THE UNITED REPUBLIC OF TANZANIA

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY

NATIONAL EXAMINATIONS COUNCIL OF TANZANIA

CANDIDATES' ITEM RESPONSE ANALYSIS REPORT ON THE DIPLOMA IN SECONDARY EDUCATION EXAMINATION (DSEE) 2023

EDUCATIONAL RESEARCH, MEASUREMENT AND EVALUATION

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762 EDUCATIONAL RESEARCH, MEASUREMENT AND EVALUATION

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FOREWORD

The National Examination Council of Tanzania is pleased to issue this report on Candidates' Item Response Analysis on Diploma in Secondary Education Examination (DSEE) in Educational Research, Measurement and Evaluation subject for the year 2023. The report provides feedback to student-teachers, tutors, parents, policy makers and the public in general on the performance of the candidates and the extent to which the instructional goals and objectives were met.

The Diploma in Secondary Education Examination marks the end of the two years of diploma in education. It is a summative evaluation which shows the effectiveness of the education system in general and education delivery system in particular. The report indicates what the education system was able or unable to offer to the student-teachers in their two years of the Diploma in Secondary Education.

In this report, factors which contributed to the candidates to answer the questions correctly or incorrectly have been analysed. The analysis shows that the candidates who had good performance understood the demands of the questions, demonstrated good knowledge of the subject matter, good mastery of English language and essay writing skills. However, the candidates with lower scores depicted contrary attributes.

The feedback is expected to enable education administrators, college principals, tutors and student teachers to identify proper measures which will strengthen teaching and learning process for improving candidates' performance in future examinations administered by the National Examinations Council of Tanzania.

Finally, the National Examinations Council of Tanzania is grateful to examination officers and all who provided valuable assistance in the preparation of this report.

Dr. Said A. Mohamed
EXECUTIVE SECRETARY

1.0 INTRODUCTION

This report presents the performance of the candidates who sat for the Diploma in Secondary Education Examination (DSEE) in Educational Research, Measurement and Evaluation subject 2023 which covered the 2009 Tanzania Institute of Education syllabus and was set based on the 2022 Examination format.

In this report, the analysis of the candidates' responses is based on the category of the short answer items in Section A and essay type items in Section B. The performance of the candidates for section A is regarded *Weak* if the scores range from 0 to 1.5 marks, *Average* if the scores range from 2 to 2.5 marks, and *Good* if the scores range from 3 to 4 marks. For Section B, which contains essay questions, the performance of the candidate is regarded *Weak* if the scores range from 0 to 5.5 marks, *Average* if the scores range from 6 to 10 marks, and *Good* if the scores range from 10.5 to 15 marks. Also, the general performance of the candidates is regarded as *Weak* if the scores range from 0% to 39%, *Average* if the scores range from 40% to 69%, and *Good* if the scores range from 70 to 100%.

Generally, the candidate's performance in Educational Research, Measurement and Evaluation examination in 2023 was good since 1,834 (98.07%) candidates passed. Despite the good performance of candidates in 2023, such performance has decreased by 0.96 per cent from 99.11 per cent in 2022. The analysis of the candidate's performance for the years 2022 and 2023 has been summarized in Table 1.

Table 1: Comparison of candidates' performance for the years 2022 and 2023 in Educational Research, Measurement and Evaluation

Year	Sat	Number of Candidates and Percentage					
		Passed	Grades				
			A	B	C	D	F
2023	1,906	1,834	6	162	1,083	583	36
		98.07%	0.32%	8.66%	57.91%	31.18%	1.93%
2022	4,423	4,326	6	427	2,789	1,104	39
		99.11%	0.4%	9.78%	63.89%	25.29%	0.89%

Table 1 indicates that most of candidates scored grade C in the two consecutive years. It further shows that, there was equal number of candidates who scored grade A in the two years.

Lastly, this report provides conclusion and recommendations that may help to improve the candidates' performance in future examinations. It also presents appendices which indicate the performance in each topic.

2.0 ANALYSIS OF THE CANDIDATES' PERFORMANCE IN EACH QUESTION

The candidates' performance in each question is analysed by indicating the competencies tested and the requirement of each question. The analysis shows the percentage of candidates who attempted each question, those with good, average, and weak performance based on their responses.

2.1 SECTION A: SHORT ANSWER QUESTIONS

This section had ten (10) questions and the candidates were required to attempt all questions. Each question carried four (04) marks making a total of forty (40) marks.

2.1.1 Question 1: Analysis and Interpretation of Test Results

The question measured candidates' knowledge of the application of item analysis. Specifically, candidates were required to explain four usefulness of item analysis in teaching and learning process.

The question was attempted by all 1,906 (100%) candidates out of which 1,035 (54.3%) scored from 3.0 to 4.0 marks, 378 (19.8%) candidates scored from 2.0 to 2.5 marks and 493 (25.9%) candidates scored from 0.0 to 1.5 marks. The candidate's performance in this question is shown in Figure 1.

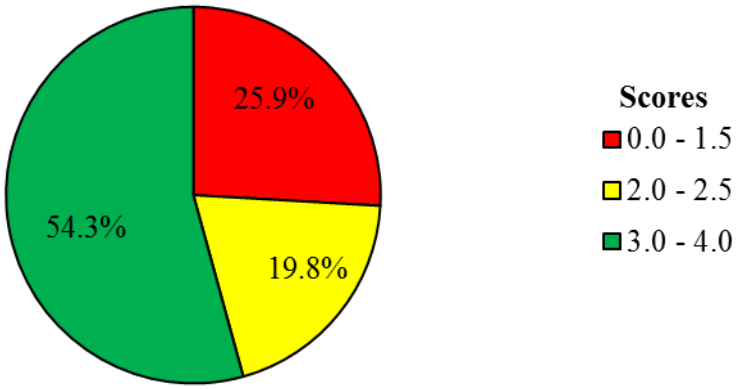
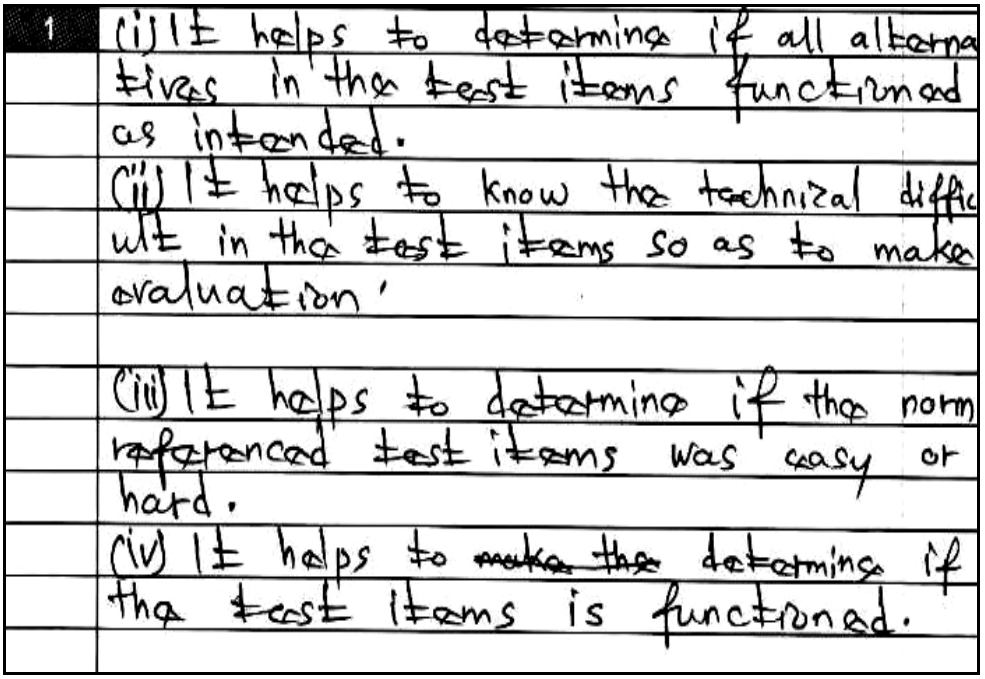


Figure 1: *Candidates' Performance in Question 1*

The statistics in Figure 1 shows that, the performance of the candidates on this question was good since 74.10 per cent of them passed by scoring 2.0 to 4.0 marks and only 25.9 per cent of the candidates failed.

Data analysis shows further that, candidates who scored from 3.0 to 4.0 marks demonstrated good knowledge on the four usefulness of item analysis in teaching and learning process. They provided correct responses such as; *helps in discriminating higher and lower achievers on the examination, helps to determine if alternatives in the item functioned as intended, through item analysis teachers could understand specific technical faults and take measures for improvement* and *it enables teachers to judge on the item's level of difficult*. Extract 1.1 shows a sample of the good response from one of the candidates.



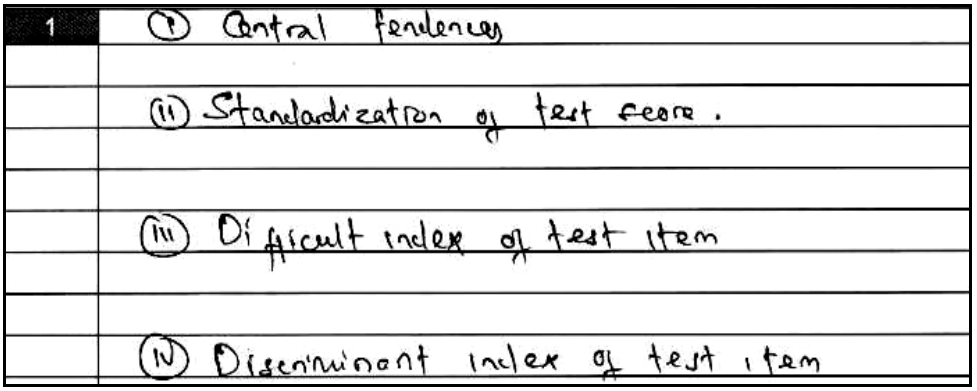
Extract 1.1: A sample of a correct response to question 1

Furthermore, analysis of candidates' responses reveals that, the candidates who had an average performance explained correctly two out of four usefulness of item analysis in teaching and learning process. For example, one candidate gave responses such as; *it helps to get the differences between high and lower achievers in items, help collecting data on how he/she can solve the problem to the environment, it helps to know the correct scores* and *it helps to know how teachers can comment about effectiveness of items used in the test.* The first and the fourth responses were correct responses while the second and the third were incorrect responses since the data obtained from item analysis cannot solve general environment, and when doing item analysis, the focus should be on item's level of difficultness and not the test scores.

Other candidates provided incorrect responses as per requirement of the question. For example, one candidate argued about the usefulness of item analysis, pointing out that: *the analysis helps the teacher to know if the item given to the students was simple or difficult, analysis helps to know students who got the item right and those who got the item wrong, helps providing*

appropriate item to the learners according to their maturity level and *helps the teacher to arrange a test in a proper sequence manner*. Therefore, the first response deserves a full mark while the rest do not. These descriptions indicate that candidates on this category had partial knowledge of the usefulness of item analysis in teaching and learning process.

In addition, data analysis in this question reveals that, candidates who had weak performance had inadequate knowledge on item analysis as they provided incorrect descriptions. For instance, one candidate explained the usefulness of item analysis as; *item analysis helps to determine how to collect and arrange the items in the workshop or any place, helps to predict results for the future use, helps to diagnose learners to know their strengths and weaknesses and helps to select students for further studies.* These responses show that the candidate misconceived the usefulness of item analysis and the importance/functions of test as a tool for assessment in teaching and learning process. Other candidates provided incorrect responses such as; *item analysis helps identifying the research problem, helps to find the research instruments, helps promoting the feedback of the solution* and *helps to analyse the requirement of teaching and learning process.* The responses given indicate that the candidates had inadequate knowledge on the usefulness of item analysis in teaching and learning process. Extract 1.2 is a sample of an incorrect response from one of the candidates.



Extract 1.2: A sample of an incorrect response to question 1

In Extract 1.2, the candidate outlined some components of item analysis instead of the usefulness of the knowledge of item analysis in teaching and learning process.

2.1.2 Question 2: Educational Research

The question measured the candidates' knowledge on educational research. Specifically, the question required the candidates to identify the reasons for conducting an educational research in secondary schools.

Data analysis shows that 1,906 (100%) candidates attempted this question out of which 1688 (88.6%) scored from 3.0 to 4.0 marks, 88 (4.6%) candidates scored from 2.0 to 2.5 marks, and 130 (6.8%) candidates scored from 0.0 to 1.5 marks. The candidates' performance in this question is summarized in Figure 2.

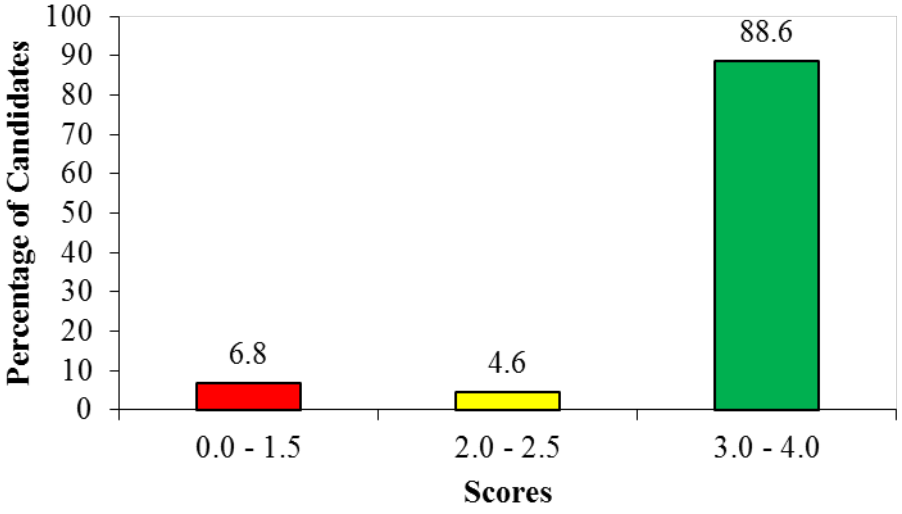


Figure 2: *Candidates' Performance in Question 2*

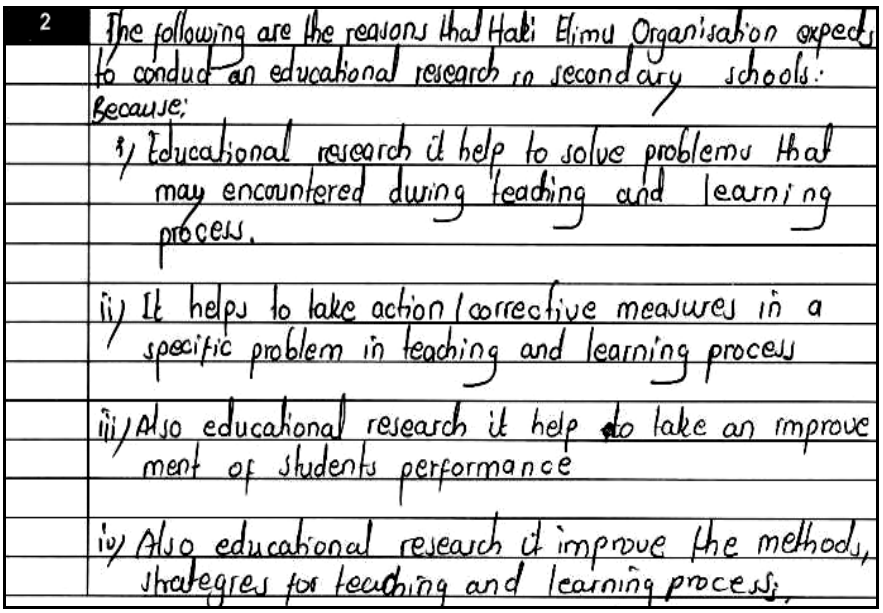
The statistics in Figure 2 shows that, the performance of the candidates in this question was good since 93.2 per cent of the candidates scored from 2.0 to 4.0 marks and only 6.8 per cent scored from 0.0 to 1.5. marks.

