UMALUSI

Report on the Quality Assurance of the Vocational Education and Training Examinations 2006

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Content

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Quality assurance of the Vocational Education and Training (VET) assessment by Umalusi started in 2003. Umalusi takes pride in the progress that has been made in the quality assurance of the examinations in this sector over the past few years.

Umalusi has, over the past three years, adopted the following quality assurance measures with regard to the VET assessment:
• moderation of question papers;
• monitoring of continuous assessment;
• monitoring of the writing of the VET examinations;
• moderation of marking; and
• standardisation of results.
All these processes have been revised and improved during 2006.

Umalusi judges the quality and standard of examinations by determining the level of adherence to policy in implementing examination related processes; the cognitive challenge of examination question papers; the appropriateness and weighting of content in question papers in relation to the syllabus; the quality of presentation of examination question papers; the efficiency and effectiveness of systems, processes and procedures for the monitoring of the conduct of examinations, the quality of marking as well as the quality and standard of internal quality assurance processes within the assessment body.

There has been a significant improvement in the administration of the VET examinations since 2003 and there is ample evidence to confirm that the Chief Directorate: Educational Measurement and Public Examinations (CD: EMAPE), the provincial departments of education, the examination centres and marking centres continue to improve systems and procedures relating to the VET examinations. However, despite these improvement initiatives, there are critical aspects such as the quality of question papers, quality assurance of practical assessment and moderation of internal assessment that require further attention in the forthcoming year.

The Executive Committee of Umalusi Council has concluded, from the reports submitted by all personnel involved in the quality assurance of examinations, that assessments in Vocational Education and Training, were conducted in line with policy and regulations governing the conduct of examinations. The results were, therefore, found to be reliable, valid, fair and credible. The Committee met at Umalusi offices in Pretoria on Wednesday, 20 December 2006 and declared that to the best of their knowledge at the time, the examination was beyond reproach.

Umalusi will continue to ensure that the quality, integrity and credibility of the VET examinations are maintained and continue in its endeavour towards an assessment system that is internationally comparable. The initial arrangements for the quality assurance of the National Certificate Vocational that will be introduced as from 2007 has already been made, however the implementation of effective systems, processes and procedures will receive Umalusi's special attention in the forthcoming year.
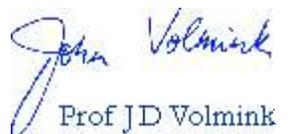
Prof J D Volmink
20 December 2006

Chapter One

Introduction

1.1 Background

The *General and Further Education and Training Quality Assurance Act (No 58 of 2001)* assigns responsibility for quality assurance of general and further education and training in South Africa to the *Council for Quality Assurance in General and Further Education and Training,* otherwise known as Umalusi. The Council was established with the express aim of maintaining and improving norms and standards in general and further education and training, through:

- Monitoring and reporting on the adequacy and suitability of qualifications and standards;
- Quality assurance of all exit point assessments;
- Certification of learner achievements;
- Quality promotion amongst providers and
- Accreditation of private providers.

Umalusi reports on the standard of the Vocational Education and Training Examinations to the Minister of Education on an annual basis. In this regard, Umalusi reports on each of the quality assurance of assessment processes and procedures, which together ensure credible Vocational Education and Training Examinations. These processes ensure that all aspects of the examination are put through rigorous quality checks. This enhances confidence that the examination meets the required standards. Umalusi consistently ensures that standards in these examinations are not compromised.

This report is on the quality assurance of the 2006 Vocational Education and Training Examinations. Five National examinations are conducted during March, April, June, August and November. The Natural Sciences examinations are conducted during April, August and November while the Business and General Studies examinations are conducted during February (supplementary N3/NSC examination), June and November. The responsibility of Umalusi is restricted to the quality assurance of N1-N3 as well as NIC and NSC Report 190/191 qualifications.

Examinations in this sector are written at different types of centres namely public FET colleges, private FET colleges, correctional services centres and schools. The marking of scripts takes place externally in the case of N2, N3 and NSC and internally in the case of N1 and NIC.

Umalusi judges the quality and standard of the Vocational Education and Training Examinations by determining the level of adherence to policy in implementing examination related processes; the cognitive challenge of examination question papers; the appropriateness and weighting of content in question papers in relation to the syllabus; the quality of presentation of examination question papers; the efficiency and effectiveness of systems; processes and procedures for the monitoring of the conduct of the Vocational Education and Training Examination; the quality of marking as well as the quality and standard of internal quality assurance processes.

The tools for moderation of question papers have been reviewed and sharpened through various research processes. Other processes, like moderation of internal assessment, moderation of marking as well as the monitoring of the conduct of the Vocational Education and Training Examination have all been reviewed, strengthened and streamlined.

Chapter one of this report outlines the purpose of the report, its scope and briefly states the quality assurance processes used by Umalusi to ensure that the Vocational Education and Training Examinations meet the required standards. The second chapter reports on the findings of the moderation of question papers. This chapter reports on the standard of the question papers. Chapter three discusses the findings from Umalusi's monitoring of the conduct of the Vocational Education and Training Examinations. The fourth chapter discusses in brief detail the moderation of marking. The next chapter reports on the standardisation of Vocational Education and Training results and the sixth and final chapter summarises the findings of the quality assurance of the 2006 Vocational Education and Training Examinations and makes some recommendations for improvement.

1.2   Purpose of the report

The purpose of this report is to report to the Minister of Education on Umalusi's quality assurance of the 2006 Vocational Education and Training Examinations with respect to the following:

- The salient findings from the external moderators' reports, which are synthesised, analysed and used to make judgements on the standard of the Vocational Education and Training Examinations.
- The quality and standard of marking the Vocational Education and Training Examinations.
- The efficiency and effectiveness of processes for the conduct of the Vocational Education and Training Examinations.
- The moderation of marks during the standardisation process.
- The recommendations for the improvement of assessment processes.

1.3 Scope of the report

This report covers all 2006 examinations and the quality assurance of assessment processes used by Umalusi to ensure that the Vocational Education and Training Examinations is of the required standard; namely, moderation of question papers, moderation of marking, monitoring the conduct of the Vocational Education and Training Examinations as well as the moderation of examination marks.

The report covers each of the processes in different chapters. Each chapter captures the salient findings with respect to each of the processes, highlights some problem areas and ends by offering recommendations for improvement.

Chapter Two

2

Moderation of question papers

2.1 Introduction

External moderation of question papers is one of Umalusi's key quality assurance processes. Question papers are moderated to ensure that they are of an appropriate standard, cover the appropriate content as prescribed in the syllabus, are representative of relevant conceptual domains and are relatively fair, valid and reliable.

2.2 Purpose

The purpose of this chapter is to report on the quality of the question papers of the 2006 examinations that were externally moderated by Umalusi. Salient findings from the external moderators' reports will be extracted, analysed and synthesised. Judgements will then be made on the quality of the question papers. The chapter further highlights problems that may potentially compromise the quality of the question papers set and makes recommendations for quality improvement.

2.3 Scope of the moderation practice

A total of 11 Natural Sciences and 12 Business and General Studies subjects were moderated. These subjects represent the subjects with the largest enrolments in both the Business and General Studies and Natural Sciences fields of study. Umalusi strives to continuously increase and improve its involvement in the quality assurance of assessment in Vocational Education and Training (VET). Consequently in 2006 Umalusi included question papers of the April 2006 Natural Sciences examination, three N1 Natural Sciences subjects, three N2 Natural Sciences subjects and three N2 Business and General Studies subjects in the moderation process.

The details about the subjects and examinations are as indicated in the following tables:

Table 1:   Moderation of question papers - Natural Sciences

NATURAL SCIENCES				
No	SUBJECT	APRIL	AUGUST	NOVEMBER
1	Engineering Science N1	✓	✓	✓
2	Engineering Science N2	✓	✓	✓
3	Engineering Science N3	✓	✓	✓
4	Industrial Electronics N1	✓	✓	✓
5	Industrial Electronics N2	✓	✓	✓
6	Industrial Electronics N3	✓	✓	✓
7	Mathematics N1	✓	✓	✓
8	Mathematics N2	✓	✓	✓
9	Mathematics N3	✓	✓	✓
10	Engineering Drawing N3	✓	✓	✓
11	Mechanotechnology N3	✓	✓	✓

Table 2: Moderation of question papers - Business and General Studies

BUSINESS AND GENERAL STUDIES			
No	SUBJECT	JUNE	NOVEMBER
1	Applied Accounting N2	✓	✓
2	Applied Accounting N3	✓	✓
3	Business English First Language N3		✓
4	Business English Second Language N2		✓
5	Business English Second Language N3		✓
6	Computer Practice N3	✓	✓
7	Computer Practice and Typing Technique N2	✓	✓
8	Office Practice N3	✓	✓
9	Public Administration N3	✓	✓
10	Sake Afrikaans Eerste Taal N3		✓
11	Sake Afrikaans Tweede Taal N3		✓
12	Small Business Management and Entrepreneurship N3		✓

2.4 Approach to moderation of question papers

Umalusi appoints external moderators who are qualified subject experts and experienced in the field of assessment to moderate the question papers. The moderation process focuses on ensuring that the question papers submitted for external moderation comply with the prescribed criteria set by Umalusi.

The criteria used by the external moderators to moderate the question papers cover the following aspects:
- Content coverage
- Cognitive challenge
- Internal moderation
- Language and bias
- Predictability
- Adherence to policy
- Marking memorandum
- Technical criteria
- Overall impression of the paper.

