

## **Students' Performance scores: A Case study of the 2014 History Junior Certificate State Examinations in Swaziland.**

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**Abstract:** The study examines the students' performance scores in the 2014 history junior certificate examination. A sample of 1013 students from 5899 who sit for the 2014 history examination was selected. A sample of 28 schools from 258 was purposeful selected. It covers a sample of pupils' scores in history paper one and two. Convergence and divergence model was adopted. Analysis focused on school item mean scores, school mean scores. The results shown that most students performed well only in question one, in paper one. The study revealed that concepts in question one, were fairly taught and understood. In paper two, more students performed well because of the nature of the paper, which influenced teachers to teach for examination. The study also revealed that teaching for the examination undermines the quality of education. It is recommended that the Ministry of Education and Training and other relevant departments should refocus their attention on those concepts and skills in question 2,3,4,5 and 6 of paper one which were missed by most students.

**Key words:** History examination, Subject objectives, National goals, Performance scores

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### **I. INTRODUCTION**

The common annual publications of school examination performance based on crude examination performance data which is more about averages without taking into account the influential factors is problematic. Such include the large number of exceptionally very low scores and the exceptionally large number of very high scores. This has more often than not have served to confirm what parents have long recognised: the existing wide disparities between schools without clear explanation in regard to national goals, constitutional values and traditional values. This notes that examination scores may provide a deeply problematic guide on school performance, the quality of the examination and education system (McCallum, 1996; Murphy, 1996). School performance statistics need to be placed in some sort of context (national goals), not just on averages. Examination performance data can provide little insights to school performance and the quality of the examination and education system if not professionally analysed (Gibson and Asthana, 1998). For example, the use of school mean has the effect of treating all children as if there have same capabilities or of equal effectiveness. Using the students' item mean rather than the school as a unit of analysis goes some way towards differentiating between students' experiences within schools. The use of both school mean and students' item mean as the units of analysis is important in examining school and examination effectiveness (Baratz-Snowden, 1993; Romberg and Wilson, 1992; Mentkowski, 1991). Focusing on raw data or school mean scores overlooked many factors such as how students in each school responded to each exam item.

### **II. ACCOUNTABILITY THROUGH EXAMINATION**

Schools are expected to provide evidence of accountability through examination. In America, it was recommended that schools should provide evidence of accountability through school assessment and national assessment of educational progress (National Commission on Excellence in Education Report, 1983). The public and government should hold schools accountable for providing students with knowledge and developing the necessary skills (critical thinking skills; problem solving skills). Examinations are expected to measure the extent to which a student or person commands a certain body of information or skills in the field where training has been received (American Psychological Association, 1985).

In most education systems, examinations are used as a form of assessment to hold students and schools accountable (Embretson and Gorin, 2001). Examination results which show which students, in which schools, met the learning standards and which were not are important for accountability purposes.

The use of examinations as a countable system creates a context in which teachers and policy makers act in ways to maximise performance. Examination based accountability has a potential of influencing the behaviours of teachers and students in a positive manner (Haertel, 1999; Linn, 1993). Schools are expected to be accountable to parents and government, through the Ministry of Education which is expected to ensure that the national aims, goals and core skills are addressed in each subject. Examinations are expected to show which students and in which schools are meeting the learning standards and which are not (Silver and Kenney, 1993; Resnick and Resnick, 1992).

### **III. CURRICULUM ALIGNMENT AND STUDENTS' PERFORMANCE**

The importance of curriculum alignment is that it helps people to understand the effects of instruction on learning, performance and avoiding a scenario where teachers may end up "teaching up for a storm" if what they are teaching is neither aligned with the state standards or subject curriculum objectives (Herman, 2005; Anderson, 2002 P. 259). Curriculum –Exam alignment is central because people need to know about what students have learned as a result of their schooling experiences (Baratz-Snowden, 1993).

Examination assessment characterised by clear links between subject content and education national goals could be used as a comprehensive educational reform strategy. For example, examinations may be analysed in order to identify key concepts not covered by the examination, focusing on schools whose students are doing well or poorly. This notes that assessment is a systematic, connected and purposeful educational process, which focuses on the explicit and implicit links between national goals and subject goals and examination items (Hamilton, 2003; Mentkowski, 1991). This requires an interpretive argument (Haertel, 2005; Kane, 1992) which involves obtaining and weighing evidence to support or refute the claim. Obtaining the evidence involves looking at the match between subject content, objectives, national goals and examination item cognitive demands. This could help in seeing whether the examination shows an uneven or even match between subject content, national goals and cognitive demands. This helps to ensure that students are given access to the entire content of the subject and national agreed upon goals and core skills. It helps to show whether teachers are teaching to the exam, not standards (Darling-Hammond, 2010; Stecher, et al, 1998). This has an educational value because it provides information about what students have and have not accomplished in regard to specific subject skills and national goals. This promotes educational transparency and reforms.

### **IV. EXIT EXAMINATION ASSESSMENT**

It is currently well acknowledged that the recent educational reforms such as the introduction of the Swaziland General Certificate Education (SGCE) programme emphasises the need to change the way in which history and other subjects are taught, learned and examined. The new reforms proposed long term goals for history education that are notably different from the previous ones (1968-2008) history education in Swaziland.

Since the release of the documents on the new Swaziland history programme in 2009, those involved in the history education and educational reform have been interested in the ways in which these new changes have or have not influenced the nature of history examination and its impact in schools. An understanding of the impact of an examination on students' educational growth should be the central focus for educational practitioners (Wood and Sellers, 1996). Relevant educational professionals should ensure that the examination assessment yield information for teachers, parents, and policymakers about what students have learnt, know and able to do (Romberg and Wilson, 1992), such information is valid only to the extent that the examination instrument is valid. One of the key indicators of validity of an assessment is its alignment with the curriculum objectives (Romberg and Wilson, 1992) and if the interpretation is supported by appropriate evidence (Messick, 1989; Maduas, 1983). If an examination assessment, for example, does not reflect the same national goals, subject objectives, content that students are expected to experience in class, and then the examination cannot be considered a valid means for gathering data about students' achievement (Romberg and Wilson, 1992).

The Swaziland Education Act 1983 and other relevant education policies require all schools to follow the same broad and balanced curriculum. Students' performance and progress towards attainment targets, are set for each subject and assessed through nationally prescribed exit examinations, which all students are required by law to take at different levels (Standard Five, Form Three and Form Five) of the education system. Examination assessment should give information about the targeted concepts and processes (Messick, 1989). Assessment processes which touches on how performances are judged. This involves looking at whether the exam items elicit students' learning related to the content of the discipline. Resnick and Resnick, (1991) stated that examination assessment should probe the ways in which individual student respond to the exam items and examining the relationship between the items and subject content. Examining the exam items given to students helps to determine whether students are really being asked to show the learning related to the targets and thinking processes (critical thinking and communication ability). This is important as higher level of thinking and processes are considered as important learning targets expected to be assessed.

The Ministry of Education has recognised the need to integrate critical thinking instructions into the education system in general and into the history curriculum in particular (Ministry of Education and Training Curriculum Framework, 2014; Ministry of Education and Training Sector Policy, 2011). Critical thinking skills refer to the ability to develop and analyse arguments based on resources (Williams et al., 2004). It is also about a variety of concepts and abilities; gender conscious, culture conscious, health conscious (Ministry of Education and Training Sector Policy, 2011; Mazer et al. 2008; Facione, 1989).

The introduction of the critical thinking instruction into the history curriculum has become a crucial element of the education system in Swaziland and elsewhere (Ministry of Education and Training Sector Policy, 2011; O'Keefe, 1986). The history related art of communicating, interpreting sources is highly recognised within the Swazi education system and elsewhere. O'Keefe (1986) noted that most academics had agreed on the importance of critical thinking skills and communication as springboard for effective learning.

## **V. SWAZILAND JUNIOR CERTIFICATE EXAMINATION**

Students who sit for the Junior Secondary (JC) are the ones who have completed the secondary phase of the education system in Swaziland (forms 1-3). Students are examined from a wider range of subjects including history. They are assessed from diversified subjects, which are studied in more depth compared to the Primary Certificate examination.

The JC examination may be considered as the first exit level from the education system because after this level some students may start their independent adult life and entry non-formal education, employment or create their own employment (Ministry of Education and Training Sector Policy, 2011; Ministry of Education Curriculum Framework, 2014). Critical skills such as thinking and communication are consolidated. These are important factors for the credibility of the school graduates and the education system William et al., (2010; Downing, 2003; Herman, 1997; Silver and Kenney, 1993; Wixson and Pearson, (1989).

## **VI. STUDENTS' PERFORMANCES**

Students' performances are expected to be judged on the bases of the purposes of the test/examination. It should be stated what the examiners want the students to be able to do, and be clear how this requirement fits with the exam instructions, subject content and curriculum goals (Reeves, 2006). The exam should be characterised by an activity which gives the students an opportunities to demonstrate the performance and these should align with the subject-matter content and curriculum goal (Reeve, 2006; Brookhart, 1993; Wiggins, 1987). This helps examiners to think of the actual information obtained from students, particularly on how it relates to the intended outcomes (planning and delivering responses-use of knowledge in relevant problem contexts) (Brookhart, 1993).

## **VII. METHODOLOGY**

This is an alignment study, focusing on the analysis of alignment between students' performance scores and the national goals and subject objectives. This helped in assessing the 2014 history examination's construct validity. A validity which is not based on a single statistical calculation, measured by mean but on a combination of statistics, observations and logical argument to explain the quality of the evidence of students' performance. This was achieved by estimating between items mean score and school mean, in achievement in each question for both papers (one and two). Using only the schools' mean has the effect of treating all as equal effectiveness, yet there are not (Cuttance, 1985), as a result the individual school mean in relation to specific questions, as unit of analysis has also been used because it goes some way towards differentiating between students' performance within schools in each and every question. The use of the individual school and schools' mean, as unites of analysis suggests that the validity of the students' performance is a broader process (Cuttance, 1985). Most governments including the government of Swaziland are concerned about their performance in achieving credible exam scores in their public schools and the credibility of exam scores has become a political concern (Page and Feifs, 1985).

Evaluating students' performance from multiple of lenses has the capability to ascertain the validity of the history exam (Long and Benson, 1989). Validity is viewed as a concept with multiple facets, which requires multiple sources of evidence as a form of validation based on validation procedures (Kane, 2009; Downing, 2003). Validation of procedures involves the collection of all possible exam item related evidence from different sources (nature of exam questions, sampled subject content, alignment of subject goals and national goals, subject exam score) to construct an interpretative argument (Resnick et al, 2004; Kane, 1992; Messick, 1989).

