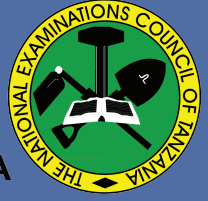




THE UNITED REPUBLIC OF TANZANIA  
MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY  
NATIONAL EXAMINATIONS COUNCIL OF TANZANIA



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

**EDUCATIONAL MEDIA AND TECHNOLOGY**



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*Published by:*

The National Examinations Council of Tanzania,  
P.O. Box 2624,  
Dar es Salaam, Tanzania.

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## FOREWORD

The National Examinations Council of Tanzania is delighted to issue the 2023 Candidates' Item Response Analysis Report on the Diploma in Secondary Education Examination (DSEE) for the Educational Media and Technology subject. This report provides feedback to student-teachers, tutors, parents, policy makers and the public in general on the general performance of the candidates and the extent to which the instructional goals and objectives were achieved.

The examination is a summative evaluation of the effectiveness of the education system in general and the delivery of Educational Media and Technology subject in particular. The candidates' responses to the examination questions is one of the indicators of what the education system was able or unable to offer to the student-teachers in their Diploma in Secondary Education course.

The candidate's good performance on some of the topics has been influenced by the ability to understand the demand of the questions and a good mastery of the subject matter in terms of competences indicated in the syllabus. They also demonstrated proficiency in English language. However, the candidates with lower scores depicted contrary attributes. In this report, the analysis on each question has been done and different categories of information concerning candidates' performance have been summarised by using graphs and charts.

The National Examinations Council of Tanzania is confident that, the feedback provided in this report shall serve as a basis for educational stakeholders to take appropriate measures to improve teaching and learning. This will eventually improve candidates' performance in the future examinations administered by the National Examinations Council of Tanzania.

Finally, the National Examinations Council of Tanzania appreciates the contribution made by all stakeholders in the preparation of this report.



Dr. Said A. Mohamed  
**EXECUTIVE SECRETARY**

## 1.0 INTRODUCTION

This report analyses the performance of the candidates who sat for Diploma in Secondary Education Examination (DSEE) in May, 2023 in Educational Media and Technology subject. The examination was based on the 2009 syllabus provided by Tanzania Institute of Education (TIE). The performance of candidates 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. Basically, the report presents statistics and descriptions concerning the performance of the candidates per questions and by topics.

A total of 1,116 candidates sat for the DSEE 2023 Educational Media and Technology subject. The overall performance of the candidates in the year 2023 has increased by 0.43 percent as compared to that of 2022. The general performance of the candidates is summarised in Table 1.

**Table 1: Candidates' Performance for the Year 2022 and 2023 in Educational Media and Technology subject**

Year	Candidates		% of Candidates Passed	Grades				
	Sat	Passed		% of Candidates				
				A	B	C	D	F
2022	1,484	1,471	99.12	0.00	9.04	70.02	20.94	0.00
2023	1116	1094	99.55	0.3	9.7	74.7	14.8	0.5

Table 1 shows an increase in the performance of candidates in 2023. However, there is a decrease in the number of candidates who sat for the

examination in 2023 when compared to that of 2022. It is also indicated that 5 (0.5%) candidates failed in the 2023 examination while the majority passed with “C” grade.

The examination consisted of two sections, A and B with a total of fourteen (14) questions. Section A had 10 short answer questions each carried four (4) marks; making a total of 40 marks for the entire section. Section B had four (4) essay questions each question carried 15 marks making a total of 60 marks for the entire section. In this report, the analysis of candidates’ performance in each question was categorised into three categories; that is good, average and weak. In short answer questions, the performance is considered *Weak* if the scores ranged from 0 to 1.5 marks, *Average* if the scores ranged from 2 to 2.5 and *Good* if the scores ranged from 3 to 4 marks. For essay questions, the performance is considered *Weak* if the scores ranged from 0 to 5.5 marks, *Average* if the scores ranged from 6 to 10 marks and *Good* if the scores ranged from 10.5 to 15 marks. Three colours have been used in figures, charts and appendixes to depict performance where green stands for good, yellow for average and red for weak.

Samples of candidates’ answers are presented to illustrate the candidates’ responses and appendix indicates the analysis of performance in each topic.

## **2.0 ANALYSIS OF THE CANDIDATES’ PERFORMANCE IN EACH QUESTION**

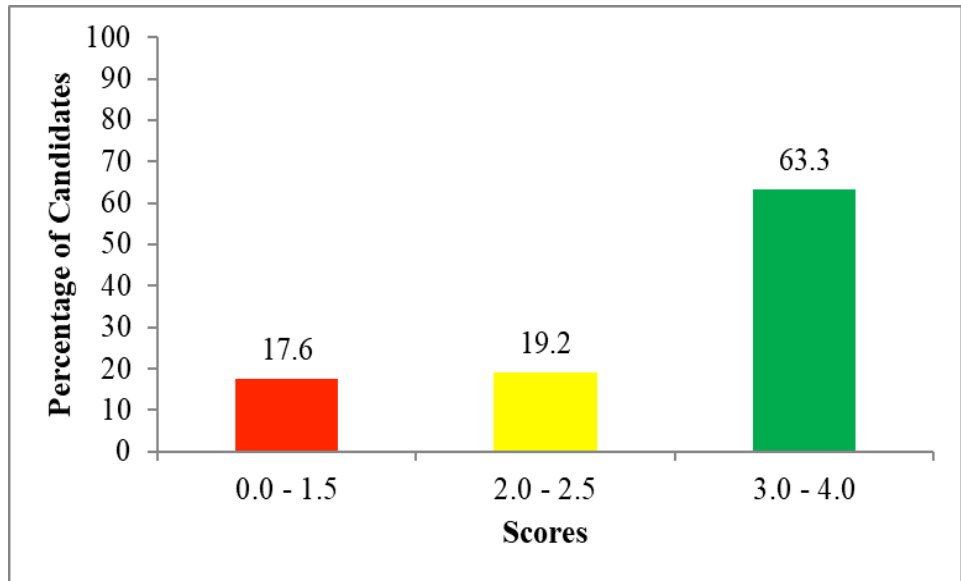
This part is divided into two sections, A and B. Section A analyses short answer questions while section B analyses essay questions. It also presents number of candidates who attempted the question and their performance in each question.

### **2.1 SECTION A: Short Answer Questions**

This section had ten (10) short answer questions. The candidates were required to attempt all the questions where each question carried four (4) marks making a total of forty (40) marks for the entire section.

### 2.1.1 Question 1: Types of Educational Media and Technology

The question required candidates to support the statement that the current teaching and learning process has been improved by the use of computers. The question was attempted by 1,116 (100%) candidates. The performance of candidates on this question was good as 920 (82.5%) candidates scored 2 to 4 marks. Figure 1 illustrates the candidates' performance on this question.



**Figure 1:** *Candidates' Performance on Question 1*

The statistics in figure 1 shows that performance on this question was good as 706 (63.3%) candidates scored 3 to 4 marks, 196 (19.2%) candidates had average performance as they scored 2 to 2.5 marks and 214 (17.6%) candidates had weak performance as they scored 0 to 1.5 marks.

The analysis of the candidates' responses indicates that, candidates who scored 3 to 4 marks were able to provide relevant responses. They demonstrated a good mastery of the content assessed as they managed to write down the contribution of computers in improving teaching and learning process. Their responses were such as: *computers are used for searching various materials for teaching and learning such as notes, they allow e-learning or distance learning, used for preparing tests and examinations and students results, they store various information and data*

like lesson notes and students' results, they are used for lesson presentation with the help of projector, and it is a tool for communication through email. Extract 1.1 illustrates one of the correct responses on this question.

1	
	Importance of computer in teaching and learning.
i)	It help teacher for searching materials. - Example. material of teaching and learning like notes.
ii)	It help teacher to store information - Example to store the student result.
iii)	It help teacher to prepare a student report. - Example. Terminal report for student.
iv)	It help to be used in online studies - Example: Open university.

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

On the other hand, the candidates who scored 2 to 2.5 marks demonstrated a partial knowledge on the tested subject matter. The analysis indicates that, the candidates mixed correct and incorrect responses implying insufficient knowledge while others incorrectly wrote the advantages of using computers in the teaching and learning process. Example of such correct and incorrect responses were; *computers create motivation to learners, they enhance creativity to learners, they save time, they simplify teaching and learning process, they help to search different materials for teaching and learning, and they help teachers to prepare notes for teaching.* From these, the incorrect responses were; *computers create motivation to learners, they enhance creativity to learners, they simplify teaching and learning process* while the rest were.

Further analysis shows that, those who scored 0 to 1.5 marks lacked knowledge and skills on the content tested and did not understand the

requirement of the question. As a result, they failed to provide correct responses about the contribution of computers in the teaching and learning process. Candidates under this category provided the advantages of using computers as teaching aids instead of contribution of computers in the teaching and learning process. Their responses were such as, *computers help learners to remember information easily, they raise interest towards learning, they enhance creativity to teachers and learners, they improve understanding, they increase thinking capacity, they improve active participation, and they increase the long-term memory, computers have high speed, computers are accurate, they are reliable, and used for literate people.* On the other hand, candidates provided the challenges that impede the utilization of computers in teaching and learning which is contrary to the demands of the question such as; *computers are not available in remote areas, they are very expensive and they are delicate thus they can get destroyed easily when they are not stored well.* Extract 1.2 illustrate a sample of candidate's incorrect responses to this question.

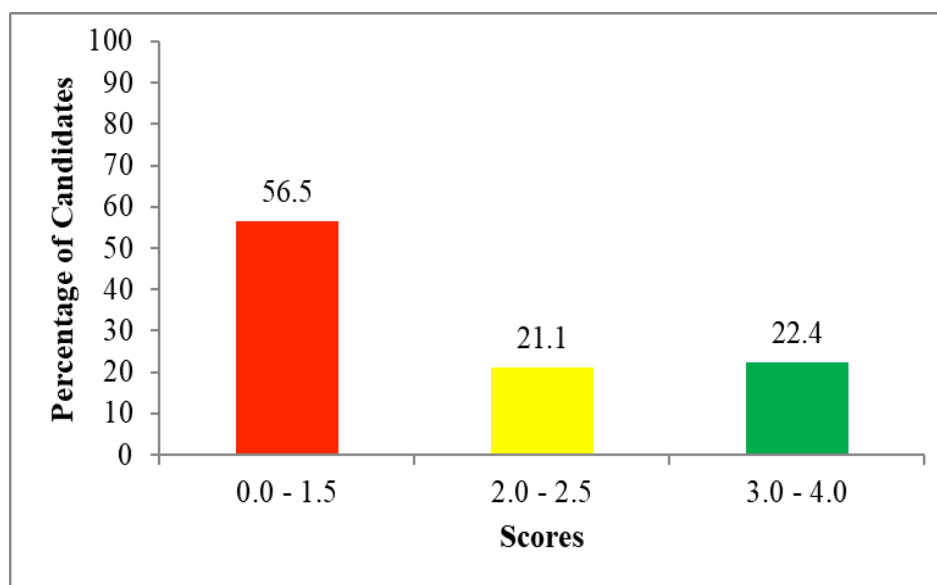
1	i/ It helps to draw attention of the learners.
	ii/ It helps to Motivates the students in teaching and learning process.
	iii/ It rise interest of the learners towards their studies
	iv/ It helps a learners to remember information easily.

