THE NATIONAL EXAMINATIONS COUNCIL OF TANZANIA

CANDIDATES' ITEM RESPONSE ANALYSIS REPORT FOR DIPLOMA IN SECONDARY EDUCATION EXAMINATION (DSEE) 2019

750 EDUCATIONAL MEDIA AND TECHNOLOGY

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FOREWORD

The National Examinations Council of Tanzania is pleased to issue this Item Response Analysis Report for the 2019 Diploma in Secondary Education Examination (DSEE) of the Educational Media and Technology subject. The report provides feedback to students, tutors, parents, policy makers and the public in general on the performance of candidates and the extent to which the instructional goals and objectives were achieved.

The examination is a summative evaluation which marks the end of the two years of Diploma studies in Education. The examination results can thus be used as a measure of the effectiveness of the education system in general and particularly the Educational Media and Technology subject. Basically, the candidates' responses to examination items can be used as one of the indicators of what the education system was either able or unable to offer students in their two years of the Diploma in Secondary Education studies.

In this report, factors which enabled the candidates to answer the questions correctly or incorrectly have been analysed. The analysis showed that candidates with higher scores provided appropriate responses; were able to understand demand of questions; had sufficient knowledge of the subject matter and possessed sufficient communication skills. However, the weaknesses which were observed in the responses of candidates who performed poorly includes, inadequate knowledge and skills of the subject matter, insufficient essay writing skills, poor communication skills in English language and misinterpretation of examination items.

The feedback provided is expected to enable education administrators, tutors and continuing student teachers to identify proper measures to take in order to improve performance in the future examinations administered by the Council.

Finally, The Council is grateful to all stakeholders who provided valuable contributions during the preparation of this report.

Dr. Charles E. Msonde
EXECUTIVE SECRETARY

1.0 INTRODUCTION

This report analyses the performance of the candidates who sat for the Diploma in Secondary Education Examination (DSEE) 2019 in Educational Media and Technology subject. The paper was based on the 2009 Tanzania Institute of Education (TIE) syllabus. A total of 2,662 candidates sat for the DSEE 2019 in Educational Media and Technology subject of which 2,651 (99.7%) of the candidates passed while 9 candidates (0.3%) failed.

The general performance in the examination is categorised into five grade ranges. The performance is regarded as *fail (F)* if the scores range from 0 to 39 marks, satisfactory (D) if the scores range from 40 to 54 marks and Good (C) if the scores range from 55 to 69 marks. The performance is, Very good (B) if the scores range from 70 to 79 marks and Excellent (A) if the scores range from 80 to 100.

The analysis shows that none of the candidates were able to pass with grade A. A total of 169 (6.3%) of the candidates were able to pass at grade B, while most of the candidates 1,846 (69.3%) passed with grade C, whereas 636 (23.9%) passed with grade D. The candidates who failed (grade F) were 9 (0.3%). The General Performance in this subject was good as 2651 of the candidates (99.7%) ranged from grade D to B.

The examination consisted of two sections A and B with a total of sixteen (16) questions. Section A had ten (10) short answer questions. Each question carried four (4) marks; making a total of 40 marks. Section B had six (6) essay questions, from which candidates were required to attempt any four (4) questions. Each question carried 15 marks making a total of 60 marks. The candidates were required to attempt a total of 14 questions in the entire paper. The questions were set from the following topics: *Functions of Educational Media and Technology*; *Educational Media and Technology and Environment; Principles of Teaching and Learning in Educational Media and Technology*; *Production of Traditional and Modern Educational Media and technology*; *Care and Maintenance of Educational Media and Technology* and *Categories of Educational Media and Technology*.

In this report, the analysis of each question is based on the category of the question items that is, short answer items in section A and essay type items in

section B. In short answer items, the performance is regarded as *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 essay items, the performance is regarded as *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.

Samples of candidates' answers are attached to illustrate their responses and Appendix is attached to show the analysis of performance in each topic. Three colours are used to depict the performance of candidates in a particular topic; green colour depicts good performance while yellow colour depicts average performance while red colour shows weak performance. It is expected that the report will be useful to educational stakeholders as it will uncover issues that make candidates perform well and issues which are detrimental to candidates' performance. Thus, will enable tutors and student teachers to improve the teaching and learning of the subject

2.0 ANALYSIS OF THE CANDIDATES' PERFORMANCE IN EACH QUESTION

2.1 SECTION A: Short Answer Questions

This section consisted of ten (10) short answer questions, each carrying four (4) marks. Candidates were required to answer all questions, making a total of 40 marks in the section.

2.1.1 Question 1: Function of Educational Media and Technology

This question required candidates to briefly explain four properties of instructional media which are suitable for teaching students with visual impairment. The question was attempted by 2,664 candidates (100%) and the performance in this question was as follows; 323 (12.1%) 0f the candidates scored 3 to 4 marks which is a good performance; 666 of the candidates (25.0%) scored 2 to 2.5 marks indicating an average performance and 1,675 of the candidates (62.9%) scored from 0 to 1.5 indicating a poor performance. Generally the performance in this question was average as only 37.1% were able to score the pass mark of 2 to 4 marks. Figure 1 gives further illustrations.

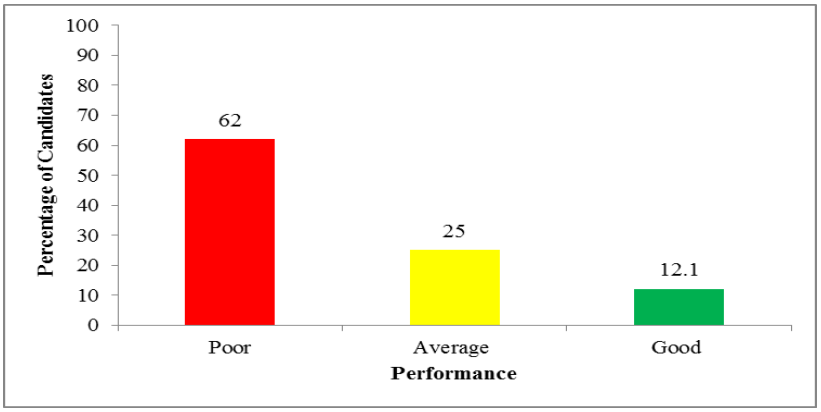
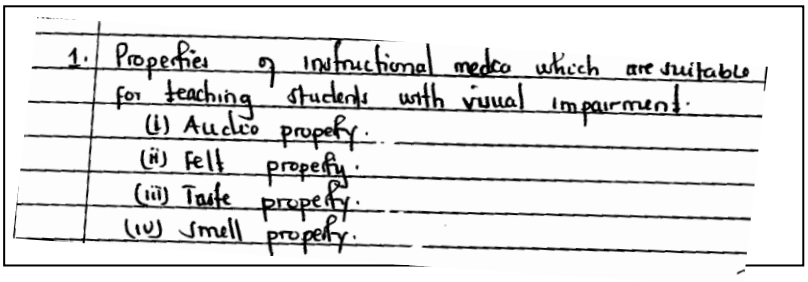


Figure 1: The *percentage of candidites in each category of perfomance*

Data analysis in question 1 showed that candidates, who scored from 3 to 4 marks, understood the demands of the question and had knowledge on the properties of instructional media which are suitable for teaching the students with visual impairment. The candidates were able to provide the correct responses like: *colour contrast, large in size, clear, designed to allow touching, smelling, enough sound, raised and visualizing to students with mild visual impairment.* Further analysis showed that the candidates who scored full marks, managed to briefly explain all four properties of educational media and technology correctly. The candidates who scored 3 marks were able to identify and briefly explain only three properties correctly which was also a display of good mastery of knowledge and clear understanding of the demand of the question. Extract 1.0 is a sample of the correct responses from one candidate who scored 4 marks.


1. Properties of instructional media which are suitable for teaching students with visual impairment.
(i) Audio property.
(ii) Felt property.
(iii) Taste property.
(iv) Smell property.

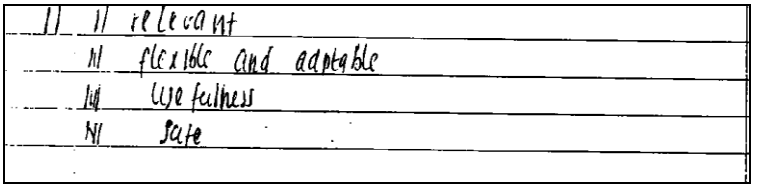
Extract 1.0: A sample of a candidate good response.

Moreover, the analysis noted that the 666 candidates (25%) with average scores 2 to 2.5 marks failed to explain properly the properties of instructional media which are suitable for teaching the students with visual impairment. Some of the candidates in this category mixed-up

the correct and incorrect properties as they mentioned two correct and other two incorrect properties. These candidates simply lacked enough knowledge on the concept of properties of instructional media which are suitable for teaching students with visual impairment. For example, one candidate provided the following properties; *the use of audio media that produces good sound, the use of the visual media, the use of the media with felt or skin feeling, the use of modern media:* Responses of another candidate who scored average mark was; *The use of the colour contrast media, the use of large sound media, the use of the movable media.* These candidates identified two correct properties of the instructional media which are suitable for teaching student with visual impairment and other two incorrect as follows; Correct properties were; *the use of the media with good sound* and *the use of the media with colour contrast* and incorrect points were; *the use of movable media and visual media*.

On the other hand, 1,675 of the candidates (62.9%) who scored 0 to 1.5 marks provided wrong responses which did not meet the requirements of the question. Some candidates provided names of instruments instead of properties such as *radio, tape recorder and brail machine* and others mentioned action to be taken such as "… *ask them to clap"*.

Moreover, 977 candidates (36.7%) scored 0 mark due to inadequate knowledge of the concept tested. For example, one candidate failed completely to understand the question and provided media equipment instead of the properties of instructional media for the students with visual impairment as the question demanded as follows; *recorded video cassette, typing machine, radio, audio-visual.* Another incorrect point of another candidate was *special computer, keyboard, special excises books, special black board.* Most of the candidates in this category provided examples of educational and technology equipment instead of the properties of instructional media. Extract 1.1 is a sample of incorrect responses from one of the candidates.



Extract 1.1: A sample of candidate incorrect responses

2.1.2 Question 2: Categories of Educational Media and Technology

In this question the candidates were required to briefly describe four weaknesses of using still pictures in teaching and learning.

Data analysis showed that the question was attempted by 2,664 candidates (100%) of which, 1,644 (58.3%) scored 0 to 1.5 marks, indicating poor performance. Another 972 candidates (29.0%) scored 2 to 2.5 marks representing average performance and the remaining 338 of candidates (12.7%) scored 3 to 4 marks signifying good performance. According to this data the general performance in this question was average as 41.7 percent of the candidates who attempted this question scored 2 to 4 marks. Figure 2 summarizes the performance of candidates in question 2.

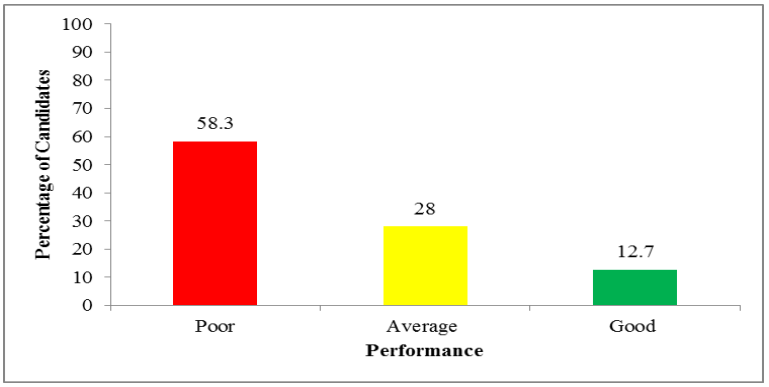
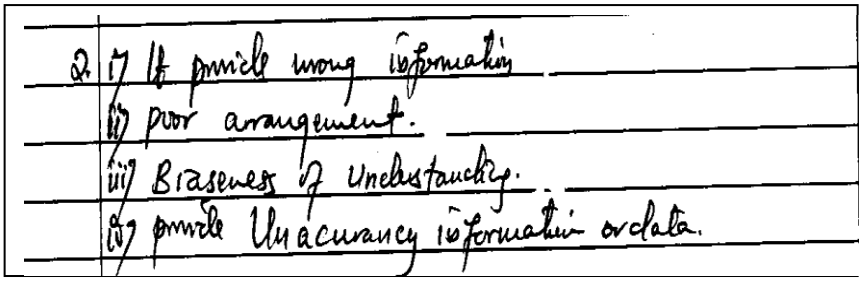


Figure 2: *The percentage of candidites in each category of perfomance*

Some 58.3 percent of the candidates failed to provide correct responses as required due to misinterpretation. For example, a candidate described incorrectly the weakness of using still pictures in providing instructions in the classroom setting as; *failed to transmit the information; does not match with the learners, it can bring cost, it can be invisible.* Another candidate explained that *...they need more attention, they can influence laziness, they depend on power,* they *reduce thinking*. Another candidate in this category responded incorrectly thus; *...it kills mind, gives joy more, not good to many,* According to these responses the candidates lacked knowledge of the weakness of using still pictures in providing instruction in the classroom setting: Extract 2.1 presents a sample of poor responses.



Extract 2.0 A sample of candidate incorrect responses

Further analysis showed that the candidates, who scored 2 to 2.5 marks, were able to respond to the question partially. Most of them provided either partially correct responses or provided at least two correct responses. For instance, one of the candidates provided the following responses:

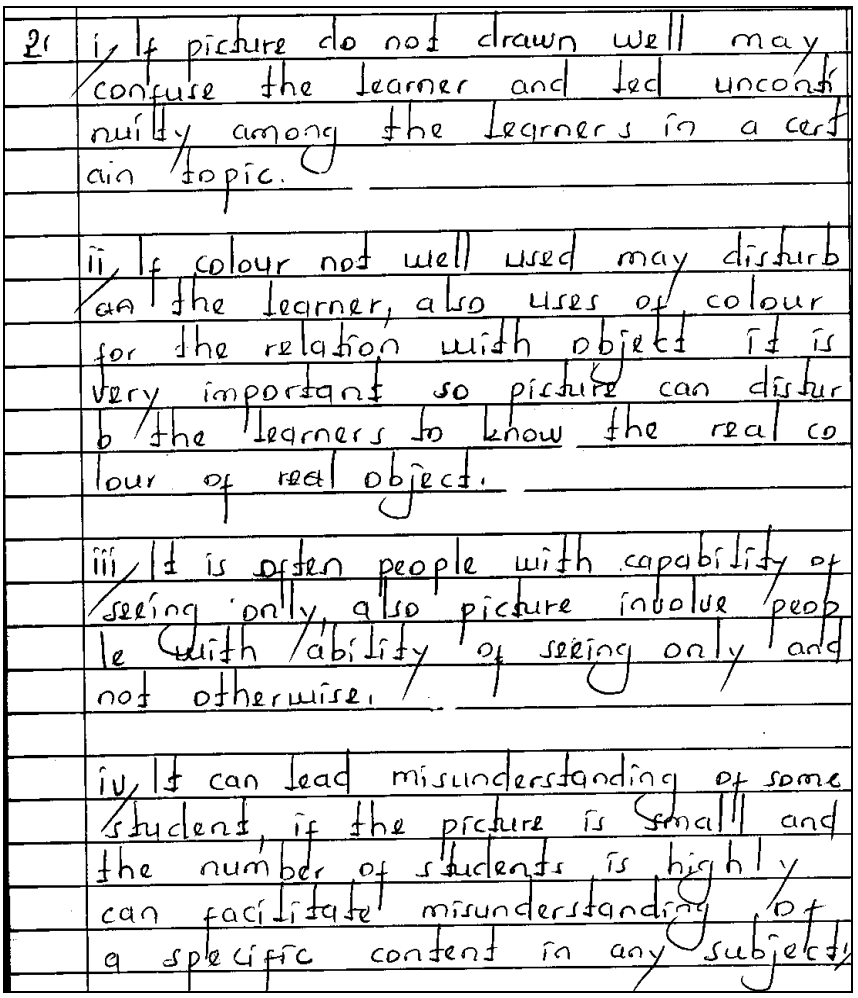
if picture is small can confuse students, if a still picture is wrong drawn it lead to bring wrong concept, the use of picture can bore, it is not flexible to fit the whole type students, still picture do not move.

In this response, for example, the candidate was unable to explain clearly why lack of motion in still pictures is a weakness. Moreover, the phrase "*it is not flexible to fit the whole type students"* lacked clarity. Another candidate who belong to this category responded as follow; *if they are not many enough may lead to disturbance, it reduce concentration, easy to lost time, it difficult for students who do not see*. In his/her response, the candidate failed to provide convincing explanation how still pictures reduces concentration if they are appropriately used. Similarly, it was not clear as to why still pictures would lead to loss of time as the candidate claimed "*easy to lost time*". This implies that those candidates had partial knowledge and skills on the weakness of using still picture in providing instruction in the classroom setting.