The evaluation of the students' performance scores at the Junior Certificate examination of 2014 was achieved through this following line of inquiry:

- (a) To what extent is the students' performance scores at the 2014 history Junior Certificate aligns with state educational goals and subject objectives?

### VIII. SAMPLE

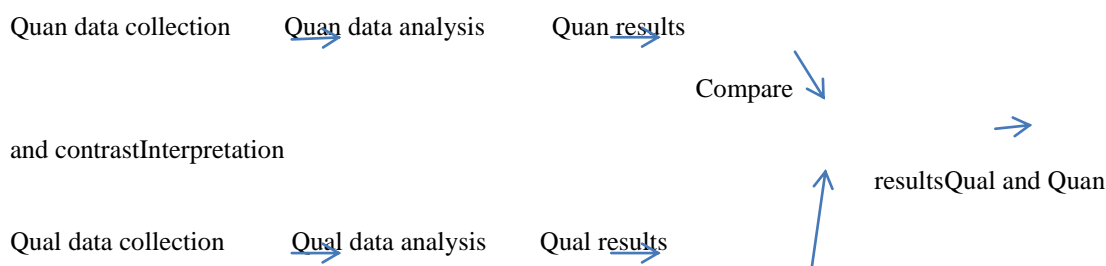
A sample of 28 schools from 258 was selected. These 28 schools had 1013 students who sat for the 2014 JC examination. The total number of students who sat for the 2014 history examination was 5899 (Swaziland Government System Subject Report, 2014). The 1013 (17%) sampled students falls within the required 10% of the 5899 targeted population. The interest of the study was on the number of students from all the four regions not necessary the number of schools.

The data used in this study covers a random sample of pupils' score in all the four regions of Swaziland. Paper one had a sample of 32232 scores while paper two had 24251 scores (see Figure 2.2). Paper one had more scores because it had more exam items compared to paper two. The scores were drawn from compulsory and optional questions. This allows the researcher to separate students' performance in each exam item or constituent components and also comparison of students in each school and among schools and comparing rural and urban schools. The sample exam items were 10136 for both papers. Paper one had 6 exam items while paper two had 4 exam items chosen either from section A or B.

### IX. RESEARCH DESIGN

#### Triangulation Design: Convergence and divergence model

The study is anchored on the triangulation design: convergence and divergence model adapted from Creswell (2003) model (see figure 1).



**Figure 1** Convergence and divergence model

The model is used compare results or validates, confirm or corroborate quantitative results and qualitative findings. It best addresses the research question through different but complementary data (qualitative and quantitative data) and this facilitates the processes of comparing and contrasting quantitative (mean scores) and qualitative results (exam alignment results). The model helps in merging the two data sets by bringing the separate results (quantitative and qualitative results) together in the interpretation. The two results were converged and diverged by comparing and contrasting the different results during the interpretation processes.

Triangulation process seeks convergence and corroboration of the results across different types of data. It also serves a complementary purpose with an aim of measuring overlapping in examination practices. Results from either qualitative or quantitative are intended to illustrate or clarify the results from the other. The interactive use of both qualitative and quantitative methods helps in discovering the contradictions in results (Greene et al. 1989).

### X. ACHIEVE METHODOLOGY

This is an alignment protocol that reflects the concerns of specific subject areas (exam item, subject objectives and national goals). It helps in judging the quality of the overall examination and individual items (Martone and Sireci, 2009). Alignment is perceived as critical for ensuring the validity of inferences made from examination results (Donald and Denison, 2001 and Kane, 1993). It involves analysing the gaps between the intended subject curriculum (what the state department of education expects is being taught) and the enacted curriculum (what actually is taught) (Bhola et al., (2003). This has a potential of providing systematic improvement of education quality, education policies governing curriculum, examination and teacher training (Martone and Sireci, 2009). The process of examining students' performance scores itself is more than just the scores results but its essence lies in helping professionals to see how assessments can connect to classroom processes (Martone and Sireci, 2009).

#### Analysis

The analysis focuses on school item mean score, school mean scores, on history papers.

#### The nature of the exam items

Paper one had compulsory questions (1; 4) and optional questions (2; 3; 5; 6), each question had a total marks of 15.

Paper two had optional sections. Students were expected to choose either section A or B and answer all four questions in that chosen section. Each question in this paper had a different mark. Question one had 5 marks, question two, 8 marks, question three, 12 marks and question four, 15 marks.

### XI. ANALYSIS OF ITEM SCORE

A full description of the score data is given for each an individual pupil per school who sits for the 2014 Junior Certificate examination (see Figure 2.1; 2.2 paper one).

Candi:No	School	Region	Town	P1Q1	P1Q2	P1Q3	P1Q4	P1Q5	P1Q6
1	Mhlat	Hhohho	Piggs Peak	8	8	a	5	2	a
2	Mhlat	Hhohho	Piggs Peak	8	5	a	8	9	a
3	Mhlat	Hhohho	Piggs Peak	9	a	11	7	4	a
4	Mhlat	Hhohho	Piggs Peak	14	a	7	6	1	a
5	Mhlat	Hhohho	Piggs Peak	10	a	14	4	6	a
6	Mhlat	Hhohho	Piggs Peak	13	14	a	11	a	9
7	Mhlat	Hhohho	Piggs Peak	8	10	a	7	1	a
8	Mhlat	Hhohho	Piggs Peak	12	11	a	10	a	6
9	Mhlat	Hhohho	Piggs Peak	5	8	a	2	1	a
10	Mhlat	Hhohho	Piggs Peak	14	a	8	8	6	a
11	Mhlat	Hhohho	Piggs Peak	11	a	4	a	8	8
12	Mhlat	Hhohho	Piggs Peak	10	a	10	7	1	a
13	Mhlat	Hhohho	Piggs Peak	10	a	13	9	6	a
14	Mhlat	Hhohho	Piggs Peak	7	a	9	6	6	a
15	Mhlat	Hhohho	Piggs Peak	1	13	4	1	a	a
16	Mhlat	Hhohho	Piggs Peak	12	10	9	10	a	a
17	Mhlat	Hhohho	Piggs Peak	12	a	7	7	8	a
18	Mhlat	Hhohho	Piggs Peak	13	8	a	6	6	a
19	Mhlat	Hhohho	Piggs Peak	4	10	a	6	6	a
20	Mhlat	Hhohho	Piggs Peak	11	8	a	6	a	5
21	Mhlat	Hhohho	Piggs Peak	9	a	12	2	2	a
22	Mhlat	Hhohho	Piggs Peak	6	a	5	7	5	a
23	Mhlat	Hhohho	Piggs Peak	6	6	0	1	a	a
24	Mhlat	Hhohho	Piggs Peak	8	6	a	6	8	a
25	Mhlat	Hhohho	Piggs Peak	6	11	a	10	4	a
26	Mhlat	Hhohho	Piggs Peak	13	10	3	4	3	a
27	Mhlat	Hhohho	Piggs Peak	11	a	11	7	3	a
28	Mhlat	Hhohho	Piggs Peak	7	a	10	2	2	a
29	Mhlat	Hhohho	Piggs Peak	10	a	13	4	6	a
30	Mhlat	Hhohho	Piggs Peak	5	a	7	4	2	a
31	Mhlat	Hhohho	Piggs Peak	14	11	a	12	5	a
32	Mhlat	Hhohho	Piggs Peak	4	5	a	3	3	a
33	Mhlat	Hhohho	Piggs Peak	8	a	10	7	4	a
34	Mhlat	Hhohho	Piggs Peak	13	a	13	13	a	10
35	Mhlat	Hhohho	Piggs Peak	9	9	a	5	4	a
36	Mhlat	Hhohho	Piggs Peak	13	a	14	12	2	a
37	Mhlat	Hhohho	Piggs Peak	10	a	6	12	2	a
38	Mhlat	Hhohho	Piggs Peak	8	a	7	8	6	a
39	Mhlat	Hhohho	Piggs Peak	12	a	14	11	11	a
40	Mhlat	Hhohho	Piggs Peak	12	a	8	8	6	a
41	Mhlat	Hhohho	Piggs Peak	8	a	8	9	5	a
42	Mhlat	Hhohho	Piggs Peak	12	6	a	10	6	a
43	Mhlat	Hhohho	Piggs Peak	5	8	a	6	4	a
44	Mhlat	Hhohho	Piggs Peak	10	a	10	7	5	a
45	Mhlat	Hhohho	Piggs Peak	10	8	a	8	5	a
46	Mhlat	Hhohho	Piggs Peak	11	a	4	12	7	a
47	Mhlat	Hhohho	Piggs Peak	11	a	11	7	7	a
48	Mhlat	Hhohho	Piggs Peak	7	5	a	7	4	a
			Total	450	190	262	330	192	38
			Average	9.375	8.636363636	8.733333333	7.021276596	4.682926829	7.6
			Stanrdev	3.050113357	4.667489796	5.136263785	3.193244198	2.767593624	2.422925376
			Vara	9.303191489	21.78546099	26.38120567	10.19680851	7.659574468	5.870567376

**Figure 2.1** paper one students' score at Mhl School \*a = Item not attempted

This examination had 24251 scores from both papers. The examination had exam items options that students can choose between (see figure2.2). This allows the researchers to separate students' performance in each exam item or constituent component, taking into account choices. The choices made by the students allowascertaining the subject objectives, skills and knowledge missed by the each individual student and schools. This was achieved by examining the manner in which students responded to both optionally and compulsory questions.

### XII. STUDENTS' RESPONSES TO QUESTIONS

Question one in paper one was compulsory and among the 1013 students 998 of them (99%) responded, while 15 (1.5%) did not respond. Question four was also a compulsory question answered by 899 students (89%) while 114 (11%) did not respond (see Figure 2.2).

Optional questions which include question two was answered by 670 students (66%), while 343 (34% failed to respond. 369 (36%) students responded to question three while 644 (64%) did not. Question five was answered by 755 (75%) students and 258 (25%) did not respond. Question six was attempted by 348 (34%) students while the majority of them 665 (66%) failed to respond to question six (see figure 2.2).