The analysis shows that candidates who scored from 3.0 to 4.0 marks correctly demonstrated good knowledge of the reasons for carrying out an

educational research in secondary schools. For example, the candidates provided responses such as; *conducting educational research helps to determine learning difficulties and plan measures to solve them, helps to assess the outcomes and effectiveness of educational curriculum, helps to improve teaching and learning process by changing strategies and techniques* and *helps education stakeholders be familiar and aware on different issues found in education.*

Other candidates provided general reasons such as; *helps determining the worth of an educational intervention in the process of teaching and learning, helps to evaluate the educational system in terms of its achievements, to evaluate academic performance of students within a specified learning programme and to develop an understanding of research findings so as to address challenges facing the education in general.* The analysis of candidate's performance on this question reveals that the candidates knew that carrying out educational research enables teachers to generate new knowledge, develop theories and principles which may be used for further research.

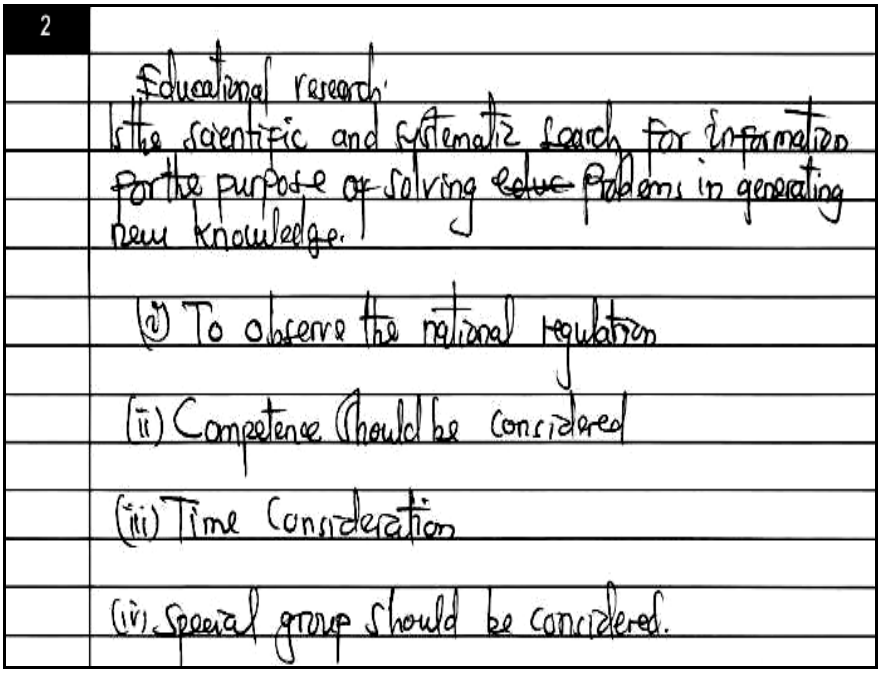
Extract 2.1 shows a sample of the correct responses from one of the candidates.


2 The following are the reasons that Haki Elimu Organisation expects to conduct an educational research in secondary schools:
Because;
i) Educational research it help to solve problems that may encountered during teaching and learning process.
ii) It helps to take action / corrective measures in a specific problem in teaching and learning process
iii) Also educational research it help to take an improvement of students performance
iv) Also educational research it improve the methods, strategies for teaching and learning process.

Extract 2.1: A sample of a correct response to question 2

Moreover, the data analysis indicates that candidates who had an average performance provided only two out of the four reasons. Other candidates provided two correct reasons and skipped the other two. This was caused by candidates' inadequate knowledge on the reasons for carrying out educational research in secondary schools. For example, one candidate provided the reasons such as; *carrying out educational research help to emphasize learning programme for example avoiding or reducing students drop out rate due to challenges they face, i.e. girls' pregnancy, helps reducing number of illiteracy at schools. This means every child has the right to education for society and national development, helps to create employment opportunities to society and helps liberating the society.* The first two reasons are correct while the last two are not and the candidate was likely attempting to transfer knowledge from other disciplines of study which are irrelevant to the demand of the question.

Further analysis of candidates' performance shows that, candidates who had weak performance gave some sources of educational research problems and some steps of conducting action research such as; *deductive reasoning, inductive reasoning, practical issues, personal experiences.* Another candidate provided the reasons such as; *educational research helps to identify of the research problem, helps to formulate hypothesis, helps to review the literature and helps to collect data and analysing them*. The responses given indicate that candidates had inadequate knowledge about reasons for carrying out educational research in schools. Extract 2.2 is a sample of an incorrect response from one of the candidates.



Extract 2.2: A sample of an incorrect response to question 2

In Extract 2.2, the candidate provided some criteria of selecting focused group for data collection instead of the reasons for carrying out an educational research in secondary schools.

2.1.3 Question 3: Educational Assessment and Evaluation

This question measured the candidates' ability to classify forms of evaluation in education. The question had four parts which required the candidates to classify respective forms of evaluation from the given statements.

The question was attempted by 1,906 (100%) candidates. The analysis of their performance shows that 1,235 (64.8%) candidates scored from 3.0 to 4.0 marks, 446 (23.4%) candidates scored 2.0 to 2.5 marks and 225 (11.8%) scored from 0.0 to 1.5 marks. The candidate's performance in this question is as shown in Figure 3.

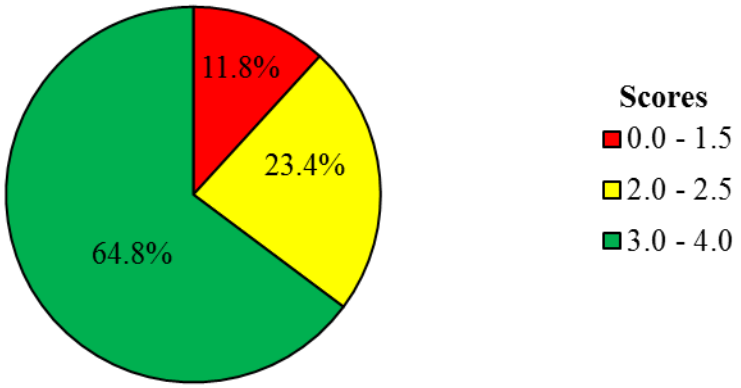
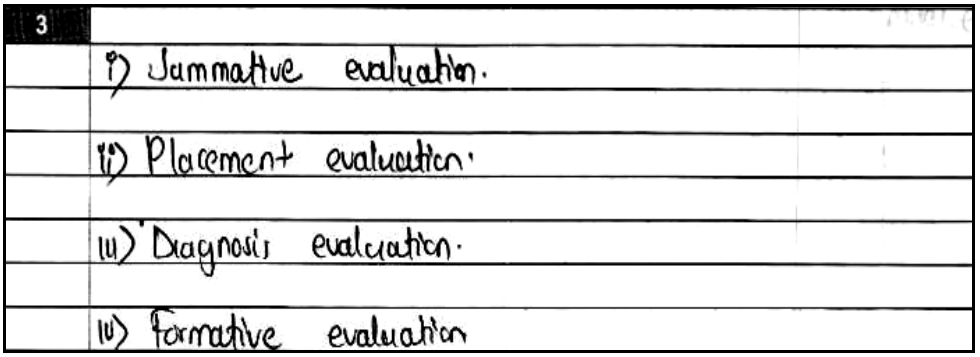


Figure 3: *Candidates' Performance in Question 3*

The statistics in Figure 3 shows that the candidates' performance in this question was good since more than three quarters of them (88.2%) scored above the average marks (2.0 - 4.0).

The analysis of the candidates' responses reveals that, the candidates who scored from 3.0 to 4.0 marks classified correctly the forms of evaluation such as; *summative evaluation. placement evaluation. diagnostic evaluation* and *formative evaluation.* These responses prove that the candidates had sufficient mastery of the forms of evaluation. Extract 3.1 shows a sample of a correct response from one of the candidates.


3

i) Summative evaluation.

ii) Placement evaluation.

iii) Diagnosis evaluation.

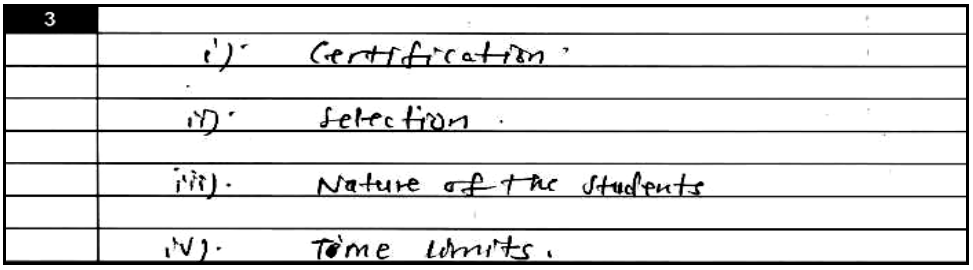
iv) Formative evaluation

Extract 3.1: A sample of a correct response to question 3

Further analysis indicates that candidates who scored from 2.0 to 2.5 marks did not correctly classify all four forms of evaluation which affected the individual's performance. Some of them classified these forms of

evaluation interchangeably. For example, one candidate gave the classification as *formative* instead of *summative.* Other candidates in this category wrote correct responses in item (i) and (ii) as they gave statements such as: *summative evaluation and placement evaluation respectively.* In the last two items the candidates interchanged the responses such as*; formative evaluation in item (iii) and diagnostic evaluation in item (iv).*

Data analysis also reveals that, the candidates who had weak performance mixed up these forms in a manner that did not correspond to the statements given. For instance, one candidate provided the classification such as; *placement, formative, summative and diagnostic, instead of summative. placement, diagnostic* and *formative* respectively. In general, these candidates lacked adequate knowledge on the forms of evaluation. Extract 3.2 is a sample of an incorrect response from one of the candidates.



Extract 3.2: A sample of an incorrect response to question 3

In Extract 3:2, the candidate provided some of advantages of educational measurement instead forms of evaluation.

2.1.4 Question 4: Educational Research

The question tested the candidates' knowledge on research report. Specifically, the question required candidates to briefly analyse the four major criteria to be used in reviewing the quality of a research report.

The data shows that 1,906 (100%) candidates attempted the question where 1,863 (97.7%) candidates scored from 0.0 to 1.5 marks, 39 (2.0%) candidates scored from 2.0 to 2.5 marks and 4 (0.1%) candidates scored from 3.0 to 4.0 marks. The candidate's performance on this question is summarised in Figure 4.

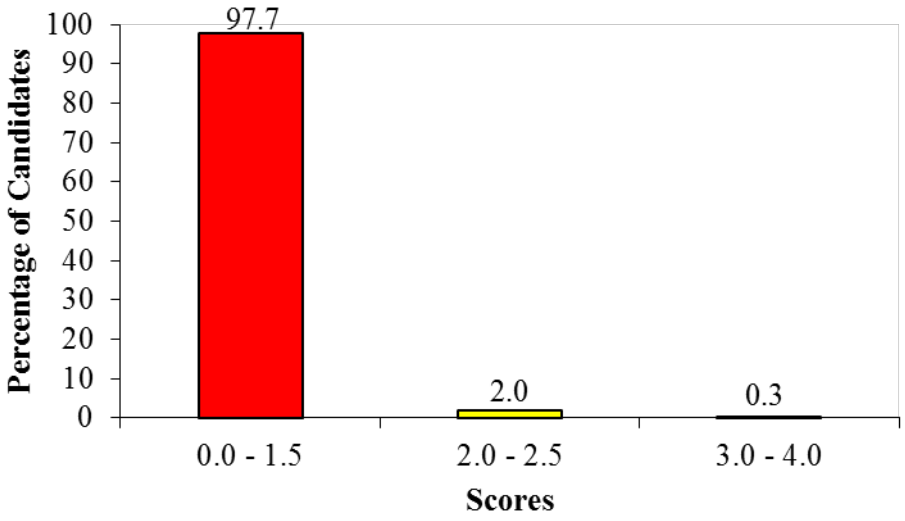
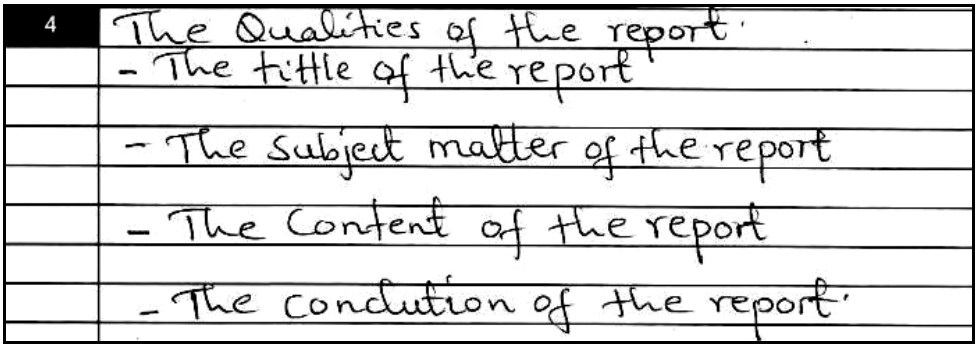


Figure 4: *Candidates' Performance on Question 4*

The statistics in Figure 4 shows that, the performance of candidates on this question was weak since only 2.3 per cent of candidates scored above the average marks (2.0 - 4.0) and 97.7 per cent failed.