The analysis of candidates' performance in question 2 shows that only 338 candidates (12.7%) were able to score 3 to 4 marks. This indicates that the question was difficult to most of the candidates. The performance of the candidates who scored from 3 to 4 marks could be attributed to good understanding of the demand of the question and possession of adequate knowledge about the weaknesses of still pictures as instructional materials.

Candidates who scored all 4 marks were able to provide correct responses which fulfilled all the requirements of the question. For example, one candidate described the weaknesses of using still pictures in providing instruction as follows: *...lack of enlargement mechanism can make the picture dull, poor artistic drawn hinder correct interpretation, misuse of colour may mislead clear understanding, lack of colour may limit student interest, small size picture may affect vision.* Another candidate described clearly the four weakness of using the still picture in providing instructions in the classroom settings as follow; *If not prepared well or drown well it may confuse learners, it is difficult for those who have visual impairment, improper colours take time and money to change*.

The analysis showed that candidates who responded correctly to this question had adequate knowledge and skills; and the language used was clear. Extract 2.1 is a sample of correct responses from one of the candidate who scored high marks. The candidate's response addressed the demands of the question despite grammatical errors in his/her presentation.



Extract 2.1 A sample of candidate correct responses.

2.1.3 Question 3: Categories of Educational Media and Technology

In this question, candidates were required to explain four advantages of using non-projected aids in teaching and learning. The question was attempted by 2,664 (100%) candidates. The general performance of candidates in this question was good as 67.5 percent of the candidates scored 2 to 4 marks.. Further analysis showed that, 34.5 percent of the candidates scored poorly as they scored 0 to 1.5 marks out of the 4 allotted marks. On the other hand 36 percent were able to score 2 to 2.5 marks which signifies average performance while 29 percent of the scored from 3 to 4 marks which is good performance. For the purpose of clarification, the performance of candidates in this question is depicted in figure 3.

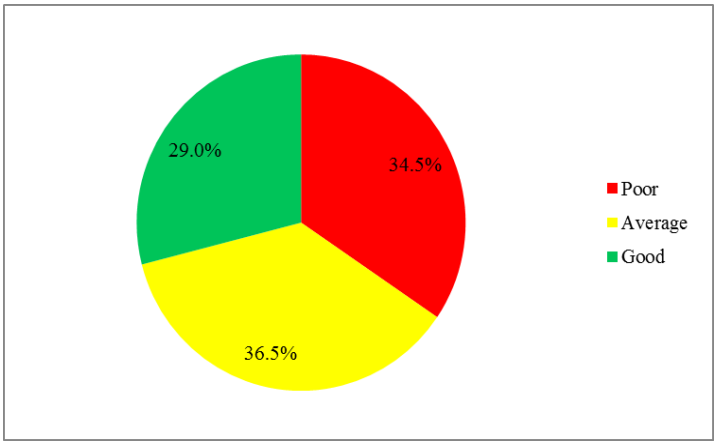
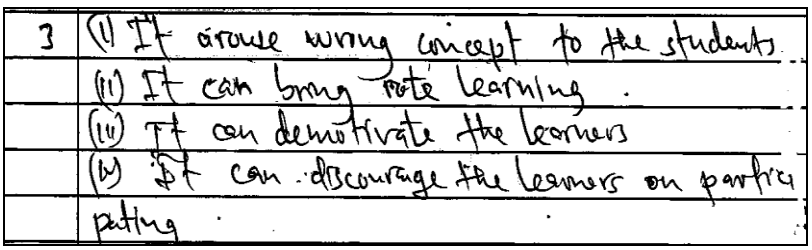


Figure 3: *The performance of candidate in each category in question 3.*

Data analysis shows that, the 34.5 percent of the candidates who scored poorly in this question failed to understand the demands of the question and had poor knowledge about the advantages of non-projected teaching and learning materials. For Example, some candidates provided disadvantages instead of advantages of using non-projected aids. Other candidates went further and provided functions of non-projected aids in teaching and learning like: *reduces ambiguity to the learners, helps the learners who have language problems, helps the learners to ask, encourages slow learner.* The analysis, further shows that, other candidates misinterpreted the question as they described the qualities of models in educational media and technology instead of non-projected aids, as shown in Extract 3.0.

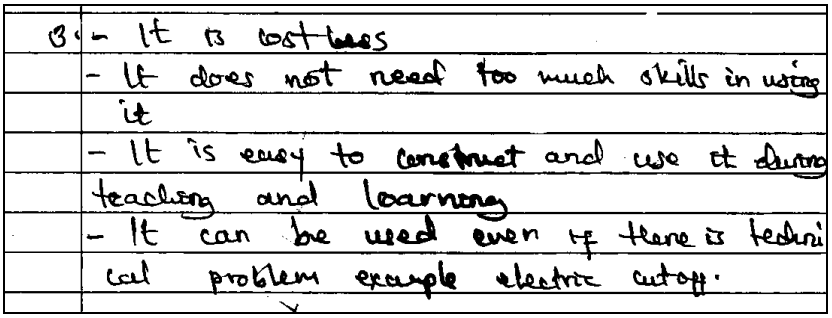

3 (i) It arouse wrong concept to the students.
(ii) It can bring rote learning.
(iii) It can demotivate the learners
(iv) It can discourage the learners on partici
pating.

Extract 3.0: A sample of candidate incorrect responses.

Further analysis shows that, the candidates scored 2 to 2.5 marks in this question as they provided two or two correct responses and some partially correct or incorrect responses. The analysis indicated that those candidates who scored averagely had partial knowledge and skills on tested concepts. For example, one candidate's responses were:

needs no power, can lack colour, most of them are belong to environment, can be easily adjusted and changed, most uses more than one sensory organ of the learners. Also the analysis revealed that other candidates repeated responses like: *can get different size, its operation cannot need power, no electricity needed but normal energy.* Other candidate provided just two correct responses like; *they can be easily amended and can be used well with no power* instead of four responses demanded by the question. The partial and wrong responses could be attributed to partial mastery of the concept tested.

It was also observed that the candidates who scored 3 to 4 marks managed to provide three or all four correct responses. The analysis showed that the candidates had adequate knowledge and skills about the advantages of non-projected aids as they presented their explanation in an organised manner. One candidate, for instance, was able to provide all four correct responses such as: *can be operated without power, uses more than one sensory organ, can be easily amended, are locally made, can be easily produced.* Another candidate who belongs to this category provided very meaningful and correct points. The responses of the candidate were as follow; *most of them uses more than one sensory organ this benefit students, most of them are made locally hence save cost, they are operated with no power thus saves cost, needs no very high knowledge to make them.* Extract 3.1 is a sample of a correct response from a candidate who scored high marks.



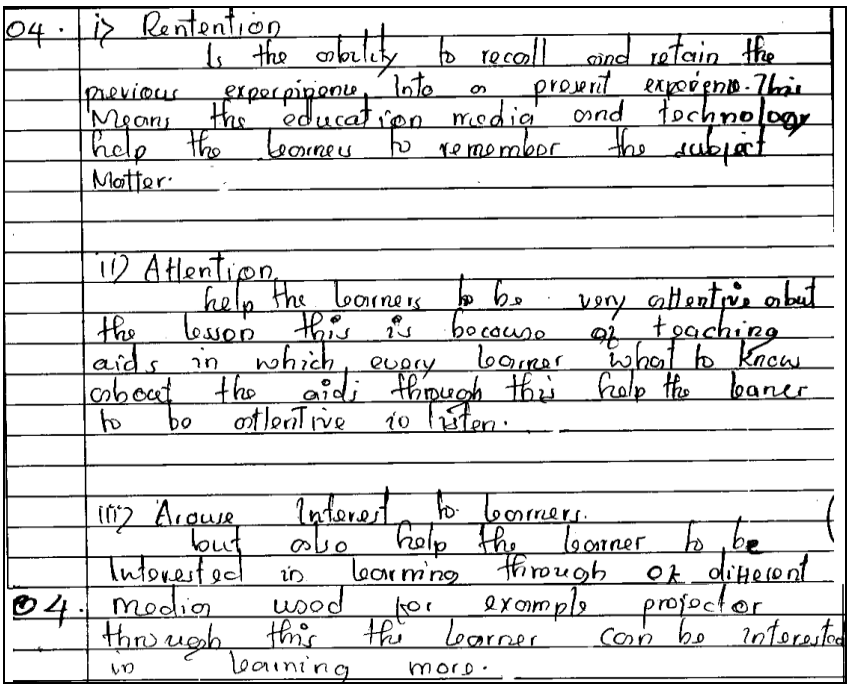
Extract 3.1: A sample of candidate correct responses.

2.1.4 Question 4: Principles of Teaching and Learning in Educational Media Technology.

In this question, candidates were required to explain the strengths of using educational media in facilitating effective teaching and learning. In general, candidates' performance was better than their performance in other questions. Further analysis showed that, the question was attempted by 2,664 (100%) candidates of which 2,625 (98.5%) scored 3 to 4 marks indicating good performance. On the other hand, 157 of the candidates (5.9%) scored 2 to 2.5 marks indicating average performance. Only 29 of the candidates (1.1%) scored 0 to 1.5 marks.

Data analysis showed that, the candidates who scored from 3 to 4 marks understood the demand of the question and had knowledge and skills on the qualities of educational media. The candidates provided correct responses such as; *promotes the sense of motivation, brings active participation, supports individual learning, enriches learning experience, simplifies share of knowledge.* For example, one candidate who scored good marks provided his/her responses such as: *promotes the sense of motivation, brings active participation, supports individual learning, enriches learning experience, simplifies share of knowledge.*

The analysis revealed that, those candidates were competent with knowledge and skills on the strength of educational media and technology. Extract 4.0 is a sample of a correct response from a candidate who scored full marks.

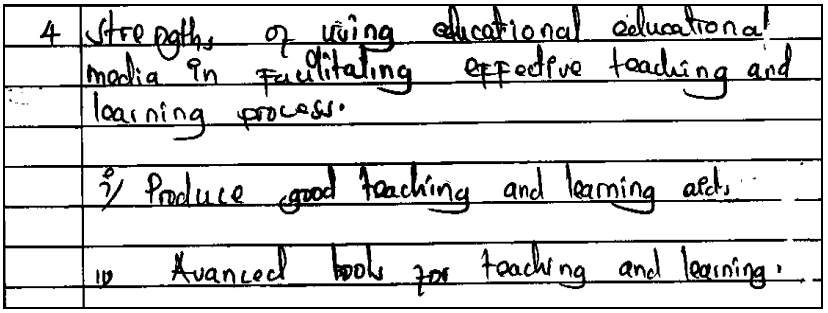


Extract 4.0: A sample of candidate correct responses.

Further analysis indicated a small group of candidates (0.4%) scored 2 to 2.5 marks out of the 4 allotted marks. These candidates mixed correct and incorrect responses indicating that they had partial knowledge and skills on the strength of using educational media in facilitating teaching and learning. Among the candidates in this category were able to give two correct responses while other responses were incorrect or partially correct. For instance, the response of one candidate with average score was; *influence active participation, brings learning experience, must have the normal size, must be clean.* In the given response, the first two are correct while the last two are incorrect.

The analysis also noted that, 1.1 percent of the candidates scored (0 to 1.5 marks out of 4 marks) due to misinterpretation of the question and provided answers contrary to the demand of the question. Among these candidates, there were those who outlined the types and categories of educational media and technology instead of strength of educational media, i.e. *traditional media, liquid media, printed media*. Other candidates provided responses which did not address the demand of the question like: *quality of educational media they should*

emphasize in construction of teaching aids, the use of projector such as overhead projector, to put much effort. Another candidate who provided guess responses wrote*; learning, balance* and *understanding.* Based on these responses, the analysis observed that, candidates completely lacked knowledge and skills on the strengths of educational media and technology. Extract 4.1 is a sample of incorrect responses from a candidate in this category.



Extract 4.1: A sample of candidate incorrect response.

2.1.5 Question 5: Characteristics of Educational Media and Technology.

In this question, candidates were required to list four challenges likely to face a teacher who is ignorant of characteristics of educational media and technology. The question intended to assess candidates' knowledge on designing educational media. The question was attempted by 2,664 of the candidates (100%). The analysis of data showed a good performance whereby 2,414 of the candidates (90.6%) scored 3 to 4 marks. Data also showed that 157 of the candidates (5.9%) were able to score 2 to 2.5 marks which is average performance. A minority 93 of the candidates (3.5%) scored 0 to 1.5 marks. Therefore, generally the performance in this question was good since 2,571 of the candidates (96.5%) scored 2 to 4 marks as Figure 4 indicates.

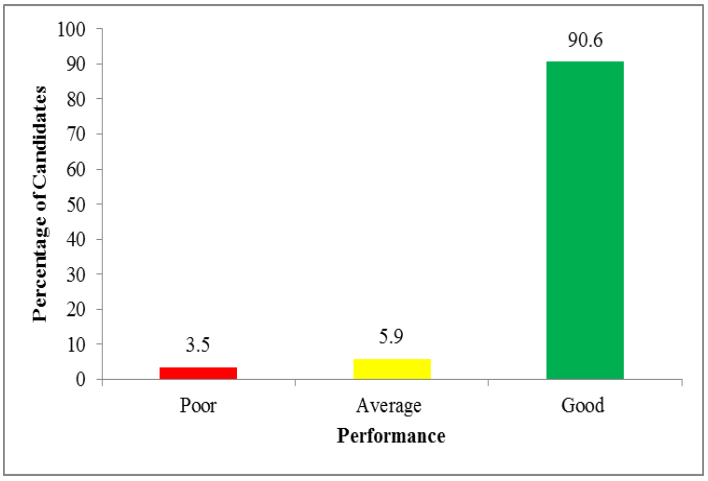
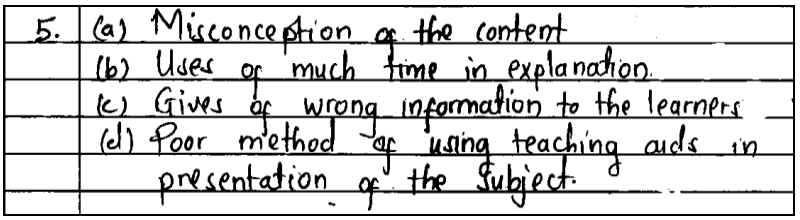


Figure 4: *The percentage of candidites in each category of perfomance*

The candidates who scored from 3 to 4 marks were able to list the correct responses. The analysis indicated that, these candidates were able to provide appropriate points due to good mastery of the tested concept, and good language skills.. Extract 5.0 is a sample of an appropriate response.

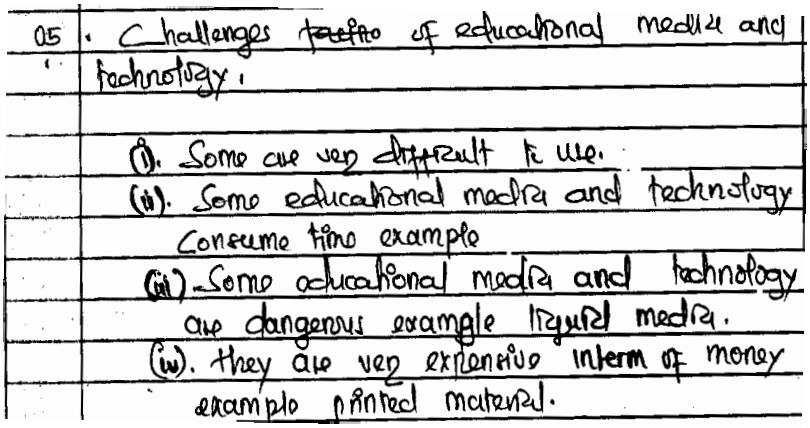

5. (a) Misconception of the content
(b) Uses of much time in explanation.
(c) Gives of wrong information to the learners
(d) Poor method of using teaching aids in presentation of the subject.

Extract 5.0: A sample of candidate correct responses.

Further analysis showed that, the 5.9 percent of the candidates scored from 2 to 2.5. These candidates had partial mastery of the subject matter. For example, one of the candidates provided correct responses like: *poor organization of the lesson, misuse of time* and incorrect responses: *not teaching,* and *poor subject.* . Another candidate provided correct responses as: *poor organization of the lesson, misuse of time,* and irrelevant answers such as *must consider subject contents* and *lack of knowledge.* These responses implied that the candidates had partial or lacked knowledge on the tested concept.

Moreover 93 candidates (3.5%) who scored 0 to 1.5 marks as they failed to respond correctly to the question due to lack of knowledge and skills. Some of them wrote mixed concepts or ideas unrelated to

the question. For example, responses of one candidate who wrote unrelated ideas were: *ignorant, poor, movement, not believe, not interest.* These responses do not relate to any concept in educational media and technology. The responses also indicate candidates' language deficiency as some of the phrases were copied from the question. For example, another candidate mentioned functions of educational media and technology such as: *they should motivate learners, they should raise interest to learners, should encourage active participation.* These cannot be referred to as challenges rather they would be characteristics for this was not the focus of the question. Extract 5.1 is a sample of incorrect responses from a candidate.



