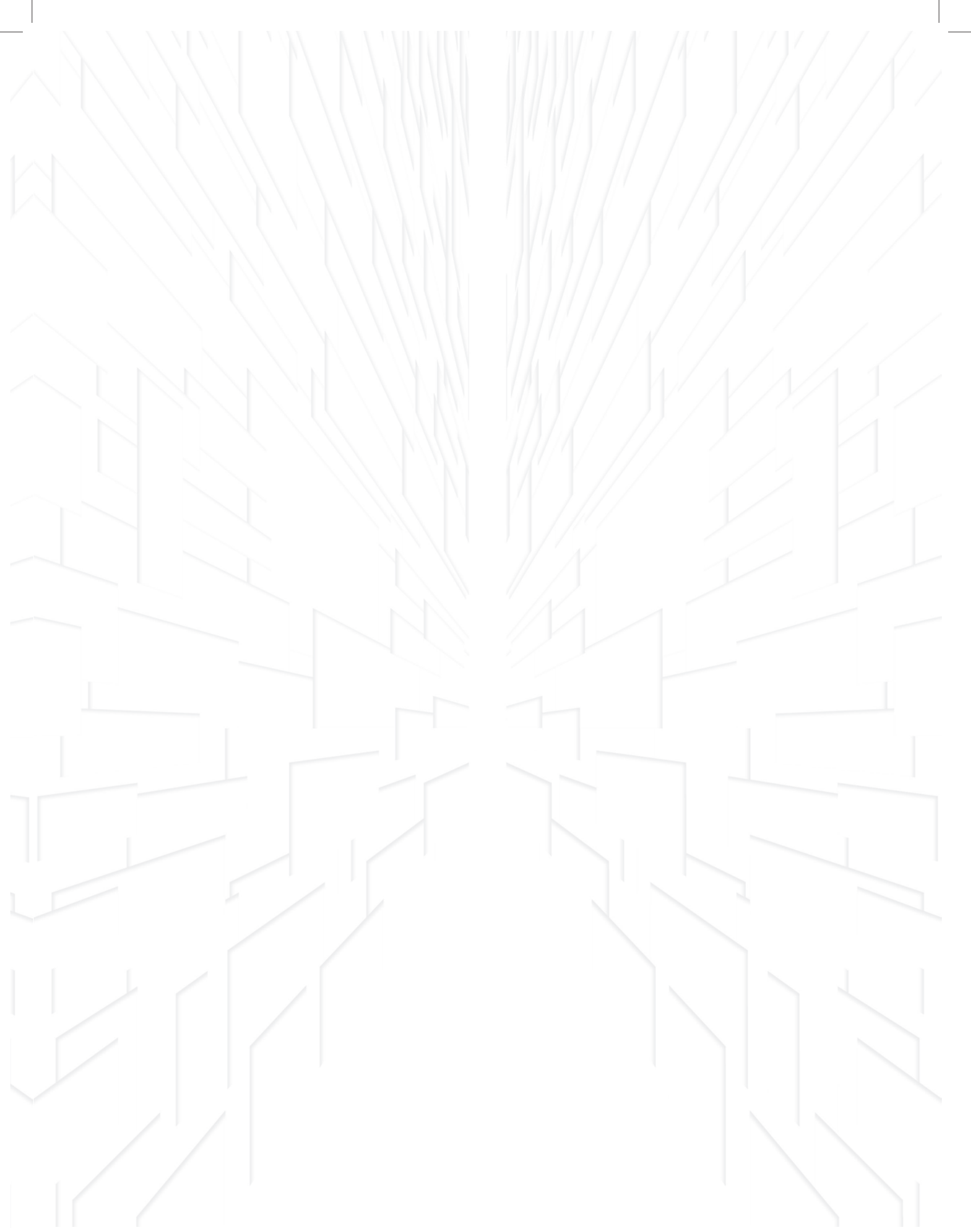
		Remedial Measures & Responsibility at each Level in the Sector					Time Frames	
Grade	Subject	Identified Weaknesses	DBE	PED	District	Teachers	Resources	
Grade 10	Information Technology	<p>General</p> <p>Poor understanding of verbs: Learners could not respond to the verbs used in the question.</p> <p>Poor response to higher order questions:</p> <ul style="list-style-type: none"> Learners were unable to make links and to apply knowledge, e.g. to answer case studies, make recommendations, etc. – lack of higher order thinking skills. Learners were not exposed to variety of question types, i.e. struggle to answer questions from 'all angles'. Learners were not exposed to higher order thinking questions. 	<ul style="list-style-type: none"> Compile document to explain common key words. Exemplar questions and expected responses. 	<ul style="list-style-type: none"> Mediate strategies. Mediate support 	<ul style="list-style-type: none"> Distribute, mediate and monitor the use and impact of support strategies. 	<ul style="list-style-type: none"> Teach and explain the meanings of key words in questions. Use exemplar questions and question papers as a teaching tool to expose learners to the different types of questions and how to respond appropriately. Ensure that class activities and homework include work/questions on all cognitive and difficulty levels. Teach learners how to solve problems. 	<p>Textbooks.</p> <p>Past question papers.</p>	Jan to Dec 2015
Grade 10	Information Technology	<p>Theory content</p> <ul style="list-style-type: none"> Learners lacked basic knowledge and understanding of theory concepts. Learners did not see 'connections' between different theory content/topics. As a result, learners were not able to integrate knowledge to answer higher order questions. 	<ul style="list-style-type: none"> Self-marking quizzes covering basic knowledge. Case studies / scenario-based questions to develop understanding and higher order thinking skills. Teaching methodologies to teach theory. 	<ul style="list-style-type: none"> Mediate to district officials. Distribute to schools. Monitor and support use in schools. Monitor and support training in the districts. 	<ul style="list-style-type: none"> Identify and address gaps in teacher content knowledge. Mediate support strategies. Support, guide and monitor performance in the challenging content. Mediate appropriate methodologies. C o n d u c t demonstration lessons in the challenging content area. 	<ul style="list-style-type: none"> Teachers need to teach theory. Basic concepts and terminology must continuously be reinforced and revised to improve learners' basic understanding of a topic. Highlight/demonstrate connections between topics/content. Ensure that learners receive homework on a daily basis - Theory homework should be given at the end of each theory lesson. Homework should include higher order questions and integration of content. 	<p>Textbooks.</p> <p>Self-marking quizzes.</p> <p>Case studies / scenario-based questions.</p> <p>Examples of teaching methodologies.</p>	Jan to Dec 2015

Grade		Remedial Measures & Responsibility at each Level in the Sector					Time Frames
Subject	Identified Weaknesses	DBE	PED	District	Teachers	Resources	
Grade 10 Information Technology	<p>Practical work</p> <p>General</p> <p>Poor response to higher order questions, especially open-ended problem solving question:</p> <ul style="list-style-type: none"> Struggled to apply and integrate programming constructs. Struggled to devise algorithm for problem. Lacked understanding of planning and designing a solution. Not fully understanding the algorithms taught. <p>Content specific</p> <ul style="list-style-type: none"> Struggled to understand scope of a variable. Initialising variables. Tracing logical programming errors. 	<p>Example questions using a variety of question types, cognitive and difficulty levels, including examples of open-ended problem solving questions.</p>	<ul style="list-style-type: none"> Distribute to schools. Monitor and support use in schools. Monitor and support training in the districts. Monitor impact. 	<ul style="list-style-type: none"> Identify and address gaps in teacher content knowledge. Mediate support strategies. Support, guide and monitor performance in the challenging content. Mediate appropriate methodologies. C o n d u c t demonstration lessons in the challenging content area. 	<ul style="list-style-type: none"> Place more emphasis on planning: Planning a solution and program design need a lot of emphasis as learners struggle with open-ended questions. Ensure that class activities and homework include work/questions on all cognitive and difficulty levels. Complete trace tables for algorithms. Troubleshoot algorithms/ programs using trace tables and watch facilities. Ensure that learners understand and are able to apply the algorithms mentioned as part of the IT content. Provide short, basic problems that require skills such as pattern recognition, etc., and let learners write the solution algorithm. Exercises where learners have to predict output, rewrite solutions in a more efficient way and complete trace tables to teach these principles. Practical homework should be given on a daily basis. Learners need to practice and reinforce the skills learnt at school. Where learners do not have computers at home, theory work on the programming contents should be provided which they can complete at home, e.g. devising an algorithm for a specific problem, plan a solution for a specific problem using software design tools, completing a trace table for a given solution, etc. which they can use to code/test the solution for the problem on the computer the following day. Teach problem solving. 	<p>Textbooks.</p> <p>Previous papers.</p>	<p>Jan to Dec 2015</p>

Grade	Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector				Time Frames	
			DBE	PED	District	Teachers		
Grade 11	Information Technology	<p>General</p> <p>Poor understanding of verbs: Learners could not respond to the verbs used in the question.</p> <p>Poor response to higher order questions:</p> <ul style="list-style-type: none"> Learners were unable to make links and to apply knowledge, e.g. to answer case studies, make recommendations, etc. – lack of higher order thinking skills. Learners were not exposed to variety of question types, i.e. struggle to answer questions from 'all angles'. Learners were not exposed to higher order thinking questions. <p>Theory content</p> <ul style="list-style-type: none"> Learners lacked basic knowledge and understanding of theory concepts. Learners did not see 'connections' between different theory content/topics. As a result, learners were not able to integrate knowledge to answer higher order questions. 	<ul style="list-style-type: none"> Compile document to explain common key words. Exemplar questions and expected responses. 	<ul style="list-style-type: none"> Mediate strategies. Mediate support 	<ul style="list-style-type: none"> Distribute, mediate and monitor the use and impact of support strategies. 	<ul style="list-style-type: none"> Teach and explain the meanings of key words in questions. Use exemplar questions and question papers as a teaching tool to expose learners to the different types of questions and how to respond appropriately. Ensure that class activities and homework include work/questions on all cognitive and difficulty levels. Teach learners how to solve problems. 	<p>Textbooks.</p> <p>Past question papers.</p>	Jan to Dec 2015
		<ul style="list-style-type: none"> Self-marking quizzes covering basic knowledge. Case studies / scenario-based questions to develop understanding and higher order thinking skills. Teaching methodologies to teach theory. 	<ul style="list-style-type: none"> Mediate to district officials. Distribute to schools. Monitor and support use in schools. Monitor and support training in the districts. 	<ul style="list-style-type: none"> Identify and address gaps in teacher content knowledge. Mediate support strategies. Support, guide and monitor performance in the challenging content. Mediate appropriate methodologies. C o n d u c t demonstration lessons in the challenging content area. 	<ul style="list-style-type: none"> Teachers should teach theory. Basic concepts and terminology must continuously be reinforced and revised to improve learners' basic understanding of a topic. Highlight/demonstrate connections between topics/content. Ensure that learners receive homework on a daily basis - Theory homework should be given at the end of each theory lesson. Homework should include higher order questions and integration of content. 	<p>Textbooks.</p> <p>Self-marking quizzes.</p> <p>Case studies / scenario-based questions.</p> <p>Examples of teaching methodologies.</p>	Jan to Dec 2015	