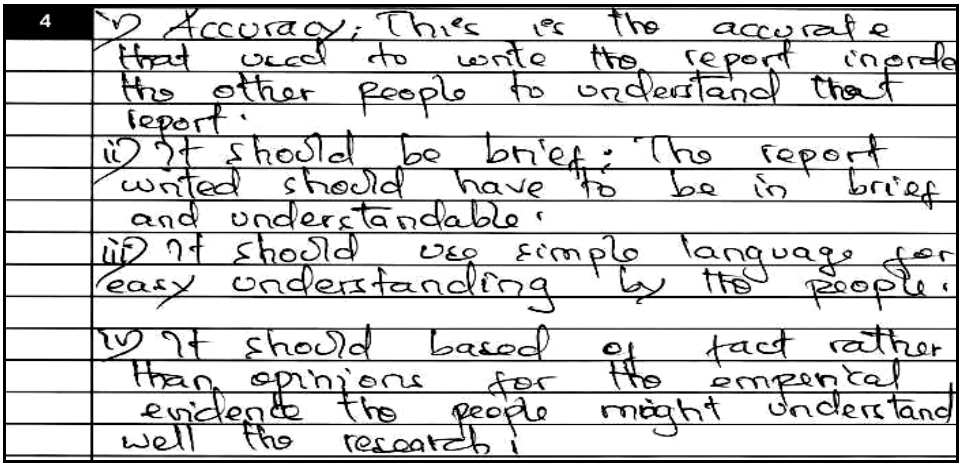
The candidates' response analysis indicates that majority (97.7%) of the candidates who had weak performance misconceived the criteria with steps or stages to be considered when writing a research report. For example, one candidate incorrectly provided the criteria in reviewing quality of research report such as *title of the problem, research questions or hypothesis, research instruments and data collection, analysis, interpretation.* Some candidates gave incorrect criteria such as; *to ensure that research title has been submitted, the report has undergone the literature review so as to reveal the knowledge gap, in the report and there must be the part of introduction*. Extract 4.1 illustrates a sample of an incorrect response from one of the candidates.



Extract 4.1: A sample of an incorrect response to question 4

In Extract 4.1, the candidate provided the organization of the research report instead of the criteria to be considered in reviewing the quality of a research report.

Further analysis shows that candidates who scored from 2 to 2.5, they correctly provided two out of the four criteria. On the other hand, the candidates who scored from 3 to 4 marks demonstrated adequate knowledge on the criteria for reviewing the quality of research report. These candidates provided criteria such as*; research report should be well organized in order to attract the audience, should be clear and specific to a particular issue being investigated, should be testable by working out with the findings* and *should be reasonable to challenge the available body of knowledge.* Extract 4.2 shows a sample of a good response from one of the candidates



Extract 4.2: A sample of a correct response to question 4

2.1.5 Question 5: Educational Assessment and Evaluation

The question tested the candidates' knowledge of measurement and evaluation concepts. Specifically, the question required the candidates to distinguish measurement from evaluation by using two points.

The analysis shows that, 1,906 (100%) candidates attempted this question of which 167 (8.7%) candidates scored from 0.0 to 1.5 marks, 1,374 (72.1%) candidates scored from 3.0 to 4.0 marks and 365 (19.2%) candidates scored from 2.0 to 2.5 marks. The candidate's performance on this question is shown in Figure 5.

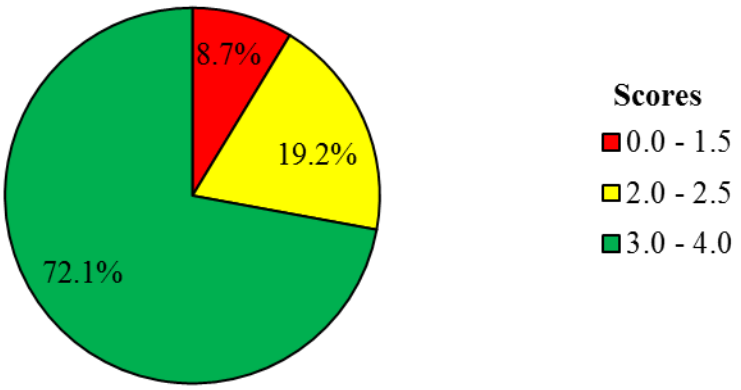
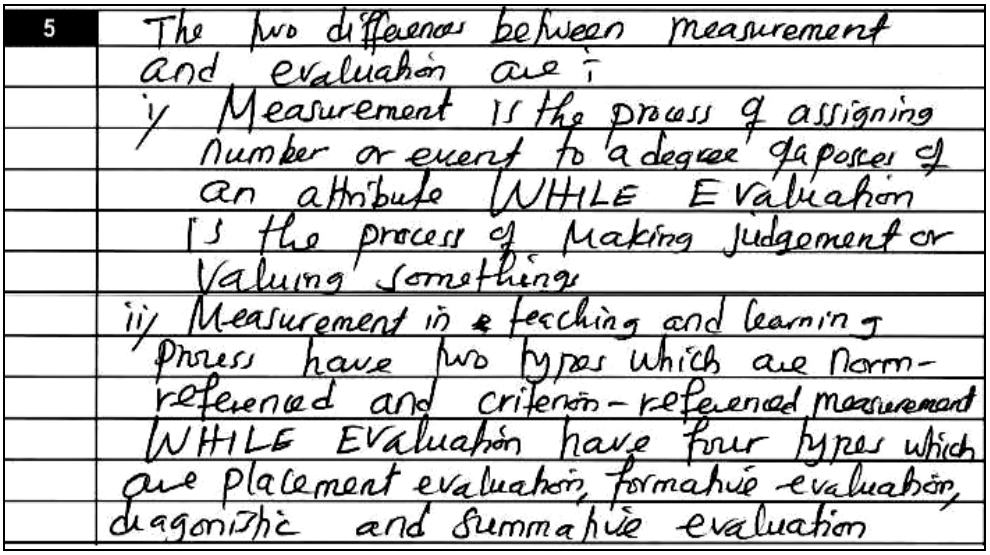


Figure 5: *Candidates' Performance on Question 5*

Figure 5 shows that the performance of the candidates on this question was good since 91.3 per cent of them passed by scoring marks above the average (2.0 to 4.0) and only 8.7 per cent failed.

Further analysis reveals that the candidates who scored from 3.0 to 4.0 marks provided the correct differences between measurement and evaluation. For example, one candidate pointed out that: *measurement is the process of assigning numerical value to show individual level of attainment while evaluation is the process of making value judgement about the worth of educational goals; measurement refers to a quantitative description that represents amount of property possessed by a student while evaluation is the process of making sound decision that relates to achievement of educational goals.* Another candidate wrote differences such as; *measurement is the process of assigning numerical value so as to*

know a certain behaviour or character while evaluation is the process of collecting, analysing and interpreting data to know if a student has attained what a teacher intended as objectives of the course, measurement is intended to analyse traits of learners that can later be evaluated while evaluation is an ongoing process to achieve certain educational goals. Such response is an indicator that, the candidates in this category demonstrated adequate knowledge on the subject matter. Extract 5.1 shows a sample of correct response from one of the candidates.


5

The two differences between measurement and evaluation are ;

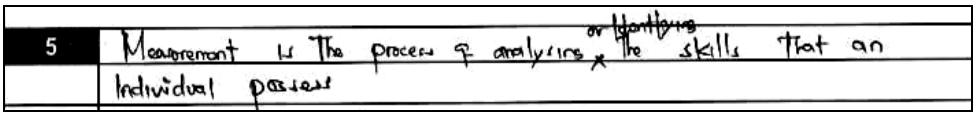
i/ Measurement is the process of assigning number or event to a degree of a possession of an attribute WHILE Evaluation is the process of Making judgement or Valuing something

ii/ Measurement in a teaching and learning process have two types which are Norm-referenced and criterion-referenced measurement WHILE Evaluation have four types which are placement evaluation, formative evaluation, diagonistic and summative evaluation

Extract 5.2: A sample of a correct response to question 5

On the other hand, the analysis indicates that the candidates who scored from 2.0 to 2.5 marks provided incomplete response while others provided only one difference out of the required four. Meanwhile, some of the candidates provided incorrect differences such as; *measurement deals with both criterion and norm reference by observing the ability of performing a specific task for comparing or without comparing with others while evaluation is overall assessment of student by solving their problems, measurement deals with scales like nominal, ordinal, interval and ratio while in evaluation forms like placement, diagnostic, formative and summative are applied*.

Furthermore, the analysis reveals that the candidates who scored from 0.0 to 1.5 marks provided irrelevant differences between the measurement and evaluation. Others provided the similarities instead of the differences such as; *both, they do measure learners' achievement in teaching and learning process through different tests and examination provided to them, all are used to solve the problem that facing teaching and learning process.* Other candidates provided the meaning of assessment instead of the differences between measurement and evaluation. These candidates perceived assessment and measurement concepts as similar terms. Extract 5.2 presents a sample of an incorrect response from one of the candidates.



Extract 5.2: A sample of an incorrect response to question 5

In Extract 5.2, the candidates provided wrong definition of educational measurement instead of the differences between measurement and evaluation.

2.1.6 Question 6: Qualities of Tests

This question intended to test the candidates' knowledge on the qualities of a good test. Candidates were required to provide two points that validate a good test.

The statistics shows that 835 (43.8%) candidates scored from 2.0 to 2.5 marks, 291 (15.3%) candidates scored 3.0 from to 4.0 and 780 (40.9%) candidates scored from 0.0 to 1.5 marks. Figure 6 summarizes the candidates' performance in this question.

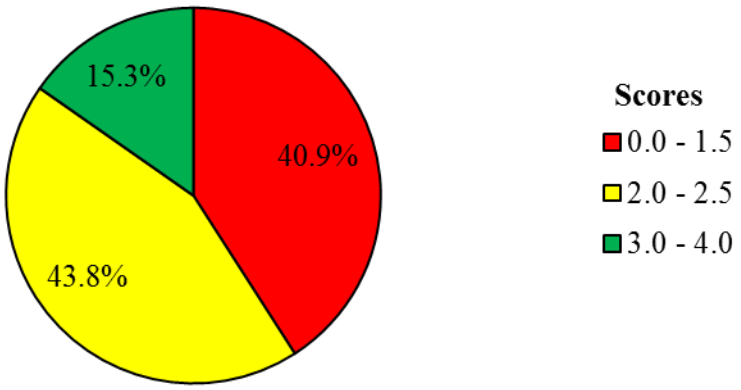
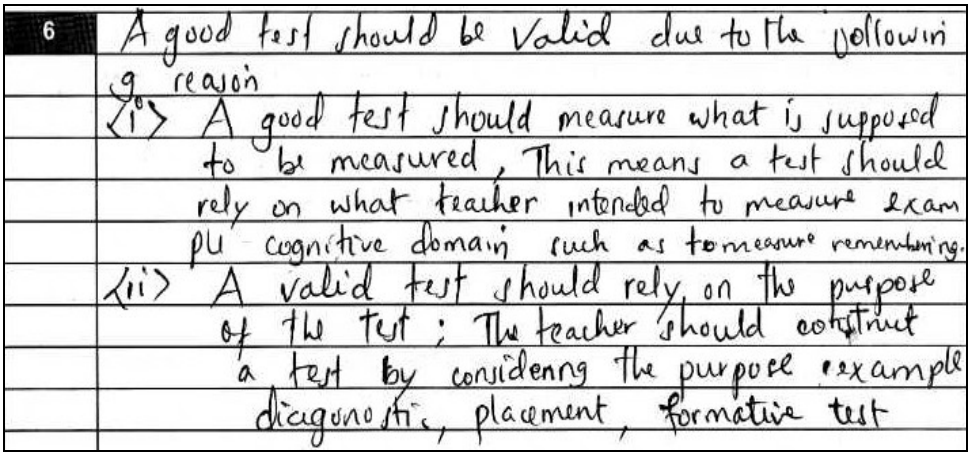


Figure 6: *Candidates' Performance in Question 6*

Figure 6 shows that the general performance of candidates was average since more than a half of them (59.1%) scored from 2.0 to 4.0 marks.

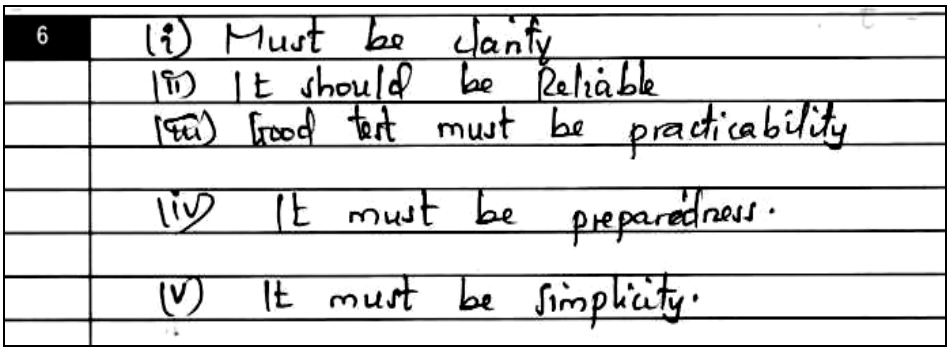
The candidates who scored from 3.0 to 4.0 marks had sufficient knowledge on the validity of test hence provided correct reasons such as; *must be valid to measure what it is intended to measure and its valid because the test should measure the specific objectives that have been covered together within specific time.* Other candidates provided reasons such as; *valid test should focus on the level of the learner being tested and should measure specific contents planned by the teacher to students; test should be valid because it ensures that the intended goals which the teacher should observe by providing the test to determine level of achievement and valid test should be relevant to the subject matter, a teacher should provide test from what have already been shared during teaching and learning process*. Extract 6.1 shows a sample of a correct response from one of the candidates.



Extract 6.1: A sample of a correct response to question 6

Moreover, the analysis indicates that candidates who scored from 2.0 to 2.5 marks correctly provided one out of two arguments that support that a good test should be valid. These candidates demonstrated an average knowledge and skills, providing the arguments which are partly correct such as; *Valid test measures what it was intended to measure as indicated in the syllabus used at that particular level of education*. Others managed to give correctly one argument out of the required two. For example, one candidate provided arguments such as; *valid test ensures the degree to which learners attained the set of learning objectives in teaching and learning process* and *a good test is said to be valid because it discourages all kind of learning.* Another candidate argued *a good test should be valid because it measures the objectives of learning outcomes and a good test should be valid because it reduces the temper of the student to answer the test*.