Extract 5.1: A sample of candidate incorrect responses.

2.1.6 Question 6: Types of Educational Media and Technology

This question required candidates to identify ways in which the internet can be used as a source of information. The question was attempted by 2,664 candidates (100%). Data showed that, 1,814 of the candidates (68.0%) scored 3 to 4 marks indicating good performance. Further analysis showed that 450 of the candidates (17.0%) scored 2 to 2.5 marks which is average performance and 400 (of the candidates 15.0%) scored 0 to 1.5 marks depicting poor performance. Generally, the performance of candidates in this question was good as 2,264 of the candidates (85.0%) scored 2 to 4 marks as indicated in Figure 5.

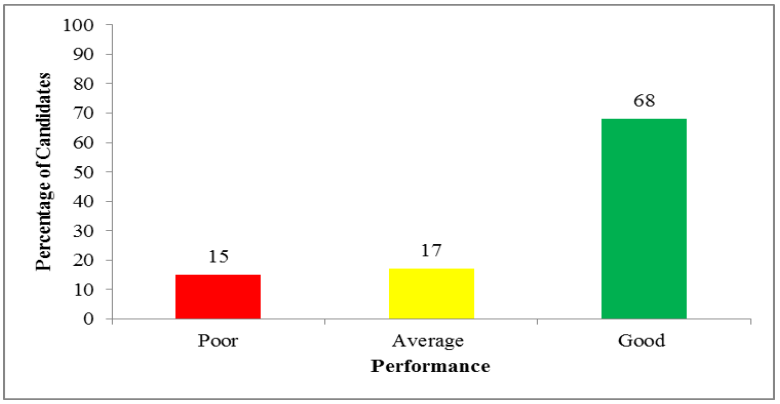
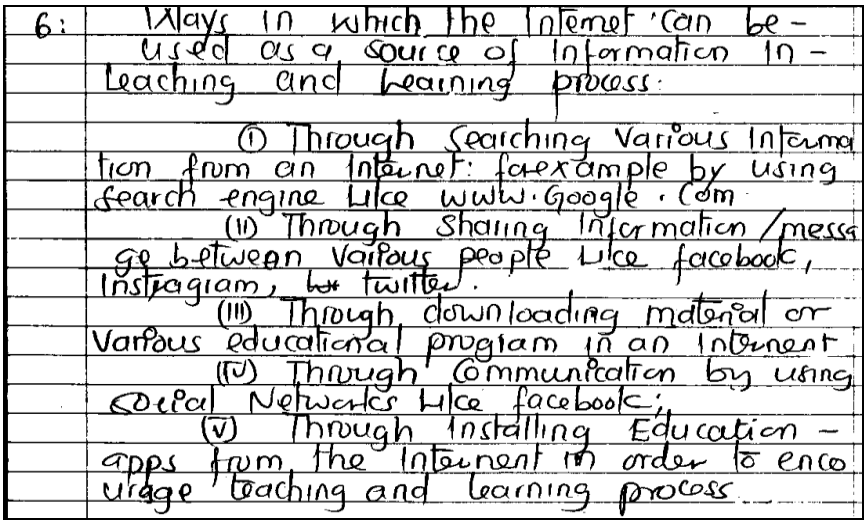


Figure 5: *The percentage of candidites in each category of perfomance*

According to data analysis, the candidates' who scored from 3 to 4 marks, understood the demand of the question and had adequate knowledge and skills on the use of the internet as a source of information. For example, one candidate's responses were; *exchanging materials through emails with any people, searching and retrieving pictures , downloading various software, creating document backups, sending and receiving sounds.* Extract 6.0 is a sample of a correct response from one of the candidates.


6: Ways in which the Internet can be used as a source of Information in Leaching and learning process:

(i) Through Searching Various Information from an Internet: for example by using Search engine like www.Google.Com

(ii) Through Sharing Information/messages between various people like facebook, Instagram, and twitter.

(iii) Through downloading material or various educational program in an Internet

(iv) Through Communication by using Social Networks like facebook;

(v) Through Installing Education - apps from the Internet in order to encourage Teaching and learning process.

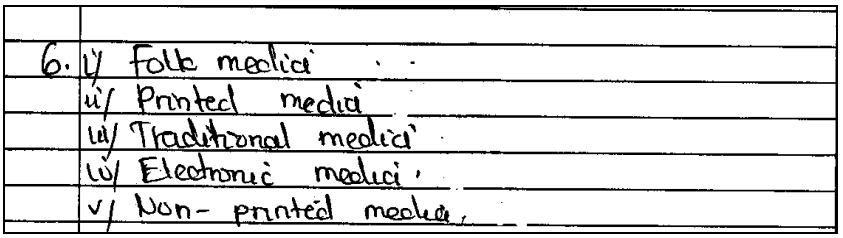
Extract 6.0: A sample of candidate correct responses

However, 17.0 percent of the candidates scored 2 to 2.5 marks because they answered some of terms correctly and others incorrectly. The analysis indicated that, candidates were able to give two correct responses and one partially correct response. The partiality can be

attributed to inadequate knowledge of the subject matter. For example, the correct responses included: *exchanging emails with any people, sending game, searching and retrieving pictures, downloading various software.*

The partially correct responses were: *dating with friends and sending knowledge. . Dating with friends* is not something directly related to teaching and learning. Knowledge also cannot send. What can be sent is information. That information can be changed into knowledge after the receiver works on it and utilizes it. Some candidates failed completely to identify some of ways in which the internet can be used as source of information in teaching and learning.

Furthermore, 15.0 percent of the candidates failed to provide sufficient answers and scored 0 to 1.5 marks. These candidates provided one correct response and one partially correct response. The candidates showed lack of knowledge on ways in which the internet can be used as source of information in teaching and learning. Moreover, few candidates (5.2%) who scored 0 mark as they failed completely to identify even a single way in which the internet can be used as a source of information for teaching and learning. Some of them gave the inappropriate ways of those terms referring to internets icons for example *Like, subscribe and sending* instead of ways in which the internet can be used as source of information in teaching and learning in education context. Extract 6.1 is a case of incorrect response.



Extract 6.1: A sample of candidate incorrect responses.

2.1.7 Question 7: Production of Traditional and Modern Educational Media and Technology

In this question, candidates were required to define four terms as used in Educational Media and Technology; which were; (a) designing (b) construction (c) manual (d) equipment. Data showed that, the question

was attempted by 2,664 of the candidates (100%) of which 998 (61.8%) scored 3 to 4 marks indicating good performance. another 752 (28.2%) scored 2 to 2.5 marks signifying average performance. However, 265 (10.0%) scored 0 to 1.5 marks indicating poor performance. The general performance in this question was good since majority of the candidates (90.0%) are within the average and good performance. Figure 6 summarizes the performance of candidates in this question.

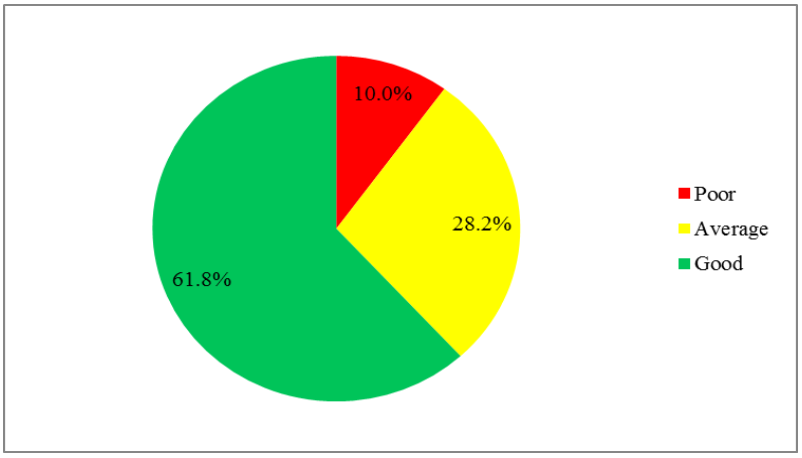


Figure 6: *The percentages of candidates in each performance category*

Further analysis showed that the candidates who score 3 to 4 marks had adequate knowledge of the terms as used in Educational Media and Technology. The following responses were presented by a candidate in this category;

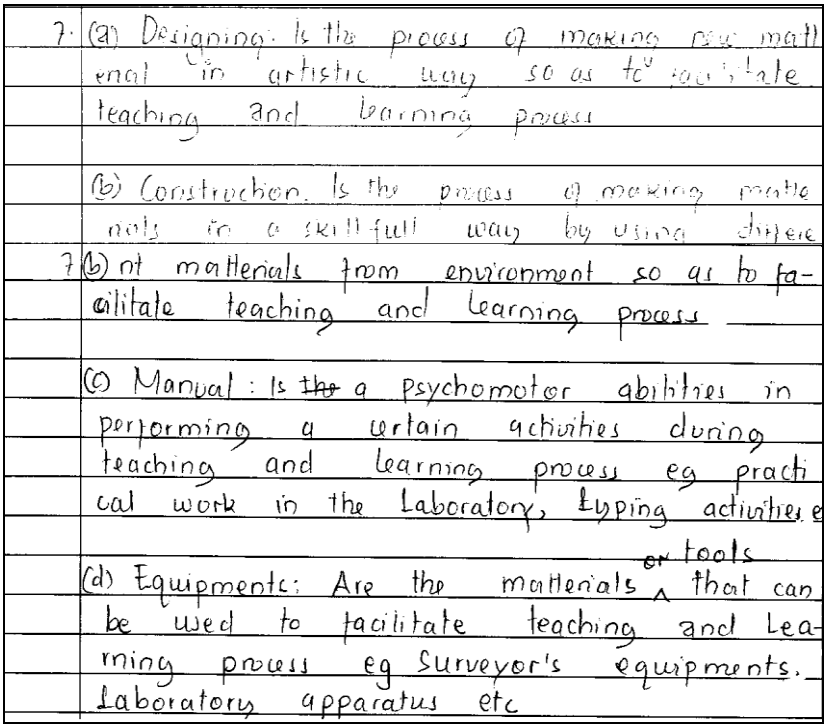
(a) ***Designing*** *is the process of making new material in an artistic way so as to facilitate teaching and learning process.*

(b) ***Construction*** *is a process of making materials in a skillful way by using different materials from environment so as to facilitate teaching and learning process*

(c) ***Manual*** *is psychomotor ability in performing a certain activity during teaching and learning process*

(d) ***Equipment*** *are the materials or tools that can be used to facilitate teaching and learning process example practical work in laboratory and typing activities.*

As shown in the responses, the candidate was able to define correctly three terms. The term manual was however not well defined. Hence the candidate could not score full marks. Extract 7.0 is a sample of good responses in the category of good performance.


7. (a) Designing: Is the process of making raw matt
erial in artistic way so as to facilitate
teaching and learning process

(b) Construction. Is the process of making matte
rials in a skill full way by using differe
7 (b) nt materials from environment so as to fa-
cilitate teaching and learning process

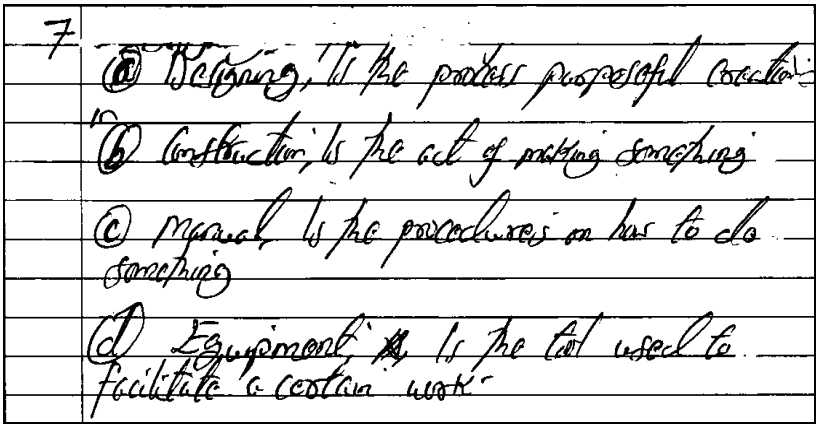
(c) Manual : Is ~~the~~ a psychomotor abilities in
performing a certain activities during
teaching and learning process eg practi
cal work in the Laboratory, Typing activities e

(d) Equipments: Are the materials or tools that can
be used to facilitate teaching and Lea-
rning process eg Surveyor's equipments.
Laboratory apparatus etc

Extract 7.0: A sample of the candidate correct response.

Furthermore, the candidates who scored average marks (2 to 2.5) several weaknesses in their responses. Some of them mixed-up correct and incorrect answers, and others provided only two responses and left the others blank. One of the candidates with average marks mixed-up correct and incorrect responses like; *(a)* ***equipment*** *refer to a tool which is used to construct and maintain the educational media (b)* ***manual*** *is something which cannot operate on its own without human control (c)* ***construction*** *is process of manufacturing materials to be used for teaching and learning usually done in industries (d)* ***designing*** *refer to a process of design or a style*., In these responses, the candidate failed to correctly articulate the term *manual* and *designing*, thus, displaying partial knowledge about instructional manual and designing.

On the other hand, data analysis reveals that, the candidates who performed poorly (0 to 1.5 marks) misinterpreted the question and hence provided irrelevant answers. Some of the candidates failed completely to define whereas others provided partial definitions. For example, candidates provided the following responses: *(a)**designing**is the process of purposeful location (b)* ***manual*** *is the procedure on has to do something (c)* ***construction****is the act of making something* (d) ***equipment*** *is a tool used to facilitate a certain work*; The analysis showed that these candidates lacked knowledge on definitions of the terms given. Extract 7.1 is a sample of responses from this category of candidates.


7
(a) Designing, is the process purposeful location
(b) Construction, is the act of making something
(c) manual, is the procedures on has to do something
(d) Equipment, is the tool used to facilitate a certain work

Extract 7.1: A sample of candidate incorrect responses.

2.1.8 Question 8: Educational Media and Technology and Environment

In this question the candidates were required to describe the first three steps of the process of recycling materials. This question was attempted by 2,664 (100%) of the candidates out of which 1,103 (41.4%) scored 3 to 4 marks indicating good performance and 564 (21.2%) candidates scored from 2 to 2.5 marks which is average performance. The question seemed difficult to 997 (37.4%) candidates as they scored 0 to 1.5 marks indicating poor performance. The general performance however can thus be described as average since 1,667 (62.6%) candidates were able to score 2 to 4 marks. A summary of candidates' performance is presented in figure 7.

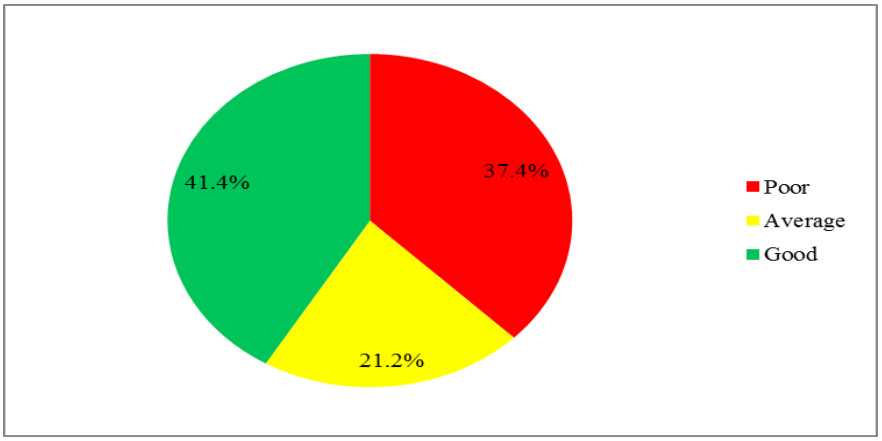


Figure 7: *The percentages of candidates in each category of performance*

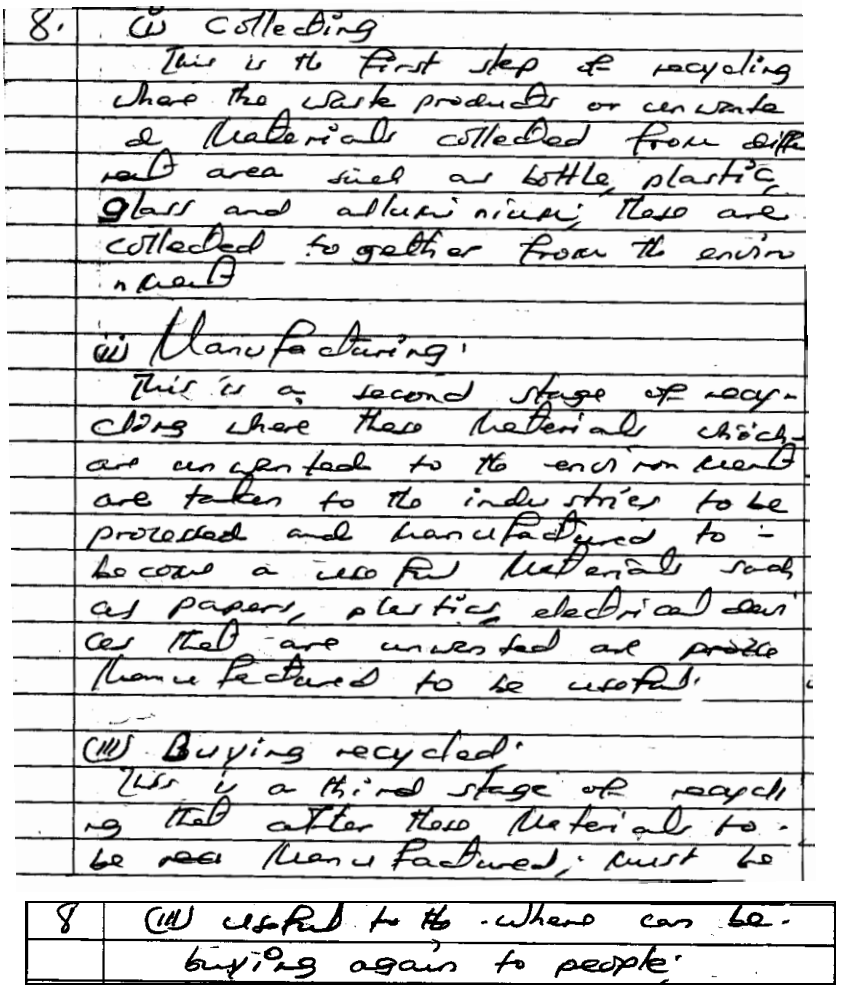
The analysis of data indicated that, the candidates who scored 3 to 4 marks had adequate knowledge on the subject matter. For example, one candidate was able to describe the steps as follows:

(i) **Stage one**; **collection** –*this is the first step of recycling where the waste products or unwanted materials are collected from different areas such as bottles, plastic, glass and aluminium. These are collected together from environment.*

(ii) **Stage two; manufacturing** – *this is a second stage 0f recycling where these materials which are unwanted to the environment are taken to the industries to be processed and manufactured to be come useful materials such as paper, plastic, unwanted are of manufactured to be useful.*

(iii) ***Stage three*** *-this is a third stage of recycling that after these materials to be manufactured, must be usefulto where can be bought again by people****.***

This shows that these candidates had adequate knowledge and skills thus they were able to provide the correct stages the process of recycling material. Extract 8.0 is a sample of candidate's response to substantiate the above observation.