Grade	Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector				Time Frames
			DBE	PED	District	Teachers	
Grade 11	Information Technology	<p>Practical work</p> <p>General</p> <p>Poor response to higher order questions, especially open-ended problem solving questions:</p> <ul style="list-style-type: none"> • Struggled to apply and integrate programming constructs. • Struggled to devise algorithm for problem. • Lacked understanding of planning and designing a solution. • Not fully understanding the algorithms taught. <p>Content specific</p> <ul style="list-style-type: none"> • Struggled to understand scope of a variable. • Initialising variables. • Struggled with parameter passing. • Dynamic instantiation of objects. • Tracing logical programming errors. 	<ul style="list-style-type: none"> • Example questions using a variety of question types, cognitive and difficulty levels, including open-ended problem solving questions. 	<ul style="list-style-type: none"> • Distribute to schools. • Monitor and support use in schools. • Monitor and support training in the districts. • Monitor impact. 	<ul style="list-style-type: none"> • Identify and address gaps in teacher content knowledge. • Mediate support strategies. • Support, guide and monitor performance in the challenging content. • Mediate appropriate methodologies. • C o n d u c t demonstration lessons in the challenging content area. 	<ul style="list-style-type: none"> • Place more emphasis on planning: Planning a solution and program design need a lot of emphasis as learners struggle with open-ended questions. • Ensure that class activities and homework include work/questions on all cognitive and difficulty level. • Complete trace tables for algorithms. • Troubleshoot algorithms/ programs using trace tables and watch facilities. • Ensure that learners understand and are able to apply the algorithms mentioned as part of the IT content. • Provide short, basic problems that require skills such as pattern recognition, etc. an let learners write the solution algorithm. • Exercises where learners have to predict output, rewrite solutions in a more efficient way and complete trace tables to teach these principles. • Practical homework should be given on a daily basis. Learners need to practice and reinforce the skills learnt at school. • Where learners do not have computers at home, theory work on the programming contents should be provided which they can complete at home, e.g. devising an algorithm for a specific problem, plan a solution for a specific problem using software design tools, completing a trace table for a given solution, etc. which they can use to code/ test the solution for the problem on the computer the following day. • Teach problem solving. 	<p>Textbooks.</p> <p>Previous papers.</p>

		Remedial Measures & Responsibility at each Level in the Sector					Time Frames	
Grade	Subject	Identified Weaknesses	DBE	PED	District	Teachers	Resources	
Grade 12	Information Technology	<p>General</p> <p>Poor understanding of verbs: Learners could not respond to the verbs used in the question.</p> <p>Poor response to higher order questions:</p> <ul style="list-style-type: none"> Learners were unable to make links and to apply knowledge, e.g. to answer case studies, make recommendations, etc. – lack of higher order thinking skills. Learners were not exposed to variety of question types, i.e. struggle to answer questions from 'all angles'. Learners were not exposed to higher order thinking questions. 	<ul style="list-style-type: none"> Compile document to explain common key words. Exemplar questions and expected responses. 	<ul style="list-style-type: none"> Mediate strategies. Mediate support 	<ul style="list-style-type: none"> Distribute, mediate and monitor the use and impact of support strategies. 	<ul style="list-style-type: none"> Teach and explain the meanings of key words in questions. Use exemplar questions and question papers as a teaching tool to expose learners to the different types of questions and how to respond appropriately. Ensure that class activities and homework include work/questions on all cognitive and difficulty levels. Teach learners how to solve problems. 	<p>Textbooks</p> <p>Past question papers.</p>	Jan to Dec 2015
Grade 12	Information Technology	<p>Theory content</p> <ul style="list-style-type: none"> Learners lacked basic knowledge and understanding of theory concepts. Learners did not see 'connections' between different theory content/topics. As a result, learners were not able to integrate knowledge to answer higher order questions. 	<ul style="list-style-type: none"> Self-marking quizzes covering basic knowledge. Case studies / scenario-based questions to develop understanding and higher order thinking skills. Teaching methodologies to teach theory. 	<ul style="list-style-type: none"> Mediate to district officials. Distribute to schools. Monitor and support use in schools. Monitor and support training in the districts. 	<ul style="list-style-type: none"> Identify and address gaps in teacher content knowledge. Mediate support strategies. Support, guide and monitor performance in the challenging content. Mediate appropriate methodologies. C o n d u c t demonstration lessons in the challenging content area. 	<ul style="list-style-type: none"> Teachers should teach theory. Basic concepts and terminology must continuously be reinforced and revised to improve learners' basic understanding of a topic. Highlight/demonstrate connections between topics/content. Ensure that learners receive homework on a daily basis - Theory homework should be given at the end of each theory lesson. Homework should include higher order questions and integration of content. 	<p>Textbooks.</p> <p>Self-marking quizzes.</p> <p>Case studies / scenario-based questions.</p> <p>Examples of teaching methodologies.</p>	Jan to Dec 2015



Grade	Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector				Resources	Time Frames
			DBE	PED	District	Teachers		
Grade 12	Information Technology	<p>Practical work</p> <p>General</p> <p>Poor response to higher order questions, especially open-ended problem solving question:</p> <ul style="list-style-type: none"> Struggled to apply and integrate programming constructs. Struggled to devise algorithm for problem. Lacked the ability to plan and design a solution. Not fully understanding the algorithms taught. <p>Content specific</p> <ul style="list-style-type: none"> Data types. Struggled to understand scope of a variable. Initialise variables. Struggled with use of parameters and parameter passing. Many learners did not understand OOP. Learners should clearly understand the difference between terms such as assessors, mutators, auxiliary, etc. so that they are able to answer a question from 'any angle'. Instantiation of objects. Syntax of SQL and the use of Boolean operators. Tracing logical programming errors. 	<p>Example questions using a variety of question types, cognitive and difficulty levels, including examples of open-ended problem solving questions.</p>	<ul style="list-style-type: none"> Distribute to schools. Monitor and support use in schools. Monitor and support training in the districts. Monitor impact. 	<ul style="list-style-type: none"> Identify and address gaps in teacher content knowledge. Mediate support strategies. Support, guide and monitor performance in the challenging content. Mediate appropriate methodologies. C o n t e n t demonstration lessons in the challenging content area. 	<ul style="list-style-type: none"> Place more emphasis on planning: Designing a solution and program learners need a lot of emphasis as learners struggle with open-ended questions. Ensure that class activities and homework include work/questions on all cognitive and difficulty levels. Complete trace tables for algorithms. Troubleshoot algorithms/ programs using trace tables and watch facilities. Ensure that learners understand and are able to apply the algorithms mentioned as part of the IT content. Provide short, basic problems that require skills such as pattern recognition, etc. an let learners write the solution algo. Exercises where learners have to predict output, rewrite solutions in a more efficient way and complete trace tables to teach these principles. Practice using classes, e.g. provide the class and let use the same class in various programs or more than one class in one main program. Practical homework should be given on a daily basis. Learners need to practice and reinforce the skills learnt at school. Where learners do not have computers at home, theory work on the programming contents should be provided which they can complete at home. e.g. devising an algorithm for a specific problem, plan a solution for a specific problem using software design tools, completing a trace table for a given solution, etc. which they can use to code/test the solution for the problem on the computer the following day. Teach problem solving. 	Textbooks. Previous papers.	Jan to Dec 2015