Furthermore, the candidates who scored from 0.0 to 1.5 marks demonstrated inadequate knowledge on the validity of test items hence providing irrelevant responses. The candidates in this category provided characteristics of a valid test such as; *valid test gives clear determination of individual performance, valid test shows learning performance of students; and valid test consider simple language* and *valid test avoid ambiguity of the sentence or question; valid test measures the understanding of the learners with an increase of learners' interest; valid test motivates learners and it does not discourage them; it is valid because the test is practical.* Extract 6.2 presents a sample of a weak response in question 6.



Extract 6.2: A sample of a weak response in question 6

In Extract 6.2, the candidate provided some qualities of a good test instead of the reasons why a good test should be valid.

2.1.7 Question 7: Educational Research

The question measured the candidates' knowledge on research approaches. Specifically, the question required the candidates to differentiate between qualitative and quantitative approaches by giving four points.

The analysis shows that 753 (39.9%) candidates scored from 0.0 to 1.5 marks, 528 (27.7%) the candidates scored from 2.0 to 2.5 marks, and 625 (32.8%) scored from 3 to 4 marks. The candidates' performance on this question is shown in Figure 7.

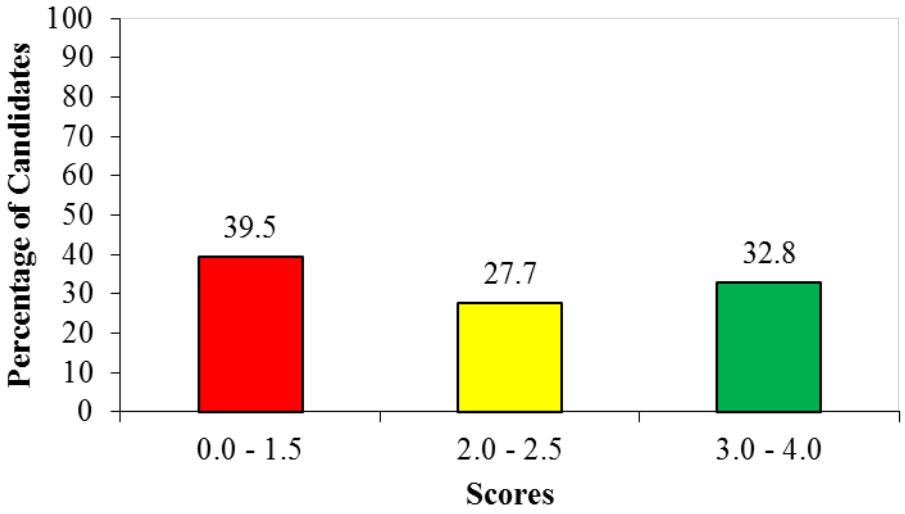
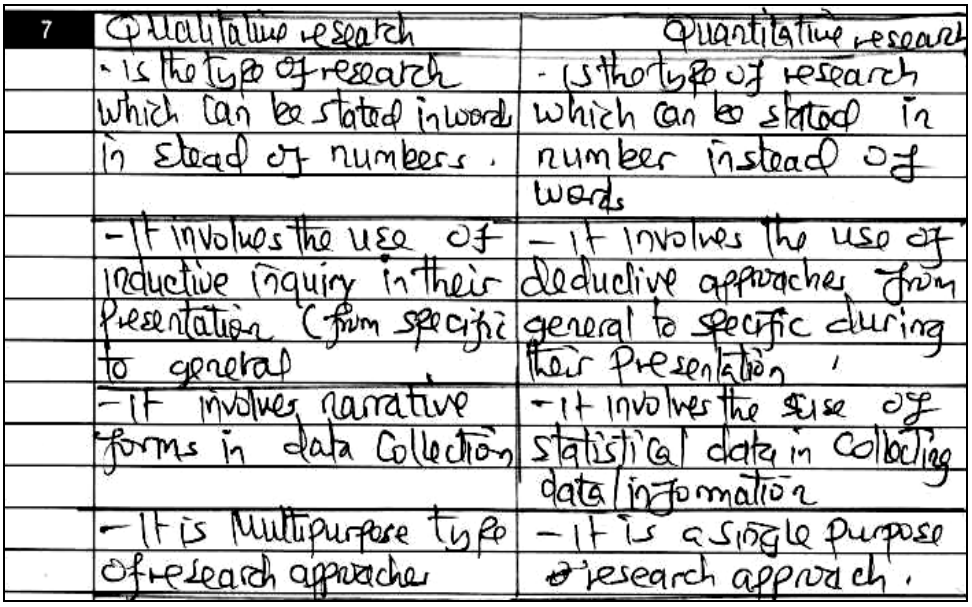


Figure 7: *Candidates' Performance on Question 7*

Figure 7 shows that the general performance of the candidates was average since 60.5 per cent of them scored from 2.0 to 4.0 marks and only 39.5 per cent scored from 0.0 to 1.5 marks.

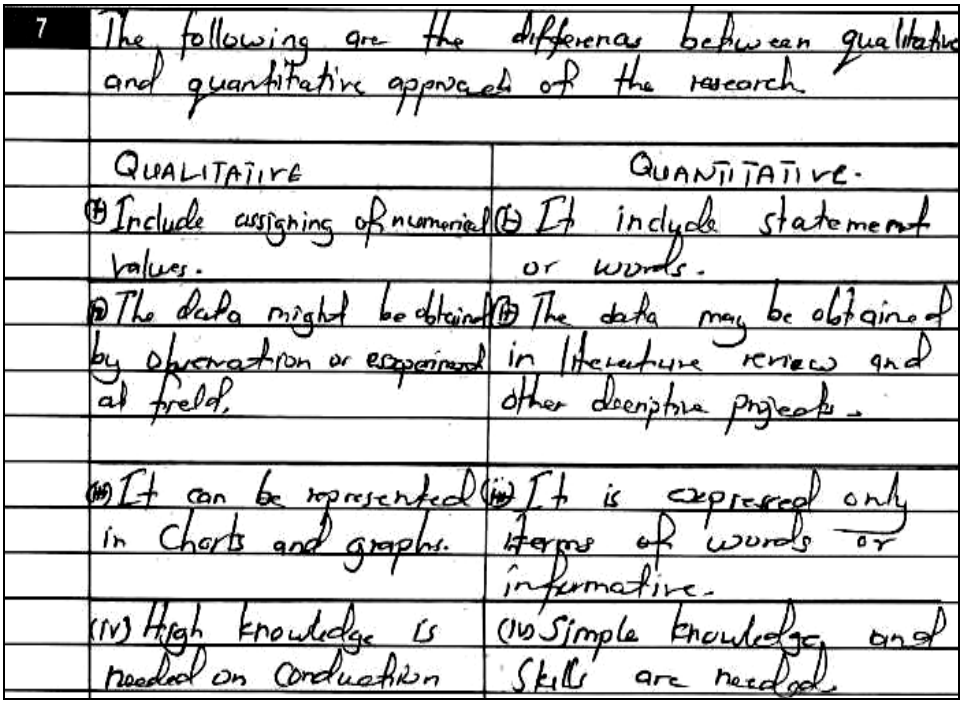
The analysis of the candidates' performance indicates that the candidates who scored from 3.0 to 4.0 marks had adequate knowledge of the difference between qualitative and quantitative research approaches. For example, one candidate argued; *qualitative is the first hand and primary source of data from the field of study and researchers are termed to be the key instrument who take more time keep eyes on the informants while quantitative approach uses free context which later the findings are to be generalized, qualitative is a process oriented approach while quantitative is product oriented as it uses statistics in analysing the data, qualitative approach uses descriptions/narratives procedures while quantitative approach statistical procedures using tables, histogram, pie chart to manipulate research variables* and *qualitative uses inductive inquiry (specific to general) while quantitative approach uses deductive method by making reasons from general to specific.* Such responses imply that the candidates understood the demand of the question. Extract 7.1 shows a sample of a correct response from one of the candidates.



Extract 7.1: A sample of a correct response to question 6

Further analysis revealed that the candidates who scored from 2.0 to 2.5 marks were able to provide two out of four differences between qualitative and quantitative research approaches. For example, one candidate provided the differences such as; *qualitative research employs inductive inquiry from specific to general reasoning while quantitative research develops information from general to specific* but failed to give other differences.

On the other hand, the candidates who scored from 0.0 to 1.5 marks failed to understand the demand of the question and demonstrated inadequate knowledge on the subject matter. For example, one candidate pointed out that; *qualitative is conducted in a laboratory while quantitative is done in a natural environment, qualitative research uses animals as a study sample while quantitative research uses human beings as study sample, qualitative research does not need more skills while quantitative research uses more skills like assessment and qualitative research involves techniques based on quality of something while quantitative research techniques based on numbers.* Extract 7.2 portrays a sample of an incorrect response from one of the candidates.


7 The following are the differences between qualitative and quantitative approach of the research.

QUALITATIVE	QUANTITATIVE.
(i) Include assigning of numerical values.	(i) It include statement or words.
(ii) The data might be obtained by observation or experiment at field.	(ii) The data may be obtained in literature review and other descriptive projects.
(iii) It can be represented in charts and graphs.	(iii) It is expressed only terms of words or informative.
(iv) High knowledge is needed on conduction	(iv) Simple knowledge and Skills are needed.

Extract 7.2: A sample of an incorrect response to question 7

In Extract 7.2, the candidate interchanged the differences between qualitative and quantitative research by writing the characteristics of qualitative research on the side of quantitative research and vice versa.

2.1.8 Question 8: Test Construction

This question intended to test the candidates' knowledge on the types of tests in assessment. Specifically, the question intended to measure the candidate's ability to identify the advantages and disadvantages of objective test in assessment.

The candidates' performance shows that, 844 (44.3%) candidates scored 3.0 to 4.0 marks, 611 (32.0%) candidates scored from 2.0 to 2.5 marks, and 451 (23.7 %) candidates scored from 0.0 to 1.5 marks. The candidate's performance on this question is shown in Figure 8.

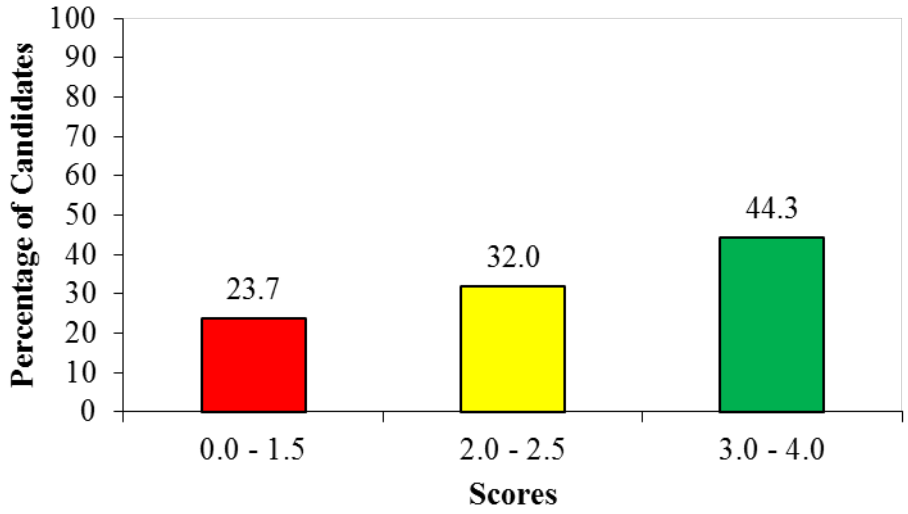
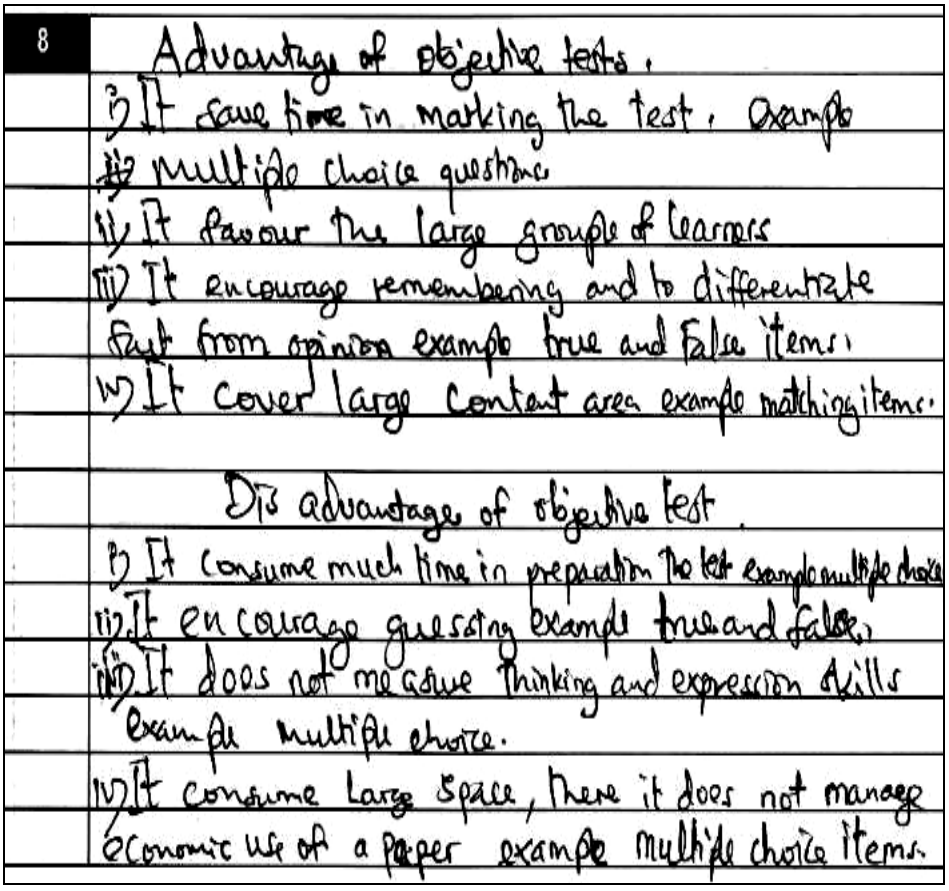


Figure 8: *Candidates' Performance in Question 8*

Figure 8 shows that the general performance of candidates was good since 76.3 per cent of them passed and 23.7 per cent failed.

The candidates who scored 3.0 to 4.0 marks demonstrated good knowledge on the advantages and disadvantages of test thus provided correct answers. For example, one candidate pointed out that *objective tests allow students to be attentive to the study, marking exercises may result to uniform results due objective items, most students take less time to answer the question and it allows coverage of large domain of learning.* On the side of disadvantages, the candidate provided correct answers such as; *objective test is less effective in testing students' ability to organize ideas in details, objective test tends to measure partial knowledge rather than broad conceptual understanding, some students can take an opportunity for attempting to guess* and *it consists of cost in paper and manpower*. Extract 8.1 is a sample of response from a candidate who correctly provided the advantages and disadvantages of objective tests.