8. (i) Collecting
This is the first step of recycling where the waste products or unwanted materials collected from different area such as bottle, plastic, glass and aluminium, these are collected together from the environment

(ii) Manufacturing:
This is a second stage of recycling where these materials which are unwanted to the environment are taken to the industries to be processed and manufactured to become a useful materials such as papers, plastics, electrical devices that are unwanted are processed manufactured to be useful.

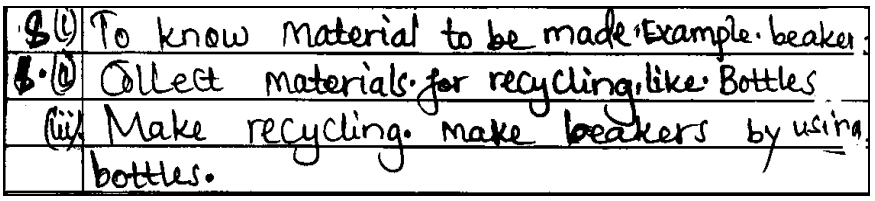
(iii) Buying recycled:
This is a third stage of recycling that after these materials to be re-manufactured, must be

8 (iii) useful to the where can be buying again to people;

Extract 8.0: A sample of candidate correct responses.

Moreover, candidates with average scores (2 to 2.5 marks) failed to clearly provide the first three stages of recycling of material. Others were able to provide only one or two out of the required three responses.

The candidates who scored 0 to 1.5 marks failed to provide correct answers or provided partially correct or one correct stage. For example, one candidate in this category provided the following responses: (i) **stage one** *-proper recycling, (ii)**stage two**- re use of material.* The responses show that the candidate did not understand the demand of the question. The analysis indicates that candidates in this category had poor mastery of the subject matter. Extract 8.1 is an example of an incorrect response.

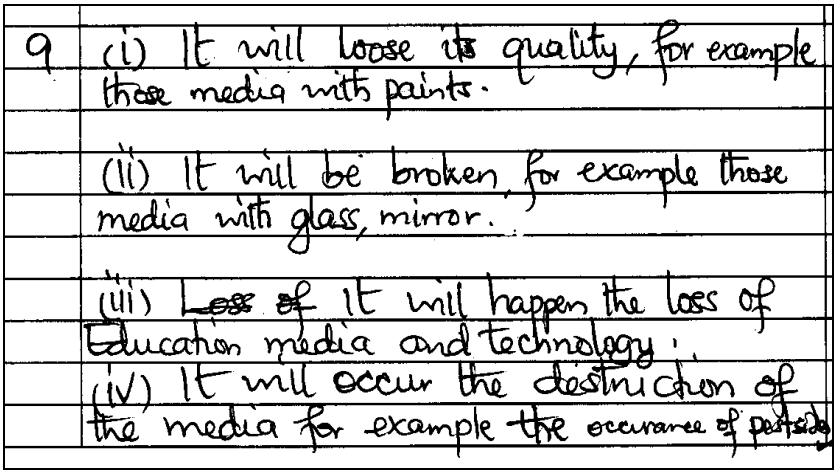


Extract 8.1 A sample of candidate incorrect responses.

2.1.9 Question 9: Care and Maintenance of Educational Media and Technology

In this question, candidates were supposed to explain four consequences of improper storage of educational media. The question was attempted by all (2,664) candidates (100%) out of which 1,072 (52.1%) candidates scored 3 to 4 marks which is good performance. Another 853 (28.2%) of the scored 2 to 2.5 marks which is average performance. The remaining 525 candidates (19.7%) performed poorly as they scored 0 to 1.5 marks. The general performance in this question was good since 80.3 percent of the candidates scored 2 to 4 marks.

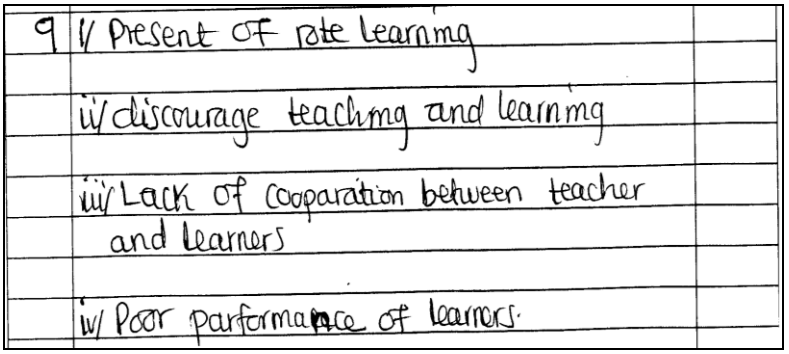
Further analysis indicates that, the candidate who scored 3 to 4 marks understood the demand of the question and had adequate knowledge and skills on the assessed concept. Some of the sample responses were as follows (i) *it will loose its quality example for those media with paints (ii) it will be broken for example those media with glass, mirror, (iii) it will happen the loss of such media (iv) it will cause destruction example pest side:* The analysis showed that these candidates had good mastery of the subject matter. Extract 9.0 is a sample of correct responses from a candidate in this category despite linguistic errors in the extract.



Extract 9.0: A sample of candidate correct responses.

Further analysis showed that, the candidates who scored average marks in this question (2 to 2.5 marks), had partial knowledge and skills of the consequences of improper storage of educational media. This is attested in their partially correct responses. For example one candidate with average score wrote: *(i) it increases cost (ii) develop of ineffective subject (iii) discourage of a lesson (iv) destruction of the property* In this response, only two were correct responses*:(i) it increases cost (iv) destruction of the property* while the rest were incorrect. It is difficult to understand what the candidate intended to communicate in his/her answers in (ii) and (iii).

the analysis further indicated that candidates who scored 0 to 1.5 marks lacked competence in the concepts assessed. Some listed unrelated points that are based on the social and economic setbacks face the society such as; *(i) it cause unemployment (ii) it difficult to remember(iii) it does not develop(iv) it reduce performance* instead of sticking to the negative impacts of improper storage of educational media and technology Extract 9.1 is a sample of incorrect responses from a candidate who scored a 0 mark.



Extract 9.1 A sample of candidate incorrect responses.

2.1.10 Question 10: Care and Maintenance of Educational Media and Technology

In this question, candidates were required to examine four reasons for maintaining educational media and technology. Data shows that all (2,664) candidates (100%) attempted this question. Further analysis showed that 1,031 (38.7%) of the candidates scored 0 to 1.5 marks which is poor performance ,and 908 (34.1%) scored 2 to 2.5 marks indicating average performance. In this question less than one third of the candidates (27.2%) were able to score 3 to 4 marks, indicating good performance. The general performance of candidates in this question can be described as average since 61.3 percent of the candidates were able to score from 2 to 4 marks. Further illustration is given in Figure 8.

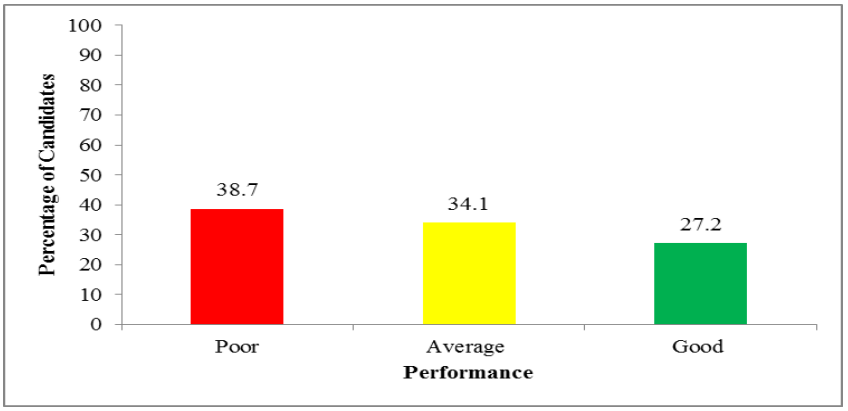
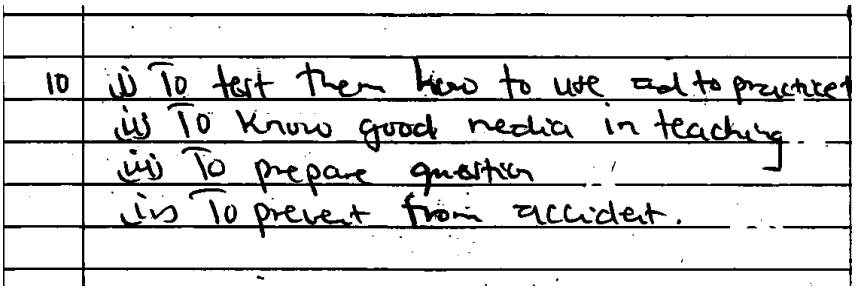


Figure 8: *The percentages of candidates in each category of performance.*

The analysis of candidates' responses in scripts showed that, 1,031 (38.7%) candidates scored low marks because they lacked adequate knowledge and skills on the subject matter. For example, candidates who scored a 0 mark gave unrelated answers about the benefits of maintenance of educational media and technology. One of the candidates wrote; *(i) to test them how to use (ii) to know good media in teaching (iii) to prepare questions (iv) to prevent from accident:* another candidate explained irreverent points out of the correct answer as follow *(i) to retain the other media (ii) to preventing the media (iii) to corrective the media (iv) to replacement the media*. From these responses, it was noted that candidates had poor knowledge and skills on the benefits of maintenance of educational media and technology. Moreover, they could hardly express themselves clearly. Extract 10.0 is a sample of poor response.

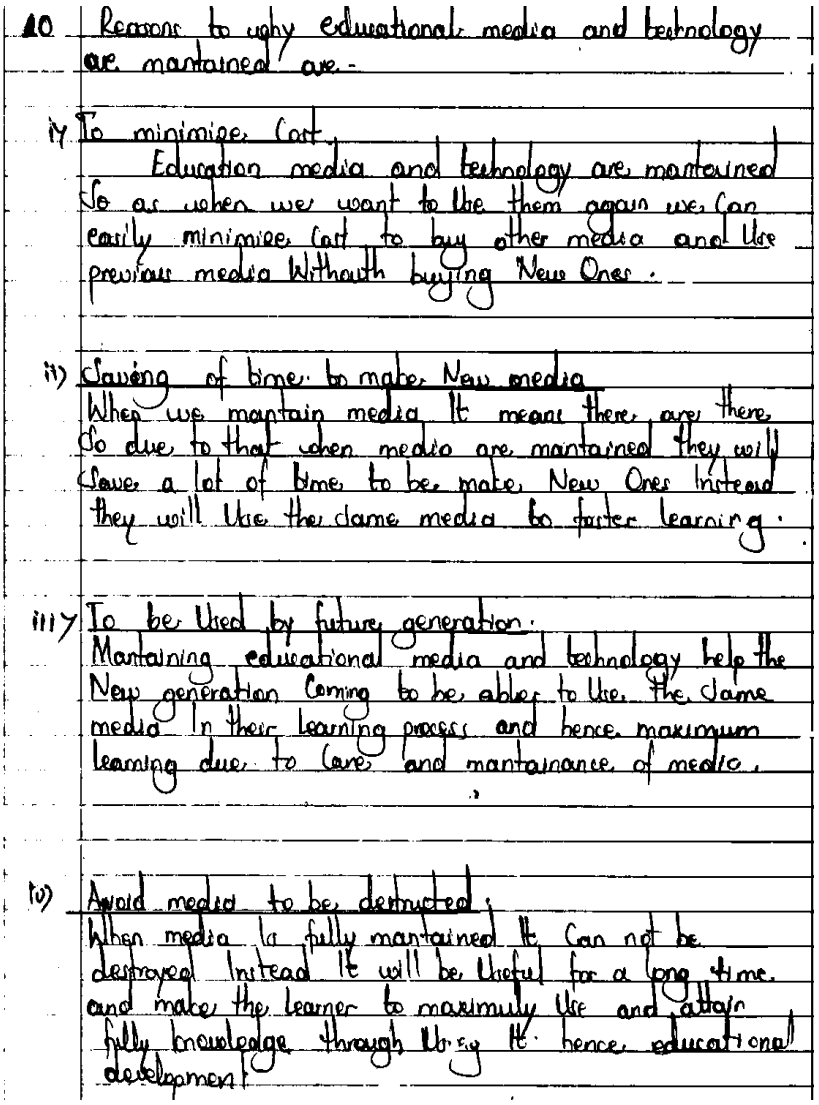


Extract 10.0: A sample of candidate correct responses.

Further analysis noted that candidates who scored 2 to 2.5 marks partially explained the reasons for maintenance of educational media and technology. These candidates were able to provide two correct and some ambiguous responses. For instance, one candidate with average marks explained reason for maintaining educational media and technology as: *reduce cost of buying another, to beased for future use, do no got demage, do not demaged.* In these responses two of them were correct *i.e.reduce cost of buying another, do no got demage* while the other two were repetition of the same point.

Moreover, the analysis on candidates' responses showed that, the candidates who scored 3 to 4 marks had sufficient knowledge about the benefits of maintenance of educational media and technology .as they were able to meet the demand of the question. One candidate who scored highest mark in this question managed to provide correct

answers like: *reduce cost of repairing, reduce financial expenditure, for future uses, to save time during preparation.*. Extract 10.1 is a sample of correct responses from one of the candidates who performed well.


10 Reasons to why educational media and technology are maintained are.-

i) To minimize Cost.
Education media and technology are maintained so as when we want to use them again we can easily minimize cost to buy other media and use previous media without buying New Ones.

ii) Saving of time to make New media
When we maintain media it means there are there. So due to that when media are maintained they will save a lot of time to be make New Ones instead they will use the same media to foster learning.

iii) To be Used by future generation.
Maintaining educational media and technology help the New generation coming to be able to use the same media in their learning process and hence maximum learning due to care and maintainance of media.

iv) Avoid media to be destructed.
When media is fully maintained it can not be destroyed instead it will be useful for a long time. and make the learner to maximuly use and attain fully knowledge through using it hence educational development

Extract 10.1 A sample of candidate incorrect responses.

2.2 SECTION B: ESSAY QUESTIONS

This section consisted of six essay questions and each question carried 15 marks. Candidates were required to choose any four questions. In this section, the performance was considered weak if the candidate scored 0 to 5.5 marks; Average if the candidate scored 6 to 10 marks and good if the candidates scored from 10.5 to 15 marks.