After completion of moderation the external moderators submit reports to Umalusi and the national Department of Education. The use of prescribed report formats for both Umalusi and the national Department of Education ensures that the external moderators give a detailed account of the quality of the question papers and identify areas that need improvement. Umalusi uses the moderators' reports to determine the standard of the question papers, highlight issues that were observed by the moderators and report on the quality of the VET question papers to the Minister of Education.

2.5 Findings

This section provides comments on the question papers in their original state, as submitted to the external moderators. The focus of the discussion is on the standard of the question papers in relation to the criteria set by Umalusi.

2.5.1 Content coverage

This criterion requires the moderators to establish whether the question paper accurately represents the content and skills as specified by the syllabus. It also seeks to determine whether the paper covers crucial subject-specific knowledge and questions of various types.

Most question papers moderated reflected the content and skills as prescribed by the syllabus relatively well.

The April Mathematics N1 question paper was however identified as generally being of low standard and not covering the syllabus. For example, no questions were set on modules 4.1 and 4.2 of the syllabus. The external moderator had to recommend several changes to the question paper to ensure that the question paper was of the required standard and in line with the syllabus. A recommendation was made to delete questions 3.4, 3.5, 4.2 and 4.3 and replace them with questions that are in line with N1 syllabus.

Paper 1 of the Applied Accounting N3 November question paper was also identified as a subject where the weighting of the questions was not according to that prescribed in the syllabus. Three of the six questions on the question paper were not weighted according to the syllabus. Question 2 carried 36 marks instead of 24 marks, question 3 carried 30 marks instead of 18 marks and question 6 carried 29 marks instead of 18 marks. A slight deviation from the weighting guide is acceptable; however, the deviation on the above questions ranged between 9 and 12 marks per question.

It is important for the question papers to cover the content as prescribed in the syllabus to ensure fairness.

2.5.2   Cognitive challenge

The purpose of evaluating this aspect of the question papers is to assess the level of challenge or difficulty at which the examination questions are pitched. In addition, the criterion investigates the extent to which the examination question paper is in line with the best and latest developments in the teaching of that particular subject.

The Industrial Electronics N3 external moderator was impressed with the April and November question papers on the innovative approach adopted in assessing some sections of the syllabus. For example, on the April question paper the external moderator commented that "the innovative approach to testing electronic block diagram (question 6.2) reflects a refreshing breakaway from traditional approaches to this question." The question paper was approved on first moderation.

It was also reported that the Industrial Electronics N2 as well as the Computer Practice and Typing Technique N2 question papers reflected a fair balance in the cognitive challenge of the questions and that there has been a noted improvement in the cognitive challenge of the Computer Practice N3 question paper as the questions encouraged some creativity from the learners and were intellectually challenging.

The Mathematics N2 question paper was found to be generally of good standard, intellectually challenging and allowed for creative responses from candidates. However, the Mathematics N1 and Mathematics N3 question papers had very limited challenging questions.

The level of cognitive challenge of the Mechanotechnology N3 question papers was not as prescribed by the syllabus. The syllabus prescribes that 50% of the question paper should assess knowledge, but the moderator reported that the April, August and November question papers submitted for external moderation assessed 76%; 73% and 69% knowledge respectively.

2.5.3   Quality and standard of internal moderation

The purpose of this criterion is to identify and evaluate the quality, standard and relevance of input from the internal moderators. The national Department of Education is required to submit a detailed internal moderator's report and history of each question paper to the external moderator.

The standard and quality of internal moderation was reported as being generally low. The question papers sent to external moderators were not accompanied by the history of the question paper nor the internal moderator's report. As a result, there was no evidence of internal moderation or whether the internal moderator's recommendations were implemented. The identification of several mistakes in the question papers and memoranda moderated is further evidence of the lack of rigorous internal moderation.

Positive comments on the internal moderation were however received on the following question papers:
- Applied Accounting N3 Paper 2: Internal moderation was very well and efficiently done.
- Business English N3 Second Language Paper 2: Moderation was thorough and meticulous.
- Public Administration N3: Internal moderation has been well conducted and the original draft question paper was submitted to the external moderator.

The poor quality of internal moderation impacts negatively on the external moderation process as some question papers had to be sent for second moderation, thus delaying the quality assurance process.

2.5.4 Language and bias

Use of the correct language, subject terminology and elimination of any form of bias is important in ensuring fairness and reliability of the question papers.

From the moderators' reports it was evident that the language used was in general student friendly, fair and pitched at the appropriate level. Instructions and questions were unambiguous and clear. Most moderators reported that English Second Language speakers should have no problem in understanding the language used in the question papers.

2.5.5 Predictability

In judging the predictability of the examination question papers the external moderators looked at whether:
- the questions were of such a nature that they could be easily spotted or predicted; and
- there was verbatim repetition of questions from the past question papers.

The findings in this criterion were as follows:
- The same types of questions were repeatedly asked in the April Mathematics N3, November Applied Accounting N2 and November Applied Accounting N3 Paper 1 question papers, thus candidates and lecturers could easily predict the types of questions that could be included in the question paper.
- Two questions from the August 2005 question paper were repeated in the April 2006 Mathematics N3 paper.
- Small Business Management N3: question 6.1, question 8.1 and question 8.1.1 were repeated verbatim from November 2004 and February 2006 question papers respectively.
- November Engineering Science N2: question 10.3 was exactly the same as in the August 2006 question paper.

The reports indicated that an effort to eliminate predictability was made in the following question papers:
- Office Practice N3: The use of case studies was noted as being useful in eliminating the predictability of the question paper.
- Industrial Electronics N3: The question papers compared favourably with the previous question papers without being predictable.

Consistent repetition of questions from previous question papers is unacceptable as it unfairly advantages or disadvantages learners that had access or did not have access to the question papers.

2.5.6   Adherence to policy

The syllabus was covered according to the prescribed weighting and the question papers were generally well balanced and structured. In the case of the April Mathematics N1 question paper it was reported that the question paper was relevant to actual classroom practice and latest developments in Mathematics. However, the syllabus was not fully covered as no questions were set on modules 4.1 and 4.2 of the syllabus.

2.5.7   Marking memoranda

In judging the quality of the marking memoranda the external moderators looked at whether the marking memorandum:
- was correct and complete with mark allocation;
- was clearly laid out and neatly typed;
- allowed for alternative answers or responses where applicable;
- facilitated effective marking.

There was a noticeable improvement in the memoranda of Engineering Science N3 and August Industrial Electronics N2 question papers. Engineering Drawing N3 memoranda were identified as being of high standard, thus facilitating effective marking.

The majority of the marking memoranda of the externally moderated question papers were not of an appropriate standard. Several mistakes or omissions were identified.
The following are examples of identified shortcomings:
- April Mechanotechnology N3: The formula for one of the questions was incorrect. Initially the question paper was received without a memorandum and this delayed the moderation process.
- April Mathematics N1: The memorandum for some questions was incorrect and the memorandum was hand written and illegible.
- April Mathematics N3: The memorandum was incomplete and some of the answers were incorrect.
- April Engineering Science N1: Inconsistency with mark allocation was observed.
- April Industrial Electronics N2: In some of the questions the breakdown of mark allocation was not clearly displayed and the memorandum was incomplete.
- Office Practice N3: The memorandum was incomplete.
- Small Business Management and Entrepreneurship N3: Answers provided for questions 2.3 and 6.2.1 were incorrect; and alternative responses were not provided for questions 2.1; 2.3; 2.4; 4.5; 5.1; 7.1.2; 8.1.2 and 8.2.2.
- June Computer Practice and Typing Technique N2: Alternative answers for different software packages were not provided.

2.5.8   Technical criteria

In judging the technical aspects of the question papers the moderators looked at the:
- paper layout, technical details like cover page, numbering, mark allocation, font etc; and
- quality of illustrations, graphs, tables etc.

The moderators observed a significant improvement in the technical aspects of the question papers. Generally, all the question papers were learner friendly with good layout, complete and accompanied by relevant formula sheets where applicable.

2.5.9   Submission of question papers for external moderation

The deadline for the submission of question papers for external moderation was not met for a substantial number of question papers. Some of the question papers were submitted at a very late stage and the time frames for the return of these question papers were unreasonable.

2.5.10 Examiner-external moderator disputes

At the beginning of the year disputes were reported between the Mathematics N1, Mathematics N2 and Engineering Science N2 examiners and external moderators. This was partly due to the fact that the N1 and N2 question papers were externally moderated for the first time, leading to misunderstandings/miscommunication between the examiner and the external moderator. These disputes were resolved in good time and did not compromise the quality of the question papers.

2.6   Areas of improvement

- It is worth noting that there has been an improvement in the quality and standard of some of the moderated N3 question papers and care is being taken to ensure that the question papers cover the syllabus.
- There has also been a marked improvement in the use of language, adherence to policy and the technical criteria of the question papers.
- The Industrial Electronics N3 and Office Practice N3 question papers were singled out by the external moderators due to the new approach of setting the papers, effective contextualisation of questions and innovative approach used in assessing some sections of the syllabus.
- The Public Administration N3 question paper was identified as a very good paper, the moderator indicated, "it is among the best of all question papers I have ever

moderated. The question paper revolves around relevant issues at stake in contemporary South African Public Administration practice."