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

In extract 1.2, the candidate provided the importance of using educational media and technology during teaching and learning instead of how computers have improved teaching and learning process.

### 2.1.2 Question 2: Categories of Educational Media and Technology

The question required the candidates to describe in brief the four distinguishing features of liquid media. The question was attempted by 1,116 (100%) candidates. The general performance of candidates in this question was of *average* as 485 (43.5%) candidates scored 2 to 4 marks. The candidates' performance in this question is shown in Figure 2.



**Figure 2:** *Candidates' Performance in Question 2*

Figure 2 shows that (56.5%) of candidates scored 0 to 1.5 marks, and (21.1%) candidates scored 2 to 4 marks.

The analysis shows that, the candidates who scored 0 to 1.5 lacked a clear understanding of the requirements of the question. Their responses centered on the motives behind the use of liquid media during teaching and learning process instead of describing the distinguishing features of liquid media. For example, some of the responses were; *liquid media are easily available from our environment, they need less skills in preparing and using them, liquid media are less expensive, and they are portable*. Others described the characteristics of good educational media and technology and also the factors that may affect the efficiency of teaching aids instead of the

concept tested. Some of their responses were; *liquid media should be relevant to the subject matter, they should be attractive to learners, they should be challenging to learners so as they can increase their thinking capacity and they should be durable*. Furthermore, some other candidates described advantages of using teaching aids in the teaching and learning process instead of concept tested. Some of the responses given were; *it is easy to transfer knowledge to learners, it allows interaction between the teacher and the learner, it saves time, and it creates awareness to the learners*. Extract 2.1 is a sample of candidate's incorrect responses for this question.

2	Distinguishing feature of liquid media
	(i) It is simple <del>media</del> media
	(ii) it found in natural setting
	(iii) It is easy to obtain from the environment
	(iv) It is easy to use

**Extract 2.1:** A sample of an incorrect response to question 2

In extract 2.1, the candidate presented the reasons for teachers use of liquid media during teaching and learning process instead of distinguishing features of liquid media.

A total of 250 (22.4 %) candidates had a good performance on this question as they scored 3 to 4 marks. They were able to describe the distinguishing features of liquid media. This indicates that, they had sufficient knowledge on the distinguishing characteristics of different educational media and technology. Some of the candidates' correct responses in this category were; *liquid media have no definite shape as they take the shape of any container, they can change from one form to another, they are not countable, their top surface can be flat, concave or convex, and they are difficult to compress*. Extract 2.2 is a sample of candidate's correct responses for this question.



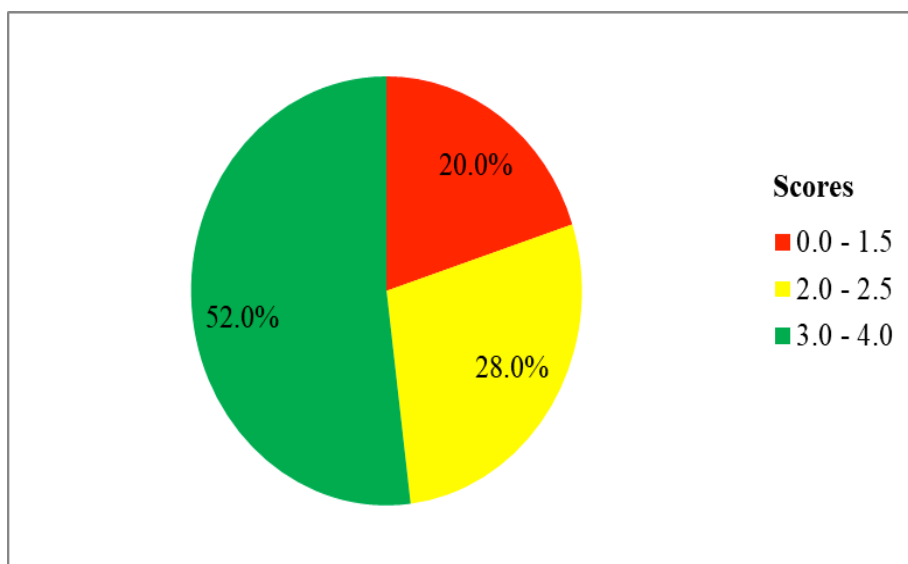
2	Four distinguishing features of liquid media
	(i) It form a flat/concave/convex on top surface due to gravity.
	(ii) liquid media example water can fill any shape of container.
	(iii) It is difficult to be compressed.
	(iv) It sometimes evaporate when contact with heat.

**Extract 2.2:** A sample of a correct response to question 2

Further analysis revealed that, 21.1 percent of candidates had average performance as they scored 2 to 2.5 marks indicating that they had insufficient knowledge on the categories of educational media and technology. Most of the candidates in this category mixed correct with incorrect responses. Incorrect responses provided related to the concepts of advantages of traditional media and also the key terms that define liquid media. Some of these responses were; *liquid media have no specific shape as they take the shape of the container, they are found easily from our environment, they can change from one form to another, they are difficult to compress, they can be pure or not pure (chemical), they are in liquid form, they can be tasted with sense organs like tongue, they can flow when poured, they are used during practical, and they are flammable.* From these responses, the incorrect ones were; *they are found easily from our environment; they can be tasted with sense organs like tongue, they can flow when poured, they are used during practical, they are in liquid form, and they are flammable. they can be pure or not pure (chemical)* while the rest were.

### 2.1.3 Question 3: Functions of Educational Media and Technology

This question demanded the candidates to give four factors that hinder educational media and technology to ensure the retention of knowledge among the learners. The analysis shows that 1,116 (100%) candidates attempted this question. The performance in this question was good because 893(80.0%) candidates scored 2 to 4 marks. Figure 3 shows candidates' performance in this question.



**Figure 3:** *Candidates' Performance in Question 3*

Figure 1 shows that, a total of 893 (52.0%) candidates scored 2 to 4 marks, and 223 (20.0%) scored 0 to 1.5 marks. This performance in this question was good.

The analysis shows that, 52.0 percent of the candidates who scored 3 to 4 marks had adequate knowledge and skills on the functions of educational media and technology. These candidates were able to write correct responses. Example of candidates correct responses included; *if the educational media and technology are not attractive, if they are inappropriately used, if they are not produced creatively, if they are not well prepared, if they are not relevant to learners, if they are not relevant to the subject matter, if they are not ethical and if they are very small, poor instruction provided by the teacher, the use of irrelevant media to the age and level of learners, the use of complex media, the use of outdated media,*

and insufficient competences among teachers using such media. Extract 3.1 is a sample of candidate's correct response to this question.

3	The following are the factors can hinder such aim to be achieved.
	(i) Using irrelevant educational media with the subject matter.
	(ii) To use outdated educational media
	(iii) To use Unattractive and poor constructed educational media.
	(iv) Using Unappropriate educational media with learners age and ability.

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

On the other hand, 28.0 percent of the candidates scored 2 to 2.5 marks implying that, the candidates had insufficient knowledge on the subject matter tested. These being the case, candidates mixed relevant and irrelevant responses. They mixed the correct responses and the incorrect which were the challenges facing the application of electronic media in schools. The example of responses of candidates in this category were; *lack of enough skills during preparation, the media are costly, scarcity of materials for preparing the media, lack of skills of using such media, nature of the subject matter, scarcity of electricity, absence of network, poor administration, the use of media which is not interactive, if the media is boring to learners, the level of learners, and the use of teaching method which is not interactive. From these, the incorrect responses were; the media are costly, scarcity of materials for preparing the media, scarcity of electricity absence of network, and poor administration while the rest were correct.*

The analysis also shows that, 20.0 percent of the candidates scored 0 to 1.5 marks. Candidates in this category, had lack of knowledge and skills on the concept of functions of educational media and technology. These

candidates provided factors that enhances retention of learned contents among learners instead of factors that hinder educational media and technology to ensure the retention of knowledge among the learners. Some of their responses were; *active participation during teaching and learning, enough cooperation during teaching and learning, drawing attention during learning, and involve more than one sense organ when learning.* Other candidates in this category provided the steps learners can implement to retain what they have acquired in the classroom learning the instead of the concept the tested as follows; *test yourself, bring down information, group items into specific categories, and learning by teaching others.* Similarly, other candidates provided individual problems that hinder retention of learned materials the instead of tested concept hence provided the responses like; *mental retardation among learners, interest of students, accidents, drunkardness, and diseases.* Example of other responses which were incorrect and unrelated to the concept were; *it leads to conflict between teachers and learners, it is not suitable for young students, it makes students get bored, and it leads to bias where teachers deal with the student who answer questions only.* These responses related to the impact of using complex education media during teaching and learning process contrary to the demand of the question. Extract 3.2 is a sample of candidate's incorrect response for this question.

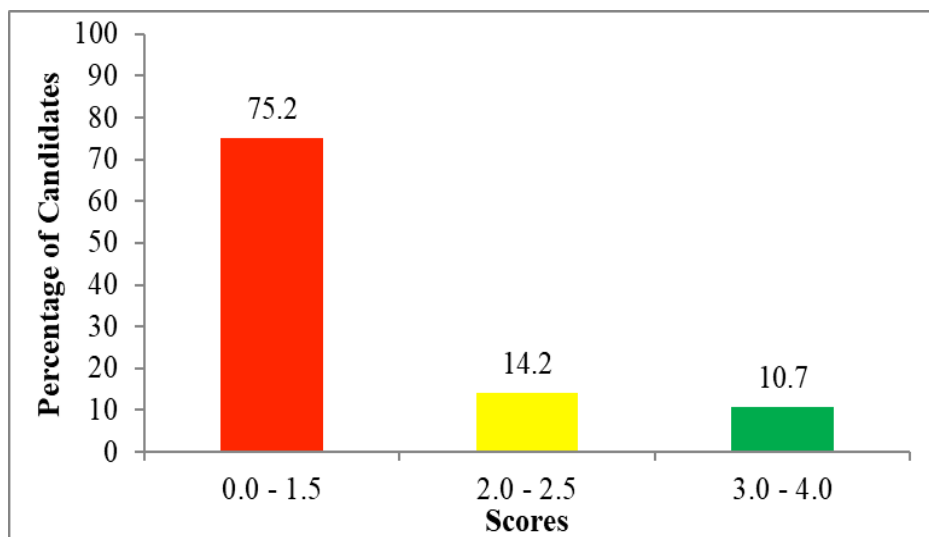
3	(i) Motivation
	(ii) Reinforcement
	(iii) Teaching aids
	(iv) Rewards and reflection @ the lesson'

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

In extract 3.2, the candidate presented factors that enhance active participation in the classroom instead of the factors hindering in retaining knowledge among learners through educational media.

#### 2.1.4 Question 4: Production of Traditional and Modern Educational Media and Technology

On this question, candidates were required to write four important procedures to be followed in preparing the user manual to be used when operating modern educational media. This question was attempted by 1,116 (100%) candidates. Generally, the candidates' performance in this question was weak since 893 (75.2%) candidates scored 0 to 1.5, and 277 (24.8%) candidates scored 2 to 4 marks. Figure 4 illustrates the performance of candidates in this question.