School	Region	Town	P1Q1	Responde NO	P1Q2	Resp	NO	P1Q3	Resp	No	P1Q4	Resp	No	P1Q5	Resp	No	P1Q6	Resp	No	
Bule	Hhohho	Bulembu		8	0		8	0		0	8	7	1		5	3		4	4	
Nhlac	Shiselweni	Nhlangano		28	0		23	5		8	20	26	2		18	10		9	19	
Lamaw	Manzini	Luve		30	0		25	5		5	25	21	9		14	16		25	5	
Lobamb	Hhohho	Zulwini		29	0		29	0		2	27	27	2		20	9		9	20	
St A	Manzini	Malkerns		38	0		32	6		6	32	37	1		31	7		7	31	
Mhlat	Hhohho	Piggs Peak		48	0		23	25		19	29	47	1		42	6		4	44	
Herm	Hhohho	Mbabane		21	0		13	8		8	13	20	1		15	6		7	14	
Goosh	Lubombo	Siteki		22	1		19	4		8	15	22	1		18	5		3	20	
Lubc	Lubombo	Siteki		49	3		34	18		22	30	48	4		44	8		11	41	
MNR	Manzini	Manzini		80	0		46	34		35	45	62	18		72	8		25	55	
EB	Shiselweni	Nhlangano		63	2		40	25		28	37	57	8		36	29		37	28	
STT	Manzini	Manzini		14	1		11	4		5	10	9	6		10	5		11	4	
Mak	Manzini	Mankayane		9	1		8	2		3	7	10	0		10	0		0	10	
Madul	Shiselweni	Rural		17	2		10	9		12	7	17	2		16	3		5	14	
Chris	Shiselweni	Hlatsi		13	0		8	5		5	8	13	0		12	1		1	12	
Masu	Manzini	Manzini		64	0		35	29		28	36	42	22		62	2		24	40	
MTS	Manzini	Manzini		113	1		45	69		71	43	104	10		71	43		50	64	
Big	Lubombo	rural		32	1		21	12		13	20	31	2		27	6		7	26	
Luso	Lubombo	Simunye		27	0		23	4		4	23	27	0		20	7		6	21	
Hlut	Shiselweni	Hluthi		17	0		9	8		7	10	17	0		6	11		10	7	
Phumel	Manzini	Manzini		43	0		31	12		12	31	42	1		33	10		11	32	
Malib	Lubombo	Rural		48	1		21	28		31	18	42	7		32	17		20	29	
Kabob	Hhohho	Mbabane		33	2		32	3		6	29	27	8		25	10		17	18	
Mhlum	Lubombo	Industrial		45	0		39	6		8	37	43	2		36	9		11	34	
Kalag	Lubombo	rural		24	0		21	3		3	21	24	0		13	11		11	13	
Fundu	Hhohho	rural		29	0		17	12		12	17	27	2		23	6		8	21	
Nyam	Shiselweni	rural		12	0		9	3		4	8	10	2		7	5		6	6	
Salesia	Manzini	Manzini		42	0		38	4		4	38	40	2		37	5		9	33	
			Total	998	15		670	343		369	644	899	114		755	258		348	665	
			Percents	99%	1.50%		66%	34.00%		36.00%	64.00%	89.00%	11.00%		75.00%	25.00%		34.00%	66.00%	

**Figure 2.2** Schools' responses and non-responses to each exam item in paper one.

### XIII. SCHOOLS' MEAN SCORE PERFORMANCE PER REGION

The school performance differs per item, each school occupied different position in each exam item (see figure 2.3 school performance (mean score) per question). More often than not, there were some inconsistencies in most schools. Only two schools consistently occupied the first position in two succession questions. These include school Salesia in question (PIQ1) and P1Q2 and school Lomb in question (P1Q4) and P1Q5 (see Figure 2.3). No school had such a privilege in paper two (see Figure 2.4). Some schools were on the top ten on both papers (see 2.4). These schools include: Nyam, Fundu, Nhlac, lombamb and EB. The majority of these were from the Shiselweni region, with three schools (Nhlac, EB, and Nyman) and two from the Hhohho region (Fundu and Lobamb) and none from Lubombo and Manzini region.

Among the bottom ten the Manzini region had more schools on both papers (in paper one: Phumel, Mak, Masud, lamaw, St A); in paper two: Masud, Phumel, St A, MNR, Maka). The Lubombo region followed with three school in paper one (Goosh, Lubc, Big) and in paper two (Big, Goosh, Mhlum). The Shiselweni and Hhohho region had both one school among the bottom ten on both papers. The Shiselweni region, in paper one had Chris school and in paper two Madul school. The Hhohho region, in paper one had Bule school and Mhlat school in paper two (see Figure 2.4).

The Shiselweni region followed by Hhohho performed well in both papers while Manzini region was worse off, followed by Lubombo. These regions had more schools among the bottom ten schools (see Figure 2.4). For example, the Manzini region had 9 schools among the bottom ten on both papers while Lubombo region had 6 schools (see Figure 2.3; 2.4). Some of these 15 schools appeared among the bottom ten on both papers. For example, in the Manzini region, Mak, St A, Phumel, and Masu (except Lamaw) school appeared among the bottom ten on both papers. While in the Lubombo region, Goosh and Big (except Lubc and Mhlum) school appeared among the bottom ten on both papers.

These schools had total number of 549 (54%) students. 340 (33%) of students were from the Manzini region and 209 (21%) from Lubombo region. This number 549 (54%) of students missed the subject key concepts.

P1Q6	Schools	P1Q5	Schools	P1Q4	Schools	P1Q3	Schools	P1Q2	Schools	P1Q1	Schools
10.02	MTS	6.4	Lobamb	8.444444	Lobamb	10.41667	Fundu	12.07895	Salesia	12.38095	Salesia
10	bule	6.055556	Nhlac	8.320388	MTS	10.37143	MNR	11.78261	Nhlac	12.35714	Nhlac
9	Hlut	5.861111	EB	8.069767	Mhlum	10.25	Madul	11.68182	Luso	12.34483	Lobamb
8.96	lamaw	5.771429	Salesia	8.025	Salesia	10.25	Nyam	11.58974	Mhlum	11.42857	Fundu
8.375	Fundu	5.56	Kabob	8	MNR	10.2	Chris	11.5625	Fundu	11.33333	EB
8.324324	EB	5.542857	Mhlum	7.95	Herm	10	Herm	11.44444	Nyam	11.27848	MNR
8.285714	HERM	5.5	Fundu	7.884615	Fundu	10	STT	11.34783	MNR	11.23009	MTS
8.12	MNR	5.450704	MTS	7.8	Lamaw	9.863014	MTS	11.14634	EB	11.21429	STT
7.6	Mhlat	5.4	Bule	7.666667	STT	9.8125	Malib	10.93333	MTS	10.58333	Nyam
7.5	Nyam	5.2	Herm	7.428571	Bule	9.75	Luso	10.90909	STT	10.57692	Luso
7.333333	Luso	5.2	STT	7.166667	Kalag	9.642857	EB	10.46154	Herm	10.5	Bule
7.222222	nhlc	5.166667	hlut	7.021277	Mhlat	9.333333	Kabob	10.2381	Malib	9.777778	Mak
7	STT	4.944444	MNR	6.952381	Malib	9.25	nhlc	10.2	Madul	9.757576	Kabob
6.818182	Kalag	4.846154	Kalag	6.9	Nyam	9.25	Salesia	10.1875	St A	9.619048	Herm
6.75	Masu	4.789474	luso	6.864865	St A	9	lobamb	10.0625	Kabob	9.422222	Mhlum
6.666667	Salesia	4.682927	Mhlat	6.423077	Luso	8.733333	Mhlat	9.875	Bule	9.375	Mhlat
6.411765	Kabob	4.5	Mak	6.107143	EB	8.615385	Big	9.655172	Lobamb	9.307692	Chris
6.25	Big	4.444444	Big	6.071429	Masu	8.5	ST A	8.636364	Mhlat	9.233333	Lamaw
6.2	Malib	4.375	Malib	6.058824	Hlut	8.333333	Mak	8.238095	Kalag	9.105263	St A
6.111111	Lobamb	4.285714	Lamaw	6	Mak	8.333333	Phumel	8	Goosh	9	Malib
6	St A	4.142857	Nyam	6	Madul	8.136364	Lubc	8	Chris	8.958333	Kalag
6	Madul	3.83871	Masu	5.935484	Big	8.125	Mhlum	7.941176	Lubc	8.882353	Hlut
5.272727	Mhlum	3.75	Madul	5.923077	Chris	7.666667	Kalag	7.571429	Masu	8.764706	Madul
4.727273	Lub	3.568182	Lubc	5.807692	Nhlc	7.482759	Masu	7.47619	Big	7.727273	Goosh
4.363636	Phumel	3.166667	Chris	5.645833	Lubc	7.142857	Hlut	7.444444	Hlut	7.5625	Lubc
3	Chris	2.774194	ST A	5.452381	Phumel	5.6	lamaw	7.290323	Phumel	7.453125	Masu
1.333333	Goosh	2.69697	phumel	5.296296	Kabob	3.5	Goosh	7.125	Mak	7.375	Big
0	Mak	1.722222	Goosh	3.909091	Goosh	0	Bule	4.232333	Lamaw	7.046512	Phumel

**Figure 2.3** Comparison of School mean score per exam item in paper one

P2		P1	
34.70333	kalag	55.81753	mts
33.57143	fundu	55.16735	Fundu
32.25	hlac	54.97885	MNR
31.03448	lobamb	54.17299	Salesia
31	hlut	52.47522	Nhlac
30.625	bule	51.99004	STT
29.46939	malib	51.95556	Lobamb
29.37143	kabob	51.5163	Herm
29.33333	Nyama	51.49844	EB
29.1012	EB	50.82063	Nyama
29.06667	stt	50.55463	Luso
28.82764	luso	48.02232	Mhlum
27.64035	MTS	46.57798	Malib
25.86667	Lamaw	46.42147	Kabob
25.85714	Salesia	46.0489	Mhlat
24.85714	Herm	44.96471	Madul
23.61538	Chris	43.69514	hlut
23.59615	Lubc	43.6941	Kalag
22.63158	Madul	43.43182	St A
22.3	mak	43.20357	Bule
21.1125	MNR	40.11138	Lamaw
19.75	Mhlat	40.0965	Big
19.55556	Mhlum	39.59744	Chris
19.23684	St A	39.16745	masu
17.81395	PHUMEL	37.58133	Lubc
15.26087	Goosh	35.73611	Mak
14.75758	Big	35.18315	Phumel
14.21875	Masu	26.19192	Goosh