2.7   Areas of concern

- Poor quality and standard of internal moderation: This has been reported for a number of examinations and has not improved. This matter needs urgent attention as it impacts negatively on the quality of the question papers and the moderation process.

- Inadequate coverage of cognitive skills: The findings as discussed in previous paragraphs give evidence to the inadequate coverage of cognitive skills in some subjects. This area remains a challenge and is one of the major criticisms against vocational education assessment.

- Late submission of some question papers to external moderators: This is of serious concern, for example the Engineering Science N1 question paper was sent to the external moderator on 2 March and the question paper was due to be written on 4 April 2006. This puts the external moderators under tremendous pressure and could compromise the quality of the question papers.

- Marking memoranda: The majority of the marking memoranda were of an unacceptable standard as they contained numerous mistakes and omissions.

- Consistent repetition of previous examination questions: This is totally unacceptable and is against the principles of good assessment.

2.8   Recommendations

Based on the findings from the external moderators' reports it is recommended that:
- The internal moderation of question papers is done rigorously. All question papers must be submitted to the external moderator, accompanied by a typed internal moderator's report and a full history of the question paper. The internal moderator should ensure that questions from previous question papers are not repeated verbatim.
- The quality and the standard of internal moderation need to be improved. It is the responsibility of the assessment body (internal moderator) to ensure that the memorandum of each question paper is correct, complete and provides for alternative answers where applicable.

- The cognitive challenge of the question papers be improved as this will help in raising public confidence in vocational education and training assessment and qualifications.
- The assessment body must submit the question papers to external moderators on or before the due date of 28 February of each year.

2.9 Conclusion

It is clear from the reports that there has been an improvement in the cognitive challenge of some N3 question papers; however, there is a need to improve the cognitive challenge of the N1 and N2 question papers.

The poor quality or absence of evidence of internal moderation of question papers is of serious concern as it impacts negatively on the quality and standard of question papers submitted for external moderation. It is the responsibility of the assessment body to ensure that there is rigorous internal moderation of all question papers before they are submitted for external moderation.

Umalusi's moderators worked hard to ensure that all externally moderated question papers were of an acceptable standard. Umalusi is confident that the standard and integrity of the 2006 Business and General Studies and Natural Sciences examinations were not compromised by the quality of the finally approved question papers.

Chapter Three

Monitoring of the VET examinations

3

3.1 Introduction

Monitoring of the examinations is one of the most important quality assurance processes used to ensure the credibility of the Vocational Education and Training (VET) Examinations.

Umalusi judges the standard of the examinations by determining the examination and marking centres' level of adherence to policy in terms of establishing systems and implementing the required processes and procedures for examinations. The following phases of the 2006 VET examinations were monitored:

- The design phase, which focuses on the state of readiness of the assessment body, the examination and marking centres to administer the examination.
- The conduct of examinations, which includes the writing and marking process.
- The capturing, processing and release of results, which includes the capturing of marks, standardisation and release of results.

Umalusi, the provincial departments of education and the national Department of Education monitor the design and conduct of examinations.

The purpose of this chapter is to report on the monitoring of the April, June, August and November 2006 examinations and make recommendations for the improvement of assessment systems, processes and procedures. The recommendations will be based on the findings from the reports of the monitors of Umalusi as well as the provincial departments of education.

3.2 Purpose

The purpose of monitoring is to assess the level of compliance with the national policy relating to the formal Technical College instructional programmes. Monitoring of the conduct of the examinations entails monitoring the different types of examination centres, as well as the different phases. The purpose of monitoring the different phases is discussed below.

The design phase is monitored to:

- establish the effectiveness of the systems that are in place for the registration of

candidates, as well as the appointment of examination officers, chief invigilators, invigilators, chief markers and markers;

- ensure that there are appropriate security measures in place for the safekeeping of examination material;
- establish the state of readiness of the assessment body and examination and marking centres to administer the examination.

The writing phase is monitored to:

- establish whether examination officers, chief invigilators and invigilators are appointed and trained as prescribed in the policy;
- ensure that there are appropriate security measures in place for the safekeeping of examination material;
- ensure that processes and procedures related to the administration and conduct of the examination are credible.

Marking centres are monitored to ensure that:

- there are appropriate security measures in place for the safekeeping of examination scripts;
- effective control procedures in terms of flow of scripts are in place;
- marking is done in a fair manner and is of an appropriate and acceptable standard.

The processing and capturing of results are monitored to ensure the process does not advantage or disadvantage candidates.

3.3 Scope and approach

It is Umalusi's responsibility to ensure that monitoring is done effectively and efficiently. For this purpose carefully selected and trained staff are used to monitor the different phases and types of centres.

It is important to note that in this sector, the national Department of Education is responsible for all aspects pertaining to the setting, editing, printing, packaging and distribution of all externally written question papers. Examination papers are sent to and stored at examination centres. The national Department of Education is also responsible for the appointment of examiners, marking centre managers, markers and chief markers (marking moderators). The involvement of the provincial departments of education with regard to the VET examinations is at this stage mainly in the conduct of examinations. This influences Umalusi's scope and approach to monitoring of VET examinations.

3.3.1 Scope

For the 2006 examinations, Umalusi deployed 23 monitors to visit a pre-selected sample of examination centres in all nine provinces, and marking centres in four provinces. A convenor was appointed for each province. The role of the convenor is to lead the monitoring process in each province.

A. Monitoring of the design phase
The design phase was only monitored with the November examinations. The Umalusi convenors were deployed for one day to monitor the state of readiness of the provincial department of education, as well as a selected examination and marking centre. The design phase was monitored during the week of 30 October to 3 November for the selected General and Business Studies sites and 6 to 10 November for the selected Natural Sciences sites. Table 3 indicates the centres included in Umalusi's monitoring of the design phase.

Table 3: Centres monitored during the design phase

Province	Campus	College	Type of examination
Eastern Cape	Bethelsdorp Dower	Port Elizabeth	Natural Sciences
Free State	Welkom	Goldfields	Business and General Studies
Gauteng	Isidingo (Daveyton)	Ekurhuleni East	Business and General Studies
KwaZulu Natal	Springfield	Thekwini	Natural Sciences
Limpopo	CS Barlow	Sekhukhune	Business and General Studies
Mpumalanga	Witbank (verification)	Nkangala	Business and General Studies
Northern Cape	Northern Cape (verification)	Urban	Natural Sciences
Western Cape	Athlone Strand	College of Cape Town Boland	Natural Sciences

B. Monitoring of the writing phase
Umalusi deployed monitors to visit examination centres during the April, June, August and November examinations. The monitoring/verification of the writing phase, made provision for the inclusion of examination centres at public FET colleges, private FET colleges, schools and correctional service centres. Table 4 provides a summary of the different examinations, indicating the number and type of centres included in Umalusi's monitoring of the writing phase per province.

Table 4: Monitoring of the writing phase

Province	Type of examination centre															
	Public FET colleges				Correctional services				Private FET colleges				Schools			
Examination	April	June	August	November	April	June	August	November	April	June	August	November	April	June	August	November
Eastern Cape	2	1	1	4			1			1						
Free State	1	1						1								1
Gauteng	4	1	1	2	1			1				2	1			
KwaZulu Natal	2	2	2	5	1			2			1			1		
Limpopo	2	2	1+1*						3		1	1	1			1
Mpumalanga		1	2	1	1				1	1		2				
North West	1		1+2*	1				1		1				1		
Northern Cape	1		2	3											1	1
Western Cape	1		1	2		1	1									1
TOTAL	14	8	14	18	3	1	2	5	4	3	2	5	2	2	1	4
Grand Total	54				11				14				9			

* Sub-centres that are registered with colleges in provinces different from their physical location, for example Madikwa is registered as a sub-centre of Randfontein Campus in Gauteng, but is located near Burgersfort in Limpopo.

The monitoring of examination centres included:
- Follow-up visits to nine centres to determine the degree of improvement after previous visits.
- The monitoring of different campuses of the following six colleges to compare the standard of the conduct of examinations: Umgungundlovu, Elangeni, Thekwini, Tshwane South, King Hintsa and King Sabata Dalindyebo.
- Monitoring of 60 centres that have not been monitored before, including six sub-centres/satellites of campuses/colleges.

C. Monitoring of marking
A sample of marking centres was selected for monitoring of marking. Marking was monitored at selected marking centres in KwaZulu Natal, Eastern Cape, North West and Gauteng provinces. The marking phase was monitored during the April, June and November examinations at the marking centres as indicated in Table 5.

Table 5: Marking centres monitored

Examination	Province	Marking centre
April 2006	Gauteng	Pretoria West (Tshwane South College)
	KwaZulu Natal	Northdale (Umgungundlovu College)
June 2006	Gauteng	Benoni (Ekurhuleni East College)
November 2006	Eastern Cape	St Marks (Buffalo City College)
	KwaZulu Natal	Centec (Thekwini College)
	North West	Klerksdorp (Vuselela College)

D. Capturing of results

The double capturing method used by the Chief Directorate: Educational Measurement, Assessment and Public Examinations (CD:EMAPE) is very effective. Umalusi's monitoring of this phase included the monitoring of the changes of norms with the April, June, August and November examinations and the capturing of adjustments after the moderation of marks meeting in December.

3.3.2   Approach

Umalusi requested the provincial departments of education and the national Department of Education to submit monitoring plans on set deadlines. In addition, Umalusi provided the departments of education with a template for the submission of plans and reports. Umalusi strived as far as possible to align its monitoring plans with that of the provincial departments of education and the national Department of Education to ensure that monitoring by the different stakeholders was done in the most cost effective and efficient way.