2.2.1 Question 11: Types of Educational Media and Technology

In this question candidates were required to explain the reasons for using audio visual media during the teaching and learning. This question was attempted by 2,603 (97.7%) of the candidates. The performance of candidates in this question was generally good as 539 of the candidates (20.8%) scored from 10.5 to 15 marks. Similarly, 1,551 (75.6%) candidates to scored 6 to 10 marks which is average performance. Only 93 (3.6%) candidates scored 0 to 5.5 marks, indicating poor performance. This makes a total of 2090 (96.4%) of the candidates who had average and good performance which is a pass range for this question.

A detailed analysis shows that, candidates who scored 10.5 to 15 marks understood the question and had sufficient knowledge on the reasons for using audio visual media in the teaching and learning process. They presented well organized essays with clear introduction, points supported by factual details and vivid examples as well as good conclusions. The variation in their performances was determined by clarity of their responses and the ability to provide relevant examples to support their answers. For example, one candidate provided the following responses: *It helps to simplify teaching and learning process, it create attention of learners, it solve language problem, it consider individual differences, it creates interest of learner,* Responses from another candidate in the category of candidates who scored 10.5 to 15 marks were: *it simplifies teaching and learning process, it captures attention of learners, audio visual helps to create long memory, audio visual help to arouse interest audio visual help to save time*. Such responses showed that these candidates had good knowledge and skills on the benefits gained from using audio visual media in the teaching and learning process. Extract 11:0 shows a sample of responses from one of the candidates in this category.

Audio Visual, Are the media which used both picture and sound because is the combination of audio and visual, this used by a teacher as a means of communication during teaching and learning process include sense of hearing and site.

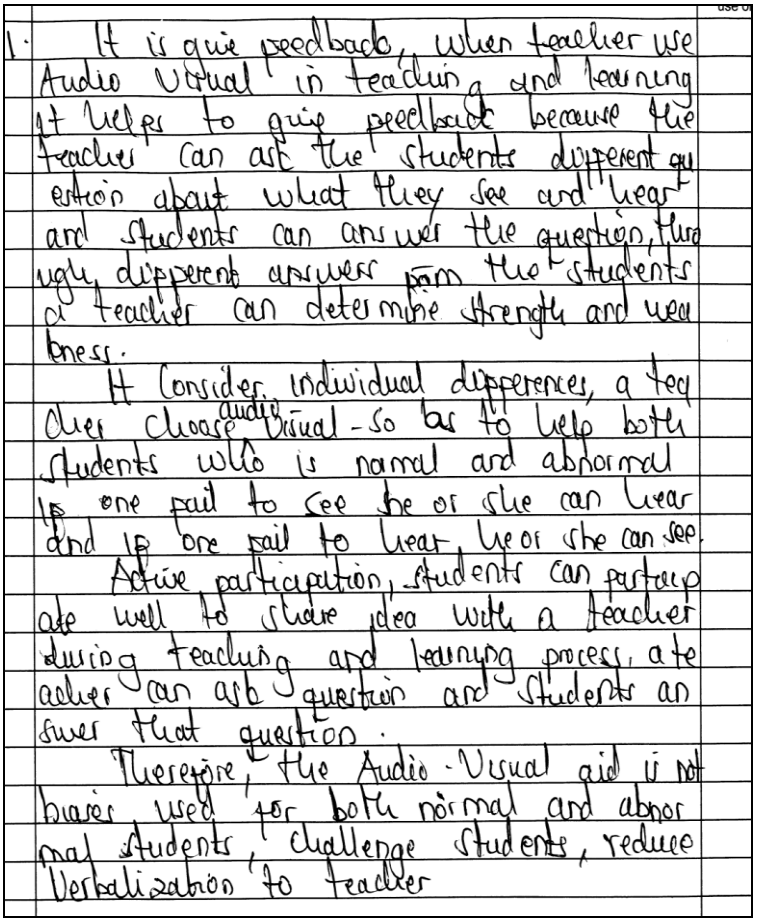
The following are the reasons of why teachers use audio visual media during teaching and learning process.

It helps to simplify teaching and learning process, a teacher when use audio visual in teaching and learning he or she can teach simply and the students can understand well what a teacher said because they can see and hear

It ~~create~~ attention to the students, the students be attentive the intern a teacher about what he or she talk for the aim of audio-visual which a teacher choose or design as a teaching aid for the students.

It solve language problem, through audio visual aid of teacher can teach the lesson well and students can understand because they see picture for the same time hear the sound which produced from that picture so the students can not ask many question

It arise interest of the learner, the learner be interested with the lesson because a teacher choose appropriate aid which can fit the demand of the learner or need of the learner.


1. It is give feedback, when teacher use Audio Visual in teaching and learning it helps to give feedback because the teacher can ask the students different question about what they see and hear and students can answer the question, thro ugh, different answers from the students a teacher can determine strength and wea kness.

It Consider individual differences, a teacher Choose audio Visual - so as to help both students who is normal and abnormal in one part to see he or she can hear and in one part to hear, he or she can see.

Active participation, students can particip ate well to share idea with a teacher during teaching and learning process, a te acher can ask question and students an swer that question.

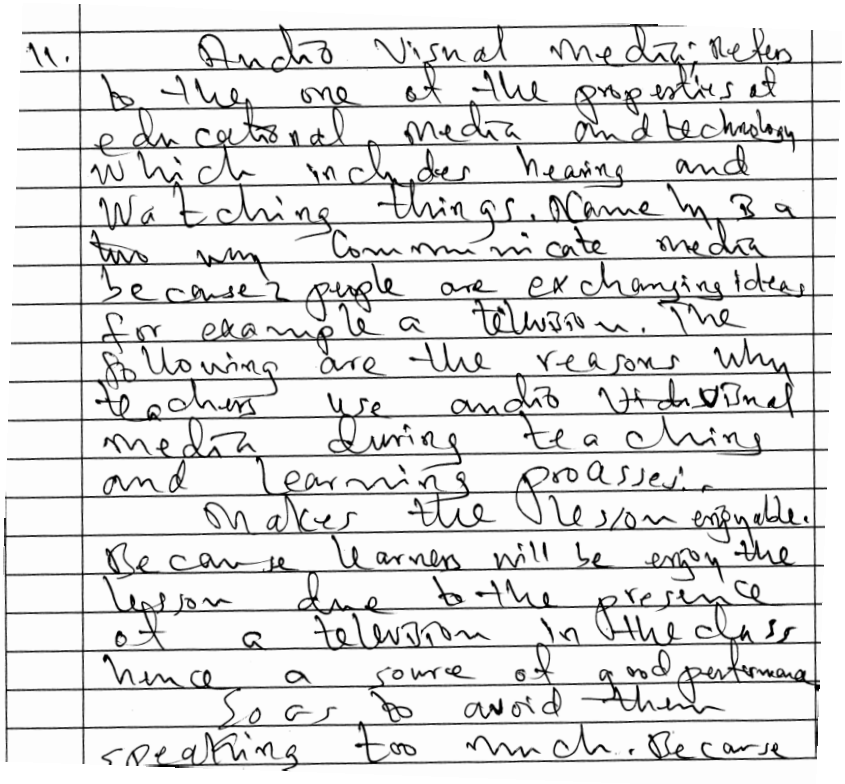
Therefore, the Audio-Visual aid is not basics used for both normal and abnor mal students, challenge students, reduce Verbalization to teacher

Extract 11.0: A sample of candidate correct responses.

It was noted during the the analysis that, candidates who scored 6 to 10 marks could not articulate clearly why teachers use of audio-visual media during teaching and learning. This attested in their partial answers and hence average scores. Other candidates mixed-up correct and incorrect points. For instance, candidates provided such correct points as; *it simplify the process of teaching and learning,it reduce language berrier, audio visual keeps attention of learners* incorrect point like, *it promotes intertaiment, it saves economy,*Such responses showed that these candidates had partial knowledge and skills about audio-visual media and thus, failed to provide all correct points.

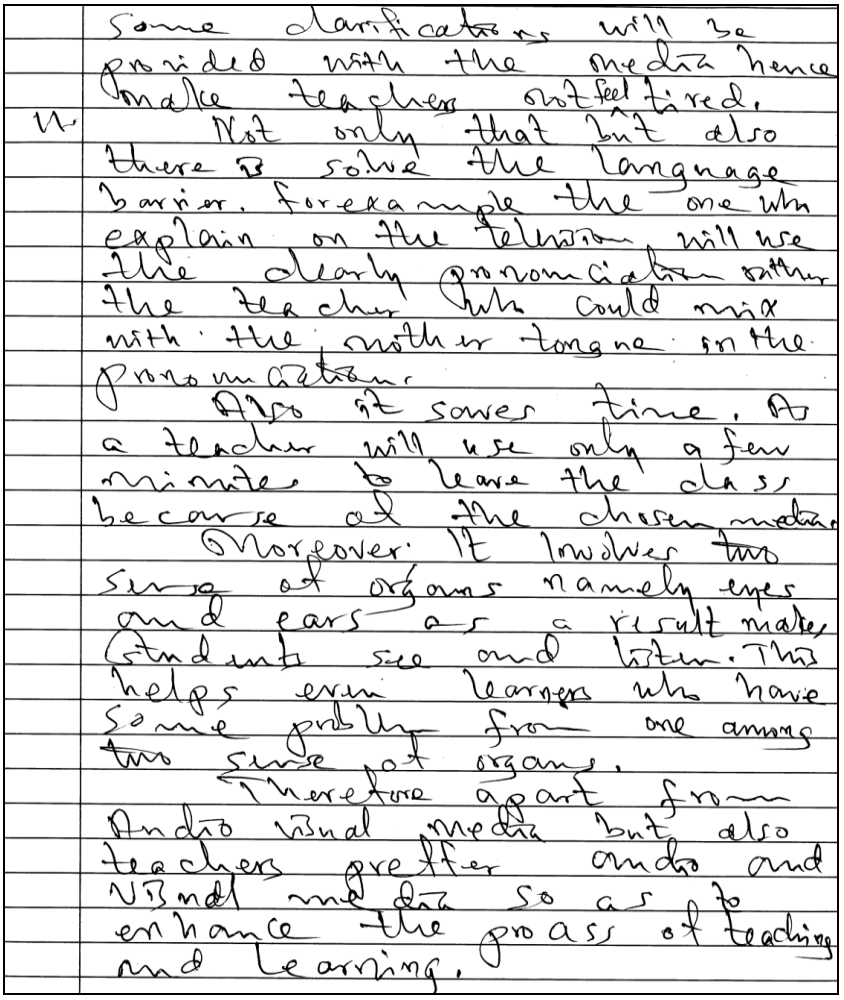
Further analysis indicated that, candidates who scored poorly 0 to 5.5 marks were incompetent on the subject matter and had poor English language skills. The candidates also lacked the basic skills

on essay writing. Some of the candidates explained the social entertainment of media and technology instead of analysing the benefit of using audio-visual media in teaching and learning process. For example, one candidate explained as follows: *makes the lesson enjoyable, to avoid them speaking too much, the solve of the language, it involves source of organ, it saves time.* Another candidate with low score wrote weak points without explanation such as: *.to entertain learners, to simplify a teacher, to improve skill, to improve interaction, to easy teaching process.* The data analysis shows that apart from providing weak points, these candidates also provided incoherent introductions and conclusions, which implied that they had poor mastery of the content and also had poor essay writing skills. Extract 11.1 show a sample of candidate's response in this category..


11. Audio Visual media refers to the one of the properties of educational media and technology which includes hearing and watching things. Name by a few are Communicate media because people are exchanging ideas for example a television. The following are the reasons why teachers use audio visual media during teaching and learning process.

Makes the lesson enjoyable. Because learners will be enjoy the lesson due to the presence of a television in the class hence a source of good performance.

So as to avoid them speaking too much. Because

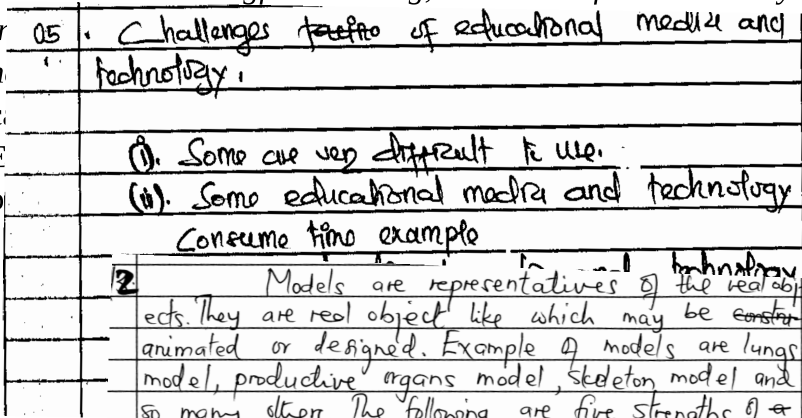

Some clarifications will be provided with the media hence make teachers not feel tired.
Not only that but also there is solve the language barrier. For example the one who explain on the television will use the clearly pronunciation rather the teacher who could mix with the mother tongue on the pronunciation.
Also it saves time. As a teacher will use only a few minutes to leave the class because of the chosen media.
Moreover. It involves two sense of organs namely eyes and ears as a result make student see and listen. This helps even learners who have some problem from one among two sense of organs.
Therefore apart from Audio visual media but also teachers prefer audio and visual media so as to enhance the process of teaching and learning.

Extract 11.1: A sample of candidate incorrect responses.

2.2.2 Question 12: Characteristics of Educational Media and Technology

In this question, candidates were required to analyse five strength of teaching a lesson by using a model in a classroom. The question was attempted by 2379 (89.0%) of the candidates out of which 475 (20.0%) scored 10. 5 to 14 marks indicating good performance. Another 1,727 (72.8%) candidates scored 6 to 10 marks which is average performance. A total of 170 (7.2%) candidates scored 0 to 5.5 marks, which implies poor performance. According to these data, the general performance in this question was good as 2202 (92.8%) candidates who scored 6 to 15 marks.

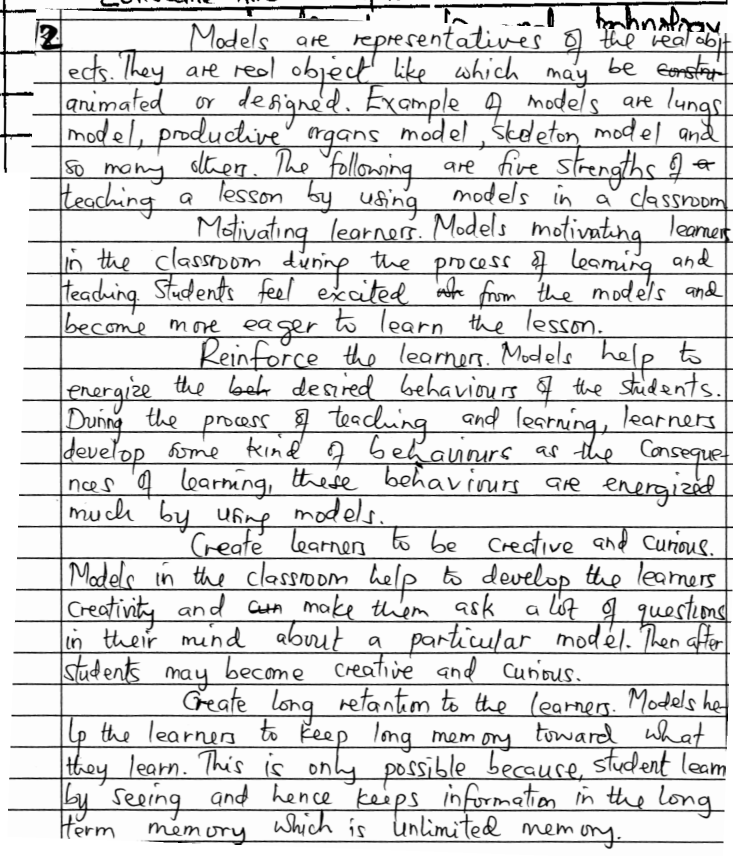
The analysis showed that, candidates who scored 10.5 to 15 marks understood the question and had sufficient knowledge on the strength of teaching a lesson by using models in a classroom. They presented well organized essays with clear introduction; correct points supported by factual details as well as correct conclusions. The variation in their performances was determined by clarity of their responses and the ability to explain. For example one candidate provided the following responses: *it creates permanent memory to a learner, it helps a learner to understand easily, it captures attention of the students, it arose the learning interest, it improves creativity.* Other responses from another candidate were: *it enables meaningful learning, models influence reality and ir... nd it h...* hese c... atter. E... this p...



05 . Challenges ~~taefro~~ of educational media and technology.

(i). Some are very difficult to use.