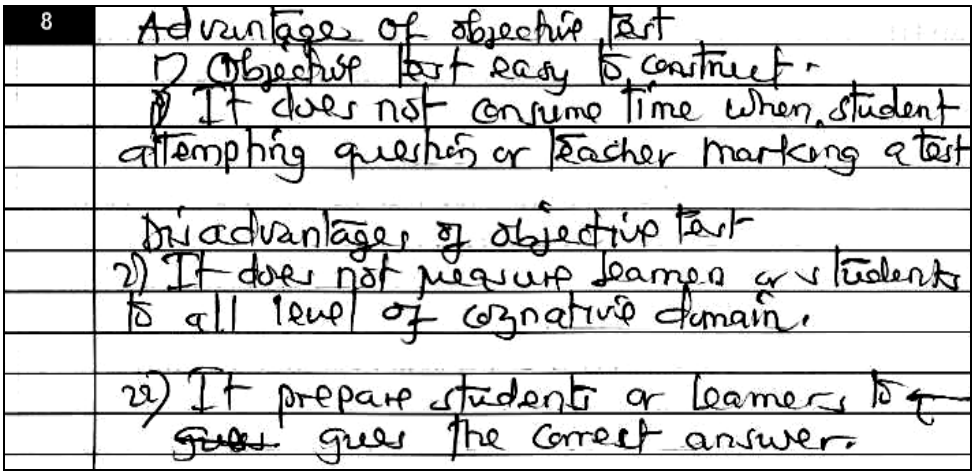


Extract 8.1: A sample of a correct response to question 8

Further analysis shows that the candidates who scored from 2 to 2.5 marks provided only two advantages and disadvantages out of the required four hence failed to score full marks.

On the other hand, the candidates who scored from 0.0 to 1.5 failed to provide relevant advantages and disadvantages of objective tests. For example, one candidate mentioned advantages and disadvantages such as; *it gives insight of test activity, it defines scores and criteria for test, it addresses the levels of the testing and it helps to know the test requirement. And disadvantages such as; it consumes a lot of time in making items, it may lead to tendency of cheating and guessing, it creates boundaries between slow learners and teachers* and *it may lead into classes between learners.* Looking at these two sides of responses, it is evident that a

candidate scored only the first and the second points on the disadvantages side. Extract 8.2 illustrates a sample of an incorrect response from one of the candidates.


8
Advantages of objective test
i) Objective test easy to construct.
ii) It does not consume time when student attempting question or teacher marking a test
Disadvantages of objective test
2) It does not measure learners or students to all level of cognative domain.
22) It prepare students or learners to guess guess the correct answer.

Extract 8.2: A sample of a weak response to question 8

In Extract 8.2, the candidates provided incorrect responses by interchanging the advantages with disadvantages of objective test.

2.1.9 Question 9: Educational Research

The question intended to test candidates' knowledge on observation method as one of the methods of data collection in research. Specifically, the question intended to measure the candidate's ability to identify reasons of using observation method in collecting information for investigation.

The candidates' performance in this question shows that, 1,338 (70.2%) candidates scored from 3 to 4 marks, 346 (18.2%) candidates scored from 2.0 to 2.5 marks and 222 (11.6%) candidates scored from 0.0 to 1.5 marks. The candidates' performance in this question is summarized in Figure 9.

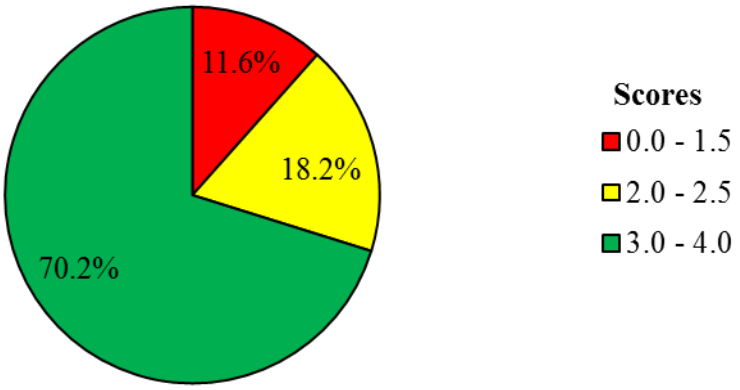
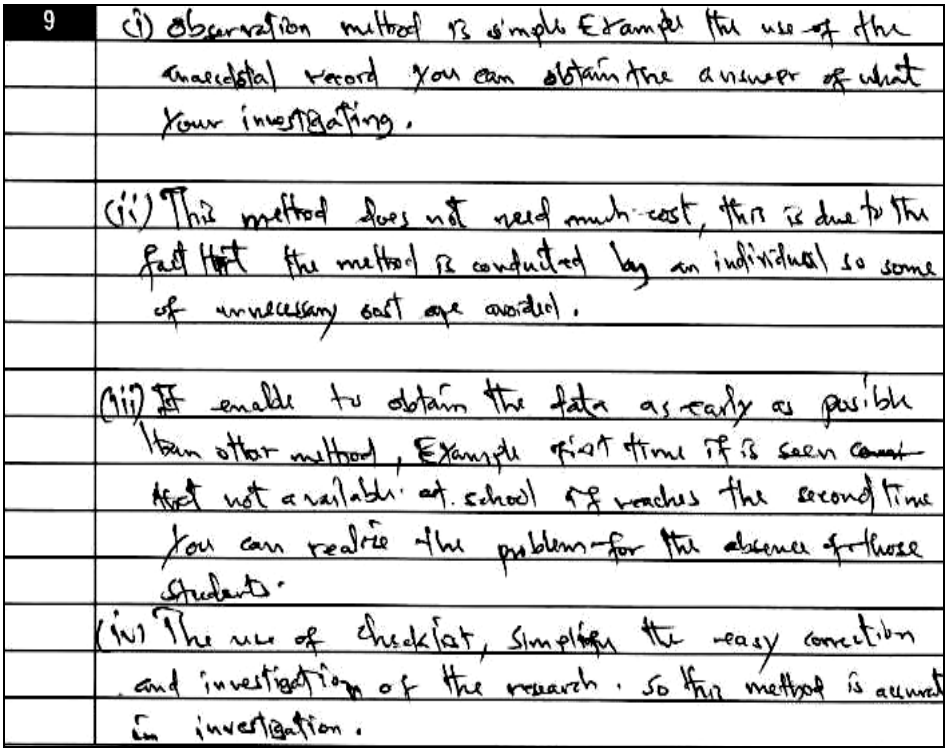


Figure 9: *Candidates' Performance in Question 9*

Figure 9 shows that the general performance of candidates in this question was good since 88.4 per cent of the candidates scored from 2.0 to 4.0 marks.

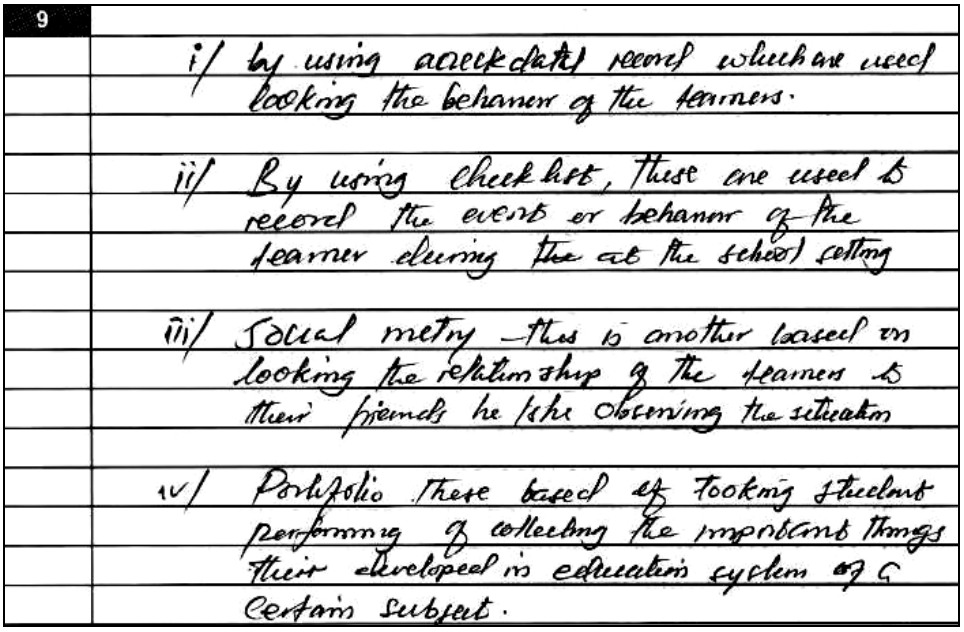
The candidates who scored from 3 to 4 marks demonstrated adequate knowledge of reasons for using observation method in collecting information for investigation. For example, one candidate argued: *it helps in collecting valuable and first-hand information using techniques like anecdotal records, it helps to collect information in a natural setting and in different situations, observation helps provide true and accurate information thus reduce subjectivity or personal influence or opinions and observation helps to collect data about human behaviours like why girl's absenteeism at school.* Others pointed out the reasons such as; *it ensures efficiency and effectiveness of information since there is no leakage of information, it involves sensory organs in obtaining information such as by seeing, hearing, skin for experiencing the weather condition to the area under observation, observation provide timely feedback compared to other methods of investigation* and *takes less time because only few things are to be observed using the checklist.* Extract 9.1 is a sample of response from a candidates' correct response to the question.



Extract 9.1: A sample of a good response to question 9

Further analysis reveals that the candidates who scored from 2 to 2.5 marks provided two reasons of using observation method in collecting information for investigation but mixed up correct with incorrect reasons. For instance, one candidate provided reasons such as; *observation can be used to learn quickly the behaviour of students because it deals with observable events only, it is easy to predict the behaviour. For example, the dean of school will be able to predict what will happen next to form two girls.* Other candidates in this category provided incorrect reasons such as; *helps the observer to make tough decision for example, to punish those found being absent without good reasons so as to stop that bad behaviour and observation method does not involve the presence of two sides as it is for interview because an observer have ability may collect information to know what and where the problem is without being known by students. the use of direct reasoning; practical issues; journal; conference publications; and dissertations.* These examples verify that the candidates in this category had partial knowledge of the reasons for using observation method in collecting information for investigation.

Further analysis indicates that the candidates who scored from 0.0 to 1.5 marks misinterpreted the question hence writing observation techniques instead of reasons for using observation method in collecting information for investigation. One of the candidates argued that *it makes the learners to be active, it makes students to have critical thinking, to makes the learners to be interested in studies and it helps promote the creativity and innovation to students.* Others provided reasons as*; it is a participatory method hence encourages students' participation in the field, it allows expression of students' opinion and ideas to the concept or lesson, observation helps to break the monotony of classroom to students and it makes the learner to have long term memory thus it will be difficult to forget the learnt materials*. Additionally, others provided the things to consider when conducting anecdote observation record as; *name of the class where a student is, names of the student observed, event observed and comment* and *name of the observer who is obviously the dean or a teacher.* Extract 9.2 is a sample of an incorrect response from one of the candidates.



Extract 9.2: A sample of an incorrect response to question 9

In Extract 9.2, the candidate provided the techniques for observation and tools for assessment instead of the reasons for using observation method in collecting information for investigation.

2.1.10 Question 10: Educational Research

The question intended to test the candidates' knowledge on the application of cyclic type of research. Specifically, the question required the candidates to explain four applications of cyclic type of research.

The analysis indicates that 662 (34.7%) candidates scored from 3.0 to 4.0 marks, 77 (4.0%) candidates scored from 2.0 to 2.5 and 1,167 (61.3%) candidates scored from 0.0 to 1.5 marks. The candidate's performance on this question is as shown in Figure 10.

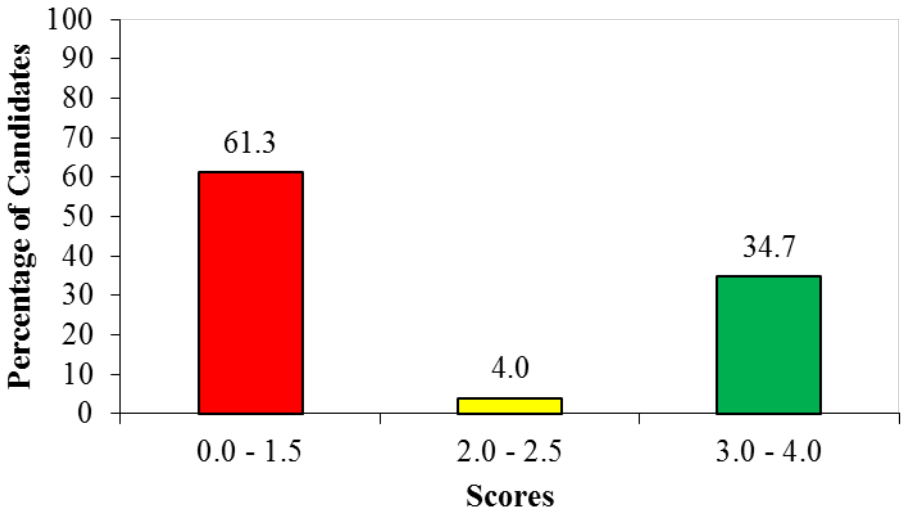


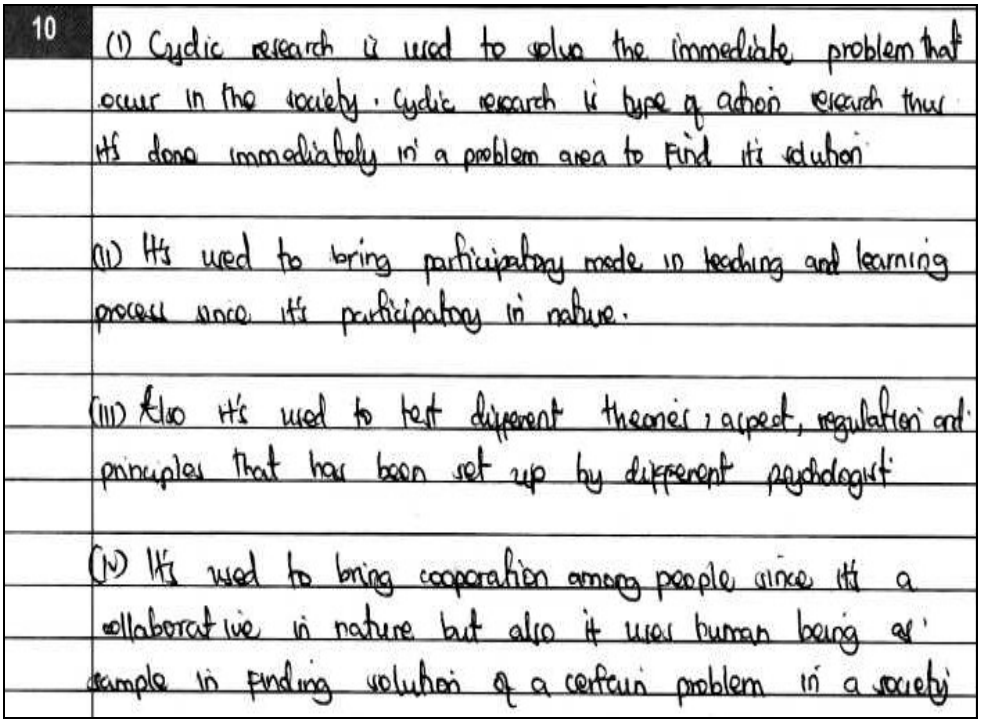
Figure 10: *Candidates' Performance in Question 10*

Figure 10 suggests that, the general performance of the candidates was weak since 61.3 per cent of them scored from 0.0 to 1.5 marks, and only 38.7 per cent scored from 2.0 to 4.0 marks.