Remedial Measures & Responsibility at each Level in the Sector							
Grade	Subject	Identified Weaknesses	DBE	PED	District	Teachers	
Resources	Time Frames						
Grade 10-12	Languages	<p>PAPER 1: LANGUAGE IN CONTEXT</p> <p>Comprehension:</p> <ul style="list-style-type: none"> • Inability to interpret texts; • Inability to answer questions using own words; • Inability to infer meaning, i.e. implied/literal/figurative; • Inability to answer questions which require insight. <p>Summary:</p> <ul style="list-style-type: none"> • Failure to follow the given instructions (e.g. lifting from the passage instead of using own words); • Failure to record words used as required. <p>Language: structure and conventions</p> <ul style="list-style-type: none"> • While there is a sign of improvement in this area, there are some shortcomings with analysing visual literacy. • Poor knowledge of language structures and conventions. • Poor application of language structures. • Poor editing skills. <p>Critical language awareness</p> <p>There is lack of understanding of some aspects of critical language awareness.</p> <p>Paper 2 :Literature:</p> <ul style="list-style-type: none"> • Poor preparation leading non-adherence to instructions; • No in-depth studying of literature text prior to writing the examinations; • Inability to answer higher order questions; • Misunderstanding the purpose of the excerpt; • Inability to interpret, analyse and motivate required aspects of the genres in literary essays (HL & FAL) ; • Lack knowledge of the content of genres e.g. features of literary texts such as characterisation, plot, sound devices. 	<p>Build a data bank of previous question papers for developing comprehension.</p> <p>Train Subject Advisors and Coordinators on setting and answering questions at different cognitive levels.</p> <p>Train Subject Advisors and Coordinators in summary features and teaching a summary.</p> <p>Develop script lessons in teaching summary writing and grammar, and avail them to schools.</p> <p>Monitor training and support.</p> <p>Version the English(generic) version of the critical language awareness self-study guide</p> <ul style="list-style-type: none"> - Print and send the study guide for literature to schools. - Train Subject Advisors and teachers in the use of study guides. • Develop script lessons on interpretation and analysis of literature and avail them to schools. 	<p>Print and distribute resources to districts.</p> <p>Cascade DBE training to SAs in the province.</p> <p>Version training to suit the needs of the province.</p> <p>Duplicate and flight lessons for districts.</p> <p>Set target performance in the paper.</p> <p>Monitor training and support.</p> <p>Print and distribute resources to districts.</p> <ul style="list-style-type: none"> • Provide networks. • Reprint and deliver study guide on literature to Schools. • Train district officials in the use of the study guide. • Monitor training of teachers in the use of study guides. • Mediate script lessons to district officials. • Reprint and distribute study guides. • Cascade training in monitor training in districts. 	<p>Avail training material and train teachers on how to prepare for Paper 1.</p> <p>Use material from data bank to train teachers and conduct demonstration lessons.</p> <p>Mediate script lessons to teachers and learners.</p> <p>Support, guide and monitor teaching.</p> <p>Avail training material and train teachers on how to prepare for Paper 1.</p> <p>Use material from data bank to train teachers and conduct demonstration lessons.</p> <p>Mediate script lessons to teachers and learners.</p> <p>Support, guide and monitor teaching.</p>	<p>Comprehension</p> <p>The teacher should:</p> <ul style="list-style-type: none"> • Expose learners to different texts and guide them in the interpretation thereof; • Teach different types of meanings in texts. • Expose learners to different types of questions – according to different cognitive levels. <p>Summary</p> <p>The language teacher should:</p> <ul style="list-style-type: none"> • Teach summary skills as stipulated in the CAPS; • Teach and practise features of summary writing <p>Language: structure and conventions</p> <p>The language teacher should:</p> <ul style="list-style-type: none"> • Use the language section of the previous question papers to develop learner response. • Keep a data bank of question papers which can be used to develop learner response. • Teach grammar explicitly and then lead learners to apply the knowledge through integration. • Expose learners to good grammar use by fellow learners in class as well as in texts read in class. • Teach critical language awareness focussing on language and power, including facts, opinions, bias, stereotyping, language and culture. • The teacher should teach features of literary texts such as characterisation, plot, sound devices. • Ensure that learners have textbooks and setworks. • Read the texts fully with the learners. • Teach the features of literature. • Teach learners the language of assessment. • Expose learners to different kinds of questions, at different cognitive levels. • Use previous examination question papers as practice tests. • Teach learners the structure of the question paper. 	<p>Comprehension</p> <p>Different types of texts for reading comprehension from past examination papers.</p> <p>Previous years' examination papers & memoranda.</p> <p>Gr 12: Examination Guidelines.</p> <p>Circular E2 of 2012. .</p> <p>CAPS.</p> <p>Summary</p> <p>Previous years' examination papers & memoranda.</p> <p>Gr 12: Examination Guidelines,</p> <p>Circular E2 of 2012 and CAPS.</p> <p>Previous years' examination papers & memoranda.</p> <p>Gr 12: Examination Guidelines, Circular E2 of 2012 and CAPS.</p> <p>critical language awareness self-study guide</p> <p>The English across the curriculum manual.</p> <p>Self-study</p> <p>Guide for Literature.</p> <p>Script lessons on literature analysis and interpretation.</p> <p>Previous years' examination papers & memoranda.</p> <p>Gr 12: Examination Guidelines.</p> <p>CAPS.</p> <p>Circulars on setworks:</p> <p>Circular E2 of 2012</p> <p>Circular S8 of 2012</p> <p>Circular S4 of 2011</p> <p>Circular S2 of 2010</p> <p>Circular S2 of 2009</p> <p>Circular S4 of 2008</p> <p>Circular S8 OF 2007</p> <p>Circular S15 Of 2014</p>

Grade	Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector				Resources	Time Frames
			DBE	PED	District	Teachers		
Grade 10-12	Languages	<p>Paper 3: Writing Essay, Transactional texts</p> <ul style="list-style-type: none"> • Incorrect format of an essay / transactional text; • Insufficient planning and editing of drafts; • Poor grasp of writing skills, poor sentence and paragraph construction, poor vocabulary and spelling. • Lack of understanding of punctuation marks, and orthography. • Challenges pertaining to interpretation of marking rubrics. • The majority of candidates wrote common texts such as letters and obituaries and avoided writing transactional texts such as newspaper articles, report, and interviews. 	<p>Reprint and send study guides for teaching creative writing to schools.</p> <p>Retrain Subject Advisors and cluster leaders on the use of study guides for teaching creative writing</p> <p>Retrain Subject Advisors and cluster leaders on the use of the rubrics.</p> <p>Monitor training in provinces and districts.</p>	<p>Photocopy the section on the format of transactional texts from the CAPS and the Self-study Guide for Writing and give to learners.</p>	<p>Train teachers in using the study guide and the rubric.</p> <p>Conduct demonstration lessons for teachers.</p> <p>Support, guide and monitor implementation of teaching of creative writing.</p> <p>Moderate the marking of creative writing pieces.</p>	<ul style="list-style-type: none"> • Teach the format and features of creative writing texts. • Expose learners to good texts written by peers and from other sources. • Teach learners the language of assessment. • Teach learners how they are assessed. • Teach learners writing process and application thereof. • Teach learners about different transactional texts such as letters, obituaries. 	<p>Self-study Guide for Writing, CAPS.</p> <p>Previous years' examination papers & memoranda.</p> <p>Gr 12: Examination Guidelines, Circular E2 of 2012 and CAPS.</p>	

Grade	Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector				Resources	Time Frames
			DBE	PED	District	Teachers		
Grade 10-12	Life Orientation	<p>Learners obtaining inflated marks for physical education</p> <p>Learners lacked reading skills and were unable to understand the cognitive demands of questions.</p> <p>Learners struggled with visual literacy.</p> <p>Many learners lack content knowledge on the following areas:</p> <ul style="list-style-type: none"> • Subjects, career fields and study choices; • Requirements for admission to higher education institutions. • Climate change. 	<p>To email lesson to all PDEs and place on the website.</p> <p>Will monitor progress and provide support.</p> <p>Will monitor progress and provide support.</p> <p>Monitor and support.</p> <p>Compile, edit, email, and place on website.</p>	<p>Provide reports to DBE on the number of works hops held at Provincial / District / and school Provide number of learners /teachers trained.</p> <p>Email best practice lesson plans to all Districts. Print and distribute.</p> <p>PDES to provide quarterly report on the number and quality of daily activities and whether it has any impact on improving performance.</p> <p>PDES to report on the number of activities done to improve visual literacy.</p> <p>PDEs to coordinate topics and email information to DBE.</p> <p>PDE to coordinate.</p>	<p>Provide reports on the number of schools trained / learners and teachers.</p> <p>Districts to hold workshops with teachers.</p> <p>Email best practice lesson plans to all schools. Print and distribute.</p> <p>Districts to assist teachers in identifying good activities that will improve writing skills for learners.</p> <p>Districts to send quarterly reports to PDEs on the number of Daily Activities and quality.</p> <p>Assist teachers with visual literacy activities, compile lesson plans on visual literacy, mediate activities from EAC booklet.</p> <p>Print, email and distribute.</p> <p>Districts to work with teachers in researching information to improve content on the subject.</p>	<p>Teachers should hold cluster workshops to improve practice.</p> <p>Teachers are encouraged to send best practice lesson to improve quality of PET.</p> <p>Teachers are required to teach paragraph and short essay writing techniques as part of Daily Activities to improve writing skills.</p> <p>Teachers are required to set excerpts and set a minimum of 3 -5 questions to improve learners Reading Skills. This should be part of Daily activities.</p> <p>Teachers need to mediate activities from EAC and particularly activities with cartoons.</p> <p>Teachers should research on these topics.</p>	<p>Physical Education Kits. Textbooks.</p> <p>Internet; Journals; newspapers; books;</p> <p>Textbooks.</p> <p>Internet; Journals; newspapers; books.</p> <p>Textbooks.</p> <p>Internet; Journals; newspapers; books.</p> <p>EAC booklet.</p> <p>Cartoons.</p> <p>Textbooks.</p>	<p>Jan to Dec 2015</p>