(ii). Some educational media and technology consume time example



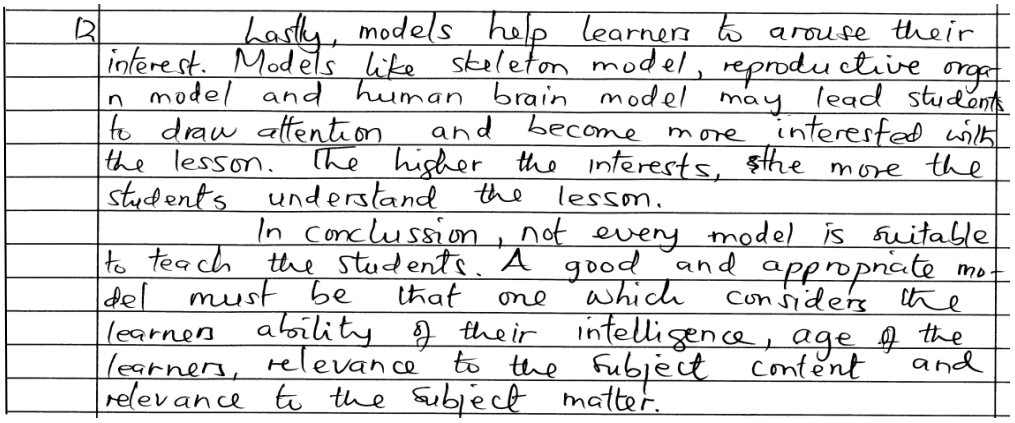
2 Models are representatives of the real objects. They are real object like which may be ~~constr~~ animated or designed. Example of models are lungs model, productive organs model, skeleton model and so many others. The following are five strengths of ~~a~~ teaching a lesson by using models in a classroom.

Motivating learners. Models motivating learners in the classroom during the process of learning and teaching. Students feel excited ~~at~~ from the models and become more eager to learn the lesson.

Reinforce the learners. Models help to energize the ~~beh~~ desired behaviours of the students. During the process of teaching and learning, learners develop some kind of behaviours as the consequences of learning, these behaviours are energized much by using models.

Create learners to be creative and curious. Models in the classroom help to develop the learners creativity and ~~can~~ make them ask a lot of questions in their mind about a particular model. Then after students may become creative and curious.

Create long retantion to the learners. Models help the learners to keep long memory toward what they learn. This is only possible because, student learn by seeing and hence keeps information in the long term memory which is unlimited memory.

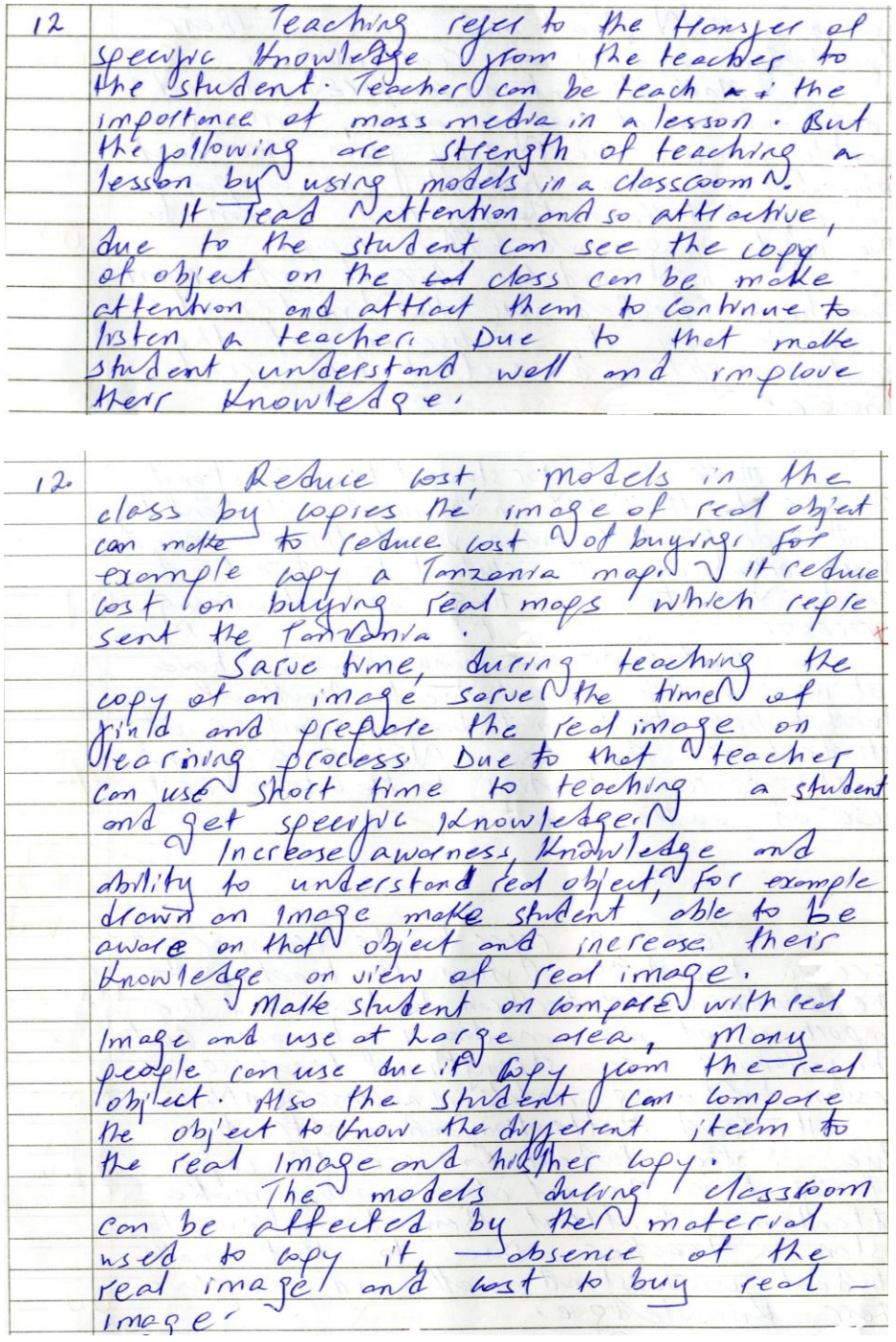


Extract 12.0: A sample of correct responses from a candidate who was able to analyse five strengths of teaching a lesson by using a model in a classroom.

Similarly, analysis showed that, candidates who scored 6 to 10 marks indicating that they had average understanding of the assesseed concept. Some mixed correct and incorrect points in their explanations. It was also noted during the analysis that, some of the candidates in this category provided less number of points than. For example, one candidate who provided correct and incorrect responses, the correct responses were: *It helps the students to remember the lesson, it arouse interest, it smplify teaching and learnig.* On the other hand, the incorrect were: *it improve social life, models develop infrastructure*. This suggests that, these candidates had partial knowledge and skills on the subject matter.

Further analysis showed that, the candidates who scored 0 to 5.5 marks had poor mastery of the subject matter, poor skills on essay writing and poor in English language skills. Due to insufficient English language vocabulary, most of the candidates in this category also provided irrelevant responses which are an indication that they misunderstood the question. For example, one candidate provided the following responses *as: audible voice, simple language, to give more tasks, to use aid of teaching, student participation.* These responses implied that the candidate confused the term model as an object to a model teacher (a person or an exemplary teacher). However, the context of the question required the candidate to use the term model as an object. Another example of a candidate who misunderstood the question wrote; *attractive media, to be big, to be simple and clear, this increases teaching, makes a good class.* The responses imply that the candidates

lacked knowledge on the strength of teaching a lesson by using a model in a classroom, Extract 12.1 is a sample candidate's responses.


12 Teaching refer to the transfer of specific knowledge from the teacher to the student. Teacher can be teach about the importance of mass media in a lesson. But the following are strength of teaching a lesson by using models in a classroom N.
It lead Attention and so attractive, due to the student can see the copy of object on the real class can be make attention and attract them to continue to listen a teacher. Due to that make student understand well and improve their knowledge.

12. Reduce cost, models in the class by copies the image of real object can make to reduce cost of buying, for example copy a Tanzania map. It reduce cost on buying real maps which represent the Tanzania.
Save time, during teaching the copy of an image save the time of find and prepare the real image on learning process. Due to that teacher can use short time to teaching a student and get specific knowledge.
Increase awarness, knowledge and ability to understand real object, for example drawn an image make student able to be aware on that object and increase their knowledge on view of real image.
Make student on compare with real image and use at large area, many people can use due it copy from the real object. Also the student can compare the object to know the different item to the real image and his/her copy.
The models during classroom can be affected by the material used to copy it, absence of the real image and cost to buy real image.

Extract 12.1: a sample of unrelated response from a candidate who misunderstood the question and hence provided irrelevant responses.

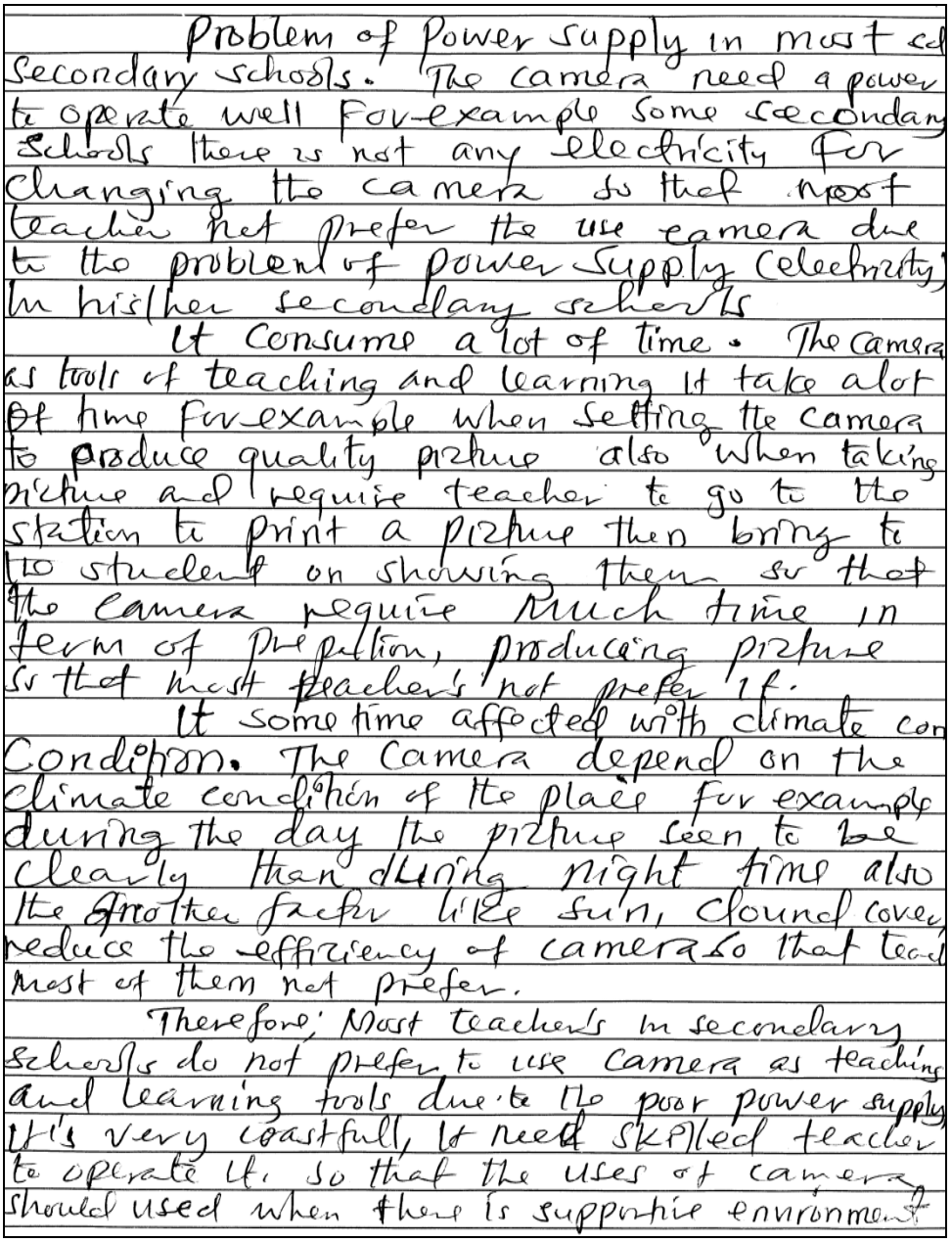
2.2.3 Question 13 Categories of Educational Media and Technology

In this question, candidates were required to explain the reasons that limit most of teachers in secondary schools to use cameras as teaching and learning tools. The question was attempted by 989 (37.1%). The analysis of candidates' performance showed that, only 88 (8.8%), candidates were able to scored10. 5 to 15 marks indicating good performance. Further analysis showed that 622 (63.0%) candidates scored 6 to 10 marks which is average performance and 279 (28.2%) candidates scored 1 to 5.5 marks which is poor performance. According to these data, the general performance in this question was good since 71.8 percent of the candidates scored 6 to 15 marks.

Further analysis indicated that, the candidates who scored 10.5 to 15 marks were able to understand the question and had sufficient knowledge about the use of camera as a teaching resource. They managed to provide correct introduction and clearly explained limitations that most of the teachers of secondary schools face. Some of the limitations which were identified include: *it is very difficult for students with visual impairment, camera is very expensive, camera needs a skilled person; camera requires more time in planning for its use. Camera is not selective.* These candidates also managed to write coherent conclusions.

Moreover, most of these candidates had sufficient mastery of English language which enabled them to write good arguments. The variation in their performance was determined by clarity of their responses and the ability to provide relevant examples to support their answers. Extract 13:0 is a sample of good responses from a candidate who scored high marks.

13	Camera · Refer to the electronic device which used to take picture from real object. camera used to record event and taking picture in event forexamp of camera are camera360 HD, They are following bellow are reason to why Most teacher in seconday schools do not prefer to use camera as teaching and learning tools this is due to the following reason.
	It is very coastfull (expensive). The camera are very coast full in terms of buying so that Most teacher do not prefer instead use the improvisation method to substitute it for example for uses of camera like taking picture / produce picture They are using diagram to draw the certain pictures as teaching aids.
	It need skilled teacher to operate it. The camera it require the teacher his/her cue aware to use it because there some setting need skilled teacher for example adjusting constrating (Light) size, shape so that the most teacher not prefer it.

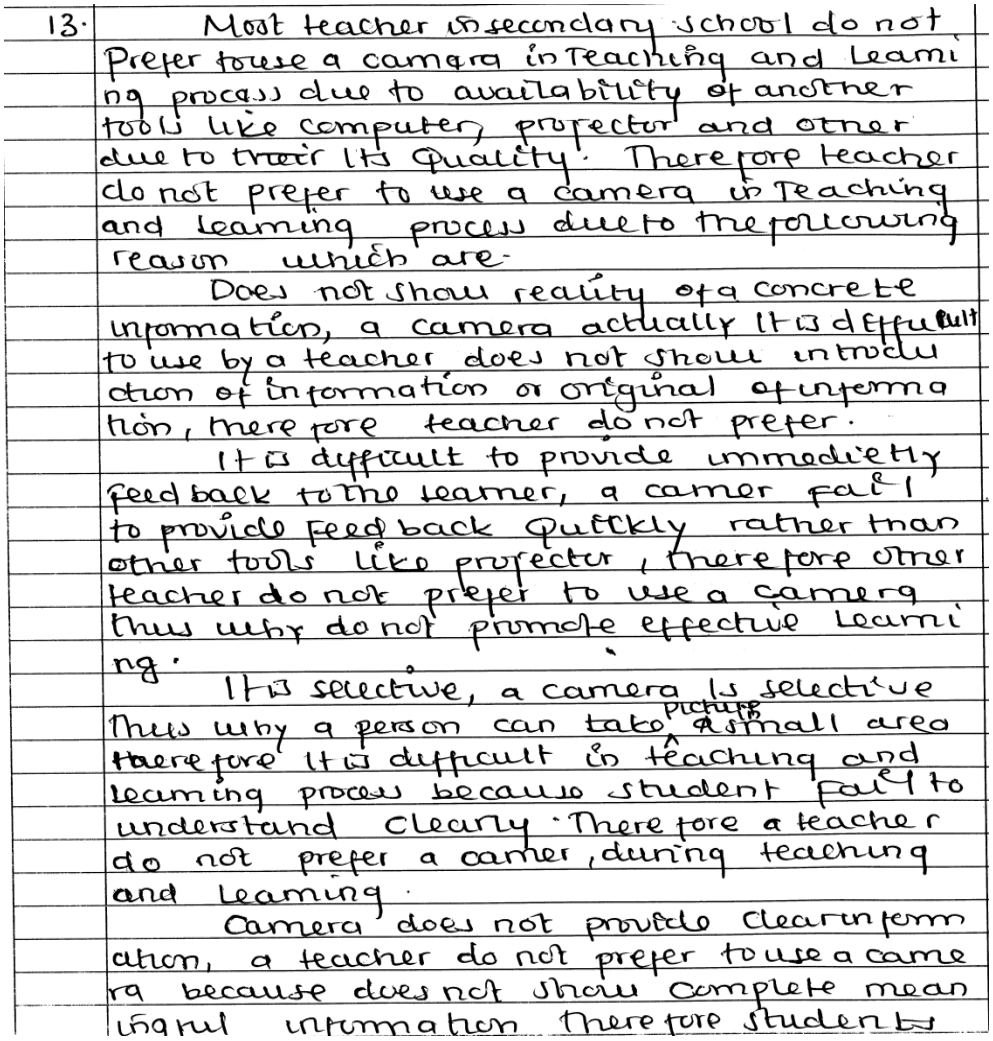

Problem of Power supply in most ed
Secondary schools. The camera need a power
to operate well For example some secondary
schools there is not any electricity for
Changing the camera so that most
teacher not prefer the use camera due
to the problem of power supply (electricity)
In his/her secondary schools
It Consume a lot of time. The Camera
as tools of teaching and learning it take alot
of time for example when setting the camera
to produce quality picture also when taking
picture and require teacher to go to the
station to print a picture then bring it
to student on showing them so that
the camera require much time in
term of preption, producing picture
so that most teachers not prefer it.
It some time affected with climate con
Condition. The camera depend on the
climate condition of the place for example
during the day the picture seen to be
clearly than during night time also
the another factor like sun, Clound cover
reduce the efficiency of camera so that teac
most of them not prefer.
Therefore, Most teachers in secondary
schools do not prefer to use camera as teaching
and learning tools due to the poor power supply
It's very coastfull, it need skilled teacher
to operate it. so that the uses of camera
should used when there is supportive environment

Extract 13.0: A sample of responses from a candidate who was able to explain reasons that limit most of teachers in secondary schools camera as teaching and learning tool.