The selection of centres included in the monitoring exercise was based on:
- Monitoring and moderation visits during 2003, 2004 and 2005
- Findings of previous monitoring and moderation visits
- New quality assurance initiatives: In line with Umalusi's approach to continuously improve its quality assurance activities, Umalusi, for the first time included sub-centres of three of the colleges/campuses in the August 2006 monitoring exercise. The monitoring of the August examination also included two newly established examination centres, namely Mankwe Campus (Orbit College) in North West and Modikwa sub-centre of Randfontein Campus (Westcol).

The next section of this report provides information on the approach to the monitoring of each of the examinations mentioned above.

A. Approach to the design phase

It was the second time that Umalusi monitored the design phase of the VET examinations. The exercise included a verification visit to the examination and marking centres in the Northern Cape and Mpumalanga. None of the other examination and marking centres monitored were included in the design phase visits of 2005.

The following aspects pertaining to the design phase received specific attention:
- Preparation for the conduct of the examinations (including preparation of venues and invigilation time tables)
- Receipt, safe storage and handling of question papers and examination stationery
- Appointment and training of examination staff (examination officers, chief invigilators, invigilators, chief markers, markers).

B. Approach to the writing phase

Umalusi has been involved in the monitoring of the writing phase of the VET examinations since 2003. It is Umalusi's aim to review and improve the approach to monitoring annually. It was therefore imperative to extend the monitoring exercise to address the following with the 2006 examinations:
- Consistency in the conduct of examinations within campuses of the same college
- Inclusion of sub-centres of campuses/colleges
- Visits to centres with low pass rates.

The following aspects pertaining to the writing phase received specific attention:
- Preparation for the conduct of the examinations
- Safe storage and handling of question papers, examination stationery and scripts
- Admission of candidates into examination rooms and management of candidates inside the examination rooms
- Effective and efficient invigilation
- Collection, control, packaging and dispatch of answer scripts
- Handling of irregularities.

C. Approach to the monitoring of marking

As indicated before, Umalusi included a limited number of marking centres in the monitoring exercise because a substantial number of marking centres were included in the monitoring of the design phase and the moderation of marking by Umalusi's moderators.

The focus of the monitoring of the marking centres was on:
- Security at the marking centres
- Suitability of the venues to serve as marking centres
- Control of the movement of scripts
- Marking procedures

- Measures to ensure correct addition and transfer of marks from answer scripts to the mark sheets
- Reporting and recording of irregularities detected at the marking centres.

D. Capturing of results

Umalusi's involvement in the capturing of results entailed an Umalusi staff member working closely with the CD:EMAPE and SITA to ensure that the relevant norm changes were effected with each of the 2006 VET examinations and that the marks were captured accordingly. In addition, a spot check was done after the moderation of the November 2006 examination marks to ensure that the final marks were captured correctly.

3.4 Findings

The focus of this section of the report is on the salient findings of the monitoring reports received from the Umalusi monitors, as well as from the provincial departments of education.

3.4.1 Planning for monitoring

Coordinated short-, medium- and long-term planning by the different stakeholders is essential to ensure that the monitoring is done in the most effective and efficient way. For example, it important that:
- all the sites are covered over a period of time; and
- follow-up visits to sites are undertaken to monitor the implementation of recommendations.

Umalusi experienced the following with regard to the planning for monitoring of the 2006 examinations:
- The approach to and scope of monitoring in terms of inclusion of the different phases and different types of examination centres differed substantially between provincial departments, for example:
  - The Western Cape, Northern Cape, Limpopo and KwaZulu Natal only monitored public colleges.
  - The Eastern Cape, KwaZulu Natal, Limpopo and Western Cape only monitored the writing phase of the examinations.
  - In Mpumalanga and KwaZulu Natal the monitoring function was to a large extent 'delegated' to the colleges, however Mpumalanga's approach changed with the November 2006 examination. The objectivity of the outcomes of this exercise is questionable because colleges monitor their own campuses.
  - The main emphasis is still on the monitoring of the writing phase at public colleges.

There was, however, a move towards the inclusion of different phases and different types of examination centres, for example Gauteng.

- The lack of clarity on the mandate of the provincial departments of education with regard to monitoring of examination centres at private FET colleges and correctional services centres remains a stumbling block in ensuring that the different types of examination centres are treated in the same way.

- Submission of plans by the majority of provincial departments of education, as requested by Umalusi, was good. The plans were, however, not always submitted in time, which affected Umalusi's objective to align its monitoring plans with that of the provincial departments and the national Department of Education. Where the provincial departments cooperated (for example the Free State, Gauteng and North West before the April, June and August examinations) it assisted Umalusi in planning its monitoring and verification visits more effectively.

- Format of submission of plans has improved, although the majority of provincial departments of education still do not submit plans in Umalusi's format. The implementation of the recommended format contributes to effective and efficient monitoring.

3.4.2   Monitoring of design phase

During this phase the Umalusi monitors were deployed to determine the state of readiness of the assessment body, provincial departments of education, examination and marking centres for the examinations. The following are the findings of the monitoring of the design phase of the November 2006 examination at the head offices of the provincial departments of education:
- The provincial departments of education had monitoring plans in place for the November 2006 examinations.
- The approach to monitoring differs from province to province, for example in KwaZulu Natal this function is delegated to the colleges and the provincial monitor accompanies the monitors from CD:EMAPE on their monitoring visits.
- In some provinces, for example KwaZulu Natal, the monitoring plans made provision to cover the entire province, but in others, only certain areas of the province would be monitored, for example the Eastern Cape and Limpopo.
- The major emphasis was on the public colleges and the writing phase of the examination (for example Limpopo and KwaZulu Natal), although the other types of centres and other phases were included in the plans of some of the provinces (for example Free State, Gauteng and Mpumalanga).

The examination and marking centres were generally well prepared for the examinations. Great care was taken to:

- ensure that all candidates were registered in time;
- control receipt and storage of question papers in an organised and safe way;
- issue examination permits;
- appoint and train chief invigilators and invigilators (there was, however, no evidence of the training of invigilators at CS Barlow and Strand Campuses);
- plan for the examination and compiling of invigilation time tables;
- select and appoint markers, chief markers and marking centre managers.

3.4.3   Monitoring of examination centres

In general, the necessary systems to ensure that examinations were run in a credible and fair manner were found to be in place.

Evidence of training

At most of the centres monitored, especially at the public colleges, the examination officials were well trained. In the interviews conducted with chief invigilators it was clear they knew their roles and responsibilities regarding the:

- general management of examinations;
- examination room – general procedures and seating of candidates;
- procedure before the commencement of the examination;
- writing of the examination;
- packing and transmission of answer scripts.

With regard to the above, the Free State province must be commended on the excellent work done in preparation for examinations and the high standard maintained at the examination centres.

Preparation for the examinations

The lack of effective preparation for the examinations at some of the centres is of concern. Non-compliance with several aspects of the examination policy was observed at a number of campuses visited especially on the first day of the examination, for example Pretoria Gardens Technical High School, Kathu, Mamelodi, Strand, Vredendal and Teko. Examples of problems observed include:

- Lack of clear directions to the examination venues.
- Examination centre number and time allowed were not displayed.
- Candidates were allowed to keep their bags next to their desks.
- A number of unregistered/late registered candidates turned up to write the examination.

This is an indication that the above mentioned examination centres neither planned in time nor paid attention to all aspects as stipulated in the policy.

Non-compliance with policy

This varied and was experienced at public as well as private centres. The deviations from policy and examination instructions observed were however mostly of a less serious nature, for example:

- The delegation of authority in the absence of the chief invigilator was not in writing.
- The control of examination stationery was ineffective.
- Relief invigilators were not indicated on the time table.
- Calculators and other programmable devices were not checked.
- Examination permits were the only form of identification (there should have been another form of proof of identity).
- Examination instructions were not read to candidates before the commencement of every examination session.
- Contingency plans were unavailable.
- The amount of reading time allowed ranged from zero to 25 minutes.

In addition, non-compliance with numerous aspects of the policy at certain public college campuses in the Eastern Cape province (for example Maluti, Teko, Mngazi and Mapuzi), correctional services centres, private colleges and schools were observed. For example:

- There was a lack of training of invigilators at Wellington correctional services and Siyathuthuka.
- There was no record keeping of examination stationery (Hwiti High School and Seshego Commercial and Computer College).
- Lecturers invigilated their own subjects (Seshego Commercial and Computer College).
- Conditions at certain examination centres were not conducive to the writing of examinations, for example the poor condition of furniture at Ngwaabe High School and lack of ventilation at Seshego Commercial and Computer College.

Invigilation

The following is a list of unacceptable practices by invigilators that need to be addressed:

- Late arrival (Modjadji)
- Non-arrival (Teko)
- Sitting down and using a cell phone during examination session (Umlazi BB)
- Lack of knowledge of rules and other aspects that must be adhered to with regard to Computer subjects (Gamalakhe).

Implementation of recommendations

There was some evidence of implementation of the recommendations made by Umalusi. For example, where follow-up visits by Umalusi monitors took place (Kathu, Thibela, Ntabozuko, Teko, Upington, Strand, Modjadji, Polokwane and Seshego Commercial and Computer College) there was generally a marked improvement from the previous monitoring visits.