**Figure 2.4** Comparison School total Mean score in paper one (P1) and paper two (P2)

P2Q4	Schools	P2Q3	schools	P2Q2	schools	P2Q1	schools
14.27586	Lobamb	10.6	Kabob	6.142857	Nhlac	5.555556	Luso
14.03571	Fundu	10.23529	Hlut	6.142857	Malib	4.448276	Lobamb
13.53061	Malib	10.2	STT	6.068966	Lobamb	4.416667	Nyam
13.2	Kalag	9.676923	EB	5.925926	Luso	4.107143	Fundu
13.125	Bule	9.607143	Fundu	5.821429	Fundu	3.928571	Nhlc
13.11765	Hlut	9.357143	Salesia	5.583333	Kalag	3.857143	Herm
13.1	Luso	9.178571	Nhlac	5.542857	Kabob	3.826087	Goosh
13	Nhlac	8.956522	Goosh	5.5	Bule	3.714286	Kabob
13	Nyam	8.75	Nyam	5.3	Mak	3.701754	MTS
12.53846	Chris	8.5	Bule	5.076923	Chris	3.7	Mak
12.50769	EB	8	Lamaw	4.894737	Madul	3.578125	EB
12.41228	MTS	7.991228	MTS	4.2	STT	3.5	Bule
12.26667	Lamaw	7.571429	Malib	4.176471	Hlut	3.470588	Hlut
12.13333	STT	7.475	MNR	3.666667	Herm	3.2	Kalag
11.9375	Mhlat	6.953488	Phumel	3.535088	mts	3.047619	Salesia
11.90476	Herm	6.625	Kalag	3.338462	EB	3.015625	Masu
11.63462	Lubc	6.241379	Lobamb	3.166667	Nyam	2.95	MNR
10.83333	Salesia	6.222222	Mhlum	3.057692	LUBC	2.866667	Lamaw
9.514286	Kabob	6.153846	Lubc	3.0375	MNR	2.75	Lubc
9.421053	Madul	5.947368	Madul	2.888889	Mhlum	2.6875	Mhlat
9.263158	St A	5.615385	Luso	2.733333	Lamaw	2.575758	Big
8.288889	Mhlum	5.428571	Herm	2.684211	ST A	2.533333	STT
7.9	Mak	5.4	Mak	2.619048	Salesia	2.488372	Phumel
7.65	MNR	5.210526	St A	2.534884	Phumel	2.368421	Madul
6.484848	Big	4.454545	Big	2.0625	Mhlat	2.230769	Chris
6.359375	Masu	3.84375	Masu	1.242424	Big	2.22449	Malib
5.837209	Phumel	3.769231	Chris	1	Goosh	2.155556	Mhlum
1.478261	Goosh	3.0625	Mhlat	1	Masu	2.078947	St A

**Figure 2.5** School mean score per exam item in paper two

#### **XIV. MEAN SCORES PER SCHOOL**

At a glance more students performed above the mean score but there were a number of them who scored below the mean score in each exam item (see figure 2.6; 2.7 Students below the mean per exam item in paper one and two). It is important to focus on each and every school performance on individual exam item. This has a potential to highlight the contradictions and misreporting of students' performance of (what they actually learned, missed concepts and knowledge) (see figure 2.2; 2.3; 2.6; 2.7).

In paper one Salesia school had the highest mean of 12.38095 in PIQ1 and school Nhlac had 12.35714. 14 schools had score mean which ranges between 12.4-9.6. Schools with a mean which ranges between 9.4-8.7



were 9 and 5 school with a mean ranges between 7.7-7.0. Within the 5 school 2 of them performed below the mean (see Figure 2.3; 2.6).

In question P1Q2, school Salesia also had the highest mean 12.07895 and Nhlac with 11.78261. 17 schools had mean which ranges between 12.1- 8.6, 5 had a mean which ranges between 8.2-7.5, and 5 schools within this range 7.4-4.2 performed below the mean (see Figure 2.3). In P1Q3, school Fundu had the highest mean 10.41667, followed by school MNR with 10.37143. 11 schools had a mean which ranges between 10.4-9.6, 7 schools with a mean between 9.3-8.5, 5 schools which ranges between 8.3-7.6 and 5 schools which performed below the mean score and they had a mean of 7.4-0 (see Figure 2.3; 2.6).

For question P1Q4 Lobamschool had a mean of 8.444444, followed by school MTS with 8.320388 mean score. 9 schools had mean score which ranges between 8.4-7.6, 6 schools ranges between 7.4-6.8, 10 schools ranges between 6.4-5.6 and 3 schools between 5.4-3.2. 19 schools performed below the mean score (See Figure 2.3; 2.6).

In question P1Q5, Lombam School also had the highest mean 6.4, followed by Nhlac with 6.055556 mean score. 7 schools had mean scores which ranges between 6.4-5.5, 10 schools with mean scores which ranges between 5.4-4.5, 7 schools had mean scores which ranges between 4.4-3.5 and 4 schools which falls with the range of 3.1-1.7 mean scores. All the schools performed below the mean score in this question (see Figure 2.3; 2.6).

For question P1Q6, school MTS had the same highest mean score 10.0; school Bule with mean score of 10.02. 4 schools had mean score which ranges between 10.0- 8.96, 6 schools with mean between 8.4-7.5 and 18 schools performed below the mean score which ranges between 7.3-0 (see figure 2.3; 2.6).

In P2Q1, school Lusohad a mean of 5.5, followed by school by Lobam with 4.4. 11 schools had mean score ranging between 4.4-3.5, 10 schools with mean score between 3.4-2.0 and 6 schools which performed below the mean score (see Figure 2.5; 2.7).

For question P2Q2, School Nhlac and Lobam share the same mean score of 6.142857. 8 schools had mean score which range between 6.1-5.5, 3 schools with mean score between 5.3-4.8, 4 schools with mean score which falls between 4.2-3.5. 13 schools performed below the mean score and their mean scores range between 3.3-1.0 (see Figure 2.5; 2.7).

In question P2Q3, school Kabob had a mean of 10.6, followed by Hlut and STT with a mean of 10.2. School Fundu and EB also share the mean of 9.6. 5 schools had their mean scores which range between 9.3-8.5, 4 schools with mean scores which range between 8.0-7.5, 2 schools with mean score between 6.9- 6.6, 5 schools with mean between 6.2-5.6 and 7 schools which performed below the mean score. Their mean score range between 5.4-3.0 (Figure 2.5; 2.7).

In question P2Q4, school Lobam had a mean of 14.3. 3 schools had mean scores which range between 14.3-13.5. 8 schools had mean score which falls between 13.2-12.5; 6 schools with mean score which ranges between 12.4-11.6; 1 school with a man score of 10.6 and another single school with a mean score of 9.5. 2 schools had mean score which ranges between 9.4-9.2; 3 schools had mean score which ranges between 8.2-7.6. 4 schools performed below the mean score and their mean score ranges between 6.4-1.4 (see Figure 2.5; 2.7).

#### **XV. EXAM ITEM MEAN SCORE PERFORMANCE FOR PAPER ONE**

For question, P1Q1, 235 (24%) failed while 778 (76%) passed. Question P1Q2, 462 (46%) failed, while 551 (54%) passed. Question P1Q3, 765 (76) failed while 248 (24%) passed. P1Q4, 633 (62%) failed, while 380 (38%) passed. P1Q5, 887 (88%) failed, while 126 (12%) passed. P1Q 6, 859 (85%) failed, while 154 (15%) passed (see Figure 2.6).

#### **XVI. EXAM ITEM MEAN SCORE PERFORMANCE FOR PAPER TWO**

For question, P2Q1, 488 (48%) failed while 525 (52%) passed. Question P2Q2, 489 (48%) failed, while 524 (52%) passed. Question P2Q3, 346 (34%) failed while 667 (66%) passed. P2Q4, 272 (27%) failed, while 741(73%) passed (see Figure 2.7).

Paper one	Schools	P1 Q1	P1Q2	P1Q3	P1Q4	P1Q5	P1Q6
	Nhlac	0	6	23	5	23	24
	Salesia	1	6	38	20	32	38
	Lombam	3	7	28	10	28	26
	Fundu	2	13	18	12	25	25
	EB	0	28	49	50	56	43
	MNR	8	37	54	50	58	63
	MTS	11	72	72	46	96	74
	STT	3	4	11	12	13	10
	Nyam	2	4	9	8	11	9
	Luso	4	0	14	14	23	24
	Bule	0	4	8	5	7	4
	Maka	2	7	9	9	9	10
	Kabob	4	4	31	32	29	31
	Herm	7	8	15	9	17	17
	Mhlum	8	8	40	20	34	44
	Mhlat	12	20	29	30	44	45
	Chris	2	8	9	9	13	13
	Lamaw	6	9	29	18	28	16
	St A	13	8	39	25	36	37
	Malib	16	34	23	33	47	43
	Kalag	6	14	22	13	21	20
	Hlut	3	13	14	12	17	21
	Madul	9	9	12	13	17	17
	Goosh	11	12	23	21	23	23
	Lubc	26	33	35	40	52	52
	Masud	37	47	51	51	58	58
	Big	20	22	25	29	29	31
	Phumel	19	25	35	37	41	41
	Total	235	462	765	633	887	859
	%	24%	46%	76%	62%	88%	85%

% above mean = 76%    54%    24%    38%    12%    15%

**Figure 2.6** Number of Students performed below the mean score per exam item in Paper one (Concepts and knowledge missed per item)

Paper two	P2Q1	P2Q2	P2Q3	P2Q4
Nhlac	0	0	0	2
Salesia	16	28	3	9
Lombam	4	3	13	1
Fundu	5	1	4	1
EB	23	31	2	3
MNR	48	49	29	36
MTS	50	52	22	34
STT	10	6	0	2
Nyam	1	6	0	1
Luso	14	15	15	4
Bule	3	1	1	0
Maka	2	1	6	4
Kabob	10	3	0	8
Herm	6	8	14	3
Mhlum	34	26	24	19
Mhlat	24	35	37	7
Chris	8	3	10	1
Lamaw	13	18	3	3
St A	34	23	24	11
Malib	32	0	13	0
Kalag	20	2	9	13
Hlut	6	5	0	2
Madul	12	4	7	6
Goosh	6	23	0	22
Lubc	33	23	33	10
Masud	28	64	44	33
Big	22	31	19	16
Phumel	24	28	14	21
Total	488	489	346	272
%	48%	48%	34%	27%

% above mean 52% 52% 66% 73%

**Figure 2.7** Number of Students performed below the mean score per exam item in Paper Two (Concepts and knowledge missed per item)

## **XVII. SCHOOLS AND STUDENTS' REACTION TO OPTIONAL SECTIONS IN PAPER TWO**

Schools and students reacted differently to optional sections, more often than not in an unbalanced manner as indicated in figure 2.8 below. More students 656 (65%) answered section A while 357 (35%) students chose section B. 3 (11%) of the schools responded to both sections in a relatively balanced manner. These schools include: Bule, Maka, and Nhlac (see Figure 2.8).