Likewise, the analysis showed that candidates who scored 6 to 10 marks could not provide convincing reasons.as they used fewer reasons that limit most teachers in secondary schools to use cameras as teaching and learning tool. For example, one candidate provided relevant and irrelevant responses, Relevant responses were: *camera is very expensive, they need good man, poor supply of electricit.* Irrelevant responses were; *poor class*

setting, viruses destroyed camera. These candidates also managed to write coherently from their introduction to the conclusion.

Furthermore, the analysis showed that 279 candidates (28.2%) scored 1 to 5.5. Majority of them provided incorrect points such as: *reduce student attention, consume time, lose student interest, cause boredom, destroying student creativity.* The analysis revealed that these candidates failed to understand the demand of the question, and had poor knowledge about the idea. Extract 13.1 is a sample of wrong responses from a candidate who scored low marks.



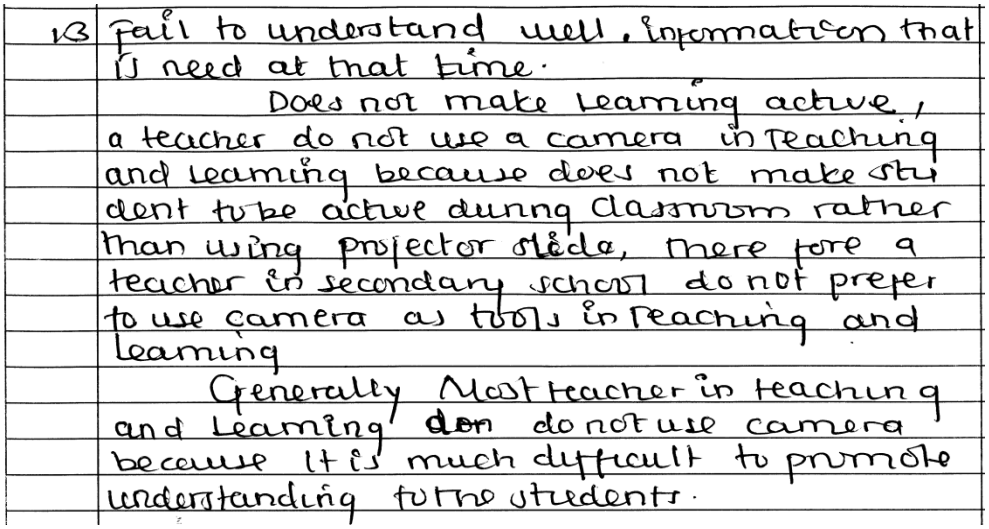
13. Most teacher in secondary school do not Prefer to use a camera in Teaching and Learning process due to availability of another tools like computer, projector and other due to their Its Quality. Therefore teacher do not prefer to use a camera in Teaching and learning process due to the following reason which are-

Does not show reality of a concrete information, a camera actually It is difficult to use by a teacher does not show introduction of information or original of information, therefore teacher do not prefer.

It is difficult to provide immediety feed back to the learner, a camer fail to provide feed back Quickly rather than other tools like projector, therefore other teacher do not prefer to use a camera thus why do not promote effective Learning.

It is selective, a camera is selective thus why a person can take picture a small area therefore It is difficult in teaching and learning process because student fail to understand clearly. Therefore a teacher do not prefer a camer, during teaching and Learning.

Camera does not provide Clear information, a teacher do not prefer to use a camera because does not show complete meaningful information therefore student by


13 fail to understand well, information that is need at that time.

Does not make learning active, a teacher do not use a camera in teaching and learning because does not make student to be active during classroom rather than using projector slide, therefore a teacher in secondary school do not prefer to use camera as tools in teaching and learning

Generally Most teacher in teaching and Learning don do not use camera because it is much difficult to promote understanding to the students.

Extract 13.1: A sample of candidate incorrect responses.

2.2.4 Question 14: Principles of Teaching and Learning in Educational Media Technology

In this question, candidates were required to examine factors to be considered in designing educational media and technology suitable for teaching and learning in secondary schools. This question was attempted by 2,330 (87.5%) candidates. The analysis showed that, 362 (8.3%) candidates scored 10.5 to 13 marks which is good performance. The analysis also showed that, 1,904 (81.8%) candidates scored 6 to 10 marks indicating average performance and 231 (9.9%) candidates w scored 0 to 5.5 marks. According to these data, the general performance in this question can be classified as good because 90.1 percent of the candidates had average and good performance.

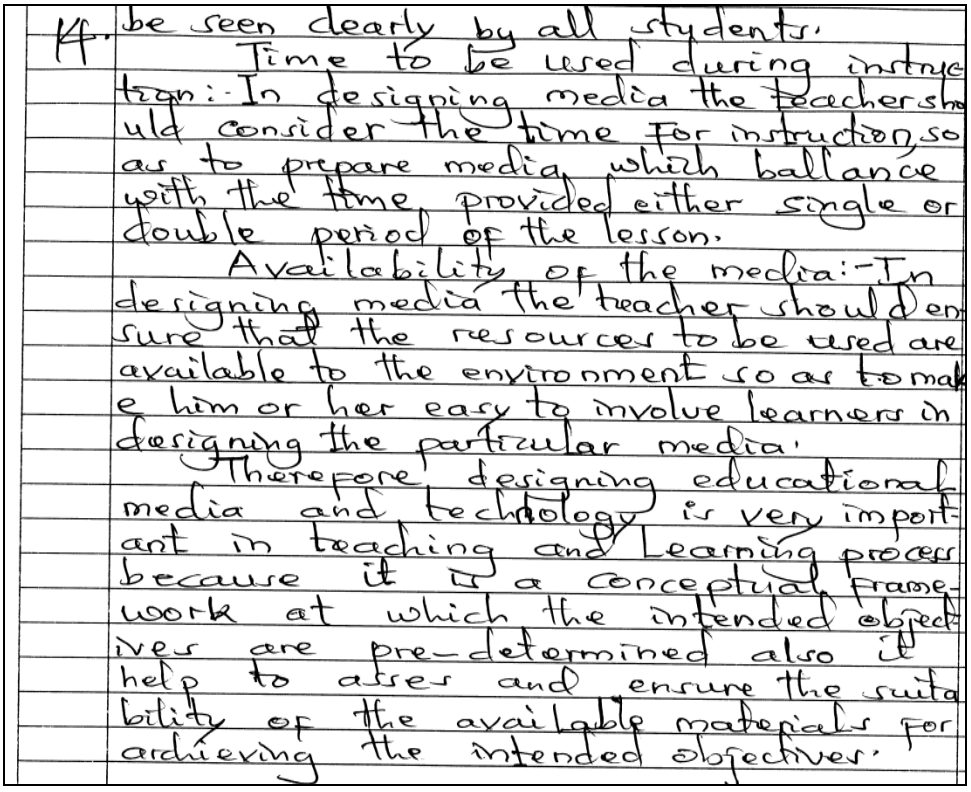
Further analysis shows that, the candidates who scored 10.5 to 13 marks had appropriate knowledge of the subject matter. These candidates provided relevant introduction and required number of points with relatively adequate and coherent explanations. The accuracy of their responses, however differed; those who scored 13 marks were more conversant than the rest. They provided relevant points such as: *nature of the content, level of the learner, size of the class, time to be used, and availability of the media.* However, the degree of clarity of responses caused some of them to score more marks than others. Extract 14.0 shows a sample of relevant responses from one of the candidates in this category.

14. Designing :- Can be defined as the process of purposeful visual creation. Educational media is the means of communication used in teaching and Learning process. The process of design Consist of elements like space, line, Colour, shape, Form and value also it have principles like ballance, proportion, rhythm, emphasis and unit which are used to organize and arrange the elements of designing. The following are the factors to be considered in designing educational media and technology suitable for teaching and Learning in secondary schools :

Nature of the content :- Is one of the factor to be considered in designing media where by the media should relate with the nature of the content forexample if the content is breathing the teacher should design a model of Lungs.

Level of the learner :- The media to be designed should consider the level of the learner in case of age, maturity and the level of understanding capacity as there is Low Learners who need assistance from the teacher.

Size of the class :- The media to be designed should consider the size of the class in case of number of students in the classroom so as to design the media which is large to

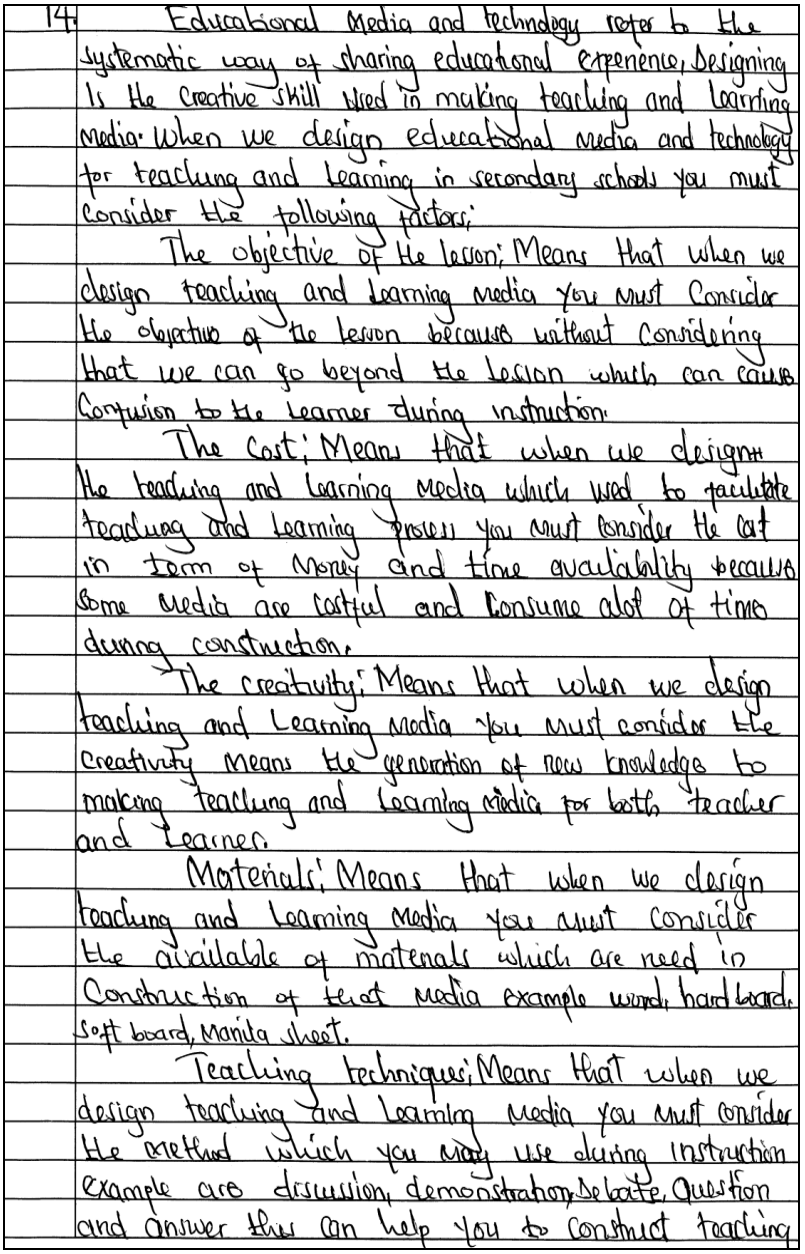


Extract 14.0: A sample of candidate correct responses.

Furthermore, the candidates who scored 6 to 10 marks were able to give the required points but provided insufficient explanations to justify their arguments. They also repeated some of the points which denied them higher scores. Others wrote relevant and irrelevant points in relation to the question. For example, one candidate in this category who mixed-up corect and incorrect points wrote the following responses; relevant responses: *age of the learners, subject content,learnig objectives* while some irrelevant points were*: simple tools, student views.* Analysis revealed that this candidate had partial knowledge on factors to be considered in designing educational media and technology suitable for teaching and learning in secondary schools.

Further analysis showed that 23` candidates (9.9%) had poor performance as they scored 0 to 5.5 out 15 marks. The analysis showed that, these candidates lacked basic knowledge and skills on the tested skills. Majority of them in this category provided general ideas on modern media such as: *movement, repetition, unity, should be harmony, should be proportional.* Other candidates misinterpreted the question as

they provided unrelated responses.as follows: *school discipline, gender balance, materials of teaching, must enjoyable, enable learning.* These candidates seemed to have failed to understand the demand of the question. Extract 14.1 is a sample of a candidate's response in this category.



14. Educational Media and technology refer to the systematic way of sharing educational experience, Designing is the creative skill used in making teaching and learning media. When we design educational media and technology for teaching and learning in secondary schools you must consider the following factors;

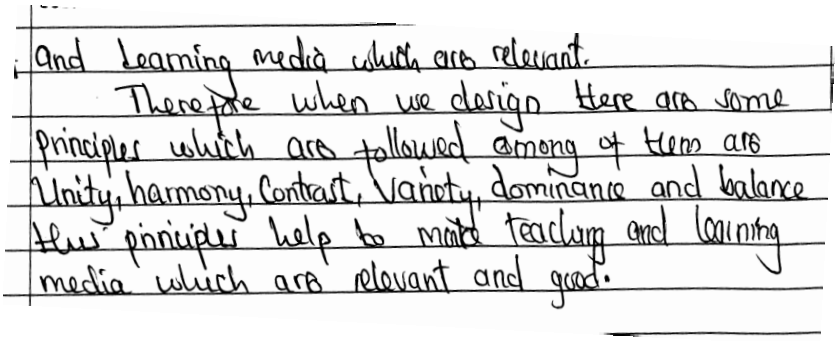
The objective of the lesson; Means that when we design teaching and learning media you must Consider the objective of the lesson because without Considering that we can go beyond the lesson which can cause Confusion to the learner during instruction.

The Cost; Means that when we design the teaching and learning media which used to facilitate teaching and learning process you must consider the cost in term of Money and time availability because some media are costful and Consume alot of time during construction.

The creativity; Means that when we design teaching and Learning media you must consider the creativity means the generation of new knowledge to making teaching and learning media for both teacher and learner.

Materials; Means that when we design teaching and learning media you must Consider the available of materials which are need in Construction of that media example wood, hard board, Soft board, Manila sheet.

Teaching techniques; Means that when we design teaching and learning media you must consider the method which you may use during instruction example are discussion, demonstration, Debate, Question and answer this can help you to construct teaching


and learning media which are relevant.
There fore when we design there are some principles which are followed among of them are Unity, harmony, Contrast, Variety, dominance and balance this principles help to make teaching and learning media which are relevant and good.

Extract 14.1: A sample of candidate incorrect responses.

2.2.5 Question 15: Characteristics of Educational Media and Technology

Question 15, required the candidates to demonstrate the application of recycling in construction of educational media. The question was attempted by 829 (31.1%) candidates However, this question appeared to be the most poorly performed since only 15 (1.8%) of the candidate were able to score 10.5 to 15 marks, which is a good performance. Only 107 (12.6%) candidates had average performance as they scored 6 to 10 marks. Some 708 (85.6%) candidates scored 1 to 5.5 marks, which was poor performance. This means only 119 (14.4%) candidates had average to good performance, which makes the general performance in this question poor.

Further analysis shows that, the candidates that scored 10.5 to 15 marks had sufficient knowledge on construction of educational media and technology. These candidates managed to provide relevant introduction and clearly demonstrated the application of recycling in the construction of educational media as the question demanded. Some of the responses of candidates in this category were: first step *collection of waste materials, moulding of the media, manufacture of the product to make new media, reuse of the previous media, modification of the used media.* These candidates also wrote relevant conclusions.

Moreover, most of these candidates had sufficient English language skills which enabled them to write coherently. The difference in their performances was determined by differences in the clarity of their responses and the ability to provide relevant examples to support their answers. Extract 15:0 is a candidate's response in this category.