Furthermore, it was noted that deviations were less during the examinations written during the

latter part of the year than those written during the first part of the year. This is evidence of the commitment of examination centres to improve the conduct of examinations.

Consistency in conducting examinations

In the past, substantial differences in the standard of the conduct of examinations at different campuses of the same college were reported. This was however not the case with the three campuses of Tshwane South College (monitored during the April 2006 examination), where the standard of the conduct of the examination was similar at all three campuses. The same was found at the examination centres of different campuses of Thekwini College and Umgungundlovu College that were visited during 2006. This is an indication of a movement towards standardisation of practices at different campuses of the same college. However, at King Hintsa College and King Sabata Dalindyebo College there were many aspects of non-compliance with the policy and non-compliance was observed more at some of the campuses than others. The aspects of non-compliance observed at the different campuses of Elangeni also differed from campus to campus.

Errors in question papers

The importance of correct translation and final checking of question papers before being printed and distributed to the examination centres again became apparent. Examples of mistakes observed during the monitoring are:

- Translation mistakes on the April 2006 Fitting and Machining Theory N1 paper and August 2006 Fitting and Machining Theory N2 paper.
- Certain pages of the November 2006 Bricklaying and Plastering paper was in English while others were in Afrikaans.
- A spelling mistake (vergardering instead of vergadering) in the June 2006 Sakeafrikaans N2 (Paper 1); as well as a bracket in the wrong position that caused the question to become ambiguous.

These mistakes are unacceptable and could influence the performance of candidates.

Procedures with subject clashes

There seemed to be some confusion with the correct procedures to be followed in dealing with subject clashes. At some of the campuses candidates were allowed to start writing the first question paper earlier than the official starting time, for example at Upington during the August and November 2006 examinations candidates started writing the first paper at 07:00. This is a violation of policy.

Reporting of irregularities

The practice of reporting only certain incidents/irregularities to Umalusi by CD:EMAPE is an area of gross concern. The monitors reported the following incidents/irregularities with the April examination:

- At Namaqua Campus one candidate could not write the examinations because the paper was not delivered/went missing.
- At Kathu Campus question papers were photocopied for 12 unregistered candidates.
- The question paper for one subject was not received at Mavhoi Campus.

- Question papers were not sealed (St Marks Campus) – it was the second time this occurred at the same campus.
- At Mavhoi Campus in Limpopo candidates were allowed to write the examination without proof of identity.

Only one of the above-mentioned incidents/irregularities was contained in the official irregularities report (April examination) received from the CD:EMAPE.

Dispatch of question papers
Colleges experienced problems with the final planning for the examinations because of the late distribution of question papers to examination centres by the assessment body. At Upington Campus the question papers were received a day before the April examination commenced. At Ekhuseni Youth Centre the question papers were delivered on the date the November examination commenced. Examination permits were also received very late with the April examination.

The abovementioned findings are proof that, despite the shortcomings mentioned, the writing of examinations at VET centres is improving and generally of a good standard.

3.4.4   Monitoring of marking centres

Umalusi's monitors were satisfied with the general management of the marking centres visited.

The following observations with regard to the marking process were made at the marking centres monitored:

Planning for marking
Marking centres experienced problems in the final planning for the marking because of the late distribution of information to the centres by the assessment body.

Security measures and effective control systems
The necessary security measures were in place. However, a deviation from policy in terms of people allowed into marking venues was observed at Pretoria West Campus during the April examination where a daughter of one of the markers obtained unauthorised admission to the marking centre. Effective control systems for the flow (receipt and distribution) and marking of scripts were in place.

Training of markers
The markers were not formally trained. The memorandum discussions were used as the training session. A number of new markers were appointed with every marking session to build capacity. These markers received additional guidance and a higher percentage of their marked scripts were moderated.

Memorandum discussions
Discussions took place as prescribed and were attended by all the markers. The markers came prepared (with their own memoranda) to the two marking centres visited.

Late arrival of scripts at marking centres
This remains a challenge. For example, the scripts of Engineering Science N2 from Atteridgeville Campus and Soshanguve Campus were still outstanding at Pretoria West marking centre on the date of the monitoring visit (13 April) despite the fact that the question paper was already written on 10 April. The same applies to Centec where there was evidence that scripts of a number of subjects from a large percentage of examination centres were still outstanding at the end of the allocated marking period. This affects the marking as the process cannot be completed in time.

Monitoring by provincial departments of education
Only five provincial departments of education monitored marking centres, namely the Free State, Gauteng, Mpumalanga (November 2006), North West (April 2006) and Northern Cape. In the Free State training is provided to markers before the commencement of the examinations, subsequently a very high standard was maintained at all the marking centres. According to the April monitoring report received from North West, the marking at Potchefstroom Campus was well managed. No mention was made of any deviations from policy or any areas of improvement at this centre.

The points above indicate that the marking process is in general well managed. However, there are still some areas of concern as will be pointed out in more detail in a subsequent section of this report.

3.4.5   Capturing of results

Different procedures were used at the marking centres to prevent computation errors. The double capturing method used at the CD:EMAPE is effective to ensure that capturing of marks is accurate. After the moderation of marks the CD:EMAPE carried out spot checks with a sample of subjects and centres, which proved effective.

3.4.6   Reporting on monitoring

The Umalusi and provincial department of education monitors submitted monitoring reports to Umalusi on predetermined dates. These reports were used by Umalusi to judge the standard of the examinations.

The quality and content of the reports submitted differed from adequate to lacking in terms of detail. The following findings/observations provide evidence to that:
- The provincial department of education monitors do not always substantiate information. For example, no mention was made of any deviations from policy or any

areas of improvement at any of the centres monitored during the April examinations by three of the education departments (KwaZulu Natal, Mpumalanga and North West). This makes it difficult for Umalusi to make a judgement on quality assurance in these provinces.

- An improvement in the format and quality of the reports of some of the provincial departments of education was observed after the July 2006 Umalusi workshop.

It is important that detailed reports, in the recommended format, are submitted to Umalusi on agreed dates to enable Umalusi to make quality judgements.

3.5 Strengths

The following strengths were observed:

Initiatives of examination and marking centres
Certain centres went the extra mile to ensure that the examinations were conducted in a fair and credible manner. Examples of very good practice include:

- Well-planned control sheets and other methods to control issuing of question papers and stationery (Mphohadi, Asherville, Seshego, Mangaung, Kathu and Midlands Campuses).
- A register that is kept of all monitoring visits (Baviaanspoort correctional services).
- Attendance slips that are completed and collected before the commencement of examinations to prevent disturbances during the writing (Edendale).
- Asking a candidate to check that the envelopes containing the question papers are still sealed and then signing a form to verify this (Edendale and Asherville).

These commendable practices contribute to the credibility of the VET examinations.

3.6 Areas of concern

This section identifies some of the areas of concern that may compromise the quality of VET examinations.

Late submission of plans and reports
Late submission from the provincial departments of education (Eastern Cape, KwaZulu Natal, Limpopo, Mpumalanga, Northern Cape, Western Cape) and the CD:EMAPE impacted on effective planning and coordination of monitoring activities.

Non-compliance with policy
The non-compliance with numerous aspects of the policy at certain campuses of public colleges in the Eastern Cape and some of the correctional services centres, private colleges and schools.

Invigilation
The attitude or lack of training of invigilators at certain centres (for example, late arrival; non-arrival; sitting down and use of cell phone during examination session; lack of knowledge of rules and other aspects pertaining to certain subjects) are unacceptable practices that need to be addressed.

Reporting of irregularities
Selective reporting of incidents/irregularities to Umalusi by CD:EMAPE is an area of gross concern.

Lack of formal training
At all the marking centres visited, guidance was given before and during the marking session, but a lack of formal training of the markers was noted.

Late arrival of scripts at marking centres
Marking centres still complained that scripts of certain centres arrived late or were sent to the wrong marking centres. This led to the inability of marking centres to conclude the marking process in the allowed time and subsequently influenced the standardisation of results, as in some subjects less than 80% of the marks were captured.

3.7 Recommendations

This section makes recommendations to improve the quality of VET examinations.

Submission of plans and reports
Cooperation and coordination of the monitoring activities between Umalusi, the provincial departments of education and the national Department of Education need to be improved to ensure that the monitoring is done in the most effective and efficient way. Provincial departments of education and the national Department of Education should submit their monitoring plans and reports in the prescribed format and on the dates stipulated by Umalusi.

Monitoring of the different types of centres and different phases of the examination
The issues around mandate of provincial departments of education with regard to the monitoring of examination centres at private colleges, schools and correctional services need to be clarified to ensure effective monitoring of all the different centres at which Report 190/191 examinations are written. Monitoring plans of the departments of education should make provision for the inclusion of the different phases of the examination and different types of centres.

Non-compliance with policy
Special attention must be given to the public colleges of certain areas of the Eastern Cape and the examination centres at correctional services and private colleges to ensure that their staff are trained on all aspects regarding the conducting of examinations and the implications of

non-compliance with policy. Special attention should be given to the training of invigilators. Staff invigilating specialised subjects, such as computers, must be well trained and familiar with all the rules and other aspects of policy, for example the printing of answers.

Consistency across campuses
Colleges should ensure the same standards are maintained across the different campuses.

Reporting of irregularities
All incidents/irregularities that occur at any stage of the examination process must be reported to Umalusi as stipulated in Umalusi's directives.