**Figure 4:** *Candidates' Performance in Question 4*

The analysis shows that, 75.2 percent of the candidates scored 0 to 1.5 marks. The candidates in this category lacked knowledge on the procedures for preparing user manual as they failed to suggest four important procedures to be followed when preparing the user manual for operating modern educational media. The candidates provided incorrect responses which related to the importance of user manual of instead of the concept tested. For example, they wrote; *user manual provides instructions on how to store the media, it shows the organization of the content, it simplifies the*

process of using the media, it gives direction on how to maintain and take care of the media, it directs the user on how to operate the media and it arouses the interest of the user. Other candidates described the qualities of a good user manual instead of the concept tested. For example, some of their responses are; *it should be relevant, it should be durable, it should be prepared in summary form, and it should be clear*, while others described the advantages of user manual such as; *it shows how to switch on the modern media, it shows the rules and regulations on how to use the media, it shows how to prevent the modern media and shows how to switch off the media*. Other candidates provided procedures for using Microsoft Power Point contrary to the demands of the question, their responses were such as; *click Microsoft PowerPoint, go on top of the screen and click the start button, select black presentation and click start button, and Microsoft PowerPoint will open*. Extract 4.1 Is a sample of candidate's incorrect responses to this question.

4	
	(i) To use the media which are relevant to the level of the learners consider learners ability capacity and ages.
	ii- To use the media which is relevant to the subject content or subject matter
	iii- To use the real objects related to the media content (do not use picture) if the real objects are present
	iv- To leave the media after use in a classroom (leave media outside the class).

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

In Extract 4.1 a candidate presented guidelines for using educational media and technology in the classroom setting instead of the guidelines for preparing a user manual.

The analysis further shows that, 14.2 percent of the candidates with average performance mixed correct and incorrect responses which implies that they had partial knowledge on the procedures for preparing a user manual. The incorrect responses provided were related to the advantages of using user manual such as; *know the properties of the media in which the manual is prepared for, it simplifies the process of using the media, it gives direction on how to maintain and take care of the media, it directs the user on how to operate the media and it arouses the interest of the user. know your audience to which the manual is prepared for, check the manual if it needs editions, allow the manual to be used by your audience, and outline key parts and asses it to make corrections quickly.* Among those responses the incorrect were; *it simplifies the process of using the media, it gives direction on how to maintain and take care of the media, it directs the user on how to operate the media and it arouses the interest of the user* while other responses were correct.

Moreover, 10.7 percent of candidates had good performance as they scored 3 to 4 marks. Candidates in this group were able to describe the procedures to be followed when preparing the user manual for operating a modern media. Some of their responses included; *understand the system the manual is prepared for, understand your customers, state the plan and purpose of the user manual, pretest the manual, provide and analyse in sequence all actions to be followed when using the manual step by step using simple language, test the manual and then release the manual to the users, prepare the instructions for using a particular media, and do some editing if needed.* Extract 4.2 is a sample of candidate's correct response this question.

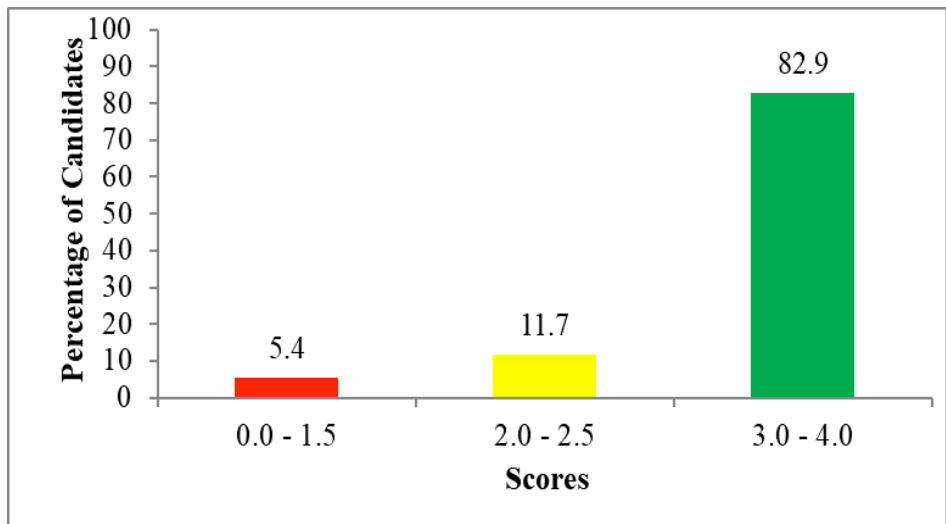
4	important procedures to be followed during preparation of user manual are
	i) understand the system - the system of education should be properly understood by the one who prepare the manual
	ii) understand the customer on different categories
	iii) To write down important concept and summary of few words
	iv) To state the plan and purpose of user manual

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

### 2.1.5 Question 5: Principles of Teaching and Learning in Educational Media and Technology

In this question, candidates were required to explain four aspects to be used in assessing the quality of a good chart as a teaching and learning aid. This question was attempted by 1,116 (100%) candidates. The candidates' performance was good since 1,056 (94.6%) candidates scored 2 to 4 marks while 60 (5.4%) had weak performance as they scored 0 to 1.5 marks. Figure 5 illustrates the performance of candidates on this question.





**Figure 5:** *Candidates' Performance in Question 5*

The analysis of candidates' responses indicates that, 82.9 percent of candidates performed well as their scores ranged from 3 to 4 marks. These candidates were able to explain the qualities of a good chart. This implies that they had adequate knowledge on the qualities of a good chart. For examples a candidate presented correct responses such as; *a good chart should be large in size, should be attractive, relevant to the content, should be neat and clean, not complicated with details, accurate, and related to the level of learners.* Extract 5.1 Is a sample of candidate's correct responses to this question.

5	
	teaching and learning aids :- are the material which can be used so as to simplify teaching and learning process.
	Quality of charts.
	i/ Should be relevance to the content. also this is among the quality of a chart.
	ii/ Should be big so as to make every student to seen during teaching and learning process.
	iii/ Should be neat and clean: also through that quality it can enable the teaching aid to be used in teaching and learning process.
	iv/ Should be relevance to the age of the learner and level.

**Extract 5.1:** A sample of a correct response to question 5

The analysis also shows that, 11.7 percent of the candidates who had average performance mixed correct and incorrect responses. This implies their had limited knowledge on qualities of a good chart. In their incorrect responses they provided features of good pictures and diagrams suitable for classroom teaching and learning instead of the explaining the qualities of good charts. They provided responses such as; *charts should be big enough to be seen, should be well prepared, should be coloured to make them attractive, should be in printed form, should be framed, should be relevant to the content taught, should be clean, should be easy to draw quickly, should have few details, should enhance creativity, should have space, shape, and should be portable, it should have scale, should have title, should have key, should be less costly, should be hard and non-transparent, and should be bright and bold.* From these points, the correct ones were; *charts should be big enough to be seen, should be coloured to make them attractive, should be relevant to the content taught, should have few details, and should have title* while other were incorrect.

Some candidates, 5.4 percent scored 0 to 1.5 marks. The candidates in this groups lacked knowledge on the qualities of a good chart while others failed to understand demands of the question as they provided concept related to other concepts contrary to demands of the question hence scored low marks. Some of these candidates explained principles and elements of designing educational media and technology instead of explaining aspects to be used in assessing the quality of a good chart as a teaching and learning aid such as; *balance, rhythm, proportion, emphasis, colour, line, space and shape*. Others responses related to the techniques that can be used when designing educational media and technology instead of concept tested such as; *spraying, banana mosaic, pasting and marbling*. Others wrote tools that are used during assessment instated of concept tested such as; *test, examination, portfolio, and observation*. Other candidates provided the stages of the lesson plan where a chart can be used as they wrote; *during introduction, new knowledge, reinforcement, and during reflection, preparation of scheme of work, preparation of lesson plan, preparation of lesson notes, and the use teaching methodology*. Extract 5.2 illustrates a sample of candidate's incorrect responses on this question.

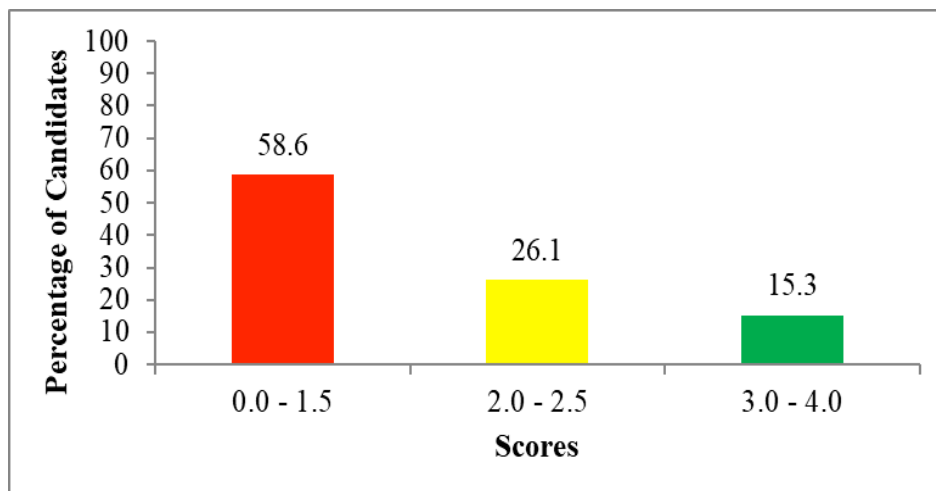
5	(i) Test or examination
	(ii) Interview Done by interviewer and interviewee
	(iii) Questionnaire open and closed questionnaire
	(iv) checklist by making or judging the yes or no and absent and present

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

In Extract 5.2 a candidate provided the tools used for assessment instead of qualities of a good chart.

### 2.1.6 Question 6: Care and Maintenance of Educational Media and Technology

This question required the candidates to explain four types of cleanliness to be used to clean teaching and learning resources available in the school. The question was attempted by 1,116 (100%) candidates. Generally, the candidates' performance was of average as 462 (41.4%) candidates scored 2 to 4 marks and 654 (58.6%) candidates scored 0 to 1.5 marks. Figure 6 illustrates the performance of candidates in this question.



**Figure 6:** Candidates' Performance in Question 6

The analysis of candidates' responses reveals that, 58.6 percent of the candidates who scored 0 to 1.5 marks had insufficient knowledge on the types of cleanliness of educational media and technology. These candidates provided responses based on the areas and scope of cleanliness which could be conducted around the school surroundings instead of explaining four types of cleanliness to be used to clean teaching and learning resources available in the school. Their responses were such as; *staff room cleanliness, classroom cleanliness, library cleanliness, laboratory cleanliness, toilet cleanliness, building cleanliness, and environmental cleanliness, personal cleanliness, general cleanliness, specific cleanliness, small area cleanliness, and wide area cleanliness*. Other candidates presented the ways teachers use to obtain their teaching and learning materials instead of concept tested such as; *borrowing, improvisation, buying and construction*. Extract 6.1 Is a sample of candidate's incorrect responses in this question.