Grade		Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector				Resources	Time Frames
Grade		Subject	Identified Weaknesses	DBE	PED	District	Teachers	Resources	Time Frames
Grade 10-12	Life Sciences	<ul style="list-style-type: none"> Many learners were not familiar with biological terminology in many topics in Life Sciences. Learners demonstrated very limited knowledge of concepts such as natural selection, genetic dihybrid crosses, the out of Africa hypothesis, formulate hypothesis for scientific investigations. Many Candidates lacked the skill to write an essay on biological concepts and processes. Failure to grasp processes such as punctuated equilibrium and human phylogenetic trees. Learners struggled with Life Sciences vocabulary. 	<ul style="list-style-type: none"> Organize an NTT programme for PTT on teacher-development & Monitor. Print copies of 'Mind the Gap for Life Sciences in English and Afrikaans and distribute and monitor. Develop a vocabulary list for Life Sciences. Mediate. Develop and mediate exemplar essays for teachers and learners. Develop scripted lessons in all the problematic content areas in Life Sciences. Develop a single textbook for Life Sciences. Grades 10-12. Develop scripted lessons on the identified problematic content areas in Life Sciences. Broadcast difficult content areas to all teachers and learners. 	<ul style="list-style-type: none"> Organize a PTT programme on teacher-training for subject advisors on teacher-development. Print 'Mind the Gap in English and Afrikaans for Life Sciences, distribute & Monitor. Mediate national vocabulary list to all district officials. Input into the single Life Sciences textbook and mediate the subject in the provincial committee. Mediate scripted lessons to all Life Sciences subject advisors. Support Broadcast to teachers and HODs. 	<ul style="list-style-type: none"> Organize a teacher-training programme. Mediate 'Mind the Gap for Life Sciences in subject cluster meetings. Distribute, Implement & assess. Mediate national vocabulary list to all teachers and HODs. Mediate scripted lessons to all teachers and HODs. Support Broadcast to teachers and HODs. 	<ul style="list-style-type: none"> Teachers should address gaps in content knowledge. Teachers should teach learners particular concepts pertaining to natural selection, genetic dihybrid crosses, out of Africa hypothesis and hypothesis formulation of scientific investigations. Teachers should teach learners the skill to assimilate knowledge, sift through information and write a logical, well-constructed essay on biological concepts and processes. 	<ul style="list-style-type: none"> Detailed diagnostic reports and extra support materials (Previous years' examination papers & memoranda, SBA tasks, and resource material on contexts). Gr 12: Examination Guidelines. Siyavula Grades 10 and 11 Textbooks; Calculators. 	Jan to Dec 2015	
Grade 10-12	Mathematical Literacy	<p>Basic mathematical skills requiring use of BODMAS rule as well as working with 'big numbers' continue to be a problem.</p> <p>Learners' inability to derive a formula rather than simply using it when given.</p> <p>Poor performance in problems dealing with Taxation</p> <p>Learners seemed not to be familiar with quite a number of contexts used in examination papers.</p> <p>Failure to read/interpret and draw graphs (often associated with inability to read tables and layout plans).</p> <p>The following are concepts that are consistently problematic to learners and therefore still need to be given more attention:</p> <ul style="list-style-type: none"> space, shape and measurement, Conversions. 	<ul style="list-style-type: none"> Collate and distribute data banks of: <ul style="list-style-type: none"> previous question papers. SBA tasks. resource materials on various contexts. Partner with Bright Media in expanding the Managing Your Money Project to include subject advisor and teacher workshops on Taxation. Print study guides. Provide support on content in Cluster meetings. Develop special material on the use of language in mathematical contexts. 	<ul style="list-style-type: none"> Print and distribute resources to districts. Coordinate the Managing Your Money Project in districts. Print and distribute study guides to districts. Ensure that subject advisors monitor and support training in districts. Facilitate workshops on language use in the subject. 	<ul style="list-style-type: none"> Support, guide and monitor teaching. Identify under performing schools for participation in the Managing Your Money Project. Print and distribute study guides to schools. Use material from data bank to train teachers and conduct demonstration lessons. Provide support on the use of language in the subject. 	<p>The teacher should:</p> <ul style="list-style-type: none"> Drill learners on use of calculator and relate that to the BODMAS rule. Teach learners how to derive a formula from a given pattern. Pay special attention to taxation as well language used in tax calculations. Base formal assessment tasks on a variety of contexts. This calls for sourcing a variety of resources. Teach learners how to determine the smallest unit of measurement used on the set axes. Use paper cutting/folding to demonstrate features of shapes. 	<ul style="list-style-type: none"> Detailed diagnostic reports and extra support materials (Previous years' examination papers & memoranda, SBA tasks, and resource material on contexts). Gr 12: Examination Guidelines. Siyavula Grades 10 and 11 Textbooks; Calculators. 	Jan to Dec 2015	

Grade	Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector					Resources	Time Frames
			DBE	PED	District	Teachers			
Grade 10	Mathematics	<ul style="list-style-type: none"> Factorisation Simplification of fractions Properties of triangles Properties of quadrilaterals 	<ul style="list-style-type: none"> Provide Self-Study Guides. Monitor. CAPS implementation. Provide guidance and support to subject advisors. 	<ul style="list-style-type: none"> Provide textbooks aligned to CAPS. Develop notes and distribute them to schools. Subject advisor should assist with the teaching of content to learners. Monitor learners' classwork books. 	<ul style="list-style-type: none"> Print notes and distribute. Distribute Self-study Guide. Subject advisor should assist with the teaching of content to learners. Monitor learners' classwork books. 	<p>The teacher should:</p> <ul style="list-style-type: none"> Teach learners basic calculations on factorization, fractions, triangle and quadrilateral. Assess learners on the identified content by giving them quality tasks assessing all cognitive levels. Ensure that the whole curriculum for each grade is covered in full. 	<ul style="list-style-type: none"> Textbook; Siyavula Grade 10 textbook; Scientific calculator; Mathematical instrument; Exemplar papers for Grade 10; Previous question papers; Self-study Guide; Subject and CAPS document for Grade 10. 	<p>Jan to Dec 2015</p>	
			<ul style="list-style-type: none"> Learners lacked basic knowledge of algebra. 				<ul style="list-style-type: none"> Teach content thoroughly to equip learners with the basic skills of manipulating terms. Teach learners to manipulate activities without using a calculator. Ensure that learners know to distinguish similar triangles from congruent triangles. 		<p>Jan – Dec 2015</p>

Grade	Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector					Time Frames
			DBE	PED	District	Teachers	Resources	
Grade 11	Mathematics	<ul style="list-style-type: none"> Learners wrote the quadratic formula incorrectly. 	<ul style="list-style-type: none"> Provide Self-Study Guides Monitor CAPS implementation of CAPS. Provide guidance and support to subject advisors. 	<ul style="list-style-type: none"> Provide textbooks aligned to CAPS. Develop notes and distribute. Subject advisor should assist with the teaching of content to learners. Monitor learners' classwork books. 	<ul style="list-style-type: none"> Print notes and distribute. Distribute Self-study Guide. Subject advisor should assist with the teaching of content to learners. Monitor learners' classwork books. 	<ul style="list-style-type: none"> Teach learners to master formulae. Train learners to use different methods to solve problems. 	<ul style="list-style-type: none"> Textbook; Siyavula Grade 11 textbook; Scientific calculator; Mathematical instrument; Exemplar papers for Grade 11; November 2013 and 2014 question papers set by DBE; Self-study Guide; and CAPS document for Grade 11. 	Jan to Dec 2015
		<ul style="list-style-type: none"> Learners lacked basic knowledge on content. Basic principles of Euclidean Geometry. 				<ul style="list-style-type: none"> Ensure that learners know how to distinguish between similar and congruent triangles. Ensure that learners know theorem statements by heart and their application. Teachers should ensure that learners know conditions for independent events in probability. 		

Grade	Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector				Resources	Time Frames
			DBE	PED	District	Teachers		
Grade 12	Mathematics	<ul style="list-style-type: none"> Functions and graphs Calculus Analytical Geometry: learners lack the application of the equation $(x - a)^2 + (y - b)^2 = r^2$ Probability Euclidean Geometry: Learners seemed to lack the application of similarity of two triangles 	<ul style="list-style-type: none"> Provide Self-Study Guides Monitor implementation of CAPS Provide guidance and support to subject advisors. 	<ul style="list-style-type: none"> Provide textbooks aligned to CAPS Develop notes and distribute Subject advisor should assist with the teaching of content to learners Monitor learners' classwork books 	<ul style="list-style-type: none"> Print notes and distribute Distribute Self-study Guide Subject advisor should assist with the teaching of content to learners Monitor 	<ul style="list-style-type: none"> Teach learners to master formulae. Train learners to use different methods to solve problems. Teachers should train learners on how to sketch a graph and vice versa to derive its equation if it is drawn. Use previous question papers to teach the application of Calculus. Teachers are encouraged to use various methods to find the turning point and the axis of symmetry. Learners need to be taught thoroughly on how to find the equation of a circle with centre (0 : 0) and when the centre is out the origin of the Cartesian plane. Ensure that probability problems done in Grades 10 and 11 are used when explaining counting principle in Grade 12. Learners are encouraged to know the theorems so that they can be able to provide reasons for their statements. 	<ul style="list-style-type: none"> Textbook; Siyavula Grade 11 textbook; Scientific calculator; Mathematical instrument ; Exemplar papers for Grade 12; Revise using November 2014 Grade 12 Maths papers; Self-study Guide ; CAPS document for Grade 10, 11 and 12 	Jan to Dec 2015.
Grade 10	Mechanical Technology	<ul style="list-style-type: none"> Lack of basic concepts and content knowledge to differentiate between general, specific machine and personal safety 	<ul style="list-style-type: none"> Provide content notes on general, specific machine and personal safety. 	<ul style="list-style-type: none"> Provide content notes on general, specific machine and personal safety. Mediate Monitor 	<ul style="list-style-type: none"> Provide content notes on general, specific machine and personal safety. Distribute previous question papers 	<ul style="list-style-type: none"> Teachers should teach basic concepts and content knowledge to differentiate between general, specific machine and personal safety 	<ul style="list-style-type: none"> Distribute, Mediate & Monitor 	Jan to Dec 2015