Planning and training for marking
Information with regard to the number of scripts to be marked at a specific marking centre need to be sent to the marking centres in due time to allow sufficient time for planning, recruiting, selection and appointment of appropriate markers. The CD:EMAPE must put measures in place to standardise the training of markers.

Dispatch of scripts
Additional measures must be put in place to ensure that scripts are sent to the right marking centre on the date of the examination (or the following day in the case of subjects written in the afternoon).

3.8 Conclusion

From the monitoring reports received it is evident that the assessment body, examination and marking centres have good systems in place to ensure the smooth running of examinations.

The level of compliance with policy, especially at public FET colleges, is generally of a good standard. However, certain aspects need attention at some public as well as private examination centres. The majority of centres visited in the Eastern Cape and certain private colleges and correctional services centres across the country fall within this category.

The VET marking centres were well organised with good systems and procedures in place. The major concern is the late receipt of information, late receipt of scripts and the lack of a formal training programme for markers.

Timeous distribution of permits and question papers by the CD:EMAPE; and planning by the examination centres will improve the quality and credibility of the examinations. Similarly, the timeous distribution of information on the numbers of scripts to be marked at marking centres will enable the marking centres to plan more effectively.

There is room for improved cooperation between the different stakeholders as this will ensure cost effective and efficient monitoring of VET examinations. The implementation of Umalusi's directives will resolve some of the issues, for example roles and responsibilities; the reporting of incidents and irregularities, etc.

The monitoring of the design and marking phase needs to receive more attention from the provincial and national Department of Education.

The 2006 VET examinations were administered in a professional manner and in general good standards were maintained. The observation is that there is continuous improvement in the examination system, processes and procedures. Based on the findings reported by the monitors, there was no evidence to suggest that the integrity and credibility of the examinations has been compromised in any way.

Chapter Four

Moderation of marking

4

4.1 Introduction

The moderation of marking is of critical importance as it largely determines the standard and quality of marking and ensures that marking happens according to established practices and standards. Umalusi moderates marking to improve the quality and standard of marking and to promote confidence in the Vocational Education and Training (VET) Examinations. In the past, Umalusi focused on the moderation of marking of selected N3 subjects and only started to moderate the marking of N1 and N2 scripts with the April 2006 examination.

The purpose of this chapter is to report on the quality and standard of marking of the 2006 VET examinations and make the necessary recommendations for improvement.

4.2 Purpose of moderation of marking

The purpose of moderation of marking is to determine the standard and quality of marking and to make a judgement on the reliability and practicability of the systems, processes and procedures at the marking centres. Umalusi moderators moderate marking to ensure that:
- memorandum discussions take place as prescribed;
- markers are effectively prepared for the marking process;
- all possible alternative correct answers are included in the memorandum and the memorandum is accepted and finalised;
- the memorandum is correctly interpreted and consensus is reached on memorandum interpretation;
- an acceptable and appropriate standard of marking and internal moderation of marked scripts is maintained across the marking centres and throughout the marking process.

The external moderators are expected to report comprehensively on their findings on the above so that Umalusi can take the necessary steps to ensure the quality and validity of this particular aspect of the examination process. In addition, the moderators also report on the systems, processes and procedures at the marking centres.

4.3 Scope and approach

To fulfil the external moderation of marking function, Umalusi appointed external moderators who are highly experienced in moderation of assessment. These moderators carefully evaluated the systems, procedures and practices at marking centres by means of instruments developed by Umalusi.

4.3.1   Scope

Umalusi deployed 15 moderators to moderate the marking of the 23 subjects currently moderated by Umalusi. These moderators attended the memorandum discussions and moderated the marking of scripts of the 2006 VET examinations.

The scope of Umalusi's involvement in the moderation of marking with each of the 2006 VET examinations is briefly discussed below.

A. February 2006 General and Business Studies examination
The February examination is a supplementary examination. As a result, the number of candidates enrolled for this examination is normally smaller in comparison with the other examinations. Umalusi moderated the marking of two subjects of this examination, namely Public Administration N3 and Small Business Management and Entrepreneurship N3.

B. April 2006 Natural Sciences examination
The focus of moderation of marking of the April 2006 examination was on selected N1 and one N2 instructional offering, namely:
- Engineering Science N1 and N2
- Mathematics N1
- Industrial Electronics N1.

C. June 2006 General Studies examination
The focus of moderation of marking of the June 2006 examination was on selected N2 instructional offerings, namely:
- Applied Accounting N2
- Business English Second Language N2 Paper 1
- Computer Practice and Typing Technique N2.

D. August 2006 Natural Sciences examination
Three moderators were deployed to attend the memorandum discussions of the following N2 subjects:
- Engineering Science

- Mathematics
- Industrial Electronics.

E. November 2006 Natural Sciences and General Studies and Business Studies examinations

Umalusi deployed 15 moderators to moderate the marking of 14 subjects. A total of 13 memorandum discussions were attended at 10 different marking centres across the country and marking was moderated at 12 different marking centres.

Addendum 1 gives a detailed account of the moderated subjects and marking centres at which the marking was moderated.

4.3.2 Approach

Umalusi has been involved in the moderation of marking of selected N3 subjects in the VET sector since 2003. For the first time, the marking of selected N1 and N2 subjects was moderated during the April, June and August 2006 examinations.

It is important to note the following aspects as it impacts on Umalusi's approach to the moderation of marking:
- N2 (in the case of Natural Sciences) and N3 scripts are marked externally at centralised marking centres.
- Marking of N1 (Natural Sciences) and N2 (Business and General Studies) is done internally at the examination centres.
- In the case of external marking each subject is marked at one or more marking centres depending on the enrolment for the specific subject. Where a subject is marked at more than one marking centre, the challenge is to ensure consistent marking across the centres.
- Scripts are sent directly from the examination centres to the marking centres.

The actual marking process is preceded by two memorandum discussions. The first memorandum discussion takes place shortly after the question paper is written. After this discussion each marker marks a small sample of scripts, which is moderated by the chief marker. Thereafter a second memorandum discussion takes place to finalise the memorandum. Umalusi's moderators attended the memorandum discussions and moderated the marking of selected subjects during all the 2006 VET examinations.

Umalusi followed two approaches with regard to the moderation of marking, namely:
- Off-site moderation of marking: where moderation of marking is done at the Chief Directorate: Educational Measurement, Assessment and Public Examinations (CD:EMAPE) after completion of the internal marking process at colleges/examination centres.

- On-site moderation of marking: where moderators are deployed to the examination centres/external marking centres to moderate marking during the marking process and at the examination/marking centres for N2 and N3/NSC subjects.

The extent of on-site and off-site moderation per examination is indicated in Table 6.

Table 6:   Off-site and on-site moderation of marking

Examination	Level	Off- site	On-site
February 2006 Business and General Studies supplementary examination	N3	2	
April 2006 Natural Sciences examination	N1, N2	4	
June 2006 Business and General Studies examination	N2/NIC	2	1
August 2006 Natural Sciences examination	N2		3*
November 2006 Business and General Studies examination Natural Sciences examination	N3 N3/NSC		10* + 8 3* + 5
Total		8	16* + 13

* Memorandum discussion meeting attended

For the on-site moderation of marking, Umalusi carefully considered the findings of previous visits to marking centres and deployed the moderators accordingly. Where marking was done at more than one marking centre, the moderators attended the memorandum discussion at one marking centre and moderated the marking at another marking centre. The main purpose was to determine the degree of communication between the different marking centres to ensure consistency in the marking process.

For the off-site moderation of marking, the CD:EMAPE was requested to provide Umalusi with the marked scripts of selected centres. Moderators initially moderated one script of a specific centre, but where discrepancies were observed, more scripts of the centre were moderated. Although the impact of the off-site moderation of marking approach is far more limited than the on-site moderation of marking, it was agreed that it would be the most viable option to obtain relevant information. The findings of the marking process could be used to impact on the improvement of the future marking processes through effective feedback of findings to the sites of learning and the assessment body.

4.4 Findings

This section of the report will outline the significant findings from the external moderators' reports of the 2006 VET examinations.

As indicated above, Umalusi moderated the marking of scripts marked externally at centralised marking centres as well as scripts marked internally at the examination centres. The moderators found distinct differences in the internal marking conducted at colleges/examination centres and external marking conducted at centralised/external marking centres. These will be referred to and discussed in more detail below.

4.4.1   External marking

Management of marking centres
The marking centres were well managed. The efficiency of marking centre managers and chief markers was observed at almost all marking centres visited:
- There were good security measures in place, for example access control and the use of identity cards.
- There were effective measures in place to control the flow of scripts. The majority of centres had good procedures in place to ensure that scripts were only marked at the marking centre.
- At most of the marking centres visited new markers were appointed with every marking session. There was also a movement towards including markers from a broader geographical area than in the past. This is a good practice to build capacity for future examiners/moderators and also to ensure that the best possible markers are appointed. Another good practice is that a record was kept of the performance of markers and where a marker could not maintain the relevant standard of marking the marker would not be appointed again.
- The timeous receipt of scripts at marking centres, for example Computer Practice N3 at Richtek, is an improvement that contributed to concluding the marking within the prescribed time.