6	
	Following are type of cleanliness -
	1. Printed cleanliness (paper Magazine)
	2. Non-printed cleanliness (CD, DVD,
	3. Gasempr cleanliness eg. gases ( $N_2$ , $O_2$ , $H_2$ )
	4. Hazard cleanliness eg. liquid, oil

**Extract 6.1:** A sample of an incorrect response to question 6

In extract 6.1, the candidate provided the categories of educational media and technology and their related examples instead of the types of cleanliness.

The 26.1 percent of candidates who had average performance mixed both correct and incorrect responses implying that they had inadequate knowledge on the concept tested. The candidates mixed correct responses and incorrect responses which based on other types of cleanliness that are applied to other equipment's that are not related to educational media and technology. For example, some candidates wrote answers like *brushing, blowing, spraining, rubbing, internal cleanliness, oiling and spraying, vacuum, cleanliness by using water*. From these, incorrect responses were; *spraining, brushing, internal cleanliness and oiling while blowing, vacuum, cleanliness by using water and spaying while* the rest were correct.

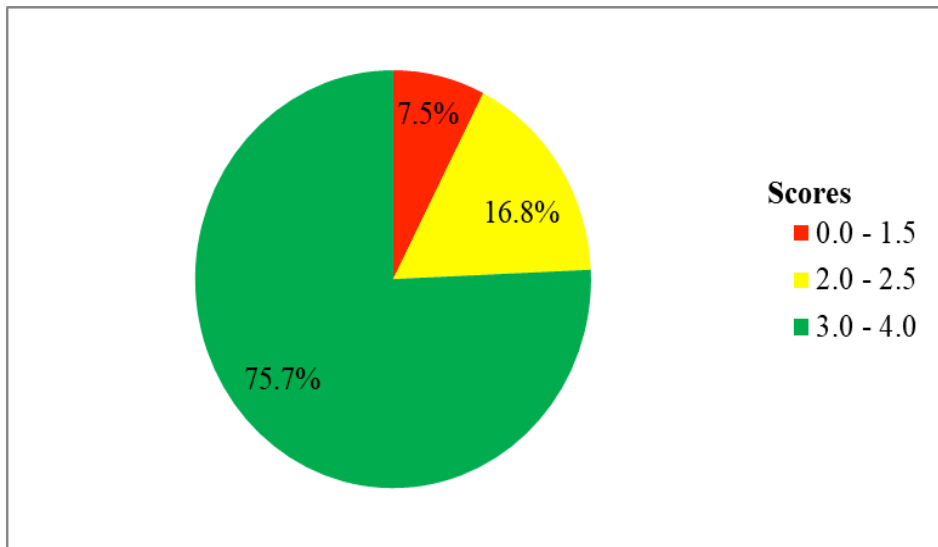
Meanwhile, 15.3 percent of the candidates had good performance as they scored 3 to 4 marks. These candidates had adequate knowledge and skills on cleaning educational media and technology which enabled them to provide correct responses. The candidates' responses were; *spraying, rubbing, blowing and washing*. Extract 6.2 Shows a sample candidate's correct responses for this question.

6	i - Rubbing ; this is the types of cleaning that enable cleaner to use the soft clothes to remove dust.
	ii - Spraying refers to the process of spraying chemical for ensure protection of materials example spraying chemical in biology specimen to prevent distroying from insects
	iii - Washing refers to the proass of using water (liquid) to clean the devica like laboratory instrument that are using in chemistry practical ie <del>like</del> testtube
	iv - Blowing refers to the process of using blower to remove dusting in internal parts of the devica that are not need water to clean example internal parts of computer devica.

**Extract 6.2:** A sample of a correct response to question 6

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

This question required the candidates to suggest four ways teachers could use to acquire teaching and learning materials easily with minimum cost. The question was attempted by 1,116 (100%) candidates. Generally, the candidates' performance in this question was good as 1,032 (92.5%) candidates scored 2 to 4 marks and 84 (7.5%) candidates had a weak performance as they scored 0 to 1.5 marks. Figure 7 illustrates the performance of candidates on this question.



**Figure 7:** *Candidates' Performance in Question 7*

The analysis of candidates' responses indicates that, 845 (75.7%) of candidates had good performance since they scored 3 to 4 marks. The candidates were able to suggest the ways teachers could use to acquire teaching and learning materials easily with minimum cost. This implies that they had sufficient knowledge on the preparation of learning materials. The candidates, proposed the correct points such as; *through construction method, through buying, through borrowing from nearby schools or institutions, collection from environment, as well as hiring*. Extract 7.1 is a sample of candidate's correct responses on this question.

7	<p>i) Obtaining them from the surrounding environment, that can be the real object like 'specimens that can be collected in their surrounding environment.'</p> <p>ii) Improvisation, that is the use of different material like bananas leaves to create a new things that can be used to serve as teaching and learning aid.</p> <p>iii) Borrowing from the neighbouring schools, that teachers can borrow different resources like models from the neighbouring schools.</p> <p>iv) By constructing for example drawing of different pictures and charts that can be used as teaching aids through the browsing in different internet you see pictures of different thing and construct by your own.</p>
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**Extract 7.1:** A sample of a correct response to question 7

Moreover, 187 (16.8%) of candidates had average performance since they scored 2 to 2.5 marks. These candidates mixed correct responses with incorrect ones. In their incorrect responses they provided points related to the concept of places where printed materials and other important materials are stored and also the important skills teachers should possess so as to teach effectively instead of suggesting the ways teachers could use to acquire teaching and learning materials easily with minimum cost. For example, their responses were, *collection from the environment, improvisation, taking from library, taking from historical sites, manufacturing or processing, re-using, drawing, and creativity*. From these; *taking from library, taking from historical sites, re-using, and creativity* were incorrect responses while *collection from the environment, improvisation, drawing and the use of recycled materials* were correct.

The analysis indicates further that, 7.5 percent of the candidates had weak performance as they scored 0 to 1.5 marks. Some candidates failed to understand the demands of the question as they provided raw materials



teachers can use for preparing teaching and learning materials instead of ways teachers could use to acquire teaching and learning materials easily with minimum cost. Examples of their responses were; *soils, using spoon as spatula, using empty plastic bottles, and filter paper as funnel separation*. Other candidates provided responses related to various materials that could be used as teaching aids instead of the concept tested. Some of those responses were; *reading books, through cutting pieces of magazine and newspapers, through internet, through using locally available materials, using colour method, through using animation, through using, maps, through drawing, cataloging, reference method, real objects and computers*. Extract 7.2 is a sample of candidate's incorrect responses on this question.

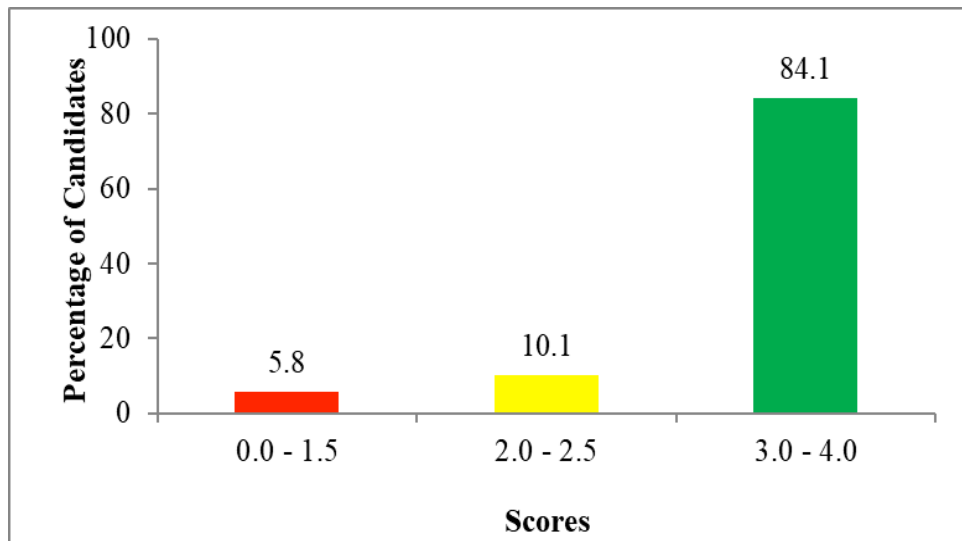
7	
	i) For future use
	ii) Facilitate teaching and learning.
	iii) Motivate learners
	iv) Saves time

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

In extract 7.2, the candidate provided benefits of constructing and improvising teaching and learning materials instead of the ways teachers use to obtain teaching and learning materials.

### 2.1.8 Question 8: Functions of Educational Media and Technology

The question required candidates to explain four benefits of using teaching and learning media during lesson presentation. The question was attempted by 1,116 (100%) candidates. Generally, the candidates' performance was good as 1,051 (94.2%) candidates scored 2 to 4 marks and 65 (5.8%) candidates had a weak performance as they scored 0 to 1.5 marks. Figure 8 illustrates the performance of candidates on this question.



**Figure 8:** *Candidates' Performance in Question 8*

The analysis shows that, 938 (84.1%) candidates who scored 3 to 4 marks had sufficient knowledge on the topic of Function of Educational Media and technology as their answers were correct according to the demands of the question which was the benefits of using teaching aids in the classroom. Example of their responses were; *educational media make learners get motivated towards learning, they make learners participate actively during teaching and learning, they develop curiosity and creativity among learners, they make lesson become interactive, they reduce time for teachers to explain concepts, they enhance retention, they make learners cooperative during lesson presentation, and help to solve language barriers*. Extract 8.1 shows one of the candidate's correct responses in this question.

8	Benefit a teacher will gain from my advice are:-
	(i) It will increase motivation of learner during learning.
	(ii) It increase the attention of learner during learning.
	(iii) It increase cooperation of learner during learning. Since method may require a learner to learn by looking and doing.
	(iv) It increase the memory retention of the learner during learning process.

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

On the other hand, 291(10.1%) candidates had average performance as they scored 2 to 2.5 marks. Most of these candidates mixed correct and incorrect responses. Example of the candidates responses who mixed correct and incorrect responses were: *Educational media simplify teaching and learning process, help in managing classroom and students, easy to make self-evaluation, can replace teachers in the class, promote cooperation, help to provide feedback, motivate learners, help to cover topic on time, help to understand learners, they solve language barrier, create attention, help learners to use more than one sense organ, and encourage the change of teaching strategies.* From those responses the incorrect points were; *Helps in managing classroom and teachers, easy to make self-evaluation, can replace teachers in the classroom, helps to understand learners and encourage the change of teaching strategy* while others were correct points.

Some other candidates 5.8 percent, scored 0 to 1.5 marks. Candidate in this category lacked knowledge on the concept of benefits of using teaching and learning media in the classroom. These candidates provided incorrect responses related to characteristics of teaching aids and visual materials such as; *involvement of learners in the preparation of teaching and*

learning materials, use of learner centred approaches during teaching, the use of simple language to explain concepts, the use of teaching and learning media which consider level of learners, the use of teaching and learning media which are relevant to content, the use of materials which will bring challenges to learners, the use of materials which will help the teacher to achieve specific objectives, the use of variety of media, the use of real objects, the use of printed media, the use of pictures, photographs, cartoons and other visual materials. Extract 8.2 is a sample of candidate's incorrect responses on this question.