Grade	Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector				Resources	Time Frames	
			DBE	PED	District	Teachers			
Grade 10	Mechanical Technology	<ul style="list-style-type: none"> Lack of basic concepts and content knowledge to differentiate between the uses and advantages of MIGS/MAG welding and identifying all components of a multimeter. 	<ul style="list-style-type: none"> Distribute DBE Question Paper Exemplar. Booklet on the uses and advantages of MIGS/MAG welding and identifying all components of a multimeter. 	<ul style="list-style-type: none"> Distribute DBE Question Paper Exemplar. Booklet on the uses and advantages of MIGS/MAG welding and identifying all components of a multimeter. 	<ul style="list-style-type: none"> Distribute DBE Question Paper Exemplar. Booklet on the uses and advantages of MIGS/MAG welding and identifying all components of a multimeter. 	<ul style="list-style-type: none"> Distribute DBE Question Paper Exemplar Booklet on the uses and advantages of MIGS/MAG welding and identifying all components of a multimeter. 	Jan to Dec 2015		
			<ul style="list-style-type: none"> Use Tools and equipment in the classroom. 	<ul style="list-style-type: none"> Distribute charts of Tools and equipment. 	<ul style="list-style-type: none"> Distribute charts of Tools and equipment. 	<ul style="list-style-type: none"> Teach basic Tools and equipment. 		<ul style="list-style-type: none"> Textbooks Previous question papers and teaching models. 	Jan to Dec 2015
			<ul style="list-style-type: none"> Lack of understanding of concepts and processes, interpret the iron-carbon equilibrium diagram. 	<ul style="list-style-type: none"> Print and distribute. Organize workshops with Skills training centres on iron-carbon equilibrium diagram. 	<ul style="list-style-type: none"> Print and distribute. Offer Specialist training to teachers through Skills centres. 	<ul style="list-style-type: none"> Teachers should teach basic concepts of iron-carbon equilibrium diagram. 		<ul style="list-style-type: none"> Print and distribute . Offer Specialist training to teachers through Skills centres. 	
Grade 11	Mechanical Technology	<ul style="list-style-type: none"> Lack of basic concepts and content knowledge to use of the correct formulae, and the applicable SI units. 	<ul style="list-style-type: none"> Provide calculations on use of the correct formulae, and the applicable SI units. Monitor content coverage. 	<ul style="list-style-type: none"> Print and distribute to teachers. Provide booklets on calculations on the use of the correct formulae, and the applicable SI units. Monitor content coverage. 	<ul style="list-style-type: none"> Print and distribute. Provide training to teachers. Monitor. 	<ul style="list-style-type: none"> Booklets. Previous question papers. 	Jan to Dec 2015		
			<ul style="list-style-type: none"> Provide Question Paper Exemplar Booklet. 	<ul style="list-style-type: none"> Distribute Question Paper Exemplar Booklet. 	<ul style="list-style-type: none"> Distribute Question Paper Exemplar Booklet. 	<ul style="list-style-type: none"> Teachers should teach basic concepts and content on use of the correct formulae, and the applicable SI units. 		<ul style="list-style-type: none"> Booklets. Previous question papers. 	Jan to Dec 2015
			<ul style="list-style-type: none"> Lack of basic concepts and content knowledge skills on the labeling of the MIGS/MAGS. 	<ul style="list-style-type: none"> Distribute Question Paper Exemplar Booklet. 	<ul style="list-style-type: none"> Distribute Question Paper Exemplar Booklet. 	<ul style="list-style-type: none"> Gather sources from the internet on concepts and content knowledge skills on MIGS/MAGS. 		<ul style="list-style-type: none"> Internet resource & Engineering articles on various topics should be used. 	

Grade	Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector					Time Frames
			DBE	PED	District	Teachers	Resources	
Grade 12	Mechanical Technology	<ul style="list-style-type: none"> Lack of basic concepts and content knowledge on the difference between vertical and horizontal components. 	<ul style="list-style-type: none"> Distribute models Provide notes on vertical and horizontal components. Monitor content coverage. 	<ul style="list-style-type: none"> Print and distribute to teachers. Provide workbooks. Monitor content coverage. 	<ul style="list-style-type: none"> Textbooks. Internet sources. Previous question papers. Monitor. 	<ul style="list-style-type: none"> Teacher should teach basic concepts and content on the difference between vertical and horizontal components. 	<ul style="list-style-type: none"> Print and distribute. Provide training to teachers. Monitor. 	Jan to Dec 2015
			<ul style="list-style-type: none"> Provide content notes on trigonometric angles to solve the problems. 	<ul style="list-style-type: none"> Provide content notes on trigonometric angles to solve the problems. Mediate. Monitor. 	<ul style="list-style-type: none"> Provide content notes on trigonometric angles to solve the problems. Distribute previous question papers. 	<ul style="list-style-type: none"> Teachers should teach basic use trigonometric angles to solve the problems. 	<ul style="list-style-type: none"> Distribute. Mediate & Monitor. 	
		<ul style="list-style-type: none"> Components of a clutch assembly. 	<ul style="list-style-type: none"> Access exemplar on components of a clutch assembly and use teaching models from Thutong and print for distribution. Train teachers. Monitor implementation. 	<ul style="list-style-type: none"> Distribute charts on components of a clutch assembly and use teaching models. 	<ul style="list-style-type: none"> Teachers to teach Components of a clutch assembly and use teaching models. 	<ul style="list-style-type: none"> Distribute to schools. Teacher training. Monitor. 	Jan to Dec 2015	
		<ul style="list-style-type: none"> Components of turbines and advantages turbines. 	<ul style="list-style-type: none"> Print charts of Components of turbines. 	<ul style="list-style-type: none"> Print and distribute Components of turbines. 	<ul style="list-style-type: none"> Print and distribute charts components of turbines. 	<ul style="list-style-type: none"> Teach basic concepts and content knowledge on components of turbines and advantages turbines. 		<ul style="list-style-type: none"> Print and distribute charts components of turbines.

Grade	Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector				Resources	Time Frames
			DBE	PED	District	Teachers		
Grade 10-12	Music	<p>Comprehension:</p> <ul style="list-style-type: none"> • Inability to identify scales and keys in existing music. • Inability to answer questions which require insight. • Inability to understand the whole stream of Indigenous African Music. 	<ul style="list-style-type: none"> • Build a data bank of previous question papers to identify scales and keys in existing music. • Train Subject Advisors and Coordinators on setting and answering questions at different cognitive levels. • Train Subject Advisors and Coordinators in developing script lessons in teaching scales and keys in existing music. • Monitor training and support. • Print and send the study guide for literature to schools. • Train Subject Advisors and teachers in the use of study guides. • Reprint and send study guides for teaching creative writing to schools. • Retrain Subject Advisors and cluster leaders on the use of the rubrics. • Monitor training in provinces and districts. 	<ul style="list-style-type: none"> • Print and distribute resources to districts. • Cascade DBE training to SAs in the province. • Version training to suit the needs of the province. • Duplicate and flight lessons for districts. • Set target performance in the paper. • Monitor training and support. • Reprint and deliver study guide in identifying scales and keys in existing music. • Train district officials in the use of the study guide. • Monitor training of teachers in the use of study guides. • Mediate script lessons to district officials. • Reprint and distribute study guides. • Cascade training to SAs. • Monitor training in districts. 	<ul style="list-style-type: none"> • Avail training material and train teachers on how to prepare for Paper 1. • Use material from data bank to train teachers and conduct demonstration lessons. • Mediate script lessons to teachers and learners. • Support, guide and monitor teaching. • Avail training material and train teachers on how to prepare for Paper 1. • Use material from data bank to train teachers and conduct demonstration lessons. • Mediate script lessons to teachers and learners. • Support, guide and monitor teaching. • Train teachers in using the study guide and the rubric. • C o n d u c t demonstration lessons for teachers. • Support, guide and monitor implementation and teaching of creative writing. • Moderate the marking of analysed works of art in relation to cultural, social, and political contexts. 	<p>The teacher should:</p> <ul style="list-style-type: none"> • Expose learners to different scales and keys in existing music and guide them in the interpretation thereof; • Teach different types of meanings in texts. • Expose learners to different types of questions – according to different cognitive levels. 	<p>Comprehension</p> <ul style="list-style-type: none"> • Different types of texts for reading comprehension compiled from past examination papers. • Previous years' examination papers & memoranda. • Gr 12: Examination Guidelines. • Previous years' examination papers & memoranda. • Gr 12: Examination Guidelines. • Previous years' examination papers & memoranda. • Gr 12: Examination Guidelines. • Self-study Guide. • Previous years' examination papers & memoranda. • Gr 12: Examination Guidelines. • Circulars on prescribed works: • Previous years' examination papers & memoranda. • Gr 12: Examination Guidelines. • Teacher's notes; Internet; Textbooks. 	Jan to Dec 2015

Grade	Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector				Resources	Time Frames
			DBE	PED	District	Teachers		
Grade 10-12	Physical Sciences (Chemistry Grade 10-12)	<ul style="list-style-type: none"> Basic concepts on all chemistry sections are very narrowly defined and are taught without context. This makes the subject very abstract and learners are not even able to use common sense. 	<ul style="list-style-type: none"> Provide scripted lesson plans and booklets that demonstrate context and application of concepts and principles of chemistry. Compile and distribute CDs of Exemplar Question Papers. Encourage provinces to tie promotion to completed training courses and performance of teachers and HODs. Actively engaged with bodies such as AU, UNESCO and SADAC on science education matters. Locally engage with universities on their programs and their research on science education. 	<ul style="list-style-type: none"> Provide CAPS aligned textbooks. Distribute CDs of Exemplar Question Paper Booklet. Become actively involved in the development of curricula with universities. Arrange for teachers to undergo regular refresher courses training or retraining on content, methodologies and also encourage them to develop their own methodologies. 	<ul style="list-style-type: none"> Print notes and distribute CDs of Exemplar Question Paper Booklet. Schedule for viewing of TV programs with schools and teacher centres. 	<ul style="list-style-type: none"> Concepts need to be well defined and well explained. Teachers to report back to the system regularly on their success and challenges. 	<ul style="list-style-type: none"> Textbooks. Previous Question Papers. Additional materials relevant to topics. 	Jan to Dec 2015
	Chemistry Grade 10	Basic concepts seemed to be understood in a very shallow manner	<ul style="list-style-type: none"> Provide concrete models for grounding these young learners as they are introduced to chemistry. 	<ul style="list-style-type: none"> Insist on training that helps teacher to concretise the abstract concepts in chemistry from HEIs and NGOs. DBE to engage with Teacher Development in approving course content that is used to train teachers. Teachers to be taken through the development, history and philosophy of science to avoid parrot like teaching of facts. 	<ul style="list-style-type: none"> Carefully scrutinize materials used for training of grade 10 teachers by NGOs and HEI. Insist on original material with creativity and ingenuity instead of copied content and methodologies. Provinces insist on training of teachers and sharing of good practice as well as encourage teachers to do action research so as to inform the system. 	<ul style="list-style-type: none"> The transfer from concrete models to abstract chemistry difficult for most of these learners who are still on the concrete operational stage; teachers should therefore pay attention to this area and assist learners accordingly. Basic concepts to be taught in a manner that demonstrates their usefulness throughout the study of chemistry. 	All relevant materials.	Jan to Dec 2015
	Physical Sciences (Chemistry Grade 11)	The concepts seemed to be understood in a very shallow manner.	<ul style="list-style-type: none"> Provide examples and background information on chemical reactions. 	<ul style="list-style-type: none"> Provinces to engage active use of materials provided. 	<ul style="list-style-type: none"> Districts to engage active use of materials provided. 	<ul style="list-style-type: none"> Chemical change to be expanded to demonstrate the main characteristics of chemical change so as to lay a foundation for all reactions. 	Good materials.	Jan to Dec 2015