Some schools were skewed towards the section A and others towards section B. 7 (25%) of the schools were skewed towards section B. These include: Salesia, Mhlat, Chris, Madul, Masu, Big, and Phumel (see Figure 2.8). While 21 (75%) of schools were skewed towards section A. These include: Lobamb, Fundu, EB, MNR, MTS, STT, Nyam, Luso, Kabob, Herm, Mhlum, Lamaw, St A, Malib, Hlut, Goosh, Kalag, Malib, Maka, Lubc and Bule (see Figure 2.8).

In each school, students chose the section which they were comfortable with or clear with its concepts. For example, at Nhlac school 16 (57%) of students were comfortable with the concepts in section A, while 12 (43%) of the students chose section B (see Section 2.8). At Salesia school 3 (7%) of students were comfortable with the concepts in section A, while 39 (93%) of the students chose section B (see Section 2.8). At Lobamb school 29 (100%) of students were comfortable with the concepts in section A, while 0 (0%) of the students did not choose section B (see Section 2.8). At Fundu school 27 (93%) of students were comfortable with the concepts in section A, while 2 (7%) of the students chose section B (see Section 2.8). At EB school 49 (75%) of students were comfortable with the concepts in section A, while 16 (25%) of the students chose section B (see Section 2.8). At MNR school 70 (87.5%) of students were comfortable with the concepts in section A, while 10 (12.5%) of the students chose section B (see Section 2.8). At MTS school 107 (94%) of students were comfortable with the concepts in section A, while 7 (6%) of the students chose section B (see Section 2.8).

At STT school 13 (87%) of students were comfortable with the concepts in section A, while 2 (13%) of the students chose section B (see Section 2.8). At Nyam school 12 (100%) of students were comfortable with the concepts in section A, while 0 (0%) of the students did not choose section B (see Section 2.8). At Luso school 24 (89%) of students were comfortable with the concepts in section A, while 3 (11%) of the students chose section B (see Section 2.8). At Bule school 5 (63%) of students were comfortable with the concepts in section A, while 3 (38%) of the students chose section B (see Section 2.8). At Maka school 7 (70%) of students were comfortable with the concepts in section A, while 3 (30%) of the students chose section B (see Section 2.8). At Kabob school 33 (94%) of students were comfortable with the concepts in section A, while 2 (6%) of the students chose section B (see Section 2.8). At Herm school 19 (90%) of students were comfortable with the concepts in section A, while 2 (10%) of the students chose section B (see Section 2.8). At Mhlum school 39 (87%) of students were comfortable with the concepts in section A, while 6 (13%) of the students chose section B (see Section 2.8). At Mhlat school 1 (2%) of students were comfortable with the concepts in section A, while 47 (98%) of the students chose section B (see Section 2.8).

At Chris school 0 (0%) of students were not comfortable with the concepts in section A, while 13 (100%) of the students were comfortable with section B (see Section 2.8). At Lamaw school 25 (83%) of students were comfortable with the concepts in section A, while 5 (17%) of the students chose section B (see Section 2.8). At St A school 35 (92%) of students were comfortable with the concepts in section A, while 3 (8%) of the students chose section B (see Section 2.8). At Malib school 35 (71%) of students were comfortable with the concepts in section A, while 14 (29%) of the students chose section B (see Section 2.8). At Kalag school 20 (83%) of students were comfortable with the concepts in section A, while 4 (17%) of the students chose section B (see Section 2.8). At Hlut school 17 (100%) of students were comfortable with the concepts in section A, while 0 (0%) or none of the students chose section B (see Section 2.8). At Madul school 0 (0%) or none of the students were comfortable with the concepts in section A, while 19 (100%) of the students chose section B (see Section 2.8). At Goosh school 23 (100%) of students were comfortable with the concepts in section A, while 0 (0%) or none of the students chose section B (see Section 2.8). At Lubc school 33 (64%) of students were comfortable with the concepts in section A, while 19 (37%) of the students chose section B (see Section 2.8). At Masud school 4 (6%) of students were comfortable with the concepts in section A, while 60 (94%) of the students chose section B (see Section 2.8). At Big school 0 (0%) or none of the students were comfortable with the concepts in section A, while 33 (100%) of the students chose section B (see figure 2.8). At Phumel school 10 (23%) of students were comfortable with the concepts in section A, while 33 (77%) of the students chose section B (see figure 2.8).

Most of the schools who chose section A performed better than those who chose section B. For example, 18 of these schools which chose Section A got more than 70% compared to 7 schools which chose section B. These schools which got more than 70% in section A include: Lobamb, Fundu, EB, MNR, MTS, STT, Nyam, Luso, Maka, Kabob, Herm, Mhlume, Lamaw, St A, Malib, Kalag, Hlut and Goosh. While those performed above 70% in section B include: Phumel, Big, Masu, Madul, Chris, Mhlat, and Salesia school.

Even those who performed below the 70% in section A did better than those who chose section B. For example, their performance falls within 0% to 64% compare to those in section B whose performance ranges between 0% to 43% (see Figure 2.9).

Schools	A	B
Nhlac	16	12
Salesia	3	39
Lombam	29	0
Fundu	27	2
EB	49	16
MNR	70	10
MTS	107	7
STT	13	2
Nyam	12	0
Luso	24	3
Bule	5	3
Maka	7	3
Kabob	33	2
Herm	19	2
Mhlum	39	6
Mhlat	1	47
Chris	0	13
Lamaw	25	5
St A	35	3
Malib	35	14
Kalag	20	4
Hlut	17	0
Madul	0	19
Goosh	23	0
Lubc	33	19
Masud	4	60
Big	0	33
Phumel	10	33
Total	656	357
%	65%	35%

**Figure 2.8** Number of Students who choose Section A and B in Paper Two (Concepts and knowledge missed per section)

Schools	A	Schools	B
Lubc	64%	Nhlac	43%
Bule	63%	Bule	38%
Nhlac	57%	Lubc	37%
Phumel	23%	Maka	30%
Masu	6%	Malib	29%
Salesia	3%	EB	25%
Mhlat	2%	Kalag	17%
Chris	0%	Lamaw	17%
Madul	0%	Mhlume	13%
Big	0%	STT	13%
		MNR	12.50%
		Luso	11%
		Herm	10%
		Fundu	7%
		St A	8%
		Kabob	6%
		MTS	6%
		Goosh	0%
		Nyam	0%
		Lobamb	0%
		Hlut	0%

**Figure 2.9** Schools' Performance below 70% in Section A and B

### **XVIII. COMPULSORY QUESTIONS' MEAN SCORES**

In total, 3 schools performed below the mean score in question one. These include: phumel, Masu and Big. Two of these were from Manzini region (Masu and Phumel) and one from Lubombo region (Big) (see Figure 2.9). 19 schools performed below the mean score in question four. **Six** of these were from Lubombo region, **four** from Manzini, **three** from Hhohho and **six** from Shiselweni (see Figure 2.9).

In total, 235 students (24%) performed below mean score in compulsory exam item one (PIQ1) and 633 students (62%) performed below the mean in item four (PIQ4) (see figure 2.6). 778 (77%) students performed above the mean score in exam item one (PIQ1) and 380 (38%) students performed above the mean score in exam item four (PIQ4) (see Figure 2.6; 2.9).

Compulso	Items	School	Region	Town	P1Q1		P1Q4
		Bule	Hhohho	Bulembu	10.5		7.428571
		Nhlac	Shiselo	NHlangan	12.35714		5.807692
		Lamaw	Manzini	Luve	9.233333		7.8
		Lobamb	Hhhohho	Zulwini	12.34483		8.444444
		St A	Manzini	Malkerns	9.105263		6.864865
		Mhlat	Hhohho	Piggs Peal	9.375		7.021277
		Herm	Hhohho	Mbabane	9.619048		7.95
		Goosh	Lubombo	Siteki	7.727273		3.909091
		Lubc	Lubombo	Siteki	7.5625		5.645833
		MNR	Manzini	Manzini	11.27848		8
		EB	Shiselo	Nhlangan	11.33333		6.107143
		STT	Manzini	Manzini	11.21429		7.666667
		Mak	Manzini	Mankayan	9.777778		6
		Madul	Shiselo	Rural	8.764706		6
		Chris	Shiselo	Hlatsi	9.307692		5.923077
		Masu	Manzini	Manzini	7.453125		6.071429
		MTS	Manzini	Manzini	11.23009		8.320388
		Big	Lubombo	rural	7.375		5.935484
		Luso	Lubombo	Simunye	10.57692		6.423077
		Hlut	Shiselo	Hluthi	8.882353		6.058824
		Phumel	Manzini	Manzini	7.046512		5.452381
		Malib	Lubombo	Rural	9		6.952381
		Kabob	Hhohho	Mbabane	9.757576		5.296296
		Mhlum	Lubombo	Industrial	9.422222		8.069767
		Kalag	Lubombo	rural	8.958333		7.166667
		Fundu	Hhohho	rural	11.42857		7.884615
		Nyam	Shiselo	rural	10.58333		6.9
		Salesia	Manzini	Manzini	12.38095		8.025

**Figure 2.10** Schools mean score in Compulsory items: One (P1Q1) and Four (P1Q4) in Paper one (Concepts missed per item)

## XIX. DISCUSSION

### The nature of exam scores and the validity of examination

Exam scores which reflect or mirror students' understanding of the subject concepts and content are important for assessing students' performance in order to initiate assessment and educational reforms. Examination assessment and educational reform are intimately linked. Examination scores signal the need for educational reforms and instrument for educational improvement. More active scrutiny of exam scores and other examination processes are a source of information for a concern public, educationist, a form of quality control and incentive to do better. Peoples' concern on examination scores and other processes hinges on the belief or assumptions about the nature of knowledge and competence built into examination assessment and on the way it functions within the education system. The examination assessment and the way it functions should relate to the national goals (problem solving skills, thinking abilities, ability to exercise personal judgement) and the needs of the changing economy and environmental world changes. These are aspects of a thinking-oriented curriculum and examination assessment.

The ways in which exam scores are used have profound effect not only to the examinees but also on all Citizens because any country's success and sustainability depend on the attitudes and abilities of the youth to exercise personal judgement as they execute their duties in different societal sectors. Exam scores and education

have effects on the development of interpersonal and intrapersonal skills (good judgement and strategies for meeting their own needs in many effective ways) and capabilities that affect the quality of the nation.