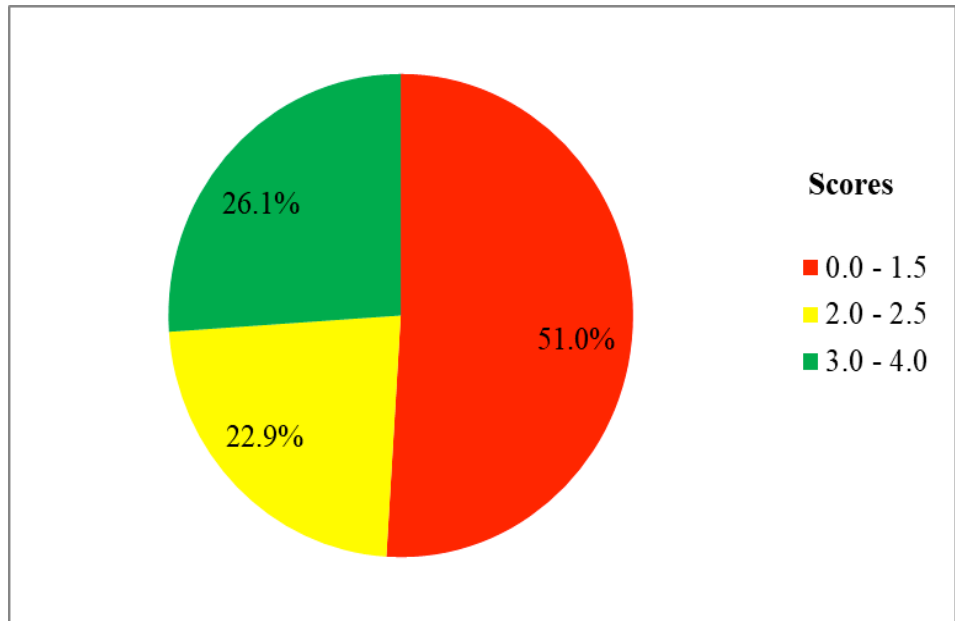
8	benefits
	i) constructing the relevant of teaching and learning aid <del>which</del> with the topic <del>which</del> has been planned to teach
	ii). The teaching aid should be large enough to be seen to every learner
	iii). The teaching aid to should be constructed into a challenged way
	iv) The teaching and learning aid should be relevant to the level of the learner.

**Extract 8.2:** A sample of an incorrect response to question 8

In extract 8.2, the candidate explained the qualities of a well-constructed educational media and technology instead of the benefits the teacher would gain from using educational media and technology in the teaching and learning process.

### 2.1.9 Question 9: Categories of Educational Media and Technology

This question required candidates to explain four disadvantages of using printed media during teaching and learning process. The question was attempted by 1,116 (100%) candidates. The candidates' performance in this question was average since 547 (49%) candidates scored 2 to 4 marks and 569 (51%) had a weak performance by scoring 0 to 1.5 marks. Figure 9 illustrates the performance of candidates on this question.



**Figure 9:** Candidates' Performance in Question 9

Further analysis shows that 51.0 percent of the candidates performed poorly performance as they scored 0 to 1.5 marks. The candidates demonstrated inadequate knowledge on the disadvantages of using printed media in the teaching and learning process. The candidates' responses relied on the advantages of using printed media in teaching and learning process instead of disadvantages of using printed media during teaching and learning process. Their responses were such as; *they are portable, they are easy to store, they do not need power(electricity) when used, they are safe to human beings, they motivate learners, help in problem solving skills, help learners to be creative and innovative, they enhance effective teaching, and they are easy to update.* Similarly, other candidates explained the reasons or situations that may make printed media fail to

fulfill their intended objectives instead of the concept tested as; *if printed media are not durable for future use, if they don't make learners motivated, if they are not properly designed, if they are not big, and if they are not attractive with colour and font size.* Extract 9.1 is a sample of candidate's incorrect responses on this question.

9	The <del>best</del> Criteria which lead to choice Printed Media are
	i It is very simple to use
	ii It is cheap
	iii Easy in facilitate teaching and Learning
	iv Printed Media Used as teaching and Learning resources

**Extract 9.1:** A sample of an incorrect response to question 9

In extract 9.1 the candidate explained the advantages of using printed media during the teaching and learning process instead of the limitations of using printed media in the teaching and learning process.

On the other hand, 256 (22.9%) candidates had average performance as the they scored 2 to 2.5 marks. These candidates mixed correct and incorrect responses. In their incorrect responses they explained the different concepts instead of explaining the disadvantages of printed media for classroom teaching and learning. Those concepts were; *Advantages of printed media for classroom teaching and learning process, the effects of teaching without using teaching aids, challenges for proper utilization of modern media and the impact of ignoring storage of educational media and technology* instead of suggesting the ways teachers could acquire teaching and learning materials easily with minimum cost. For example, some of their responses were; *print media cannot enhance active participation, they are costly, they are selective in the sense that those with sight problems cannot benefit from them, if not kept properly they can get easily destroyed by water or moisture, they make class boring, they depend on electricity,*

*they cause environmental pollution, they are difficult to edit, they need high technology to use, and they can get lost easily.* From those responses, the correct responses were; *printed media are costly, they are selective, if not kept properly they can get easily destroyed by water or moisture, and they are difficult to edit until further publication* while other were incorrect.

The analysis also indicates that, 291 (26.1%) candidates had good performance as they scored from 3 to 4 marks. Candidates from this group were able to explain the disadvantages of using printed media as teaching and learning media. The candidates provided correct responses such as; *printed media can be destroyed easily if not stored properly, they can be outdated easily, they are selective as they favour only learners who can see and with reading skills, they consume a lot of time in preparation, they are costly in terms of resources and during their preparation, and are difficult to update.* Extract 9.2 shows a sample of candidate's correct responses on this question.

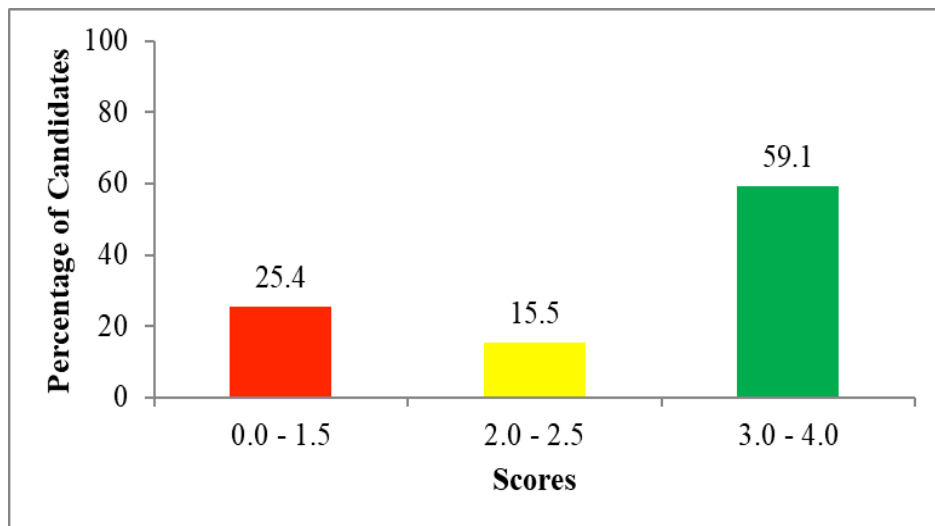
9	- Printed media are very cost full since it need money to buy material for printing.
	- Printed media are take time during preparation since involve writing
	- Printed media is useful per those student with able to see so it is biased.
	- Printed media are are very difficult to update since it need time to update it.

**Extract 9.2:** A sample of a correct response to question 9

### **2.1.10 Question 10: Production of Traditional and Modern educational Media and Technology**

This question required the candidates to provide four materials to be used by teachers when improvising teaching and learning aids for classroom

presentation. The question was attempted by 1,116 (100%) candidates. Generally, the candidates' performance was good as 833 (74.6%) of the candidates scored 2 to 4 marks. The other 283 (25.4%) had a weak performance as they scored 0 to 1.5 marks. Figure 10 illustrates the performance of candidates on this question.



**Figure 10:** *Candidates' Performance on Question 10*

The analysis of candidates' responses indicates that 59.1% of the candidates had good performance with scores ranging from 3 to 4 marks. These candidates were able to provide four materials that teachers could use for improvising teaching and learning aids. Examples of correct responses they provided were; *plastic materials like water bottles, pieces of wood, wires and battery, pieces of waste papers, and plants materials from surrounding environment*. Extract 10.1 show one of the candidate's correct responses on this question.



10	Books - A teacher can use
	(a) Box - A teacher can use a box to create teaching aid like first aid kit.
	(b) Plastic material - This teacher can use it to improve beaker, test tube in laboratory teaching aid.
	(c) different piece of wood - Also teacher can use it to improve human skeleton model.
	(d) Wires and battery that are useless as Teacher can use it to make source of electricity or how conservation of energy occur.

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

On the other hand, 173 (15.5%) of candidates had average performance as they scored 2 to 2.5 marks. These candidates mixed the correct and incorrect responses. In their incorrect points they provided responses related to the instruments teachers could use in the construction of teaching and learning aids instead of materials to be used by teachers when improvising teaching and learning aids for classroom presentation. This implies that they had insufficient knowledge on the concept of improvisation of teaching and learning materials. The example of responses these candidates provided were such as; *the use of pieces of papers, the use of boxes, the use of plant materials, pair of scissors, charts, hammers, marker pen, colour, books, chalkboard, plastic materials, strings, nails, and Manilla cards*. From these points, the correct responses were; *piece of papers, the use of boxes, the use of plant materials, and the use of plastic materials* while others were incorrect.

Meanwhile, 25.4 percent of the candidates had weak performance since they scored 0 to 1.5 marks. These candidates failed to adhere to the demands of the question though in variation hence provide incorrect responses. For example, some candidates provided the properties of educational media and technology instead materials to be used by teachers

when improvising teaching and learning aids for classroom presentation such as; *audio media, visual media, audio visual media, and felt and tasted media*. Some candidates provided the examples of things teachers could improvise and their related equipment during classroom teaching and learning process such as; *improvise beaker by using water bottles, improvise funnel by using papers and a piece of cloth, improvise ruler by using a piece of timber, and improvise thermometer by using pen*. Likewise, other candidates wrongly provided the advantages of improvised teaching and learning materials instead of concept tested such as; *they save time, they save cost, they enhance creativity to teachers, and they enable teachers to use real objects*. Additionally, other candidates described the qualities of a well-constructed or improvised teaching and learning aid instead of concept tested. Such responses provided were; *improvise teaching aids should be relevant to specific objectives of the lesson, should consider the level of learners, should be easy to carry (portable), and should be neat and challenging to learners*. Extract 10.2 Is a sample of candidate's incorrect responses on this question.