Remedial Measures & Responsibility at each Level in the Sector						Resources	Time Frames	
Grade	Subject	Identified Weaknesses	DBE	PED	District			Teachers
Grade 10-12	Physical Sciences (Chemistry Grade 12)	<p>The concepts seemed to be understood in a very shallow manner.</p> <p>Learners did not seem to be able to apply common sense in some instances.</p>	<ul style="list-style-type: none"> Provide examples and background information on chemical reactions, polymer chemistry including contemporary issues. 	<ul style="list-style-type: none"> Provinces to engage active use of materials provided. 	<ul style="list-style-type: none"> Districts to engage active use of materials provided 	<ul style="list-style-type: none"> Chemical change. Organic and Polymer chemistry. General calculations including BODMAS and ratios. 	Well-developed materials.	Jan to Dec 2015
	Physical Sciences (Physics Grade 10)	<p>Physics</p> <ul style="list-style-type: none"> It appeared that learners did not do adequate revision of concepts done in Grade 11, e.g. Newton's Laws, Electricity and Electrostatics. Inability to use and/or no access to scientific calculators. Inability to answer pure recall questions, state definitions, laws and principles. Inability to convert to correct units and solve equations. Inability to draw, interpret and analyse graphs. Poor understanding of basic concepts like wavelength, frequency, emf, internal resistance, terminal potential difference, work and energy due to a lack of practical work. Inability to answer multi-step problems. Poor understanding of the vector nature of velocity, displacement acceleration, momentum and impulse. 	<ul style="list-style-type: none"> Script lessons on vectors, Motion in 1-D, electric circuits and problem-solving that also include graphs and provide these on DVD and TV. Monitor and Support. Source and share grade 10 test and examination papers and memoranda with provinces. Workshop subject advisors on practical work based on experiments and investigations in the curriculum. 	<ul style="list-style-type: none"> PDE should ensure that all Physical Sciences learners have a scientific calculator and are able to use it for both arithmetic calculations and trigonometry. PDE should develop and distribute to learners a summary of all scientific terms, laws, principles, definitions and equations. Source and distribute best practice on high quality class tests, homework exercises and examination papers. Develop Exemplar Weekly "speed tests" (± 10 minutes) need to be given to learners to help them remember scientific terms, laws, principles, definitions and conversions. Prepare and distribute a laboratory guide with detailed experiments and investigations. Workshop teacher on practical work based on experiments and investigations in the curriculum. Workshop teachers on "How to teach problem-solving in Physics" using vectors, Motion in 1-D, electric circuits as the context. 	<ul style="list-style-type: none"> Ensure that all schools have equipment. Ensure Physical Sciences HoDs manage the curriculum effectively by monitoring and supporting them. Monitor and support implementation of SBA. Subject advisors should develop a Physical Sciences subject profile for each school. Assist teachers on difficult concepts in vectors, Motion in 1-D, electric circuits and problem-solving that also include graphs. 	<ul style="list-style-type: none"> Ensure that all Physical Sciences learners have a scientific calculator and are able to use it for both arithmetic calculations and trigonometry. Distribute to learners a summary of all scientific terms, laws, principles, definitions and equations. Ensure that classwork and homework exercises include questions of high cognitive demand. Utilise questions from textbooks and past examination papers as well as other sources. Give learners Weekly "speed tests" (± 10 minutes) need to be given to learners to help them remember scientific terms, laws, principles, definitions and conversions. Source and share best practice on practical work, lesson plans and tests with other teachers. Encourage learners to watch lessons that are broadcast on TV. Ensure that your school has equipment. Ensure that Physical Sciences HoDs manage the curriculum effectively by monitoring and supporting them. Give learners at least two problem-solving exercises every day. 	<ul style="list-style-type: none"> Question Papers and Memos. 	Jan to Dec 2015

Remedial Measures & Responsibility at each Level in the Sector						Resources	Time Frames	
Grade	Subject	Identified Weaknesses	DBE	PED	District	Teachers		
	Physical Sciences (Physics Grade 11)	<p>Physics</p> <ul style="list-style-type: none"> Lack of understanding of topics done in grade 11, e.g. Newton's Laws, reference frames, Electric Circuits, Faraday's Law and Electric Field. Inability to describe motion in words, diagrams, graphs and equations. Inability to draw free-body diagrams. Inability to use and/or no access to scientific calculators. Inability to answer pure recall questions, state definitions, laws and principles. Inability to convert to correct units and solve equations. Inability to draw, interpret and analyse graphs. Poor understanding of basic concepts like wavelength, frequency, emf, internal resistance, terminal potential difference, work and energy due to a lack of practical work. Inability to answer multi-step problems. Poor understanding of the vector nature of velocity, displacement acceleration, momentum and impulse. 	<ul style="list-style-type: none"> Script lessons on vectors, Newton's Laws, problem-solving that also include simultaneous equations and graphs and provide these on DVD and TV. Monitor and Support. Source and share grade 11 test and examination papers and memoranda with provinces. Workshop subject advisors on practical work based on experiments and investigations in the curriculum. 	<ul style="list-style-type: none"> PDE should ensure that all Physical Sciences learners have a scientific calculator and are able to use it for both arithmetic calculations and trigonometry. PDE should develop and distribute to learners a summary of all scientific terms, laws, principles, definitions and equations. Source and distribute best practice on high quality class tests, homework exercises and examination papers. Develop Exemplar Weekly "speed tests" (± 10 minutes) need to be given to learners to help them remember scientific terms, laws, principles, definitions and conversions. Prepare and distribute a laboratory guide with detailed experiments and investigations. Workshop teacher on practical work based on experiments and investigations in the curriculum. Workshop teachers on "How to teach problem-solving in Physics" using Newton's laws, Electrostatics, Electricity as the context. 	<ul style="list-style-type: none"> Ensure that all schools have equipment. Ensure that Physical Sciences HoDs manage the curriculum effectively by monitoring and supporting them. Monitor and support implementation of SBA. Subject advisors should develop a Physical Sciences subject profile for each school. Assist teachers on difficult concepts in Newton's Laws, problem-solving that also include simultaneous equations and graphs. 	<ul style="list-style-type: none"> Ensure that Grade 11 concepts that are examinable in Grade 12 are revised before the end of the year. When doing the topics that are examinable in Grade 12, expose learners to questions from Grade 12 past examination papers (CAPS and pre-Caps) that cover these concepts. Ensure that all Physical Sciences learners have a scientific calculator and are able to use it for both arithmetic calculations and trigonometry. Develop and distribute to learners a summary of all scientific terms, laws, principles, definitions and equations. Ensure that classwork and homework exercises include questions of high cognitive demand. Utilise questions from textbooks and past examination papers as well as other sources. Give learners Weekly "speed tests" (± 10 minutes) need to be given to learners to help them remember scientific terms, laws, principles, definitions and conversions. Source and share best practice on Practical work, lesson plans and tests with other teachers. Encourage learners to watch lessons that are broadcast on TV. Ensure that your school has equipment. Ensure that Physical Sciences HoDs manage the curriculum effectively by monitoring and supporting them. Give learners at least two problem-solving exercises every day. 	<p>Question Papers and Memos.</p>	<p>Jan to Dec 2015</p>