## **XX. CONCEPTS AND KNOWLEDGE MISSED AND GAINED IN PAPER ONE**

In question one (P1Q1), 778 (76%) students appeared to have understood the concepts and gained knowledge which relates to Umfencane (the upheaval of the 19<sup>th</sup> Century in Southern Africa) and the strategies used by the leaders of that era in building their nations. 235 (24%) of the students failed to gain knowledge in relation to Umfencane upheaval. These are huge number of students, with a high potential of undermining the national goals (using historical events in maintaining peace and stability, non-violent conflict resolution). The concepts covered in this item are great interest to the nation in its effort of maintaining peace and stability. The 24% of students are a threat to peace and stability. The 235 students who failed item one, constitute 4% of all the students who sit for the 2014 history examination. This 4% has a potential of undermining the country's interests in many different ways.

In question two (P1Q2), 551 (54%) understood the usefulness and interpretation of historical sources. These students used sources to justify and support their arguments or points. In this processes critical thinking skills were enhanced. 462 (46%) students failed to interpret the sources effectively and their failure undermines the key national goals, subject objectives: promoting critical thinking, assessing situations and interpreting events. The 462 students who failed item two, constitute 8% of all the students who sit for the 2014 history examination. This 8% has a potential of undermining the country's interests of developing cadre of critical citizens.

In exam item three (P1Q3) 248 (24%) of the students understood the concepts which pertains the 1820 settlers and their complexities at the cape. This only constitute 4% of the total number of students who sit for the examination. 765 (76%) failed to understand the historical oriented practices of the 1820 settlers, their movement to the interior and other complexities. The 765 students, who failed this question, constitute 13% of all students who sit for the examination.

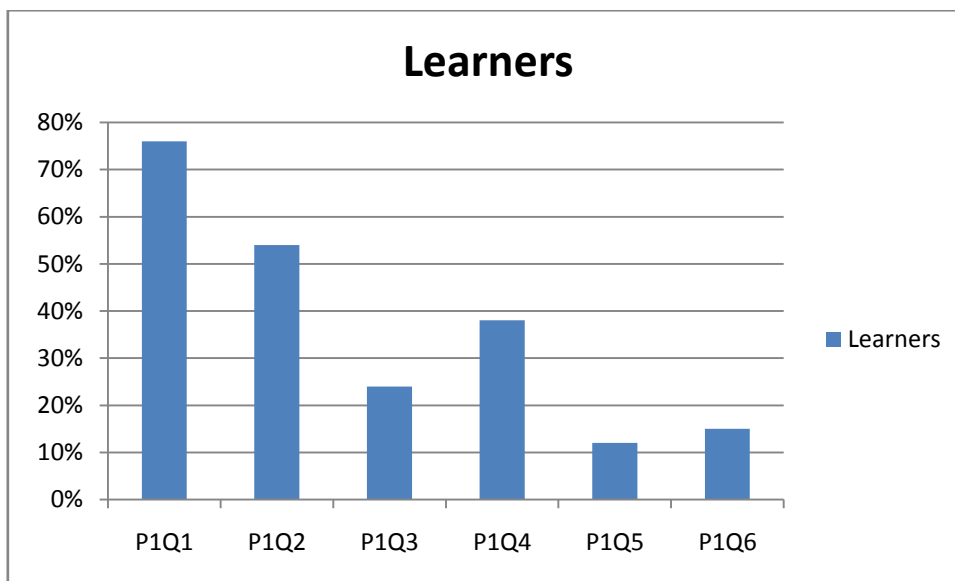
In question four (P1Q4) 633 (62%) of the students failed to understand the concepts and most of key knowledge were missed. This has a potential of undermining the working relationship between neighbouring countries who work under the umbrella of Southern African Development Community (SADC) and Southern African Custom Unions (SACU) because the concepts covered in this question include: Swaziland partner organisations (SADC, SACU and Swaziland leadership). These partner organisations are important in promoting economic and political development. Students' failure to understand these organisations' functions in promoting the country's interests becomes a nation concern. These are critical organisations for the country's financial and economic sustainability. Only 380 (38%) of the students appeared to have understood this question. Taking into account the magnitude of concepts covered in this question, this number is too small.

In exam item five (P1Q5), 887 (88%) failed this question. The concepts and knowledge and other complexities surrounding the South African war of 1899-1902 were missed by the majority of students. These complexities include the historical practices of discrimination and unfairly labour practices used by the whites against the indigenous people. These are key skills for the nation in its effort of promoting inclusion in society. Ignorance about the implications of exclusionary practices might breed exclusion in society. The 126 (12%) of students who misunderstood the concepts in question five challenges all the relevant stakeholders particularly the ministry of education in different ways.

In question six (P1Q6) more students had difficulties in understanding the expected concepts, practices and knowledge. These include, struggle against apartheid in South Africa, the role of both international and local communities in the struggle. 859 (85%) of these students missed the key concepts and knowledge necessary for shaping nations in sustainable ways. An understanding of these concepts it's a way of fighting xenophobia and racism in societies. Knowledge gained has a potential of helping people to understand that racism is an enemy for the international community. The 859 students constitute 14% of all the students who sit for the 2014 history examination and this is a huge number with a potential of undermining the national goals and the stability of a country (in perpetuating xenophobia and racism in societies). Only 154 (15%) of students appeared to have grasped the concepts involved.

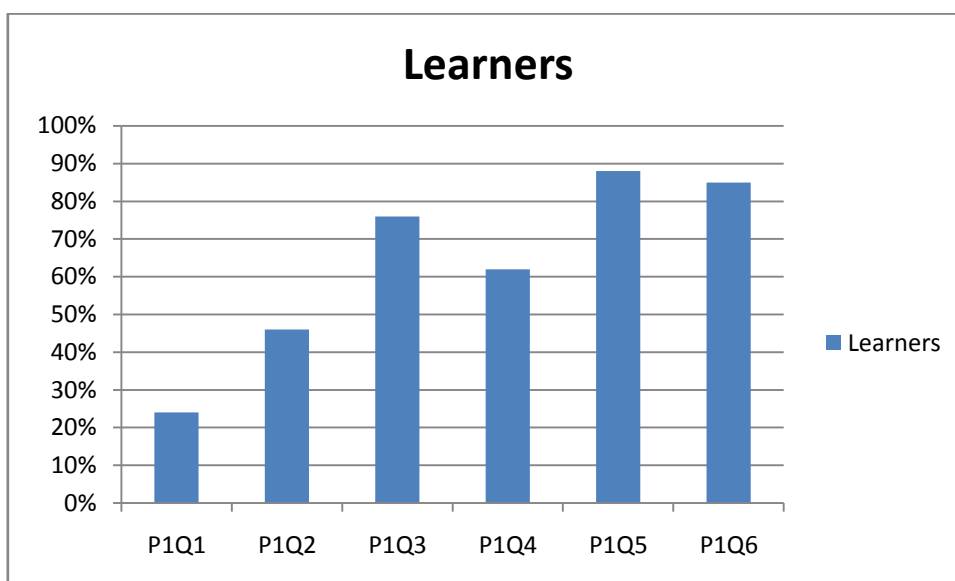
Question one (P1Q1) was passed by 76% of the students and two by 54% of the students. Question 3 (P1Q3) 24%, question 4 (P1Q4) 38%, question 5 (P1Q5) 12%, and question 6 (P1Q6) 15% of the students (see Figure. 2.10)





**Figure 2.10 % of Students who gained knowledge in paper one per question**

Question one (P1Q1) 24% of the students had difficulties with its concepts and question two (P1Q2) 46% of the students. Question 3 (P1Q3) 76%, of the students had some difficulties, question 4 (P1Q4) 62%, question 5 (P1Q5) 88%, and question 6 (P1Q6) 85% of the students (see Figure 2.11)

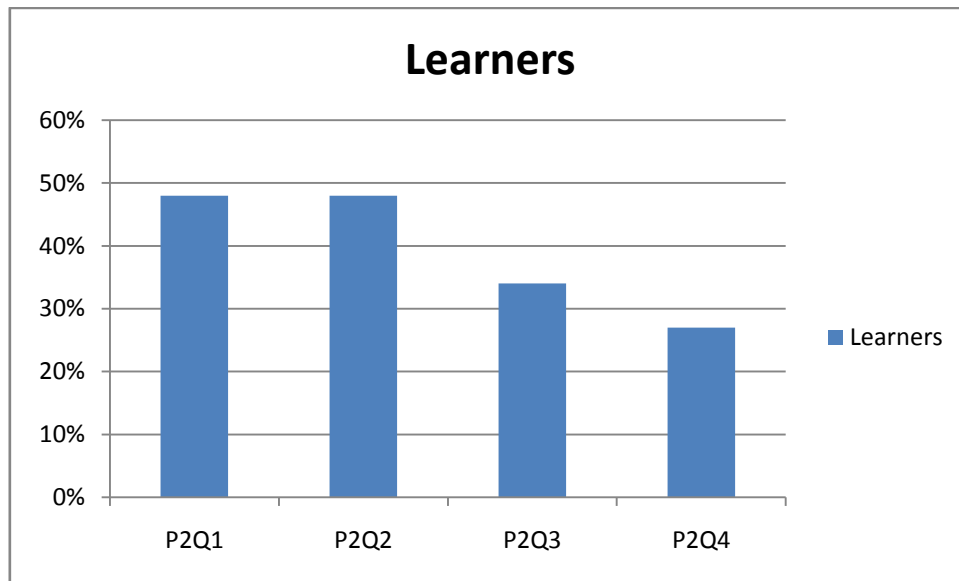


**Figure 2.11 % of students who missed concepts in paper one per question**

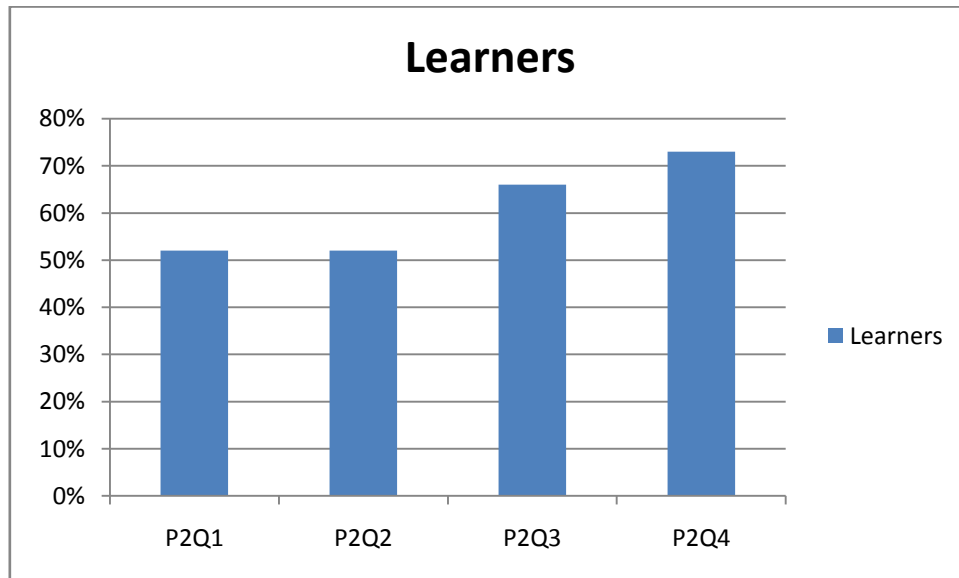
Many students had difficulties with questions two (P1Q2), three (P1Q3), four (P1Q4), five (P1Q5) and six (P1Q6) (see figure 2.6; 2.11).