10	
	i) Scarcity of teaching and learning aids
	ii) It appraise the teaching and learning resources
	iii) It save time
	iv) It enable to increase curiosity

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

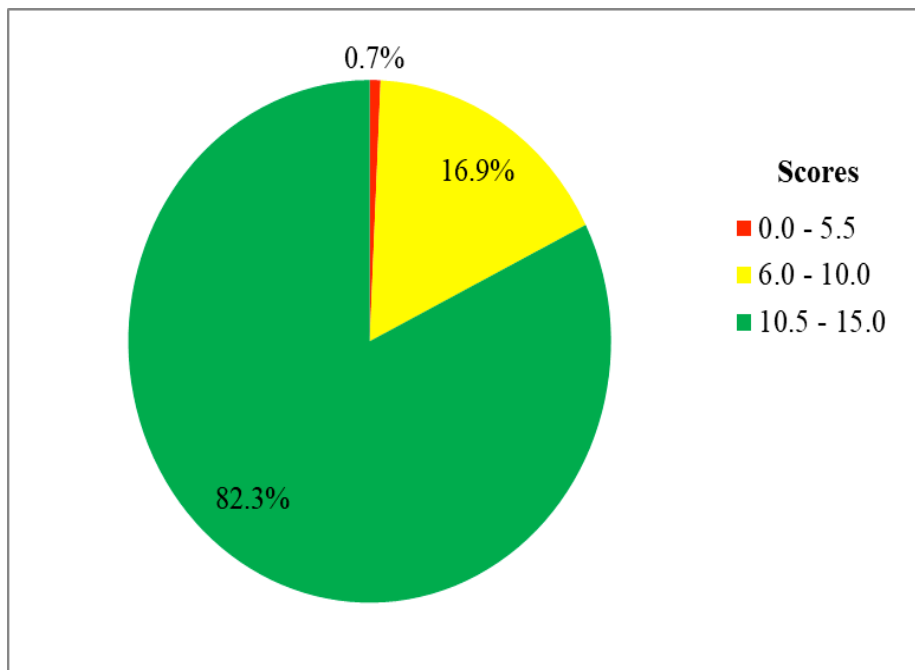
In extract 10.2, the candidate provided the reasons that can necessitate the teacher to improvise teaching and learning materials.

## 2.2 SECTION B: Essay Questions

This section comprised four (4) essay questions. The candidates were required to attempt all questions. Each question was allotted 15 marks making a total of 60 marks for the entire section.

### 2.2.1 Question 11: Principles of Teaching and Learning in Educational Media and Technology

This question required the candidates to explain reasons for using colours when designing graphic materials for classroom presentation. A total of 1,116 (100%) candidates attempted this question. The performance of candidates on this question was good as 1,108 (99.3%) candidates scored 6 to 15 marks while 8 (0.7%) candidates had a weak performance as they scored 0 to 5.5 marks. Figure 11 illustrates the candidates' performance on this question.



**Figure 11:** *Candidates' Performance on Question 11*

The analysis further indicates that, 919 (82.3%) candidates had good performance as they scored 10.5 to 15 marks. These candidates demonstrated sufficient knowledge on the reasons for using colours in designing graphic materials. Some of the correct candidate' responses

were; colours enhance unity, colours show real things, they draw attention to learners, they make teaching aids more attractive, they show emphasis and they show difference among various elements of the graphic material. Extract 11.1 show one of the candidates' correct responses to this question.

11	
	<p>Designing: This is the process of choosing and drawing other materials, designing should be graphical materials like chart, table, graph and other materials, The designing of materials should be well when colour is used to design it, the following are the reasons why your advised to use colours when designing graphical materials for classroom presentation</p> <p>Colour enhance attractiveness of graphic materials, This is when the colour used effectively it make the graphic to be attractive, to attract the learner to use for classroom presentation, hence colour are useful when designing graphic materials for presentation.</p> <p>The use of colour should enhance active involvement of the students. This is when the colour of the graphic material designed are well painted with colour, it can make student more engagement studying by using that graphic material.</p> <p>It enhance and encourage attention to the students when designed material painted with colour for class room presentation, The students attract attention to concentrate more looking or studying using such designed materials</p> <p>It can promote students understanding; This is due to that, The colours when used for designing graphic material for presentation, it can make the student to concentrate more during presentation hence bring about understanding</p> <p>It promote memory retention to students; This also colour when used to design graphic materials, The graphic material look well and attract student memorization hence it during classroom presentation.</p>

11 Cont.	<p>Therefore designing of graphic material by using colour, is very important since it simplify classroom presentation, hence improve teaching and learning process. The head of school should advice their teacher to use colour when designing graphic materials for classroom presentation.</p>
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**Extract 11.1:** A sample of a correct response to question 11

The analysis also shows that, 189 (16.9%) candidates had average performance as they scored 6 to 10 marks. Candidates in this category some failed to explain clearly their correct points on the reasons for using colours when designing graphic materials for classroom presentation. Others provided few correct points which lacked clarity due to insufficient competence in English language. While others mixed the correct and incorrect points. The incorrect points provided relates to the principles and elements of designing graphic materials instead of concept tested. The example of such responses were; *colours show unity, colours show balance, colours show texture, they motivate learners, they draw attention to learners, they show emphasis, they show discrimination or difference, they show size, and they show shape*. From these responses, the incorrect responses were; *colours show balance, colours should show texture, they show size, and they show shape* while the rest were correct.

On the other hand, 8 (0.7%) candidates had a weak performance as they scored 0 to 5.5 marks. These candidates demonstrated insufficient knowledge on the reasons for using colours when designing graphic materials as a requirement of the question. Most of these candidates explained the concepts relates to the principle of using educational media and technology and the elements of designing graphic materials instead of the concept tested. The candidates' responses were; *graphic materials should be safe to use, should not portray immoral values, should involve all sense as possible, should show balance, should show texture, should motivate learners, should not stay for long time, consider size, ability,*

painting, shape, and distance. Extract 11.2 shows one of the candidate's incorrect responses to this question.

11 Cont.	<p>Design is the purpose of Material Creation. Design have two categories which are elements and principles. The following are the reasons behind which lead to the Head of School to advised teachers to use colours when designing graphic materials for classrooms presentation.</p> <p>It should be safe to use, The graphic materials such as posters, Brochure, Newspaper it should be very safe to use by considering the colour to be used.</p> <p>It should be neat and tidy, designing graphic materials for classrooms presentations it should be considerations of neat and tidy during their preparations by using colour which can used to attract the learner during the presentation.</p> <p>It should be not to portrays the moral values, The designing graphic material it should be consider the ethical, due to the use of colour during the preparation it help to solve that problem due to considerations which we shows by using colour.</p> <p>It should be appeal to all sense as possible, Through the use of colour can be mean to some of the learner to be use very comfortable by considering that reasons.</p> <p>It should be suitable and relevant, The use of colour can satisfy the need of head of school to be suitable by using relevant colour which can help the delivery of instruction to be very easy due to use of colour.</p> <p>Generally, through that help the learner to capture the information very easy and to increase the interest to learn for high pre</p>
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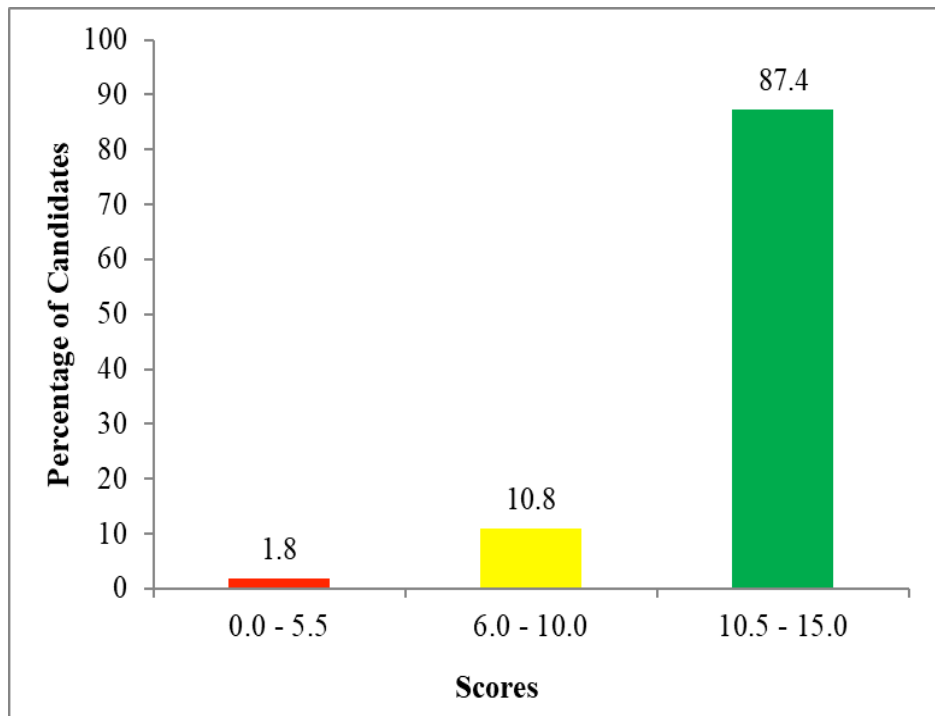
11 Cont.	<p>sure to satisfy the need of education programme also it increase the performance of the learner</p>

**Extract 11.2:** A sample of an incorrect response to question 11

In extract 11.2, the candidate explained the criteria for selecting graphic materials for classroom teaching and learning process instead of the reasons for using colours when designing graphic materials.

### **2.2.2 Question 12: Care and Maintenance of Educational Media and Technology**

The question required the candidates to explain the significance of periodic cleanliness of the teaching and learning resources. A total of 1,116 (100%) candidates attempted this question. The performance of candidates on this question was good as 1,096 (98.2 %) candidates scored from 6 to 15 marks, while 20 (1.8%) candidates had a weak performance as they scored 0 to 5.5 marks. Figure 11 illustrates the candidates' performance on this question.



**Figure 12:** *Candidates' Performance in Question 12*

The analysis further indicates that, 975 (87.4%) candidates who scored 10.5 to 15 marks had sufficient knowledge on the topic of care and maintenance of educational media and technology specifically on the significance of conducting periodic cleanliness of the resources. They provided correct responses such as; *periodic cleanliness helps to avoid unnecessary cost of repairing or buying new materials, it prolongs the life span of the materials, ensures safety to learners and teachers, maintains the quality of materials, ensures constant availability of materials, and improve efficiency of the materials.* Extract 12.1 shows one of the candidate's correct responses on this question.



Care is the process of preventing materials from damaged or destructed. The following are the ways of care teaching and learning resources which are displaying Flame, chemicals killer, Avoid resources to contact with air when are not used and painting such as model. The following are the significance of periodic cleaning teaching and learning resources which are as follows.

To maintain the quality of the teaching and learning resources, if the resources have cleaned hence it insure absence of dust, water and other unnecessary material it ensure the resources to look new in its original quality.

To ensure the availability of teaching and Learning resources, if the resources taken care means that there is no resource is can damaged or broken such as glass beaker for Practical activities. Finally to take care resources enable the learner to access learning materials any time when required.

To reduce cost, such as the cost for buying new teaching and learning materials as well as the cost for repairing the destructed materials. Taking care of resources it enable to serve resources.

To ensure safety for personal, if teaching and learning resources taken can through proper arrangement in its place it help to reduce accident for example model if handled well does not bring negative effect.

12 Cont.	
	To storing for future use, teaching and learning material if taken care it enable the next generation to use the same resources.
	The stored resource could solve the problem of insufficient teaching and learning resources.
	By conclusively teaching and learning resources if are not well handled can led to insufficient of teaching and learning resources accident, and unnecessary cost for buying new resources or for repairing new resources.