Remedial Measures & Responsibility at each Level in the Sector						Time Frames		
Grade	Subject	Identified Weaknesses	DBE	PED	District	Teachers	Resources	
	Physics (Physics Grade 12)	<ul style="list-style-type: none"> Lack of revision of concepts done in Grade 11, e.g. Newton's Laws, Electricity and Electrostatics. Inability to use and/or no access to scientific calculators. Inability to answer pure recall questions, state definitions, laws and principles. Inability to convert to correct units and solve equations. Inability to draw, interpret and analyse graphs. Poor understanding of basic concepts like wavelength, frequency, emf, internal resistance, terminal potential difference, work and energy due to a lack of practical work. Inability to answer multi-step problems. Poor understanding of the vector nature of velocity, displacement acceleration, momentum and impulse. 	<ul style="list-style-type: none"> Script lessons on vectors, Doppler effect, work-energy-power and internal resistance and provide these on DVD and TV. Monitor and Support Provide a booklet of past NSC and other examination papers and memoranda and distribute to learners. Workshop subject advisors on practical work based on experiments and investigations in the curriculum. 	<ul style="list-style-type: none"> PDE should ensure that all Physical Sciences learners have a scientific calculator and are able to use it for both arithmetic calculations and trigonometry. PDE should develop and distribute to learners a summary of all scientific terms, laws, principles, definitions and equations. Develop and distribute to learners a summary of all scientific terms, laws, principles, definitions and equations. Source and distribute best practice on high quality class tests and homework exercises. Develop Exemplar Weekly "speed tests" (± 10 minutes) need to be given to learners to help them remember scientific terms, laws, principles, definitions and conversions. Prepare and distribute a laboratory guide with detailed experiments and investigations. Workshop teacher on practical work based on experiments and investigations in the curriculum. 	<ul style="list-style-type: none"> Ensure that all schools have equipment. Ensure that Physical Sciences HoDs manage the curriculum effectively by monitoring and supporting them. Monitor and support implementation of SBA. Subject advisors should develop a Physical Sciences subject profile for each school. Assist teachers on difficult concepts in vectors, Doppler effect, work-energy-power and internal resistance. Source and distribute best practice on high quality class tests and homework exercises. Develop/ Exemplar Weekly "speed tests" (± 10 minutes) need to be given to learners to help them remember scientific terms, laws, principles, definitions and conversions. Source and distribute best practice on Practical work. Workshop teachers on practical work based on experiments and investigations in the curriculum. 	<ul style="list-style-type: none"> Ensure that Grade 11 concepts that are examinable in grade 12 are revised and Ensure that all Physical Sciences learners have a scientific calculator and are able to use it for both arithmetic calculations and trigonometry. Distribute to learners a summary of all scientific terms, laws, principles, definitions and equations. Share and utilise best practice on high quality class tests and homework exercises with other teachers. Give Weekly "speed tests" to learners (± 10 minutes) need to be given to learners to help them remember scientific terms, laws, principles, definitions and conversions. Share and utilise best practice on Practical work. Script lessons on vectors, Doppler effect, work-energy-power, Newton's Laws, Electrostatics and internal resistance and provide these on DVD and TV. Distribute a booklet of past NSC and other examination papers and memoranda and distribute to learners, Ensure that all learners have scientific calculators and are able to use them. Ensure that your school has equipment. Conduct all prescribed experiments. Ensure that Physical Sciences HoDs manage the curriculum effectively by monitoring and supporting them. Give learners at least two problem-solving exercises every day. 	Question Papers and Memos	Jan to Dec 2015

Grade	Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector				Resources	Time Frames
			DBE	PED	District	Teachers		
Grade 10-12	Religion Studies	<ul style="list-style-type: none"> It was evident that teachers lacked content knowledge because not all religions were covered thoroughly. Learners lacked adequate content knowledge. Learners seemed to know only what was taught in the particular school rather than what should be covered in the content. Learners lacked essay writing skills. Learners lacked reading skills they are unable to understand the cognitive demands of questions. Learners struggled with concepts. Learners struggled with higher order questions. 	<ul style="list-style-type: none"> DBE to hold two cluster workshops: <ul style="list-style-type: none"> One : EC ; KZN ;WC; NC Two : MP , GP ; FS; LP ; NW. Will edit and compile email researched information to all PDEs and place on the website. Will monitor progress and provide support. Will monitor progress and provide support 	<ul style="list-style-type: none"> PDEs to assist in the framework the needs analysis for the work shop. PDEs to coordinate topics and email information to DBE. PDE to coordinate. PDEs to provide quarterly report on the number and quality of daily activities and whether it has any impact on improving performance. PEDs to provide quarterly report on the number and quality of daily activities and whether it has any impact on improving performance. 	<ul style="list-style-type: none"> Questionnaire to be distributed and collated. Email, print and distribute. Work with teachers in researching information to improve content on the subject. Districts to work with teachers to ensure that time frames are met to produce the information. Print, email and distribute. Districts to work with teachers in researching information to improve content on the subject. Print, email and distribute. Districts to work with teachers in researching information to improve content on the subject. 	<ul style="list-style-type: none"> Teachers should endeavour to have content knowledge. Teachers to research on the following: confused Yin and Yang; Dalai Lama; Ecumenism; Fundamentalism; and Protestantism; social media; Governance; Big Bang theory. Secular humanism. Teachers are required to teach paragraph and short essay writing techniques as part of Daily Activities to improve writing skills. Teachers are required to set excerpts and set a minimum of 3 -5 questions to improve learners Reading Skills. This should be part of Daily activities. 	<ul style="list-style-type: none"> Questionnaires Internet; Journals; newspapers; books; Lap top. Computer. Software. Textbooks. Internet; Journals; newspapers; books. Textbooks. Internet; Journals; newspapers; books. 	Jan to Dec 2015
Grade 10	Tourism	Learners lacked basic foundational knowledge	<ul style="list-style-type: none"> Compile and distribute a basic concept and terminology list per topic. 	<ul style="list-style-type: none"> Print, mediate and distribute a basic concept and terminology list per topic to advisors. 	<ul style="list-style-type: none"> Print, mediate and distribute a basic concept and terminology list per topic to teachers. 	<ul style="list-style-type: none"> Basic concepts and terminology must continuously be reinforced and revised to improve learners' basic understanding a topic. Teachers must teach basic concepts and terminology before teaching the topic and use the correct subject terminology. 	<ul style="list-style-type: none"> Basic concept and terminology list per topic to advisors. Textbooks. 	Jan to Dec 2015
			Canvas for the introduction and use of a terminology book with PEDs.	Canvas for the introduction and use of a terminology book.	Canvas for the introduction and use of a terminology book.	Introduce a subject terminology book / section per grade/phase.	Textbook.	Jan to Dec 2015

Grade	Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector				Resources	Time Frames
			DBE	PED	District	Teachers		
Grade 10	Tourism	Below average writing skills	<ul style="list-style-type: none"> Develop sample activities to illustrate various writing to learn activities. 	<ul style="list-style-type: none"> Mediate different type of writing to learn activities, monitor frequency and quality of activities. 	<ul style="list-style-type: none"> Mediate different type of writing to learn activities, monitor frequency and quality of activities. 	<ul style="list-style-type: none"> Give regular meaningful writing to learn activities. Minimum of 4 activities per week. 		Jan to Dec 2015
		Below average reading skills	<ul style="list-style-type: none"> Develop and explain various types of reading strategies to PED's. 	<ul style="list-style-type: none"> Develop and explain various types of reading strategies to Advisors. Monitor and support training in the districts. 	<ul style="list-style-type: none"> Develop and explain various types of reading strategies to teachers. Demonstrate strategies during subject meetings and school visits. 	<ul style="list-style-type: none"> Expose learners to regular subject related reading activities. 	Textbook	Jan to Dec 2015
Grade 10	Tourism		<ul style="list-style-type: none"> Provide guidelines on how to use comprehensions to improve learning. 	<ul style="list-style-type: none"> Print, distribute and mediate guidelines on how to use comprehensions to improve learning to advisors. 	<ul style="list-style-type: none"> Distribute and mediate guidelines on how to use comprehensions to improve learning to advisors. 	<ul style="list-style-type: none"> Regularly expose learners to subject related comprehensions and how to read with understanding as informal assessment. 		Jan to Dec 2015
		Poor responses to higher order questions, and lack of understanding of verbs	<ul style="list-style-type: none"> Compile document to explain common verbs and the expected responses. 	<ul style="list-style-type: none"> Provincial officials to print and mediate the document. Illustrate to subject advisors how to support teachers in teaching the art of responding to higher order questions. Offer training to district officials on the use of past question papers. 	<ul style="list-style-type: none"> The district officials to distribute, mediate and monitor the utilisation of the document. Ensure all schools have copies of past question papers. Offer training to teachers on the use of past question papers. 	<ul style="list-style-type: none"> Use previous question papers as a teaching tool and informal assessment tool to expose learners to the different types of questions being asked and how to respond appropriately. Set questions requiring various cognitive abilities as part of teaching and informal assessment. Teach learners how to substantiate answers, this will ensure that learners are exposed to the way content can be tested and the type of questions that can be asked. Practice the skill of responding to higher order questions in class. 	Textbooks Past question papers.	Jan to Dec 2015

Grade	Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector					Resources	Time Frames
			DBE	PED	District	Teachers			
Grade 11	Tourism	Below average reading skills	<ul style="list-style-type: none"> Develop and explain various types of reading strategies to PED's. Monitor and support training in the districts. 	<ul style="list-style-type: none"> Develop and explain various types of reading strategies to Advisors. Monitor and support training in the districts. 	<ul style="list-style-type: none"> Develop and explain various types of reading strategies to teachers. Demonstrate strategies during subject meetings and school visits. 	<ul style="list-style-type: none"> Expose learners to regular subject related reading activities. 	Textbook	Jan to Dec 2015	
			<ul style="list-style-type: none"> Provide guidelines on how to use comprehensions to improve learning. 	<ul style="list-style-type: none"> Print, distribute and mediate guidelines on how to use comprehensions to improve learning to advisors. 	<ul style="list-style-type: none"> Distribute and mediate guidelines on how to use comprehensions to improve learning to advisors. 	<ul style="list-style-type: none"> Regularly expose learners to subject related comprehensions and how to read with understanding as informal assessment. 		Jan to Dec 2015	
		Paragraph responses	<ul style="list-style-type: none"> Mediate EAC processes. Provide examples of how to infuse EAC into tourism lessons. 	<ul style="list-style-type: none"> Provincial officials train district officials on language across curriculum. 	<ul style="list-style-type: none"> Provincial officials train teachers on language across curriculum. 	<ul style="list-style-type: none"> Regularly assess learners on short and objective questions. Teachers must infuse EAC into all topics and focus on developing and strengthening the 4 language pillars. 	EAC booklet	Jan to Dec 2015	
Grade 11		Poor calculation skills:	<ul style="list-style-type: none"> Compile self-study guide from past exam papers on calculations and provide to provinces. 	<ul style="list-style-type: none"> Print and distribute guide to districts. Offer methodology training to advisors on how to teach the topic. Offer content training on the topic. 	<ul style="list-style-type: none"> Offer content training to teachers. Distribute self-study guide to schools. Offer methodology training to teachers on how to teach the topic. Offer content training on the topic. 	<ul style="list-style-type: none"> Offer in-depth basic theoretical knowledge about foreign currency. Practice arithmetical skills relating to foreign currency on a regular basis. Give regular calculation exercises to practice. 	<ul style="list-style-type: none"> Self-study guide Textbook Past question papers 	Jan to Dec 2015	
		Lack of basic visual literacy	<ul style="list-style-type: none"> Develop and distribute basic guide on visual literacy and how to use and respond to visual stimuli. 	<ul style="list-style-type: none"> Provincial officials to print and mediate the document. 	<ul style="list-style-type: none"> District officials to distribute the mediate document. 	<ul style="list-style-type: none"> Teach cartoon interpretation skills to learners. Practise regularly in class to reinforce skill. Expose learners to various forms of visual stimuli and how to respond appropriately. 	Visual literacy guide.	Jan to Dec 2015	
		<ul style="list-style-type: none"> Poor Comprehension skills: Struggled to interpret and respond to cartoons and other visual stimuli. Inability to interpret texts; Inability to answer questions using own words; Inability to infer meaning, i.e. implied /literal/figurative. 							