The candidates who scored from 2.0 to 2.5 marks mixed the correct and incorrect applications of cyclic type of research. The candidates managed to provide two out of four applications as per question requirement such as; *cyclic research is applied to improve the existing ideas of formulating new theories and cyclic research also helps to find solution on the immediate problem and cyclic can be taken directly to situation.* Other candidates

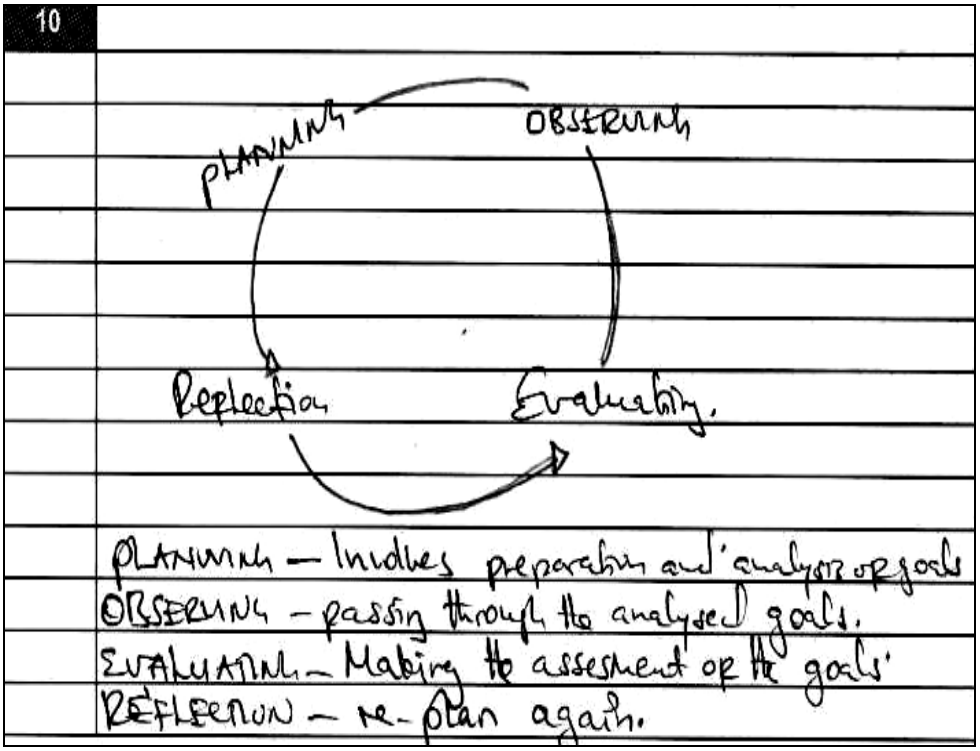
wrote correct point such as*; cyclic research is collaborative: -involves working together as a team in obtaining data of certain issues and cyclic involves participation of individuals in finding data and evaluate together.* Another group of candidates came up with incorrect responses such as*; it uses human being as a study sample and it has no specific context for collecting data. Other candidates in this category wrote incorrect points such as; in education at school, in healthy centres to address the patience problems, in economic issues in finding ways to overcome inflation rate and at home or family to solve the behaviour of children.*

Furthermore, the analysis suggests that the candidates who scored from 3.0 to 4.0 marks understood the question requirement hence they provided relevant applications of cyclic type of research. These candidates provided responses such as; *it involves direct participation in an endless work of research because problem is existing in different way, it is used to solve educational problem that the program of learning encounter, it develops the existing theories and add up the available body of knowledge, it can be used to make comparison between the existing theoretical phenomenon* and *the cyclic used to test the research question or hypothesis.* Others came up with applications such as; *the use of cyclic research helps educational professionals, teachers, and administrators make sound decision in the public and local schools, helps to implement ideas into action as it is a branch of action research, helps to make evaluation in every stage during research process and to enable the re-plan for next action if the previous plan failed to solve the current problem under investigation.* These responses suggest that the candidates in this category had sufficient knowledge on the applications of cyclic type of research. Extract 10.1 presents a sample of correct response from one of the candidates.



Extract 10.1: A sample of a correct response to question 10

On the other hand, data analysis shows that candidates who scored from 0.0 to 1.5 marks misinterpreted the question as they provided some of the steps of cyclic action research instead of the applications of cyclic type of research such as; *problem identification, finding the fact/ reconnaissance, planning activities* and *take several actions until the problems are solved.* Addition to that, there were candidates who provided incorrect responses such as*; it shows relationship between stages of conducting a research. Since it is in a cyclic form, it is systematic since stages are well organized that means one stage depend on another and help to review the literature and helps analysing and interpreting the data.* Extract 10.2 illustrates a sample of the incorrect response to question 10.



Extract 10.2: A sample of an incorrect response to question 10

In Extract 10.2, the candidate provided the steps of cyclic research instead of the applications of cyclic type of research.

2.2 SECTION B: ESSAY QUESTIONS

This section had four (4) structured questions, which carried 15 marks each, making a total of sixty (60) marks. Candidates were required to answer all questions in this section. The questions were set from four (4) topics which were: *Analysis and Interpretation of Test Results, Educational Research, Educational measurement,* and *Assessing Achievement.* The candidates' response analysis for each question is as follows:

2.2.1 Question 11: Analysis and Interpretations of Test Results

This question had two parts which were asked as follows:
A Biology teacher obtained the following results from students' weekly test. Study carefully the data in the table given and answer the questions that follow.

Students' name	*A*	*B*	*C*	*D*	*E*	*F*	*G*	*H*	*I*	*J*
Students' score	*20*	*5*	*13*	*7*	*18*	*4*	*12*	*10*	*17*	*14*

(a) Determine mean and standard deviation.

(b) If the teacher standardizes the scores by adding 10 marks to every score, how can you estimate the new mean, standard deviation and the range?

(c) Comment on the mean, standard deviation and the range obtained in part (b).

A total of 1,906 (100%) candidates attempted the question where 610 (32.0%) candidates scored from 0.0 to 5.5 marks, 939 (49.3%) candidates scored from 6 to 10 marks and the other 377 (18.7%) candidates scored from 10.5 to 15.0 marks. The candidate's performance on this question is as shown in Figure 11.

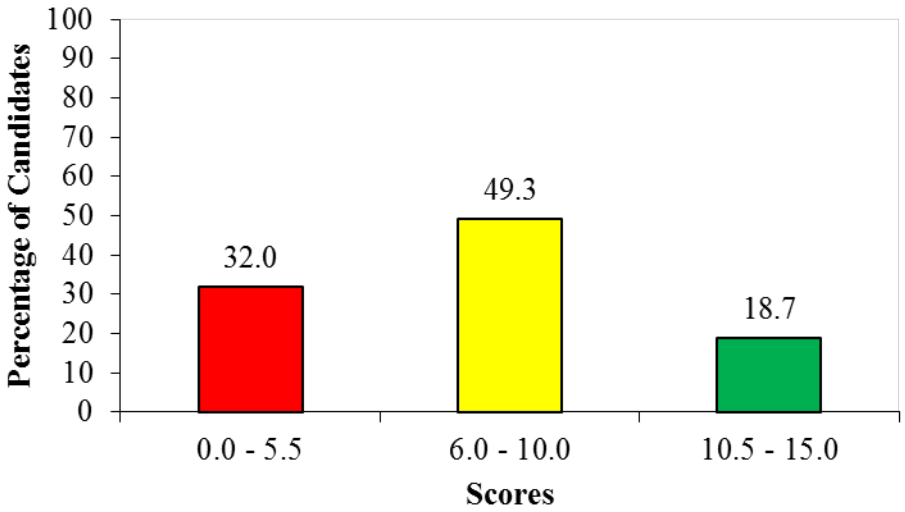


Figure 11*: Candidates' Performance in Question 11*

Figure 11 shows that the general performance of candidates on this question was average since 68 per cent of the candidates scored from 6.0 to 15.0 marks.

The data analysis on the candidates' performance suggests that candidates who had weak performance failed to answer all the three parts of the question. Some candidates answered only part (a) which had an influence on part (b) and (c). The other candidates who scored zero mark failed to answer any part of the question. These candidates were unable to apply the appropriate formulae in computing the mean and the standard deviation; to estimate the new mean, standard deviation and range; and to comment on the mean, standard deviation and range in part (b). For instance, one candidate who scored zero mark failed to compute the mean that could lead to correct value of standard deviation, interpret well the instruction of part (b) that could result to a correct comment on part (c) of the question. It is evident that they lacked sufficient knowledge and skills on items that required good mathematical background. Extract 11.1 shows a sample of an incorrect response from one of the candidates.

11 Cont.

(b) New mean, standard deviation is obtained by T-score

student name	score	Z-score $= \frac{X-\bar{X}}{SD}$	T-score $= 10Z+50$
~~Student score~~ A	20	$(20-10)/5.9 = 1.69$	66.9
D	5	$(5-10)/5.9 = -0.85$	41.5
C	13	$(13-10)/5.9 = 0.51$	55.1
D	7	$(7-10)/5.9 = -0.51$	44.9
E	18	$(18-10)/5.9 = 1.36$	63.6
F	4	$(4-10)/5.9 = -1.02$	39.8
G	12	$(12-10)/5.9 = 0.34$	53.4
H	10	$(10-10)/5.9 = 0$	50
I	17	$(17-10)/5.9 = 1.19$	61.9
J	14	$(14-10)/5.9 = 0.68$	56.8
			533.9

New mean $= \frac{\Sigma T\text{score}}{N}$

new mean $= \frac{533.9}{10} = 53.39$

New standard deviation $= \frac{\Sigma(x-\bar{x})^2}{N}$

new SD $= 184.2 + 161.37 + 2.92 + 72.08 + 104.24 + 184.68 + 11 + 11.49 + 72.42 + 11.62 +$

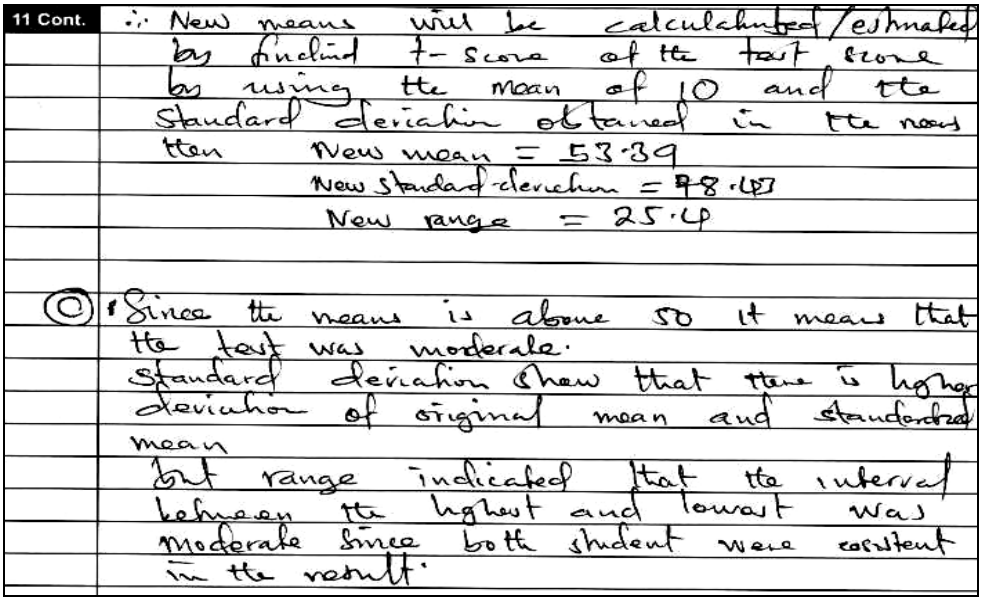
new SD $= \frac{784.94}{10} = 78.434$

The new standard deviation $= 78.434$

new range = Highest score − lowest score

range $= 66.9 - 41.5$

New range $= 25.4$



Extract 11.1: A sample of an incorrect response to question 1

In Extract 11.1, the candidate incorrectly computed the mean in part (a); hence wrongly obtained results in part (b) and wrong comment in part (c).

Further analysis shows that, candidates who scored from 6.0 to 10.0 marks were able to correctly compute part (a) and some parts of (b) but they were unable to comment on the results obtained in part (b). Also, some candidates prepared incorrect table; hence got incorrect standard deviation. For example, one candidate incorrectly estimated new mean, standard deviation and range as; mean of 12 instead of 22 from the total of 220 marks divide by 10 students; 15.22 new standard deviation by taking 5.22 plus 10 marks instead of the former value of standard deviation which is 5.22 because 10 marks was added to every score; and the range of 6 instead of 16 in part (b) of the question respectively. These responses prove that the candidate failed to follow the instruction.

On the other hand, candidates who scored from 10.5 to 15 marks answered correctly all the three parts of the question by using the data given from the table and proper application of different formulae. The candidates correctly calculated the mean and standard deviation in part (a); the new mean, new standard deviation, and new range in part (b) and they were also able to

comment on the results obtained in part (b) to part (c). Extract 11.2 illustrates the sample of a correct response from one of the candidates.