Memoranda and memorandum discussions
- In some cases the quality of memoranda was not always of the appropriate standard in the sense that it was unspecific, typing errors occurred (for example, Business English Second Language Paper 1) and changes to the question papers were not effected on the memorandum (for example, Office Practice). Credit must however be given to some of the examiners (for example, Mechanotechnology N3) for very neat and professional memoranda.
- Markers did not always come prepared to the memorandum discussions (i.e. each marker did not work out the memorandum before attending the memorandum discussion). For example, Industrial Electronics N3, Mathematics N3, Small Business Management and Entrepreneurship N3, Business English Second Language N3 Paper 2 and Office Practice N3.
- With the November examination a number of markers who did not attend the memorandum discussions were allowed to mark. For example, at Benoni (Computer Practice), Johannesburg (Engineering Science), Mamelodi (Mathematics),

Msunduzi (Sakeafrikaans Second Language Paper 1), Roodepoort (Business English Second Language Paper 2) and City Campus (Office Practice). This is a violation of the examination instruction.

Standard of marking and moderation
Marking was done in accordance with Examination Instruction 14 of 2004.

- The standard of marking of the majority of markers was good as could be detected from the small differences in the marks allocated by the marker, chief marker and external moderator (for example, no differences of more than 5% were reported for Engineering Science N3 and Engineering Drawing N3). Where differences occurred it was usually a new marker or only one or two of the markers that made computation or calculation errors. For example, Applied Accounting N3, Business English Second Language Paper 1, Computer Practice N3 and Sakeafrikaans Second Language Paper 1.
- Where marking was done at more than one marking centre, there was no consistency in the communication between marking centres. For example, with the August and November 2006 examinations there was no communication between marking centres of Mathematics N2 and N3 to ensure that the memorandum was finalised and marking was consistent. In other subjects, such as Engineering Science N2 and Small Business Management and Entrepreneurship N3, there was effective communication between the different marking centres. A general comment by the moderators was that measures must be implemented to ensure that the same finalised memorandum is used at all the marking centres.
- The internal moderation was graded from good (for example Industrial Electronics N3) to excellent (for example Business English Second Language Paper 1). Great care was taken to ensure that scripts from a wide spectrum of performance, all batches (and thus all markers) and examination centres were moderated. Where discrepancies occurred they were discussed with the relevant marker and the marker then had to remark the batch of scripts.
- Different systems were used to ensure the accurate allocation and transfer of marks to the front page of scripts and mark sheets.
- Some markers did not have experience in lecturing and marking of the subject (for example Office Practice N3 - November examination).

Performance of learners
The moderators identified the following aspects that provide evidence of problems in teaching and learning :

- Candidates could not apply knowledge (for example Applied Accounting N3).
- Candidates need more practical exposure, for example Engineering Science N3 and Mechanotechnology N3.
- Errors in textbooks (for example Business English).
- There is a need for more networking and sharing of good practice.

- There is evidence that certain sections of the syllabus were not taught (for example Logarithms in Mathematics)
- Extremely poor performance at certain centres.

4.4.2   Internal marking

Standard of marking and internal moderation
With the April and June 2006 examinations the moderators found that in some cases marking was not consistent and/or marks were not allocated for correct steps. Furthermore, some of the markers did not follow the marking procedure as stipulated in Department of Education examination instructions. The following are examples of some of the findings of the external moderators that impact on the quality of marking:

- At certain centres the marks were not indicated in the relevant space on the script (for example Bartimea School for the Deaf and Blind). The procedure that should be followed is clearly described and illustrated in Examination Instruction 14 of 2004.
- Computation errors, for example Computer Practice and Typing Technique N2. Substantial differences in the mark allocation by the marker and external moderator for Computer Practice and Typing Technique were found in 11 of the 20 scripts moderated – the external moderator's allocation was between 6 and 11% lower than the marks allocated by the marker. The reason is that the marker did not adhere to the examination instruction for marking in terms of accuracy and display.
- Where internal marking is done at the site of learning, the subject heads moderate a sample of the marked scripts before they are returned to the CD:EMAPE. The standard of moderation by the subject heads differed. A sample of scripts is also sent to the internal moderators after all the marked scripts have been returned to the CD:EMAPE. The moderation is done at the end of the marking process and does not have the same impact on improving marking as moderation during the marking process.
- The value of the current practice of the Department of Education to send a sample of internally marked scripts for internal moderation after the completion of the marking and capturing of marks process is of concern. The value of this exercise is questionable if no provision is made for feedback into the system in order to improve performance.
- In the scripts moderated by the external moderators, there were often substantial differences in marks allocated by the marker, subject head and external moderator. For example:
  - The moderator for Industrial Electronics found a deviation of more than 5% in 25% of the sample of scripts moderated.
  - The moderator for Mathematics N1 found that some markers allocated marks for reasonable additional correct answers not appearing on the memorandum – deviations of up to 10% in the marks allocated were found.

- The moderator for Engineering Science N1 and N2 found that the marking was consistent and thorough, but that candidates were not given credit for correct steps in calculations.
- Marker reports indicated different answers that were incorrect, for example in the Mathematics N1 April 2006 paper. This implies that different errors were picked up at different marking centres that influenced the way in which the scripts were marked.

Learner performance
- With the April examination, the moderator for Industrial Electronics N1 found that the candidates handled the calculations, which are usually challenging and require application and mathematical skills, fairly well. The moderator for Engineering Science N2 found that certain questions were poorly answered. The reason for this could be lack of opportunities to learn.
- The Umalusi moderators' reports of the June examination indicated the overall poor performance of learners at certain centres in a specific subject. For example, Applied Accounting N2 at the following campuses: Port Shepstone, Temba, Kokstad, Mlumati, Benoni, Kempton, Odi and Leeukop correctional services and Business English N2 at Odi, Nelspruit, Usizo and North West Secondary School for the Deaf.

4.5   Strengths

The following were some of the strengths observed:
Management of marking centres
The marking centres were effectively managed. There were very effective processes and procedures in place to control the flow of scripts at external marking centres.

Internal moderation
- The standard of moderation at external marking centres was good and inconsistencies in the marking were addressed immediately.
- The practice to moderate a larger sample or in some cases all the scripts of new markers is commendable.

4.6 Areas of concern

This section of the report identifies some of the areas of concern that may compromise the quality of the VET examinations.

Quality of memoranda
The quality of memoranda is not always up to standard.

Consistency/use of same memorandum at all marking centres
Where a subject is marked at more than one marking centre the communication between the different marking centres with regard to adjustments to the memoranda is not effective.

Attendance of and preparation for memorandum discussions
Markers often do not come prepared to memorandum discussions, which limits their contribution to the memorandum discussions. The fact that some markers were allowed to mark despite the fact that they did not attend the memorandum discussions is of serious concern.

Standard of internal marking and moderation
There are too many discrepancies in the marking at different examination centres.

4.7 Recommendations

Memoranda and memorandum discussions
- Memoranda that are sent to marking centres must be correct. Where changes are made to question papers the memoranda must be adjusted accordingly before it is sent to the marking/examination centres.
- Where subjects are marked at more than one marking centre, the official finalised memorandum must be signed off and communicated to all the marking centres to ensure that the same memorandum is used across the marking centres. The Department of Education must provide for centralised memorandum discussions.
- All markers should come prepared (each with his own prepared memorandum) to memorandum discussions.

Internal marking and moderation of internal marking at site level
The standard of internal marking is of an unacceptable standard.
- The Department of Education must put systems in place to improve the standard and quality of internal marking. It is important to find short-term and long-term solutions to the problems around internal marking. In order to improve the accuracy of internal marking, it is proposed that the internal moderation processes be sharpened so that centres where marking is not of the required standard can be identified. Measures to ascertain the causes of the discrepancies and to address the problems must be implemented with future examinations to ensure that candidates are not disadvantaged.

General
- The assessment body ought to send out an examination instruction to address the following:

- Importance of all markers following the procedures for marking as stipulated in Examination Instruction 14 of 2004.
- Implementation of strict control measures at all marking centres (internal as well as external marking) to ensure that no scripts leave the marking centre.
- Where moderation of internal marking is done at the site of marking, it must be done at the beginning of the process to have an impact on the quality of marking.

4.8 Conclusion

The moderation of marking reports clearly indicated that for external marking there are effective systems, processes and procedures in place at the marking centres; memoranda are discussed in detail to ensure that all possible answers are provided for and that marking is in general up to standard. The challenge is to ensure consistency in marking where subjects are marked at more than one marking centre.

The major concerns are with regard to the inconsistency with the internal marking at and across examination centres. The Department of Education must ensure that there are effective systems, processes and procedures in place to ensure the credibility of internal marking.

Umalusi is satisfied that the discrepancies found did not compromise the examinations but should be attended to in the forthcoming plans for the moderation of marking.

Chapter Five
Standardisation of results

5.1 Introduction

In Section 16 and 18 of the General and Further Education and Training Act it is stipulated that Umalusi may adjust raw marks during the standardisation process and that the assessment bodies may recommend to the Council during the standardisation process that raw marks be adjusted.

The standardisation is based on the principle that when the standard of examinations from one examination to the other or one year to the next are equivalent, and they are taken by a sufficiently large body of candidates, then statistical mark distribution should correspond. Standardisation therefore serves to neutralise differences in the standards between examinations over time.

The purpose of this chapter is to report on the moderation of marks in the VET sector. It further highlights prominent decisions taken during the standardisation meetings and makes recommendations for improvement.

5.2 Purpose of standardisation

The purpose of standardisation of the examination marks is to address the variation in the standard of the question papers, internal assessment and the standard of marking that may occur from examination to examination and between sites of learning.