### **XXI. CONCEPTS MISSED AND GAINED IN PAPER TWO**

In paper two, all the concepts were fairly understood by the students. Between 27% and 48% of the students performed below the mean in all the four questions (see Figure 2.7). A relatively high number of students gained limited knowledge mainly in question one, and two (see Figure 2.7; 2.12). There were 489 (52%) of the students who performed above the mean score in question one (P2Q1) and P2Q2) (see Figure 2.7). This constitutes 8% of all the students who sit for the 2014 history examination in the country. There were 667 (66%) of students who performed above the mean in question three (P2Q3) and 741 (73%) of them in question four (P2Q4). This notes that the concepts covered in question 3 and 4 were understood by the students better than question one and two (see figure 2.12; 2.13).



**Figure 2.12 % of students who missed concepts in each question (P2Q1, P2Q2, P2Q3, P2Q4) in paper two**



**Figure 2.13 % of students who gained knowledge in each question (P2Q1, P2Q2, P2Q3, P2Q4) in paper two**

**Knowledge missed either in section A or B.**

More students chose section A as oppose to section B. For example, the majority of students from 21 schools picked section A as compared to the majority of students from six schools that chose section B (Figure 2.8), a highly significant difference. This suggests that more students missed the concepts and knowledge covered in section B. It also notes that teachers were teaching for the exam thus undermining the national goals. Only three schools taught the concepts in a “balance” manner because their students picked the sections in a relatively balanced manner (see figure 2.8). This suggests that in these schools teachers were not teaching for the exam.

**Number of Students who attempted questions in paper one**

In question one, 998 (99%) of the students responded in an excellent manner and most of them have understood the concepts involved. Only 1.5% of the students failed to respond or misunderstood the concepts. The key concepts which are of great interests to the nation were excellent taught and learned.

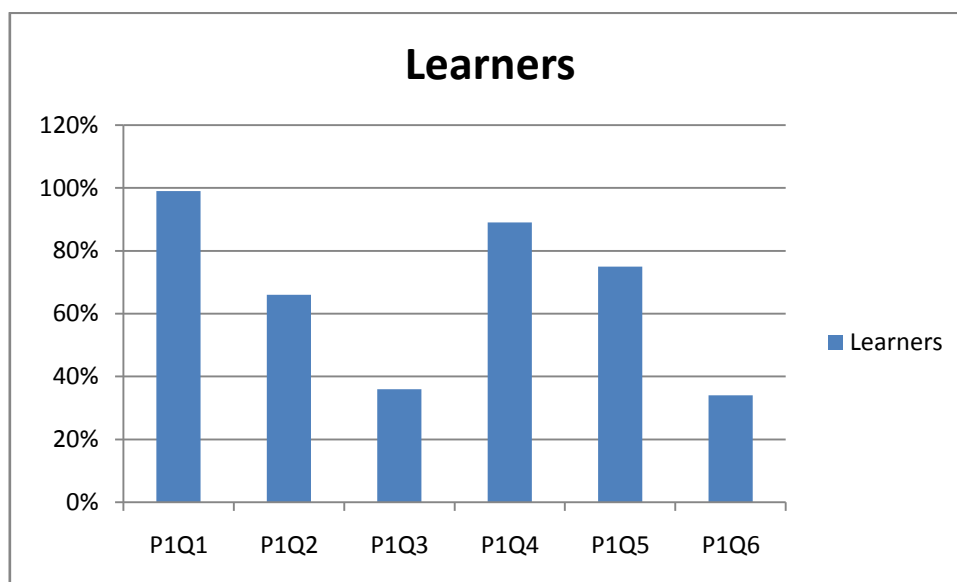
Question two (P1Q2), was answered by 670 (66%) who depicted some understanding of the concepts (sources) involved. 343 (34%) did not respond to the question either because they did not learn or understand the question or concepts.

In question 3 (P1Q3) 369 (36%) responded to the question, which to an extent explain that they understood the concepts (1820 settlers, slave trade, abolition of slavery). 644 (64%) did not attempt the question, either because they did not study them or not learnt them.

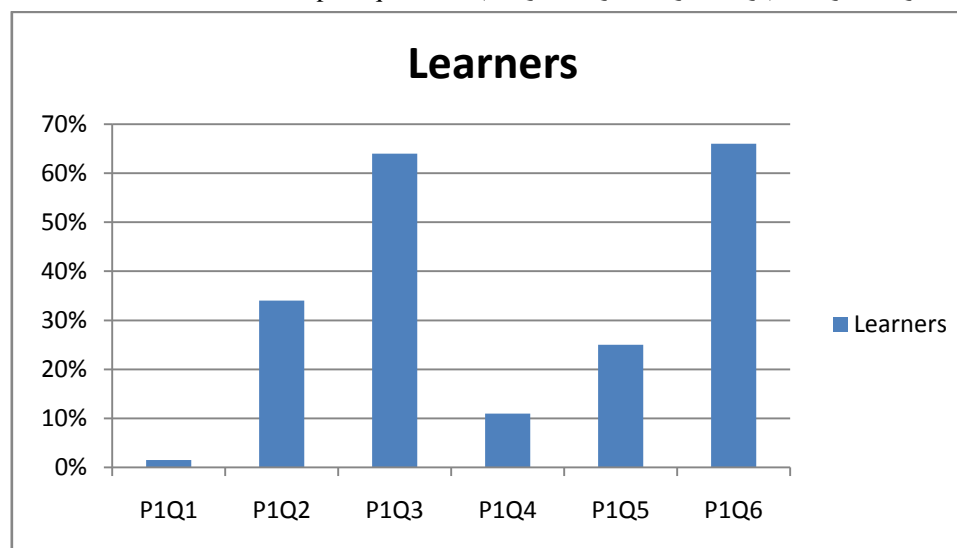
Question four (P1Q4) was attempted by 89% of the students, while 11% did not respond to the question. Though 89% of the students responded but the 11% who did not, is huge number with high potential of undermining the development of the country. If the 11% of students are ignorant or have misperception about the roles of Southern African Development Community (SDC) and the Southern African Customs Union (SACU) that might affect the development of the country. Schudson (2000 P 22) noted that ignorance tends to breed more ignorance; it inhibits people from venturing into solution that make them feel uncomfortable or inadequate. This has a potential of affecting social change and economic development and sustainability.

Question five (P1Q5) was attempted by 755 (75%) of students and 258 (25%) did not respond. The 75% had some better understanding of the concepts involved (causes of the South African war 1899-1902 while 25% had little or no understanding of the concepts involved. Question 6 was attempted by 348 (34%) and 665 (66%) did not attempt either they did not understand or learnt the concepts (see figure 2.2; 2.14; 2.15).

Question one (P1Q1), two (P1Q2), four (P1Q4), five (P1Q5) were attempted by many students while question 3 (P1Q3) and six (P1Q6) were attempted by few students (see Figure 2.2; 2.14; 2.15). This notes that the concepts were either not taught or not effectively taught in those schools. This situation has a potential of breeding ignorance among the citizen and this works against the key national educational goal of producing critical thinkers and enlightened citizens capable of initiating socio-economic development.



**Figure 2.14** % of students who attempted questions (P1Q1, P1Q2, P1Q3, P1Q4), P1Q5, P1Q6 in paper two



**Figure 2.15** % of students who did not attempt questions (P1Q1, P1Q2, P1Q3, P1Q4), P1Q5, P1Q6 in paper two

### **Attempted and non-attempted compulsory questions underminenational goals and an opportunity for educational change**

More often, than not messages coming from exam scores are misunderstood or misused by policymakers and educators. This has a potential of undermining the quality of education and the development of the country. It is important to pay more attention to attempted and un-attempted exam items because they contain visible and invisible messages about the nature and calibre of students produced by the education system. It also presents an opportunity to study exam items effect in a systematic way in order to understand the psychological process underlying them. For example, non-responses might be symptomatic of more serious underlying problems, such as the aspects of the item and instructions of the examination. The aspects of the exam item may affect the accuracy of the responses. Respondents need to be sure that they fully understand what they are being asked and the concepts and frames of reference implied by the exam item. The respondents need to differentiate factual questions from non-factual questions. For example, for respondents to give factual correct answers to factual questions, they need to have the necessary information accessible, clear understanding and be able to retrieve it from memory. Non-factual items require respondents to conceptualise the constructs on the item and this is more abstract. Paying attention on the factual and non-factual items has a potential of revealing the nature of the learning processes in schools and the calibre of teachers in various schools. This has a potential of helping relevant partners such as education policy makers to explain and describe what students can and cannot do, what have and have not been taught well.

In question one (P1Q1), 15 (1.5%) of students from 10 schools did not attempted it, though it was a compulsory item, may suggests that instructions were not clear to this students or they had difficulties in dealing with factual questions, which require them to have the necessary information accessible, clear understanding and be able to retrieve it from memory or their choice were influenced by the nature of the examination instructions. The instructions in paper one were misleading or not professional written. For example on the cover page of the paper, it was written in this format: answer **2** questions from **Section A** and **2** questions from **Section B** while in the second page, it read thus: answer question **1** and any other question. Each question is divided into three parts. Answer **all parts** of the question you choose (see Appendix 1). These instructions were poorly written and misleading because there was highly possibility that students who read the instructions on the first page might overlook the ones in the second page. Writing an examination is not a comfortable exercise for everyone, therefore instructions should be written in a clear non confusing manner. Some of these 15 (1.5%) students end up answering another question instead of the compulsory item. This undermined the spirit of inculcating the culture of listening and following instructions among the students. The culture of following instructions and listening are some of the key skills necessary for developing responsible future citizens.