11

Given the table of Biology Test results.
let students' score be x

$N = 10$ and $\bar{x} = 12$

Students' Name	x	$x - \bar{x}$	$(x - \bar{x})^2$
A	20	8	64
B	5	-7	49
C	13	1	1
D	7	-5	25
E	18	6	36
F	4	-8	64
G	12	0	0
H	10	-2	4
I	17	5	25
J	14	2	4
	$\Sigma x = 120$		$\Sigma(x-\bar{x}) = 272$

(a) mean $(\bar{x}) = \frac{\Sigma x}{N} = \frac{120}{10} = 12$

The mean $(\bar{x})$ is 12

Standard deviation $S.D = \sqrt{\frac{\Sigma (x-\bar{x})^2}{N}}$

$S.D = \sqrt{\frac{272}{10}}$

$S.D = 5.21536 \simeq 5.2$

Range $= 20 - 4 = 16$

11 Cont.

∴ The mean is 12 and the standard deviation is 5.2.

(b)

Table. $N = 10$

Students' name	x	$x - \bar{x}$	$(x-\bar{x})^2$
A	30	8	64
B	15	-7	49
C	23	1	1
D	17	-5	25
E	28	6	36
F	14	-8	64
G	22	0	0
H	20	-2	4
I	27	5	25
J	24	2	4
	$\Sigma x = 220$		$\Sigma = 272$

$$\text{Mean } (\bar{x}) = \frac{\Sigma x}{N} = \frac{220}{10} = 22$$

$$\text{Standard deviation } S.D = \sqrt{\frac{\Sigma (x-\bar{x})^2}{N}}$$

$$= \sqrt{\frac{272}{10}}$$

$$= 5.21536 \simeq 5.2$$

Range = highest score − Lowest score
= 30 − 14 = 16

11 Cont.

∴ The mean is 22, the standard deviation is 5.2 and the range is 16

(C) - The mean obtained in part (b) is affected by the addition of the 10 score in every actual score to increase by 10 from 12 to 22.

- Standard deviation and the range obtained in part (b) above does not affected by the addition of the 10 score in every actual score hence they remain constant
Standard deviation S.D = 5.2 and the Range = 16.

Extract 11.2: A sample of a correct response to question 11

2.2.2 Question 12: Educational Research

The question intended to assess the candidates' knowledge on action research. Specifically, the question required the candidates to explain five issues to consider when planning for an action research.

A total of 1,906 (100%) candidates attempted the question where 750 (39.4%) candidates scored from 10.5 to 15 marks, 399 (20.9%) candidates scored from 6.0 to 10.0 marks and the other 757 (39.7%) candidates scored from 0.0 to 5.5 marks. The candidate's performance on this question is shown in Figure 12.

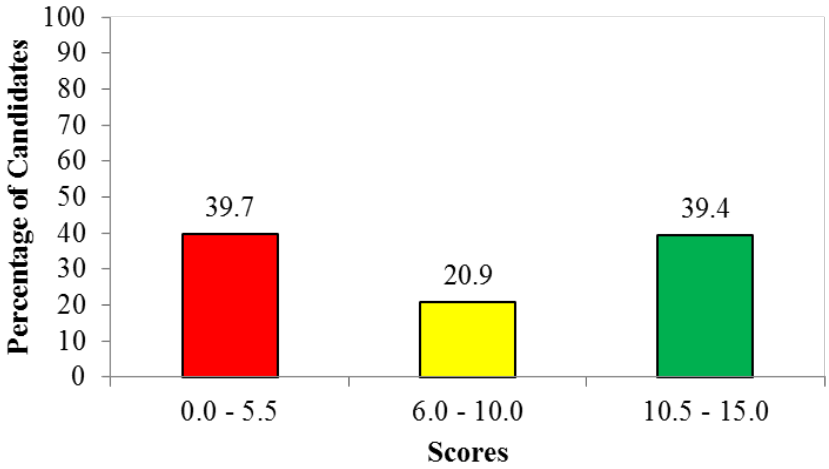


Figure 12: *Candidates' Performance in Question 12*

Figure 12 indicates that the general performance of the candidates on this question was average since 60.3 per cent of the candidates scored from 6.0 to 15.0 marks and 39.7 per cent scored below the average marks (0.0 - 5.5).

The analysis of the candidates' performance shows that the candidates who scored from 10.5 to 15.0 marks managed to provided correctly the five issues to consider when planning for action research such as; *identifying the research problem, formulating the hypothesis or stating the research questions, establishment of study sample or sample designs, develops the data collection process, analysing the collected data and interpret the information* and *report writing.* Extract 12.1 shows a sample of a good response from one of the candidates.

12

Action research is a type of educational research that aims at solving immediate problems facing the society or school. Action research research involves the use of theories in solving problems. The followings are issues to be considered when planning an action research;

Identification of the problem; In conducting an action research the researcher should firstly identify the problem to be researched and that can be through practical issue and personal experiences. The first thing to be considered is the research problem.

Formulation of hypothesis; Hypothesis are tentative answers that can sometimes be true or false. In conducting an action research a researcher should formulate hypothesis which can be either null hypothesis or alternative hypothesis.

Data collection; A researcher should have a variety of methods that he/she is going to use in the collecting of data to be used in the research process. He/she should also have a sample from where data could be collected. Example A researcher can use Interview, Observation, questionnaire and even focused group discussion.

Analysis of the findings / data; After the data collection process the next plan is to analyze the data that has been collected from the field by the researcher. In analysing the research finding there is where the researcher will be able to determine the effectiveness of the methods that were used in collecting data.

Report writting; This is the final stage in the plan where the researcher write about what happened in the field. He collect all that was gathered and put it together. In report writting the researcher should use past tense since he/she explains about what took place in the field.

Extract 12.1: A sample of a correct response to question 12

In addition, analysis shows that candidates who scored from 6.0 to 10.0 marks provided less than five correct issues to consider when planning for action research such as; *identification, research question or hypothesis formulation, designing tools or experiments, analysis of data* and *drawing conclusion*. Some candidates mixed up some steps of writing research report and the issues that should be considered when planning for action research such as: *problem identification, hypothesis formulation, reviewing the literature, data collection, conclusion and recommendation.* The third and fourth points were related to research proposal and not issues to be considered when planning for an action research.

Furthermore, the candidates who scored from 0.0 to 5.5 marks on this question failed to identify and explain properly the five issues to consider when planning for action research. Most of candidates in this category misinterpreted the question by elaborating issues which were not related to the requirement of the question such as; *time, budget, data* and *area.* These candidates provided the components to consider when writing research proposal instead of issues to consider when planning for action research. Extract 12.2 shows a sample of an incorrect response to question12.

12	Research, refers to the process of collecting, analysing recording and interpreting data based on different problems. but research are divided into three types which are Basic research, applied research and action research. Action research is the type of research which data collected through practice and experience. The followings are the issue that should be conside in planning actionnes earch are :- Experiment and practice, if the teachers conduct experiment and practice it make studes to to involve analysis of thing which helps to get new knowledge and solution of different problem which make them as action research Through assesment, due to the conduction of assessment to the students it help a teacher to be planned for action research because when conduct assessment it know the different ideas of the learners so its ~~easy~~ easily to plan action research. Through debate and Meeting, through debate process conducted the action research takes place because when debate conducted it based on the student or learners to practice by providing theose point about different issue so help to plan action research through debate. Through survey, when student for picknick excion it make them to understand some thing direct by observing so it helps a teacher to make action research because the data are collected and practiced so its get the
12 Cont.	correct information about it. and acts as the one of the plan for action research. Generally the action research are conducted for the purpose of practice, for getting rely knowledge and understanding.

Extract 12.2: A sample of an incorrect response to question 12

In Extract 12.2, the candidate incorrectly defined the concept of action research and provided data collection techniques instead of issues to consider when planning for action research.

2.2.3 Question 13: Educational Measurement

The question intended to measure the candidates' knowledge on criterion-referenced measurement. Specifically, the question required the candidates to use criterion-referenced measurement to evaluate the achievement of learning by giving six points.

A total of 1,906 (100%) candidates attempted the question whereby 351 (18.4) candidates scored from 10.5 to 15 marks, 560 (29.4%) candidates scored from 6 to 10 marks and 995 (52.2%) candidates scored from 0 to 5.5 marks. The candidate's performances are as shown in Figure 13.

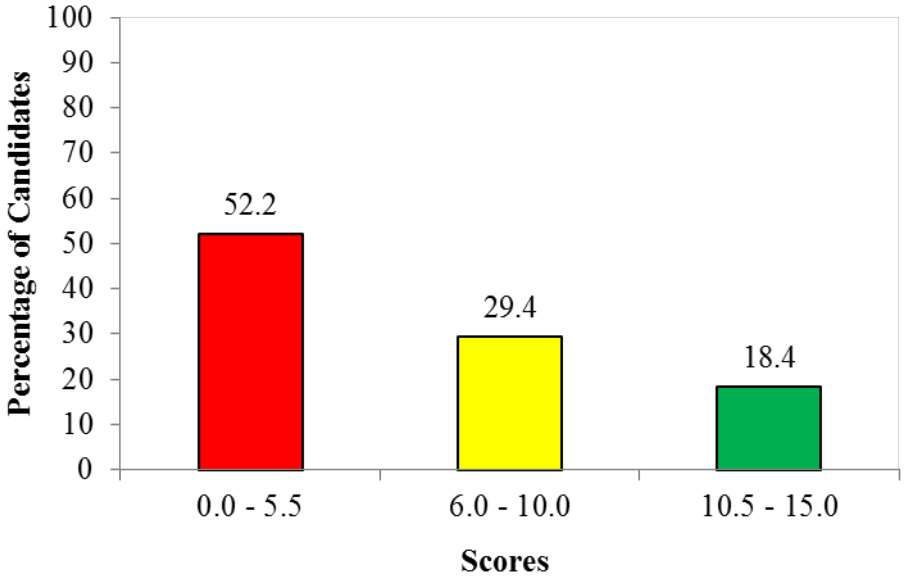


Figure 13: *Candidates' Performance in Question 13*

Figure 13 indicates that the general performance of the candidates in this question was average since 47.8 per cent of the candidates scored from 6.0 to 15.0 marks.

The analysis of candidates' performance shows that, the candidates who scored from 10.5 to 15.0 marks were able to explain how to use criterion-referenced measurement to evaluate the achievement of learning. Moreover, these candidates managed to provide relevant introduction and conclusion. The candidates in this category portrayed good abilities in

elaborating criterion-referenced measurement as one of the types of measurement in which the results' interpretation is based on the skills performance of an individual in the given tasks. The candidates explained the use of criterion- referenced measurement to evaluate achievement of leaning by giving argument such as; *describing what a learner is able to do without making reference to other students in the same class, is used for placement decision, to determine the magnitude and quality of work performed by individuals, to assess individual progress during teaching and learning as a formative kind of evaluation* and *CRM is more specifically for vocational skills where the individual will be able to demonstrate the mastery of skills because practical activities are so many.* Extract 13.1 shows a sample of a good response from one of the candidates.

13

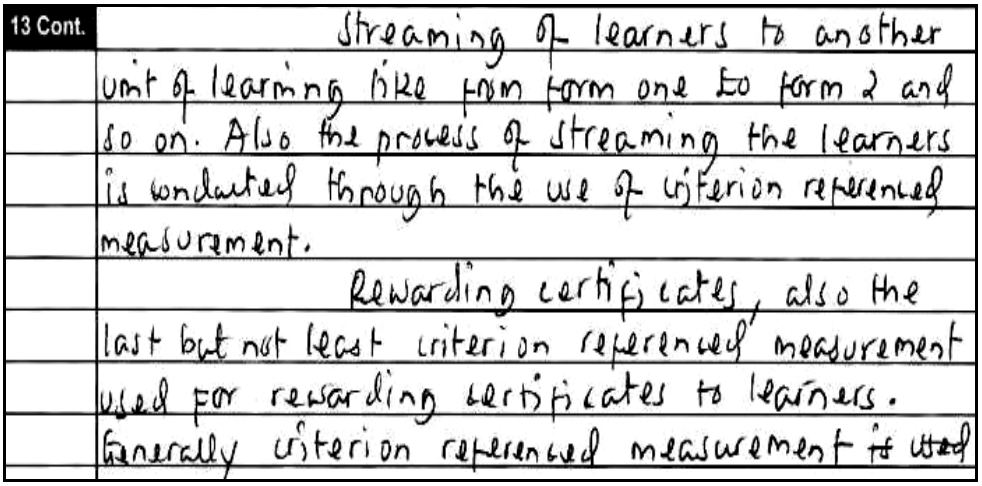
Measurement is the process of determining the abilities, attitudes and skills possessed by an individual. Criterion referenced measurement is the type of educational measurement in which the learners achievement or performance is determined through the use of predetermined goals or set of standards. In evaluating the learning measurement by the use of criterion referenced measurement the following ways should be followed :-

checking the ability of the learner on explaining concepts correctly as it is required, as the criterion referenced measurement requires that the performance of an individual is supposed to be compared by the set standards or predetermined objectives and not with another student's performance

checking the total performance of a learner if it has met the set standards, also the learners performeat ance has to be checked if it has met the set standards and then rating each learner the value they deserve basing on set standards.

Ability of a learner to do the test or examination alone, also in evaluation of learning measurement by using criterion reference measurement a teacher have to look on the ability of a learner to perform the task alone.

selection of learners for higher education levels, the criterion referenced measurement used to select the learners for higher educational levels like universities



Extract 13.1: A sample of a correct to question 13

Furthermore, the candidates who scored from 6.0 to 10.0 marks explained some of the uses of criterion-referenced measurement in evaluating the achievement of learning such as; *the criterion-referenced measurement helps for selecting students who are skilled to join for next level of education program, helps to provide feedback to educational stakeholders to show what skills have been attained by individuals in the program, helps grading students' scores using the scores obtained in a given tasks and helps to make comparisons among students themselves so as to determine those who fit in a specific skill according to the set of criteria.* Although these responses are correct, the candidates failed to link them with the requirement of the question; hence could not score full marks.

On the other hand, the candidates who scored from 0.0 to 5.5 misinterpreted the question hence provided instruments for assessing learners' achievement and observational techniques as; *observation, portfolio checklist, questionnaires test and examination, anecdotal records and interview*. Other candidates mentioned some concepts related to educational research which were not part of the questions such as; *table of specification, marking scheme, measures of central tendency, measures of variability/dispersion, the use of interval scale and the use of standard deviation*. Extract 13.2 illustrates a sample of an incorrect response from one of the candidates.

13

Measurement :- Is the process of assessing students performance in the teaching and learning process. There are so many ways of evaluating in criterion - referenced measurement. The following are the ways on how to perform a criterion - referenced measurement.

Place to be conducted :- it is conducted anywhere for the purpose of solving daily problems. In evaluating we consider the place since it should be free from physical conditions which will enable to ~~obtaine~~ obtain clear solutions from the problem.

Test or examination :- through provision of the test or various examinations to the students it can help to diagnose learners problems in the teaching and learning process hence it can be easily evaluated.

Table of specification is commonly used :- when evaluating learning measurement by criterion we normally use table of specification which will help in easy scoring of the student results hence evaluation process can be easily and evaluated effectively.