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

Moreover, analysis showed that, 121 (10.8%) candidates had average performance as they scored 6 to 10 marks. These candidates had partial understanding on the concept tested. Some of them provided correct points which partially explained the significance of conducting periodic cleanliness of teaching and learning materials. Others mixed correct and incorrect responses while in their incorrect responses most of them provided the roles played by educational media and technology instead of the concept tested. For example, one the candidates wrote; *italisize simplifies teaching and learning, helps training to take place, creates retention to learners, periodic cleanliness maintains the efficiency of the material, and it maintains the quality of the material.* From these candidates' responses the correct points were; *it maintains the efficiency of the material, and it maintains the quality of the material* and incorrect points were; *simplifies teaching and learning, helps training to take place, creates retention to learners.* Another candidate in this group wrote: *periodic cleanliness holds attention of learners, they rise learners interest towards learning, and provides interaction between the teacher and learners, helps to avoid cost of buying and maintaining the materials, and it saves time for preparing another material.* From these, the first three points were incorrect while the last two were correct.

In addition, the candidates who scored 0 to 5.5 marks had lack of knowledge on cleanliness of teaching and learning materials. Most of these candidates in this category misunderstood the question hence provided the responses on the concepts of types of cleanliness of teaching and learning materials and the importance of storing education media and technology instead of significance of conducting periodic cleanliness of teaching and learning materials. Their responses were such as; *periodic cleaning of resources should be done using special vacuum, keep in a special bag, clean with special cloth, arrange resources according to their sizes, and used for further studies*. Other candidates explained the advantages of using and storing teaching and learning materials particularly text books and reference books instead of concept tested. Such responses were; *periodic cleanliness helps to prepare scheme of work, helps in the preparation of lesson notes, help students who missed the lesson to read and understand what was taught, used to make good organization of contents, and they are used as reference materials*, Other explained the importance of using education media in the teaching and learning process instead of the concept tested while mixing with other few correct points. For example, one candidate wrote; *they motivate learners, they increase interest towards learning, they solve language barrier and vocabularies, they are used for long period of time and saves money while the rest were incorrect*. From these, the correct were; *used for long period of time and saves money*. Extract 12.2 illustrates a sample of candidate's incorrect responses on this question.

Prer:

Periodic cleaning - this is the period that to selecting the material. The following are the significance of periodic cleaning of those resource.

It help should be relevant to the content; this periodic during selecting that to consider should be relevant to the content that reason that should be selected that should be the relevant to the content that used as the importance during the selecting resource of be the relevant to the content that as to the importance that should the consider to thing that to selecting resource in the periodic cleaning.

It should be relevant to the level of learns; cure selecting the reason should be used the level of the learns that is the importance that to be consider that should be the relevant to the level of the learns that as to the importance to be consider that selected the teaching and learning resource should be consider the level of the learn that as the importance.

It should be challenging and interesting learn; that material resource should be challenges and interesting the learning during teaching and learning process that used as the importance that used to the person to used to resource the resource should be challenging the student that used to the. used to the increase the person as the importance.

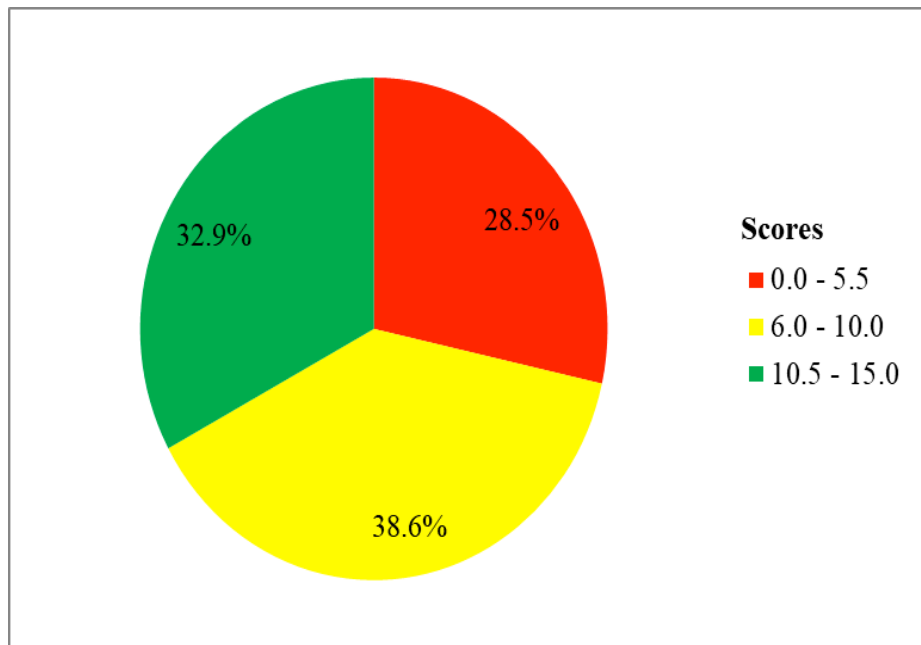
12 Cont.	
	<p>It help to emphasize the learn; that material should be selecting that to emphasize the learn to building different ideology that used to increase the person of the area that used used the emphasize the person that used as the emphasize the learn that to the person.</p> <p>It should have the specific objectives; the the selecting the content that should be have the specific object in the as their importance the material or resource should have the specific object that used in the selected student that should be the periodic cleaning.</p> <p>The following are the <del>the</del> significance of periodic cleanings that used to should have relevant to the content, level of the learn should have good organization.</p>

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

In extract 12.2, the candidate explained the qualities of educational media and technology suitable for classroom presentation instead of significances of periodic cleaning of teaching and learning resources.

### 2.2.3 Question 13: Types of Educational Media and Technology

In this question the candidates were required to explain the usefulness of traditional educational media and technology in the teaching and learning process. A total of 1,116 (100%) candidates attempted this question. The performance of candidates was good as 798 (71.5%) candidates scored 6 to 15 marks, and 318 (28.5%) candidates had weak performance as they scored 0 to 5.5 marks. Figure 13 illustrates the candidates' performance on this question.



**Figure 13:** *Candidates' Performance in Question 13*

The analysis showed that, 431 (38.6%) candidates had average performance as they scored 6 to 10 marks. These candidates mixed correct and incorrect responses. They also failed to clearly elaborate of their points. This implies that, the candidates had insufficient knowledge on the usefulness of traditional media and technology. These candidates provided responses such as; *traditional media are less expensive, they do not need high skills when using them, most of them are cheaply available in the environment, they easy to store, they entertain like traditional dances, and traditional music, they enhance active participation such as songs, they facilitate communication like animal horns and drums, create long term memory, they increase attention such as storytelling, they improve socialization like traditional ceremonies, and preserve cultural values.* From these, the candidates' correct responses were; *do not need high skills when using them, most of them are cheaply available in the environment, they facilitate communication like animal horns and drums they improve socialization like traditional ceremonies.* The rest were the advantages of using traditional media in teaching and learning which were incorrect.

The further analysis indicates that, 367 (32.9%) candidates who had good performance scored 10.5 to 15 marks. These candidates had sufficient

knowledge on the usefulness of traditional media in teaching and learning process. The candidates were able to respond correctly by giving responses such as; *traditional media are less expensive to prepare, they need low skills to prepare and use, they increase creativity and innovation, they increase interaction between teachers and learners, they do not need power or electricity when operating them, they improve socialization through songs, storytelling, and they save communication purpose like through storytelling, music, blowing horns and beating drums.* Extract 13.1 show one of the candidate's correct responses to this question.

Traditional Media and technology; This is the application and Method of transmitting the ~~rough through~~ knowledge and skills by using technology Also that Traditional Media can be differentiated into different forms like songs, dancing, story telling, Music etc as well as with others. Also that here there is a statement say Traditional Media and technology are not useful in the current teaching and learning environment I against this statement by using following reasons like,

It help to provide entertainment; this means that traditional Media and technology help to provide the entertainment by playing Music, songs, dancing and Make people to become enjoyable with in the current of teaching and learning environment. Also that Traditional Media and technology are very useful.

It helps to Motivate the learner; this means that traditional Media and technology help to Motivate the learner to learn current the teaching and learning environment for learning contextual environment. Also that the traditional Media and technology is very useful.

To solve the language problem; this means that the traditional Media and technology are very useful to learner during the process of teaching and learning environment through story telling when enjoyable within in the environment.



13 Cont.	Easy to remember the information, this
	Means that during the process of teaching and learning environment the traditional and educational Media enable person to remember the information easily.
	It improve active participation; This Means that traditional media and technology are very useful in the current of teaching and learning because encourage the active participation to the learner through dancing and playing music during the teaching and learning process.
	By conclusion; it's very important to <del>write</del> against the statement say traditional Media and technology are not useful in the current of teaching and learning environment because of the reasons like to Motivate learner, to rise the interest of learner and traditional Media and technology enable to provide entertainment Also that those reasons should be explained if during the reasonable information.

**Extract 13.1:** A sample of a correct responses to question 13

The analysis also indicates that, 318 (28.5%) candidates had a weak performance as they scored 0 to 5.5 marks. These candidates had lack of knowledge on the usefulness of traditional media and technology in teaching and learning process while others misunderstood the demands of the question. Most them explained the disadvantages of traditional media and also factors that determine the achievement of lesson objectives instead of usefulness of traditional media and technology in teaching and learning process as they wrote; *traditional media take small area in transmission, the speed of transmission, most contribute to moral decay, they are*

*outdated, and they are difficult to organize and use, intellectual ability, the nature of environment, identification of the area of learning, teaching and learning strategies, and time consuming.* Other candidates wrongly provided the advantages of using modern media in teaching and learning process instead of concept tested such as; *modern media allow easy sharing of information, does not consume time, and can be used to store information safely.*

Some, other candidates in this category who scored poorly explained the factors threatening the effectiveness of traditional media and others gave examples of modern media used in teaching and learning process instead of the usefulness of traditional media and technology in teaching and learning process as per question demanded. Their responses were; *advancement of science and technology, consume time, it stores information temporarily, difficult to share information, are not useful in the current teaching and learning, presence of computers, presence of projectors, presence of televisions, and presence of radios.* Extract 13.2 illustrates a sample of candidate's incorrect responses on this question.