The failure to develop these skills through examination and education in general was further worsened by some examiners who acted unprofessional by marking questions of those who failed to follow the instructions. For example, 30 (3%) of students' scripts were marked though they ignored question one, a compulsory one. This 3% of students were from 10 schools. In question four, 74 (7%) of students' scripts were also wrongly marked by the examiners. This 7% of students were from 24 (86%) of the sampled schools. This suggests that examination instructions were overlooked and the examiners did not take into account the serious nature of compulsory questions in an examination. Compulsory questions tend to aim at specific skills and knowledge which must be assessed.

### **Quantitative Results paper one**

The results have shown that the subject skills and knowledge gained and missed differ in each exam item and school. Skills and knowledge covered in question one (P1Q1) were mastered by 515 (51%) of students from 14 schools. Their mean score range between 12.4-9.6. 283 (27%) of students understand the concepts and skills and they were from 9 schools. Their mean ranges between 9.4-8.7. 75 (7%) of them performed around the mean which ranges between 7.7-7.5 and they were from 2 schools. 139 (13%) of the students did not master the skills in this question. The schools which performed poorly were from Lubombo Region (1) and Manzini (2) (see figure 2.3).

It was also revealed that 704 (69%) of the students mastered the skills and concepts well in question two. These students were from 18 schools. 6 schools of these were from Hhohho region, 5 Manzini, 4 Shiselweni, and 3 from Lubombo Region. Their mean score ranges between 12.1-8.6). 176 (17%) of the students mastered the skills but their performance were clustered around the mean score which ranges between 8.2-7.5. These students were from 5 schools. 3 schools were from Lubombo region, 1 Shiselweni region, 1Manzini region.

It is noted that 139 (13%) of the students did not master these kills and concepts in this question. They were from 5 schools. 3 of these schools were from Manzini, 1 Shiselweni and 1 from Lubombo region.

The study found that in question three (P1Q3), 444 (45%) of the students mastered the skills and concepts well and there were from 11 schools. 4 of these were from Shiselweni, 3 from Manzini, 2 Hhohho and

2 from Lubombo. Their mean score ranges between 10.4-9.6. 255 (25%) of the students mastered the skills in this question and they were from 7 schools. 3 of these schools were from Hhohho region, 1 Shiselweni, 2 Manzini and 1 Lubombo region. Their mean scores range between 9.3-8.5.

It was found that 174 (13%) of the students mastered the skills and concepts in this question but their performance were clustered around the mean score which range between 8.3-7.6 These students were from 5 schools. 2 schools from Manzini, 1 from Shiselweni, 3 Lubombo region. 134 (13%) of the students did not master the skills in this question. These were from 5 schools. 2 schools from Manzini, 1 Shiselweni, 1 Lubombo and 1 from Hhohho region.

It was revealed that 405 (40%) of the mastered the concepts and skills in question four, but their performance were clustered around the mean score, which range between 8.4-7.6. These students were from 9 schools. 5 schools from Manzini, 1 Lubombo, 3 Hhohho region.

It was noted that 608 (60%) of the students did not master the skills and concepts in question four. Their score were below the mean score which range between 7.4-3.2. These students were from 19 schools. 6 schools were from Lubombo region, 3 Hhohho, 4 Manzini and 6 from Shiselweni region. Most students had some difficulties with the concepts in this question because even the 40% performed around the mean score.

It was shown that all the 1013 (100%) of the sampled students did not fairly master the concepts and skills in question five because all of them performed below the mean score (see Figure 2.3).

The study revealed that 169 (16%) of the students mastered the skills and concepts in question six. Their mean score ranges between 10.0-9.0. These students were from 4 schools. 2 schools were from the Manzini region, 1 Shiselweni and 1 from Hhohho region. 255 (25%) of the students did not master the skills and concepts well because their performance were clustered around the mean score, which ranges between 8.4-7.5. These were from 6 schools. 2 schools were from the Shiselweni region, 3 from Hhohho, and 1 from Manzini region.

It was found that 458 (45%) of the students did not master the concepts and skills in this question and they were from 18 schools. 7 schools from the Lubombo region, 2 Hhohho, 6 Manzini region, 3 Shiselweni region. Their mean score ranges between 7.3-0. The concepts and skills in this question were complex for the students or not taught well, taking into account the 25% of students whose performance were clustered around the mean and the 45% of students perform below the mean score.

The study also revealed that the misleading or unprofessional written examination instructions in paper one had an influence on students' performance and it indirectly promoted unprofessionalism in examination and within the teaching profession.

In paper one, the students were fairly taught the concepts and skills found in question **one, (P1Q1)**, where 7% of the students performed around the mean score and 13% below the mean score. It is observed that the students performed fairly well in this question but the fact that 7% of them performed around the mean and 13% below the mean pose a challenge to education system. This constitutes 20% of students who poorly understood or missed the concepts and skills in this question either they were not taught in class or badly taught. This question was well attempted by the 98% of the students which may suggest that either they were familiar with the concepts involved or forced to choose it since it was a compulsory item.

In question **two, (P1Q2)** and **three, (P1Q3)**, the students who performed around the mean score and below constitute 30% of students. This is a huge number of students who were either badly taught or not taught the concepts and skills.

The concepts and skills in question **four, (P1Q4)** were poorly taught or not taught because 60% of the students performed below the mean score and 40% of them performed around the mean or their performances were clustered around the mean. Though it was attempted by 89% of the students as a compulsory question but they did not understand the skills and concepts involved.

In question six, **(P1Q6)** more students performed below the mean, 458 (45%) of them. While 255 (25%) of students' performances were clustered around the mean score. This constitutes 70% of students who poorly understood the concepts or did not master the concepts and skills in this question, either because they were badly taught or never taught.

### **Quantitative results for Paper two**

The study has shown that more than 27% of the students performed below the mean in all the four questions in paper two (see Figure 2.7). A number of students gained limited knowledge mainly in question one, two and three (see Figure 2.7; 2.12). There were 489 (52%) of the students who performed above the mean score in question one (P2Q1) and P2Q2) (see Figure 2.7). This constitutes 8% of all the students who sit for the 2014 history examination in the country.

Question three and four were fairly understood by most students. There were 667 (66%) of students who performed above the mean in question three (P2Q3) and 741 (73%) of them in question four (P2Q4). This

notes that the concepts covered in question 3 and 4 were understood by the students better than question one and two (see figure 2.12; 2.13).

The study revealed that students missed or gained knowledge in this paper because of the nature of the paper, which also tends to influence the teachers in their teachings and the students' learning. More students 656 (65%) of them chose section A, while 357 (35%) picked section B. This suggests that teachers were either teaching for the exam or uncomfortable with the concepts in each section. This has also forced the students to miss the expected knowledge and eventually undermine the country's national goals.

The manner in which students react to paper two was skewed towards section A. 21 schools chose section A, and 6 picked section B, this is a highly significant difference. Only in three schools where students chose both sections in a relatively balanced manner. These schools had a very small number of students. This notes that the number of students influences the teachers' teachings in the classroom.

### **Qualitative and Quantitative results**

Both qualitative and quantitative results sometimes diverge and converge. For example, the key objective which inculcates the educational culture among the students to critical examines current historical evidence to determine and deduce likely outcomes were not fairly represented. It was only represented in paper one, question four (PIQ4) not in paper two. This reflects the missed teaching opportunities, cognitive processes and skills (Ktathwohl, 2002) and this is one of the sources of examination construct invalidity. The absence of objective 3a in paper two and under representation in paper one undermined the validity of the examination because objective 3a relates to critical skills which include; assessment skills, problem skills, critical thinking skills, inquiry skills and communication skills. These are considered as the most important educational skills of any education system. Junior Certificate graduates who are expected to join the working class as workers are expected to survive through these skills and those who further their studies are expected to apply them in their academic world. The absence of some key objectives notes the existence of poor alignment between exam items, national goals and subject objectives. This makes it difficult to produce exam reports about students' mastery of knowledge and concepts if the examination did not reflect balanced curriculum content, goals and objectives (Long and Benson, 1998).

Though, objective 3a was represented in question four (P1Q4) but 60% of the students performed below the mean score and 40% of them performed around the mean. This suggests missed opportunity of learning and poor alignment between subject objectives and examination items.

## **XXII. CONCLUSION**

The study concludes that the Swazi government's effort to reform the education system through the current Junior Certificate examination assessment resulted in minimal technical changes because of the existing students' poor performance.

The Junior Certificate examination is a good method of gathering information about students' performance, skills and knowledge but it also exacerbate the problem of curriculum narrowing by encouraging teachers to focus on specific subject content as a means of raising scores, without necessary improving the overall quality of education and country's citizens' capability to contribute positively to the world socio-economic development.

The nature of the exam papers (particularly paper two) to an extent promotes the culture of teaching for the exam and this has reallocated teachers' efforts away from the content/topic that is not examined towards content that is examined. This defeats the purpose of teaching and learning in schools and the validity of the exam assessment is undermined or compromised. The examination assessment attempts were impeded by the exam items unalignment with the subject content and national goals.

It was concluded that only skills and concepts in question one were fairly understood by the students; the rest were either poorly taught or never taught; the students learnt more factual knowledge, it was a factual oriented question.

It was concluded that most of the students' performance were clustered around the mean score; this suggest the existing complexities surrounding the teaching processes in schools, examination processes, the quality of the school education system and quality of the final products (graduates).

It was concluded that choosing a question either a compulsory or not does not necessary mean that the students have learnt or clear with the concepts involved. For example, question two, four and five was attempted by many students but they performed poorly on them; while in question three (P1Q3) and six (P1Q6) were attempted by few students and they also performed poorly.

It was also concluded that no region performed badly or fairly across the exam items, their performances were fluctuating.

It was also concluded that messages coming from exam scores have a potential of being misunderstood or misused by policymakers and educators. This could undermine the quality of education and the development of the country.

### **XXIII. RECOMMENDATION**

The Ministry of Education and Training and other relevant departments should refocus their attention on those concepts and skills which were addressed in question 2,3,4,5 and 6 because the majority of students missed those concepts.

The examination assessment needs to be perceived as a component of broader reform efforts, designed not only to produce information on how many percentage is the passing rate this year compared to last year but to create improvements in the educational system of the country. It should aim at reporting in terms of specific knowledge or skills mastered or not mastered by the students in each exam item. Examination assessment should be perceived as an accountability policy intended to promote a number of changes in practice including the quality of teaching and learning and enhancing the effectiveness of school staff and examiners. It should discourage the culture of teaching for the exam as noted in this study.

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