The questions should be varied and tricky :- in evaluating learners by criterion-measurement the questions should be difficult and tricky so as to measure the degree of the learners in identifying the problem and hence mantain effective evaluation.

It is made by teachers and used for the purpose of solving problems :- in criterion-referenced measurement the main purpose is solving various problems hence easy to be evaluated in teaching and learning process.

Therefore :- measurement help for various purpose in teaching and learning include evaluation. Hence, it should be well evaluated so as to mantain educational standards in teaching and learning properss.

Extract 13.2: A sample of an incorrect response to question 13

In Extract 13.2, the candidate provided incorrect ways of evaluating criterion-referenced measurement.

2.2.4 Question 14: Assessing Achievement

This question aimed to assess the candidates' knowledge of assessment. Specifically, the question required the candidates to analyse six key areas that should be assessed during the process of teaching and learning.

This question was poorly performed since only 43 (2.3%) out of 1,906 (100%) candidates scored from 10.5 to 15 marks, 141 (7.4%) candidates scored from 6.0 to 10.0 marks and 1,722 (90.3%) candidates scored from 0.0 to 5.5 marks. The candidate's performance in this question is as shown in Figure 14.

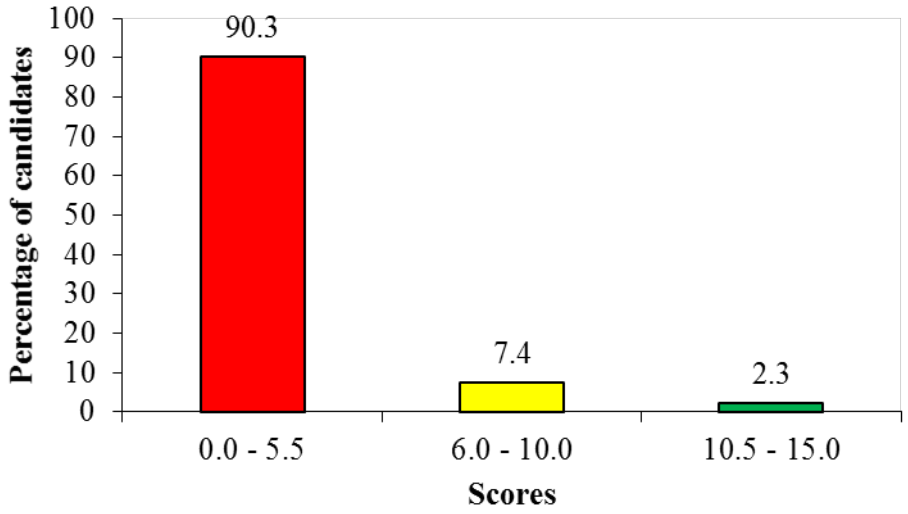


Figure 14: *Candidates' Performance in Question 14*

The statistics in Figure 14 shows that the general performance of the candidates in this question was weak since 90.3 per cent of candidates scored from 0.0 to 5.5 marks and only 9.7 per cent scored from 6 to 15 marks.

Further the analysis on candidate's performance shows that the candidates who had weak performance misinterpreted the question. They analysed

incorrect key areas of assessment such as; *knowledge, comprehension, analysis, application, synthesis and evaluation*. Other candidates confused the areas of assessment with the forms or types of assessment such as; *placement evaluation, formative assessment, diagnostic assessment, summative assessment*. Moreover, other candidates highlighted the key areas without explaining them. For example, some candidates provided points such as; *areas of strengths and weakness of students, preparation of teaching aids, selection of teaching methods, students' progress report, individual problems that face the learners and students' personality*. This shows that many of the candidates in this category had inadequate knowledge of the subject matter. Extract 14.2 shows a sample of an incorrect response from one of the candidates.

14

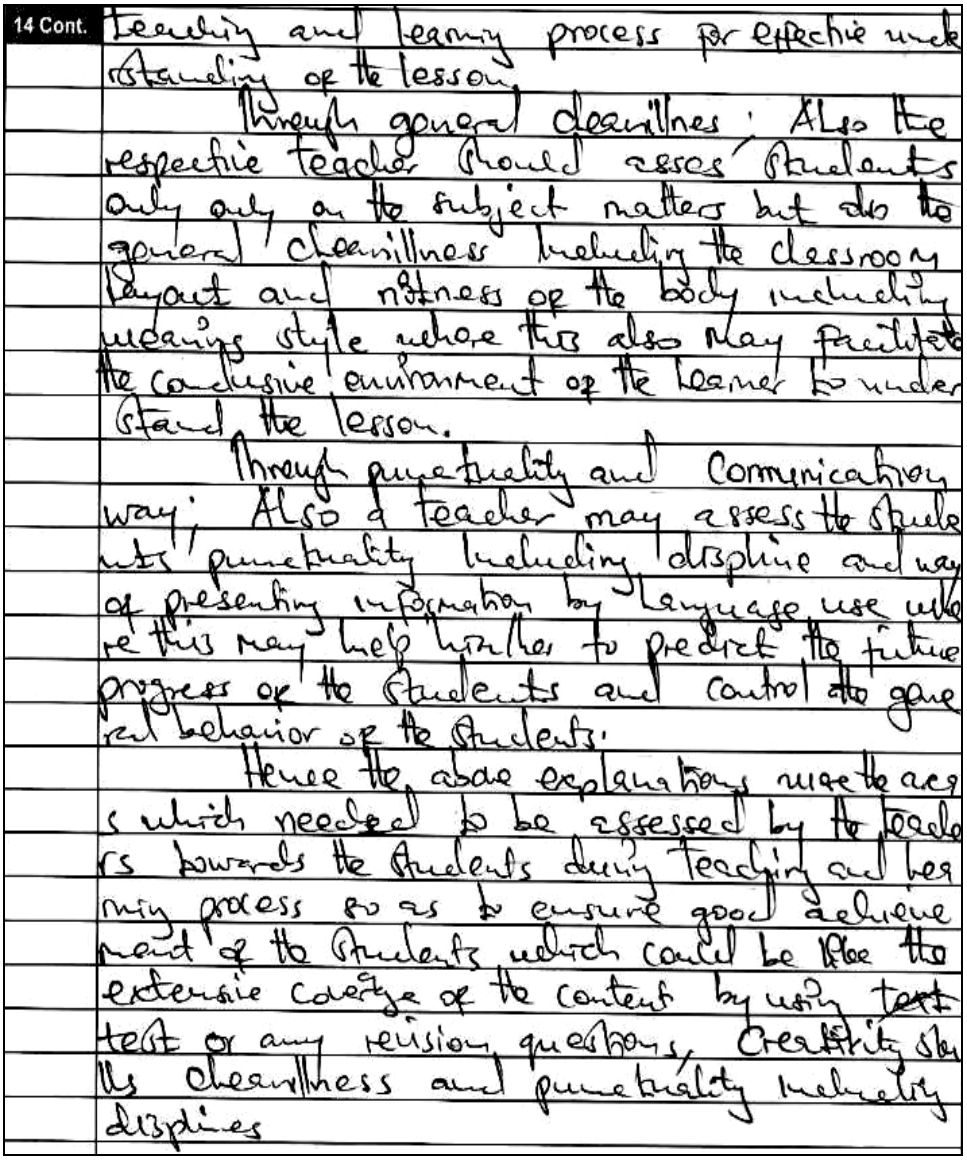
Assessment is the process of making evaluation and judgment of the learners behaviour according to the performance of a given task for example by test and examination. The following are the areas that should be assessed during teaching and learning process by the teacher.

Extensive understanding of the content /topics; A teacher should ensure and evaluate the students understanding of the topic or sub topic during teaching and learning process by provide test, quiz and assignment to do.

Through effective use of teaching and learning resources; A teacher can assess students by ensuring their effective and clear using of teaching and learning materials like textbooks, journals and manual which can be found at the school library for the more and additional of the knowledge.

Through use and interpregate of the instructional media used; During teaching and learning process, each students should be able to understand well and interpreter the learning media used so as to ensure clear and well understood of the lesson.

Through Creativity and critical thinking; Also a teacher may be able to assess on various Creativity skills of the learners and critical thinking for example learners ability to innovate and discover of the new thyngs things which can be applicable during



Extract 14.1: A sample of an incorrect response to question 14

In Extract 14.1, the candidate provided some teaching and learning methods and aids instead of the key areas to be assessed during teaching and learning process.

Moreover, 141 (7.4%) candidates who scored from 6.0 to 10.0 marks had insufficient knowledge on key areas to consider in assessment of students in the process of teaching and learning. They provided three points out of

the required six points as they gave responses such as; *instructional effectiveness, academic performance, attitudes and interest, intelligence mental ability and physical ability*. These responses from the candidates prove that they had insufficient knowledge of assessment.

Further analysis indicates that the candidates who scored from 10.5 to 15.0 marks answered the question correctly and some of their points were well presented. They clearly explained the key areas to consider in the assessment of students in teaching and learning process. Their responses were; *academic progresses, attitude and interest, aptitudes and intelligence, students' behavioural problems, and physical problems.* This proves that the candidates had adequate knowledge of the key areas to consider on the assessment of students in the process of teaching and learning. Extract 14.2 shows a sample of correct response from one of the candidates.

14	
	Assessment is the process of collecting, observing and analyzing the intended behaviour of an student in order to evaluate his or her behaviour.
	The following are the key areas that should be assessed during the process.
	Academic progress and problem. The area to be assessed is knowing the trending of the academic issues such as results and responsibility.
	Behavioural problems. To assess the student on how it be in kind of behaviour having and how to shape the need bad behaviour.
	Physical problems. These include the physical appearance how can be look like health or have faced with the other physical problem in learning process.
	Attitude and interest. The student it show which kind of attitude and interest that student like and how to cope with him or her
	Aptitudes and intelligence. On how the student having the ability of interprete the educational matters in the classroom session.
	Aspirations and expectations. Each students have the different aspirations and expectations in the process of teaching and learning process in order to achieve a certain goal.
	Those are the key areas which can make the assessment to the students in order to obtain different information for the better comparison with others and how to shape him or her in learning process.

Extract 14.2: A sample of an incorrect response to question 14

3.0 PERFOMANCE OF THE CANDIDATES IN EACH TOPIC

The Educational Research, Measurement and Evaluation examination for DSEE 2023 was set from six topics which were: *Educational Assessment and Evaluation*, *Analysis and Interpretation of test results, Educational measurement*, *Test construction*, *Educational Research* and *Assessing Achievement*. The analysis of the candidates' performance in each topic shows that candidates had good performance in two (2) topics which were; *Educational Assessment and Evaluation* (88.2%) and *Analysis and Interpretation of test results* (71.1%). The reasons for the good performance were candidates' sufficient knowledge and skills on the topics tested as well as detailed explanation, numerical manipulations, essay writing skills and English language proficiency.

Further analysis shows that, the candidates had an average performance in four (4) topics which are: *Educational measurement* (69.6%), *Test construction* (59.0%), *Educational Research* (57.2%) and *Assessing Achievement* (43.0%). It was noted that, the main reason for the candidates' average performance was attributed to the candidate's inadequate knowledge and skills on such topics, poor essay writings skills and lack of English language proficiency.

The comparison of the performance for 2022 and 2023 in Educational Research, Measurement and Evaluation subject for the DSEE 2023 shows that there has been a decline of performance on three (3) topics which are: *Educational measurement* (93.3%), *Test construction (*69.7%), *and Assessing Achievement* (79.9%) in 2022 where in 2023 the performance was 69.6, 59.0 and 43.0 per cent respectively. Appendices I and II summarize the candidates' performance in each topic for the two consecutive years.

4.0 CONCLUSION

The performance in Educational Research, Measurement and Evaluation subject on the Diploma in Secondary Education Examination (DSEE) in 2023 was good as 1,834 (98.07%) of candidates passed. However, their performance was dominated by grade C (63.89%) and D (25.29%) of the candidates who passed the examination. The analysis shows that, the candidate's good performance was caused by their abilities to identify the demands of questions, sufficient knowledge of the subject matter, and proficiency in English Language as well as computational skills. Only a few candidates revealed low abilities in these areas which led them to score low marks.

It is also evident from the analysis of the candidates' item responses that the performance in most numerical and research questions (question 11 and 12 respectively) is still a challenge to some candidates. This was observed from the failure of 610 (32.2%) candidates on question 11 and failure of 757 (39.7%) candidates on question 12 respectively. In addition, some candidates wrongly applied the formulae to find the mean scores, class interval size, modal class interval, and the variance on question 11. On question 12 some candidates did not realize that the correct item difficulty and item discrimination indices values were crucial factors in forming good comments/statements about the entire analysed item.

5.0 RECOMMENDATIONS

Based on the observations made in the Candidates' Item Response Analysis for Educational Research, Measurement and Evaluation Examination the following are recommended:

(a) The topic of *Analysis and Interpretation of Test Results* should be taught through demonstration, group discussion, gallery walk and brainstorming methods. Similarly, topics of *Assessing Achievement*, *Educational measurement*, *Educational Assessment and Evaluation Educational Research* and *Test construction* should be taught through group discussion, classroom discussion, jigsaw and brainstorming.

(b) Tutors and student-teachers should have the tendency of using different sources of materials (teaching/learning resources) during the teaching and learning process. This practice will improve the candidate's knowledge, skills and competences academically.

(c) Tutors should guide their student-teachers in studying all the topics in Educational Research, Measurement and Evaluation subject to equip them with adequate knowledge and skills for conducting research, assessing and evaluating the teaching and learning progress in diagnosing students learning problem and make interventions.

(d) Candidates should be guided on how to identify the demands of questions. This could be done through giving them enough assignments, tests, and inter-college examinations with timely feedback so that the student-teachers can understand how to attempt examination questions. Moreover, candidates ought to be taught how to appropriately use key instructional words given in each question prior to examination time.

Appendix I

A SUMMARY OF THE CANDIDATES' PERFORMANCE IN EDUCATIONAL RESEARCH, MEASUREMENT AND EVALUATION SUBJECT DSEE 2023

S/N	Topic	Question number	Performance in each question (%)	Average performance per topic (%)	Remarks
1	Educational Assessment and Evaluation	3	88.21	88.21	Good
2	Analysis and Interpretation of Test Results	1	74.1	71.05	Good
		11	68.0		
3	Educational Measurement	5	91.3	69.55	Average
		13	47.8		
4	Test Construction	6	59.1	59.1	Average
5	Educational Research	2	93.2	57.2 3	Average
		4	2.3		
		7	60.5		
		9	88.4		
		10	38.7		
		12	60.3		
6	Assessing Achievement	8	76.3	43	Average
		14	9.7		