15 In five point to demostrate the application of recyling in construction of education media

Recycling is the collection of used material and process them for re use. recycling is important since it save time, save cost, Preserve natural environment, Preserve natural resource ensure availability of media in school and Finally impart skill to people about knowledge of recycling and apply them on daily life

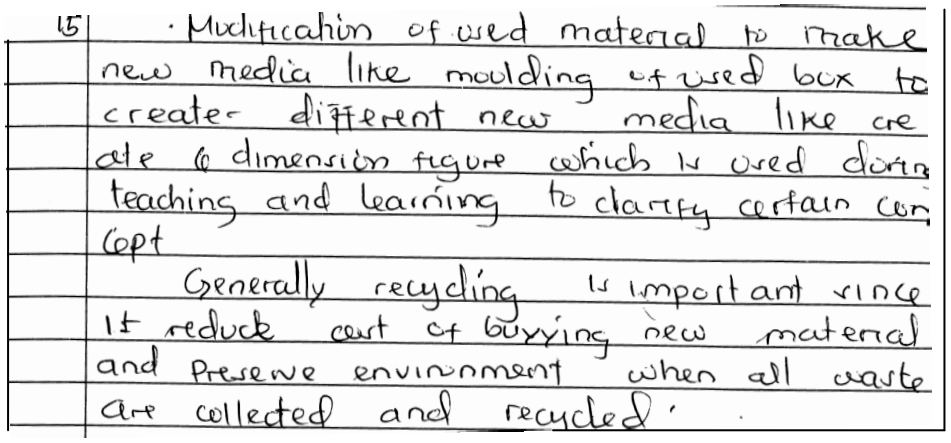
The following are application of recycling in construction of education media:

Collection of waste material like bottle and dry cell which can be use during teaching and learning through collective used material such as dry-cell which is used by teach to teach physics in topic of cells.

Moulding of media by using available material like box to create 6 dimension figure so recycling is important since it is applied and construct media to be used like using box to create six figure dimension structure

Manufacture of product to make new media recycling is usefull since material collected can be processed to manufacture product such product can make new media that are used during teaching and learning

Re use of Previous media in teaching and learning: through re use of Media that is Previously used during teaching and learning recycling are applied in construction of media


15 · Modification of used material to make new media like moulding of used box to create different new media like are ate 6 dimension figure which is used during teaching and learning to clarify certain concept

Generally recycling is important since it reduce cost of buying new material and Preseve environment when all waste are collected and recycled.

Extract 15.0: A sample of candidate correct responses.

Some 107 (12.6%) candidates cored 6 to 10 marks. It was revealed that, these candidates had partial knowledge on the application of recycling in the construction of education media. The candidates provided irrelevant responses due to misinterpretation of the question and others provided fewer points than the demanded. Some of the responses in this category include: *collection of materials, mounding, manufacturing, reuse of previous media* and *employment.* Another candidate had the following points, *reuse of the previous media, collection of materials, modification of the used media* and *Evaluating wastes.* Further analysis showed that, these candidates had partial skills in essay writing, and therefore they were able to correctly identify the required points. However, they failed to show their application in answering the question. Some minor cases in English language terms which made them fail to make clear elaboration of points raised.

Most among the 708 (85.6%) candidates who scored poorly misinterpreted the question probably because of word “construction" which consequently made candidates to elaborate general ideas in educational media and technology. Others provided the uses or functions of educational media and technology instead of demonstrating how they can construct eof ducational media through recycling of materials. Some of the responses were as follows: *it brings creativity, it create motivation, it saves time, it create to brings high performance, it brings feedback,*. For instance, one candidate in this category listed the following application of recycling in construction of education media: *feedback, learners, materials, audio visual, environment.* This indicates that the candidates misinterpreted the

question and hence gave irrelevant responses. Furthermore, the candidates had also problem with communication and writing skills. Extract 15.1 represent the responses of candidates in this category.

15. Recycling is the process of Preserving the material for the later use and also can be used later for more reference. The following are the application of recycling in construction of educational media.

By hanging in iron nail;- The use of iron nail can help in recycling of constructed education media. in which they can not be destructed.

By putting big box;- The use of big box can help the recycle constructed education media for the later use in which they can be given more instruction of Preserving.

By preserve in cupboard;- that can help the educational media not to be distructed for more reference and can also be used later use.

By putting them in a big envelop;- Educational media can be recycled by also putting in a big envelop in which it can not be distructed and used for later use and not to be very destructed.

Making of the special room for. Preserving the educational material that can be used for the use of only educational media construction.

Recycling give reference to the Previous used material in which it can be more creative in designing and more critical

15 in professional of designer hence the above are demostrate the application of recycling in construction of education media.

Extract 15.1: A sample of candidate incorrect responses.

2.2.6 Question 16: Production of Traditional and Modern Educational Media and Technology.

In this question, the candidates were required to explain the factors to be considered in the production and use of traditional media and technology. This question was attempted by 1,529 (57.4%). The performance of candidates in this question shows that, 197 (12.9%) candidates scored 10.5 to 15 marks indicating good performance. Further analysis showed that, 1081 (84.4%) candidates had average performance as they scored 6 to 10 marks. The analysis also shows that the remaining 41 (2.7%) candidates performed poorly as they scored 0 to 5.5 marks. According to these data, the general performance in this question was good as 1,409 candidates (97.3%) had average and good performance as they scored 6 to 15 marks.

The analysis of candidates' responses showed that, the candidates who scored 10.5 to 15 marks demonstrated better understanding of the question and had sufficient knowledge on production and use of traditional media and technology. They presented well organized essays, with clear introduction, required number of points as well as relevant conclusions. The variation in the candidates' performances in this category was determined by their varying degrees of clarity of their responses and the ability to provide sufficient explanation. For example one candidate provided factors to consider in the production and use of traditional media and technology as: *curriculum content, age of the learners. level of the learners, interest of the learners, number of the learners.* Such responses showed that these candidates had good knowledge and skills. Extract 16.0 is a sample of a candidate's responses in this category.

16. Traditional media. These are non digital media, that they dont require the use of electricity or experts. example of traditional media are like models, pitture, graphics, printed materials, three dimensions. The followings are the factors to be considered in production and use of traditional media and technology.

Curriculum content, in production of traditional media and technology a teacher should consider the content of the lesson through doing this a media produced will facilitate an effective learning to the students while failure to do so it will lead to the poor presentation of the content to the learners.

Age of the learners - traditional media should consider age of the learner during production and the use of constructed media to the students for example you cannot take graphs to the children of age seven but a teacher can do so for the students of twenty years.

Level of the learners, during construction of education traditional media a teacher is required to consider the level of the learners, due to the fact that the understanding capacity of a form one student is slower compared to the form four student therefore even their teaching and learning media should be different so as to facilitate an effective learning.

Interest of the learners, a subject teacher should be aware of his/her learners on different teaching and learning aid, this will facilitate a teacher to construct a good traditional media which will emphasize good understanding of the lesson hence enjoy the lesson.

Number of learners, a subject teacher before constructing a teaching and learning aid should be

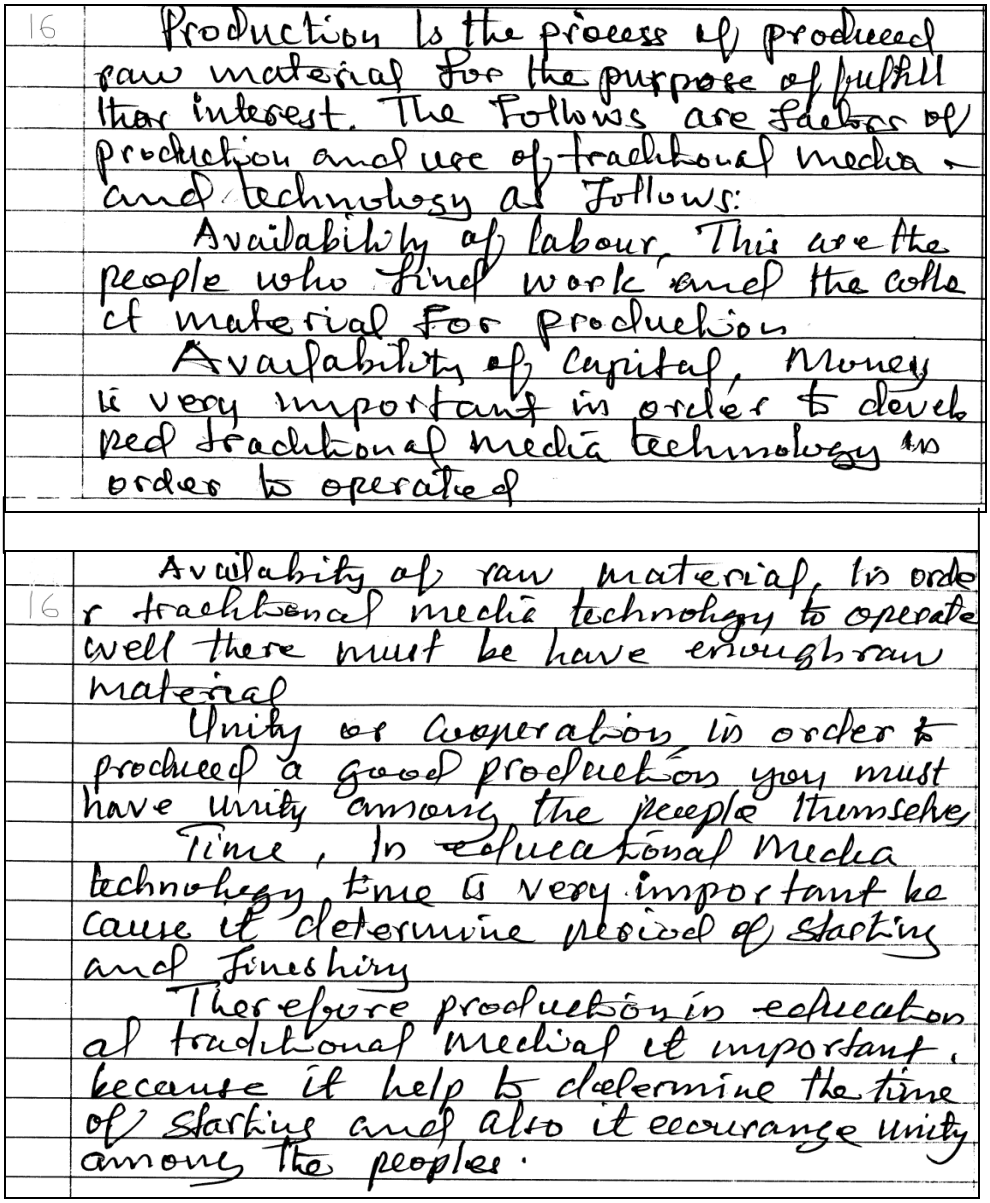
16. aware of number of his/her students, this will help a teacher to be aware of how many teaching and learning aids can be construct for the whole learners in the class so as to facilitate the transmission or transfer of knowledge.

Any teacher who ever want to produce and use traditional media and technology has to consider those factors so as to produce a good traditional media which will emphasize the understanding of the content during the lesson.

Extract 16.0: A sample of candidate correct responses.

Similarly, analysis revealed that, the candidates who scored 6 to 10 marks in this question had average understanding of the tested concept. Some were able to explain factors to be considered in production and use of traditional media and technology but could not explain sufficiently. Moreover, others mixed up relevant and irrelevant points in their explanations. For instance one candidate mixed up the correct and incorrect points as follows, the relevant points were: *has to consider relevance of materials, selected materials should be those found in the environment.* On the other hand, irrelevant points were: *relevant to the society, the one that is practical.* Another candidate demonstrated incorrect points based on the features of the model and correct points basing on factors to be considered in production and use of traditional media and technology. Examples are; *looks as real object, reflect a real product, the presentation should be interesting, has to consider the level of the learners, materials should be found in the local areas.* Therefore, these candidates had partial knowledge on factors to be considered in production and use of traditional media and technology.

The minority 41 of candidates (2.7%) who scored poorly (0 to 5.5 marks) demonstrated lack of competence in the subject matter, poor knowledge and insufficient ability to express in English language and lack of basic essay writing skills. Analysis revealed that, some of the candidates misinterpreted the question and hence explained economic, social and political factors required for the development of the society. One candidate, for example, responded by citing such factors as: *availability of labour, availability of capital, unity or cooperation. Time factor.* Extract 16.1 is a sample of responses from one of the candidates in this category.


16 Production is the process of produced raw material for the purpose of fulfill ther interest. The follows are factors of production and use of traditional media and technology as follows:

Availability of labour, This are the people who find work and the collect material for production

Availability of capital, Money is very important in order to develop traditional media technology in order to operated of

16 Availabity of raw material, in order traditional media technology to operate well there must be have enough raw material

Unity or cooperation, in order to procheed a good production you must have unity among the people themselve

Time, In educational Media technology, time is very important because it determine period of starting and finishing

Therefore production in education al traditional media it important, because it help to determine the time of starting and also it encurange unity among the peoples.

Extract 16.1: A sample of candidate incorrect responses.

3.0 PERFOMANCE OF CANDIDATES IN EACH TOPIC

The Educational Media and Technology examination items were drawn from 8 topics of the subject. The analysis of candidates' performance in each topic shows that, candidates had good performance in five topics out of the eight assessed topics. The candidates' performance was good in the following topics; *Characteristics of Educational Media and Technology (94.7%,);* and *Principles of Teaching and Learning in Educational Media and Technology (94.5%), Production of Traditional and Modern Educational Media and*

Technology.(92.6%). Others include; *Types of Educational Media and Technology (82.4%),* and *Care and Maintenance of Educational Media and Technology (*70.8%). On the other hand, the performance was average in three topics, namely *Function of Educational Media and Technology (62.1%*),), *Categories of Educational Media and Technology (59.7%*) and *Educational Media and Technology and Environment (38.5%*). An appendix is attached for further illustration.

4.0 CONCLUSION

Statistical data analysis for each question shows that the candidates' overall performance in Educational Media and Technology subject for Diploma in Secondary Education Examination (DSEE) 2019 was good. The analysis shows that the candidates' good performance was caused by the ability of candidates to meet various criteria, terms and condition of examination and the candidates' academic ability to understand the demand of the questions. The candidates had sufficient knowledge on the subject matter in relation to curriculum objectives for Diploma in Secondary Education Examination (DSEE). However, candidates with poor performance revealed lack of these factors. The major reasons for poor performance was misinterpretation of questions which led to candidates' provision of irrelevant answers contrary to the demands of the questions. It was also revealed that candidates who performed poorly lacked essay writing skills and had insufficient English language communication skills.

5.0 RECOMMENDATIONS:

(i) Observation and analysis related to the students' responses has shown that most of the candidates have misconception between short and extended items. Hence Communication Skills module with respect to writing skill has to be duly considered by tutors who are responsible. Despite the correct points of many candidates, the structures of their answers in terms of essay (composition) do not meet the required criteria.

(ii)The candidates who performed poorly and average candidates demonstrated deficiencies in terms of basic content knowledge and skills. Hence, Colleges should have well equipped resources' rooms for students and tutors to practice/ prepare aids for teaching and learning. This will help learners/student to know various education media and how to use them in the classroom lessons.

(iii) The major downfall for most candidates was misinterpretation of the questions which led to provision of irrelevant answers. Tutors should guide students to read widely so that they are equipped with the basic terminologies of the subject. Tutors should also guide student-teacher on how to approach examination questions especially on the key words used in examination e.g. define, examine, explain, analyze, identify, elaborate, outline, elaborate etc..

(iv) Student-teachers in colleges should be encouraged to read widely both academic and fiction books so as to improve their English Languages skills particularly their vocabulary in order to empower them with the meanings of various terms used during examination taking.

Appendix

PERFORMANCE OF CANDIDATES TOPIC WISE DSEE -2019

S/N	Topic Examined	DSEE 2019		% Average Performance per Topic	Remarks
		Question number	Percentage of the Candidates who Scored an Average of 40 Percent and above		
1.	Characteristics of Educational Media and Technology	05	96.5	94.7	Good
		12	92.8		
2.	Principles of Teaching and Learning in Educational Media Technology	04	98.9	94.5	Good
		14,	90.1		
3.	Production of Traditional and Modern Educational Media and Technology	07	90	93.9	Good
		16	97.8		
4.	Types of Educational Media and	06	85	87.5	Good
		11	90.4		
5.	Care and Maintenance of Educational Media and Technology	09	80.3	70.8	Good
		10	61.3		
6.	Categories of Educational Media and Technology	02	41.7	59.7	Average
		03	65.5		
		13	71.8		
7.	Educational Media and Technology and Environment	08	62.6	38.5	Average
		15	14.4		

S/N	Topic Examined	DSEE 2019		% Average Performance per Topic	Remarks
		Question number	Percentage of the Candidates who Scored an Average of 40 Percent and above		
8.	Function of Educational Media and Technology	01	37.1	37.1	Average
	General Performance			72.1	Good