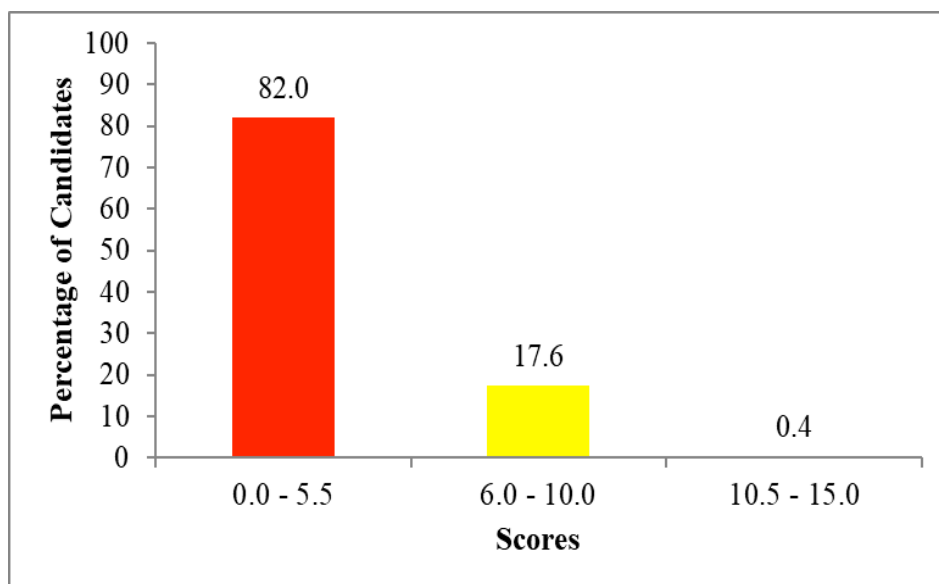
13	<p>Traditional media and Technology; Is the type of media which use traditional media but not modern media in the process of teaching and learning. Yes, traditional media and technology are not useful in the current teaching and learning environment because of the following.</p> <p>They consume time; The traditional media and technology consume a lot of time that is why it is not useful in current teaching and learning environment because the current save time.</p> <p>They can not be used over a large number of learners. example at universities the learners are many and all they must learn so the traditional media and technology can not be useful but current can be used over a large number of learners.</p> <p>They do not solve the language barrier; The traditional media and technology can not solve the language problem as the current teaching and learning media.</p> <p>They are not interactive; The traditional media they are not interactive but they are passive so a learner can not participate well in the process of teaching and learning.</p> <p>They do not hold attention and interest of the learner; The traditional media and technology do not hold attention and interest of learners because you can find the learners are many and so become difficult for them to hear.</p> <p>Finally; The modern media and technology should be used so that to simplify the process of teaching and learning but also to save time and to solve the language problem.</p>
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**Extract 13.2:** A sample of an incorrect response to question 13

In extract 13.2 the candidate explained the disadvantages of using traditional media and technology during teaching and learning instead of explaining the usefulness of traditional media and technology.

#### 2.2.4 Question 14: Production of Traditional and Modern Educational Media and Technology

The question required the candidates to elaborate five important guidelines to be followed when using an overhead projector (OHP) in the teaching and learning process. A total of 1,116 (100%) candidates attempted this question. The performance of candidates was generally weak as 915 (82.0%) candidates scored 0 to 5.5 marks and 202 (18%) candidates had good performance as they scored 10.5 to 15 marks. Figure 14 illustrates the candidates' performance on this question.



**Figure 14:** *Candidates' Performance on Question 14*

The analysis indicates that, 915 (82.0%) candidates had weak performance as they scored from 0 to 5.5 marks. The candidates in this category some had lack of knowledge on the guidelines for effective use of the overhead projector during teaching and learning process while other misunderstood the demands of the question by explaining the qualities of a well-constructed educational media and the criteria for selecting appropriate

educational media and technology for classroom teaching instead of providing guidelines for effective use of the overhead projector during teaching and learning process. Those reasons contributed them to provide wrong answers and hence scored low marks. Their responses were such as; *consider objective of the lesson, characteristics of learners, nature of the classroom, availability of material support, management of time, availability of electricity, availability of cables and projectors, ensure good organization of contents, make rehearsal, should be simple and clear, should be large enough, should be relevant to time boundary, should be relevant to the topic, and class size.*

Other candidates provided the concepts related to steps for using projectors and also explained the important preparations for teachers to utilize overhead projector (OHP) for teaching and learning instead of the concept tested as they wrote; *check the source of power, connect the electric wires to the source of power, connect the computer to the source of power, and turn it on, enlarge the information, and disconnect your projector from the computer. the presence of electricity, presence of screen, presence of table, connect the projector to the power source, increase and reduce the screen, and disconnect the projector from the power source, connect wire to the switch, connect wire to the cable, connect wire to the computer, need of expert teacher, source of electricity, proper handling of projector, displaying of information, put the projector on the table, switch on the plug of the projector, put the paper on the table, switch the projector off after using it, and finally put the overhead projector in the place for storing.* Extract 14.1 illustrates a sample candidate's incorrect responses for this question.

overhead projector - It the electronic material that used to transfer the knowledge from different people. The following are the important things to consider before and during the presentation as follows:

It things to consider power; that overhead projector it thing to consider power during preparation of teaching and learning process should be consider the power that used as the importance that to consider power to the overhead projector that used to consider that to be used the over head project that should be the consider this power should be availability in the overhead project

Availability to consider network. that should be to consider the network during consider the overhead projector that used to availability to consider that used the projector during teaching and learning process that used to consider the availability of network in the computer that to be used in the projector.

Availability to consider special building; for example this special building it for teaching and learning that should be to consider of the special building to the overhead project that is used to availability of the area that used to store and creating the information about the overhead project that should be consider the special building

14 Cont.	
	<p>things to consider expert; that overhead projector should be need the expert during conducting of the project one any one to conduct but need the expert during consider of the overhead project that used things that to consider expert that used as the area that used to expert that to conduct the overheard project that used to the people to consider during using.</p> <p>Availability to consider full betry saver; that used during using should have full betry saver that is things to consider during conducting the overhead projector that used to be conside full betry that used as the importance to be conside in the overheard project.</p> <p>Therefore about the importance things to consider before and during the preparation is to consider power and electricity, expert and special room or building that to store the overhead projector.</p>

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

In extract 14.1 the candidate explained factors for sustainable use of overhead projector (OHP) in the school or college instead of guidelines for effective use of overhead projector.

On the other hand, 17.6% percent of candidates who scored 6 to 10 marks had inadequate knowledge on the guidelines to be followed for effective use of overhead projector. Some of the candidates failed to correctly elaborate of their points while others provided points which partially corresponded to the requirements of the question. Others mixed correct and incorrect response as follows; *the teacher should present one item at a time, allow learners to copy what is displayed, set the projector properly,*

*make sure all learners can see well what is displayed, the teacher should not talk to the screen, position of students, electricity, position of learners in the class, size of the class, and arrangement of materials.* From these responses, the correct were; *the teacher should present one item at a time, allow learners to copy what is displayed, set the projector properly, make sure all learners can see well what is displayed* while the rest were incorrect.

On the other hand, only 5 candidates (0.4%) had good performance as they managed to scored 10.5 to 15 marks. These candidates had sufficient knowledge and skills on the guidelines for using OHP. They correctly elaborated the important guideline for effective use of the overhead projector correctly. The candidates' responses were; *position of the presenter when teaching, the presenter should not present many things at once, the presenter should allow learners to copy down what has been displayed, the presenter should set the projector at the correct angle, and the teacher should use pointer.* Extract 14.2 shows a sample a candidate's correct responses to this question.



Overhead projector: This is a projector which is connected to the computer to display for the computer material need to be presented at a large group of people. The following are the important to consider before and during the presentation.

Put the overhead projector on the top of the table. The overhead projector should be placed on top of the desk in order to allow the clear display of picture or text, the overhead project usually project the image on the top front where all the student/learner can see it easily. So in order this overhead projector to clearly show the image intended to be shown it should be placed on top of the table.

Connect the overhead projector to the source of electricity: If the overhead projector is well kept on top of desk then you should connect the projector to the computer for access and to the electricity cable in order to allow light which can be projected to the wall or screen.

Switch on the power from the source. After the connection of the overhead projector and the source of power and into computer to access for the material you are supposed to switch on the power in order to allow light which can be used to project the material from the computer to the targeted screen or the wall which will be used to display image or the text.

Set and direct the overhead projector to the targeted screen which will be displayed; the overhead projector should be set and directed to the targeted in order to show the image clearly. The projector has the adjustment plate which can help when projecting and the projector directing the opposite direction should be well directed.

Choose the standing position for the instructor. After the projection of the image to the targeted place the instructor should find the good standing position which will not disturb the projection of the projector and make participation of what is projected.

14 Cont.	
	Use the pointer to point the narrated area during elaboration!
	The instructor should use pointer to point out the specific targeted area which discussed at the specific time.
	The overhead projector should be used by teaching in order to facilitate easy the teaching and learning programs.

**Extract 14.2:** A sample of a correct response to question 14

### 3.0 ANALYSIS OF CANDIDATES PERFORMANCE IN EACH TOPIC

The Educational Media and Technology examination for Diploma in Secondary Education Examination (DSEE) in 2023 covered six (06) topics. The analysis of candidates' performance in each topic indicates that, candidates had good performance in four (4) topics namely; *Principles of Teaching and Learning in Educational Media and Technology* (96.95%), *Functions of Educational Media and Technology* (87.1%), *Types of Educational Media and Technology* (76.95%), and *Care and Maintenance of Educational Media and Technology* (69.8%). Candidates had average performance in the topic of *Production of Traditional and Modern Educational Media and Technology* (52.5%). The analysis further shows that the candidates performed weakly on the topic of *Categories of Educational Media and Technology* (46.25%). The performance of the candidates in different questions and topics is shown in Appendix.

### 4.0 CONCLUSION

Generally, the performance of the candidates in Educational Media and Technology subject for Diploma in Secondary Education Examination (DSEE) in 2023 was good since 71.6% of the candidates passed. The analysis shows that the candidates' good performance was attributed to

their adequate knowledge and skills of the subject matter tested, clear understanding of the demands of the questions, essay writing skills and good English language proficiency. On the other hand, the candidates had weak performance in the topic of *categories of educational media and technology*. This was attributed to candidates' insufficient knowledge of the concepts tested, poor English language proficiency and poor essay writing skills.

## **5.0 RECOMMENDATIONS**

From the analysis of the candidates' performance, the following are recommended:

- (a) Tutors should advise student teachers to use library and e-learning material, through internet. These will help them obtain variety of learning resources, materials and reference books of Educational Media and Technology subject to get knowledge and develop skills on the subject matter.
- (b) In teaching the topic of Production of Traditional and Modern Educational Media and Technology, tutors should teach the aspect of Overhead Projector (OHP) and expose learners to variety of assignment, enough exercise and group works for them to get knowledge and develop skills on such contents.
- (c) Tutors should encourage student teachers to use English language when inside and outside the classroom as far as it is a medium of instruction in secondary schools.
- (d) Tutors should equip student teachers with practical skills and knowledge on preparing and designing teaching aids. This will help students to know various education media, how to prepare them, experience how to use them in classroom during teaching and learning.
- (e) Tutors should provide student teachers with exercise, tests, and examinations with immediate feedback from time to time in order to improve the student teachers' knowledge and skills in attempting competence-based examination questions.

## Appendix

### SUMMARY OF THE CANDIDATES' PERFORMANCE ON EACH TOPIC IN DSEE 2023

S/N	Topics Examined	Question Number	Performance in Each Question (%)	Average Performance Per Topic (%)	Remarks
1	Principles of teaching and learning in educational media and technology	5	94.6	96.95	Good
		11	99.3		
2	Functions of educational media and technology	3	80	87.1	Good
		8	94.2		
3	Types of educational media and technology	1	82.4	76.95	Good
		13	71.5		
4	Care and maintenance of educational media and technology	6	41.4	69.8	Good
		12	98.2		
5	Production of traditional and modern educational media and technology	4	24.8	52.5	Average
		7	92.5		
		10	74.6		
		14	18		
6	Categories of educational media and technology	2	43.5	46.25	Average
		9	43.5		
Total				71.6	Good