Grade	Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector					Resources	Time Frames
			DBE	PED	District	Teachers			
Grade 11		Poor responses to higher order questions, and lack of understanding of verbs.	Compile document to explain common verbs and the expected responses.	Provincial officials to print and mediate the document. Illustrate to subject advisors how to support teachers in teaching the art of responding to higher order questions. Offer training to district officials on the use of past question papers.	The district officials distribute, mediate and monitor the utilisation of the document. Ensure all schools have copies of past question papers. Offer training to teachers on the use of past question papers.	Use previous question papers as a teaching tool and informal assessment tool to expose learners to the different types of questions being asked and how to respond appropriately. Set questions requiring various cognitive abilities as part of teaching and informal assessment. Teach learners how to substantiate answers, this will ensure that learners are exposed to the way content can be tested and the type of questions that can be asked. Practice the skill of responding to higher order questions in class.	Textbooks. Past question papers.	Jan to Dec 2015	
Grade 12	Tourism	Learners lack basic foundational knowledge: <ul style="list-style-type: none"> Learners struggled to answer basic knowledge questions, they are unfamiliar with terminology. Lack of basic visual literacy <ul style="list-style-type: none"> Struggled to interpret and respond to cartoons and other visual stimuli. Comprehension <ul style="list-style-type: none"> Inability to interpret texts. Inability to answer questions. using own words. Inability to infer meaning, i.e. implied/literal/figurative. 	<ul style="list-style-type: none"> Compile and distribute a basic concept and terminology list per topic to advisors. <ul style="list-style-type: none"> Canvas for the introduction and use of a terminology book. <ul style="list-style-type: none"> Develop and distribute basic guide on visual literacy and how to use and respond to visual stimuli. 	<ul style="list-style-type: none"> Print, mediate and distribute a basic concept and terminology list per topic to advisors. <ul style="list-style-type: none"> Canvas for the introduction and use of a terminology book. <ul style="list-style-type: none"> Provincial officials to print and mediate the document. 	<ul style="list-style-type: none"> Print, mediate and distribute a basic concept and terminology list per topic to teachers. <ul style="list-style-type: none"> Canvas for the introduction and use of a terminology book. <ul style="list-style-type: none"> District officials to distribute the document. 	<ul style="list-style-type: none"> Basic concepts and terminology must continuously be reinforced and revised to improve learners' basic understanding a topic. Teachers should teach basic concepts and terminology before teaching the topic and use the correct subject terminology. Revise Grade 10 and 11 foundational concepts required for Grade 12. Introduce a subject terminology book / section per grade/ phase. Teach cartoon interpretation skills to learners. Practise regularly in class to reinforce skill. Expose learners to various forms of visual stimuli and how to respond appropriately. 	<ul style="list-style-type: none"> Basic concept and terminology list per topic to advisors. Textbooks. <ul style="list-style-type: none"> Textbook. <ul style="list-style-type: none"> Visual literacy guide. 	Jan to Dec 2015	

Grade	Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector				Resources	Time Frames
			DBE	PED	District	Teachers		
Grade 12		<p>Calculations:</p> <ul style="list-style-type: none"> Learners struggled to perform time zone and foreign exchange calculations. 	<ul style="list-style-type: none"> Compile self-study guide from past exam papers on calculations and provide to provinces. 	<ul style="list-style-type: none"> Print and distribute guide to districts. Offer methodology training to advisors on how to teach the topic. 	<ul style="list-style-type: none"> Offer content training to teachers. Distribute self-study guide to schools. Offer methodology training to teachers on how to teach the topic. 	<ul style="list-style-type: none"> Learners should be taught basic theoretical knowledge about foreign exchange and time zones. Learners should be taught arithmetical skills. Learners should be given regular calculation exercises to practice. 	<ul style="list-style-type: none"> Self-study guide Textbook 	Jan to Dec 2015
		<p>Poor responses to higher order questions, and lack of understanding of verbs.</p>	<ul style="list-style-type: none"> Compile document to explain common verbs and the expected responses. 	<ul style="list-style-type: none"> Provincial officials to print and mediate the document. Illustrate to subject advisors how to support teachers in teaching the art of responding to higher order questions. Offer training to district officials on the use of past question papers. 	<ul style="list-style-type: none"> The district officials distribute, mediate and monitor the utilisation of the document. Ensure all schools have copies of past question papers. Offer training to teachers on the use of past question papers. 	<ul style="list-style-type: none"> Use previous question papers as a teaching tool and informal assessment tool to expose learners to the different types of questions being asked and how to respond appropriately. Set questions requiring various cognitive abilities as part of teaching and informal assessment. Teach learners how to substantiate answers, this will ensure that learners are exposed to the way content can be tested and the type of questions that can be asked. Practice the skill of responding to higher order questions in class. 	<ul style="list-style-type: none"> Textbooks Past question papers. 	Jan to Dec 2015
		<p>Paragraph responses:</p> <ul style="list-style-type: none"> Showed a lack of basic knowledge. Candidates were not able to demonstrate sufficient knowledge about each subtopic to earn full marks. Many learners struggled to express themselves in paragraph format. 	<ul style="list-style-type: none"> Mediate EAC processes. Provide examples of how to infuse EAC into tourism lessons. 	<ul style="list-style-type: none"> Provincial officials train district officials on language across curriculum. 	<ul style="list-style-type: none"> Provincial officials train teachers on language across curriculum. 	<ul style="list-style-type: none"> Schools not only assess learners on short and objective questions, but also essay or paragraph-type questions. Teachers should consciously infuse EAC strategies into all topics and focus on developing and strengthening the 4 language pillars. 	<ul style="list-style-type: none"> EAC booklet 	Jan to Dec 2015

Grade		Subject	Identified Weaknesses	Remedial Measures & Responsibility at each Level in the Sector				Resources	Time Frames
Grade		Subject	Identified Weaknesses	DBE	PED	District	Teachers	Resources	Time Frames
Grade 10 - 12	Visual Arts	<p>Comprehension:</p> <ul style="list-style-type: none"> Inability to analyse works of art in relation to cultural, social, and political contexts. Inability to answer questions which require insight. 	<ul style="list-style-type: none"> Build a data bank of previous question papers for analyse works of art in relation to cultural, social and political contexts. Train Subject Advisors and Coordinators on setting and answering questions at different cognitive levels. Train Subject Advisors and Coordinators in developing script lessons in teaching analyse works of art in relation to cultural, social, political and social contexts, and avail them to schools. Monitor training and support. Print and send the study guide for literature to schools. Train Subject Advisors and teachers in the use of study guides. Develop script lessons on interpretation and analysis of literature and avail them to schools. Reprint and send study guides for teaching creative writing to schools. Retrain Subject Advisors and cluster leaders on the use of study guides for teaching creative writing. Retrain Subject Advisors and cluster leaders on the use of the rubrics. Monitor training in provinces and districts. 	<ul style="list-style-type: none"> Print and distribute resources to districts. Cascade DBE training to SAs in the province. Version training to suit the needs of the province. Duplicate and flight lessons for districts. Set target performance in the paper. Monitor training and support. Reprint and deliver study guide on analyse works of art in relation to cultural, social, and political contexts to schools. Train district officials in the use of the study guide. Monitor training of teachers in the use of study guides. Mediate script lessons to district officials. Reprint and distribute study guides. Cascade training to SAs. Monitor training in districts. 	<ul style="list-style-type: none"> Avail training material and train teachers on how to prepare for Paper 1. Use material from data bank to train teachers and conduct demonstration lessons. Mediate script lessons to teachers and learners. Support, guide and monitor teaching. Avail training material and train teachers on how to prepare for Paper 1. Use material from data bank to train teachers and conduct demonstration lessons. Mediate script lessons to teachers and learners. Support, guide and monitor teaching. Train teachers in using the study guide and the rubric. C o n d u c t demonstration lessons for teachers. Support, guide and monitor implementation and teaching of creative writing. Moderate the marking of analyse works of art in relation to cultural, social, and political contexts. 	<ul style="list-style-type: none"> Comprehension The teacher should: Expose learners to different texts and guide them in the interpretation thereof. Teach different types of meanings in texts. Expose learners to different types of questions – according to different cognitive levels. 	<p>Comprehension</p> <p>Different types of texts for reading comprehension compiled from past examination papers.</p> <p>Previous years' examination papers & memoranda.</p> <p>Gr 12: Examination Guidelines.</p> <p>Previous years' examination papers & memoranda.</p> <p>Gr 12: Examination Guidelines.</p> <p>Previous years' examination papers & memoranda.</p> <p>Gr 12: Examination Guidelines.</p> <p>Self-study Guide .</p> <p>Previous years' examination papers & memoranda.</p> <p>Gr 12: Examination Guidelines.</p> <p>Writing</p> <p>Self-study Guide.</p> <p>Previous years' examination papers & memoranda.</p> <p>Grade 12: Examination Guidelines.</p> <p>Teacher's notes;</p> <p>Internet;</p> <p>Textbooks.</p>	Jan to Dec 2015	



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