The following are possible sources of variability in the distribution of examination results:
- Standard of the examination question papers
- Standard of marking
- Changes in the composition of the group of candidates for a particular subject
- Disruptions of examinations
- Special efforts by assessment bodies and examination centres to improve performance.

5.3 Approach to moderation of marks

The Kolmogorov-Smirnov goodness of fit procedure in conjunction with fixed norms is used for the standardisation of the VET results. The norms are reviewed after the completion of each examination and adjusted where necessary. For subjects with an enrolment of less than 25 candidates no norms are determined and the raw marks are accepted, except in cases where there are compelling reasons to effect an adjustment.

The current mark distributions and the corresponding average distribution over the last six examinations of all the N1-N3, NIC and NSC subjects are compared and considered in the standardisation decisions. The examination raw scores are compared per percentage interval with the norm and where raw scores fall outside the confidence band, it is adjusted up to the band, while scores falling within the band are not adjusted.

5.3.1 Principles of standardisation

The following are some of the principles that were employed in the standardisation of the examination results:
- No adjustment in excess of 10% either upwards or downwards, would be applied, except in exceptional cases.
- No adjustment will be made if the recommended adjustment does not make a significant difference in the percentage passes and distinctions.
- Where the trend differs distinctly from the norm, attention is drawn to the need for a new norm.

5.3.2 Standardisation meetings

The standardisation meetings are hosted by Umalusi and chaired by the Chairperson of Umalusi Council or a designated member of the Council. During 2006 the standardisation meetings were held as follows:

Table 7: 2006 Standardisation meetings

No	Examination	Date
1	April Natural Sciences	5 May 2006
2	June Business and General Studies	5 July 2006
3	August Natural Sciences	22 August 2006
4	November Natural Sciences November Business and General Studies	18 December 2006

The pre-standardisation, standardisation and approval of results meetings of the April, June and August examinations were held on the same day while the approval meeting of the November examination took place the following day.

Pre-standardisation meeting is held before the actual standardisation meeting to evaluate the data and determine the relative standard of the examination and the purpose of the standardisation meeting is to consider the proposals from assessment bodies for the moderation and award of marks to candidates and make appropriate decisions. The Statistics Committee of Umalusi makes the final decision on the award of marks.

5.4 Scope of the moderation of marks

In 2006 Umalusi moderated the marks of a total of 483 N1-N3, NIC and NSC subjects. The details of the number of subjects per examination are indicated in the table below.

Table 8: Number of subjects considered for standardisation

	Examination	Number of subjects
1	April Natural Sciences	104
2	June Business and General Studies	66
3	August Natural Sciences	100
4	November Natural Sciences	137
5	November Business and General Studies	76
	TOTAL	483

5.5 Findings

5.5.1   Standardisation decisions

The meetings were conducted in a good spirit and in most cases either raw marks were accepted or modest adjustments were agreed upon.

5.5.2   Performance of candidates

The results of some subjects indicated that the performance of candidates were not in line with previous examinations, for example Carpentry and Roofing Theory N2 April examination (high performance); Applied Accounting N2, Mathematics N1, Building Drawing N2 November examination (poor performance).

5.5.3   Combined N1-N3 norms

During the April standardisation meeting it was identified that in some cases where the same norm was used for a subject at N1, N2 and N3 level it influenced the performance of candidates. For example Engineering Drawing N1, N2 and N3 the same norm of 56.7 % was used during the April examination. This advantaged or disadvantaged some of the candidates.

To solve this problem it was recommended that new norms be generated per level. The norms of the identified subjects were separated with effect from August 2006 examination, for example the following norms were used for the Engineering Drawing during the November examination Engineering Drawing N1: 60%, Engineering Drawing N2: 50% and Engineering Drawing N3: 63.3%. This ensured that the norms reflect the actual performance of the candidates at each level.

5.5.4   60% ceiling

According to the Kolmogorov-Smirnov goodness of fit procedure a fixed norm table with sixteen possible norm values is used. This table sets the failure rate at a maximum of 60%, which means that a norm cannot be computed below 40%. This rule has proved to be an unrealistic expectation in numerous subjects. For example the norm for Applied Accounting N2 is 40% and the raw percentage pass for November 2004, November 2005 and November 2006 has been 29.34%; 29.46% and 17.55% respectively. This proves that the raw percentage pass is constantly far below the norm and is adjusted due to the 60% ceiling.

5.5.5   Small enrolments submission

A total of 53 Business and General Studies subjects were submitted as small enrolments. Included in this was a set of subjects that according to the definition of small enrolments are not classified as small enrolments. Subsequently 18 of those subjects were referred for investigation and re-submission.

5.6 Recommendations

At the standardisation meetings it was proposed that:
- The norms of selected Natural Sciences subjects be separated for the different levels to solve the problem of the same norm that drags the performance of candidates up or down. This was recommended in the April 2006 Natural Sciences standardisation meeting and was implemented by the national Department of Education with effect from August 2006 Natural Sciences examination.
- The results of subjects where the performance of candidates were not in line with previous examinations be investigated by the national Department of Education and a report must be submitted to Umalusi.
- The 60% ceiling is investigated due to the fact that it prevents the adjustment of norms beyond 40%, despite indications that there is a need to do so.
- The Department of Education should make sure that the proposals to the standardisation meeting must be well motivated and supporting evidence must be provided at all times.
- Identified small enrolment submissions and outstanding results be investigated and re-submitted to Umalusi.
- Umalusi must find a way to strike an appropriate balance between a statistically driven procedure and the use of qualitative examination data.

5.7 Conclusion

The standardisation meetings took place in a cordial spirit and where differences of opinion between Umalusi and the assessment body occurred, satisfactory decisions were reached in all cases. The qualitative data did prove to be useful as it was used to motivate decisions in some cases, however there is room for improvement. The Statistics Committee is satisfied with the final marks, as the marks represent a fair reflection of the candidates' performance.

Chapter Six

6

Conclusion

The 2006 Vocational Education and Training examinations were administered in an acceptable manner. In general, the necessary systems to ensure that examinations are run in a credible and fair manner were found to be in place. The deviations from policy observed, especially at public colleges, were mostly of a less serious nature.

The cognitive demand in N3 examination question papers in general has improved. Umalusi still has concerns about the standard and quality of the N1 and N2 question papers in particular and the quality and extent of internal moderation in general. Question papers submitted to external moderators should be accompanied by a complete memorandum, full history of the question paper and a typed internal moderator's report that indicates clearly that internal moderation has been conducted.

The level of compliance with regard to writing of examinations at most public FET colleges is appreciated, however monitoring of the design phase and the marking phase needs to be given more attention. There is however ample room for improvement of systems, processes and procedures at private colleges and correctional services centres.

External marking and moderation of marking at marking centres were of a high standard. However, marking and moderation of internal marking is of serious concern. Currently there is no evidence of an established and standardised system for internal marking. This is an area that needs attention from both the national Department of Education and the provincial departments of education.

There is room for improvement in the handling of irregularities. All reports on irregularities must reach Umalusi within 48 hours of its occurrence and the final report on irregularities, together with a report giving an update on the outcome of investigations must be submitted to Umalusi before the standardisation meeting.

The standardisation meetings were conducted in a good spirit and in most cases either raw marks were accepted or modest adjustments were agreed upon.

Based on the findings reported by the monitors and moderators and the standardisation of results, Umalusi was satisfied with the conduct of the 2006 VET examinations. There was no evidence to suggest that the integrity and credibility of the examinations has been compromised in any way and the Approval Committee of Umalusi Council could approve the release of results.

Addendum 1: Subjects for which marking has been moderated with the different examinations and the centres at which moderation took place

SUBJECT	MARKING CENTRE / TYPE OF MODERATION				
	February	April	June	August	November
Applied Accounting N2			Off-site		
Applied Accounting N3 Paper 1					Vanderbijlpark ** Vanderbijlpark
Applied Accounting N3 Paper 2					Springs ** Springs
Business English 2nd Language N2 Paper 1			Off-site		
Business English 2nd Language Paper 1					Kimberley ** Bethlehem
Business English Language Paper					Roodepoort ** Welkom
Computer Practice and Typing Technique N2			Brits		
Computer Practice N3					Benoni ** Richtek
Engineering Drawing N3					Newcastle
Engineering Science N1		Off-site			
Engineering Science N2		Off-site		Germiston **	
Engineering Science N3					Newcastle ** Johannesburg
Industrial Electronics N1		Off-site			
Industrial Electronics N2				Durban **	
Industrial Electronics N3					Atteridgeville ** Goodwood

Subjects for which marking has been moderated with the different examinations and the centres at which moderation took place (continued)

SUBJECT	MARKING CENTRE / TYPE OF MODERATION					
	February	April	June	August	November
Mathematics N1		Off site			
Mathematics N2				Klerksdorp **	
Mathematics N3					Mamelodi ** Johannesburg
Mechanotechnology N3					Hillside View
Office Practice N3					City **
Public Administration N3	Off-site				Msunduzi ** City
Sakeafrikaans 2ⁿᵈ Language Paper 1					Msunduzi ** Alberton
Sakeafrikaans 2ⁿᵈ Language Paper 2					Phalaborwa ** Centurion
Small Business Management and Entrepreneurship	Off-site				Springs ** Bethlehem

** Memorandum discussion meeting attended

As can be detected from the table, the moderation of marking included the attendance of memorandum discussions and on-site as well as off-site moderation of marking.