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## **A Study on the Availability and Utilization of Biology Instructional Materials in Secondary Schools in Jos North Local Government Area, Plateau State**

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**Keyword:**

*Availability,  
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**ABSTRACT**

*This study investigated the Availability and Utilization of Biology Instructional Materials in the secondary Schools in Jos North LGA. Three research questions were answered in the study. The study adopted survey research design. The population was made up of eighty (80) students and ten (10) teachers. The data for the study was collected using a 20-itemed Biology students Questionnaire (BSQ) and Biology Teachers Questionnaire (BTQ) instrument. Data collected were analyzed statistically through the use of descriptive statistics of frequencies and percentages. The analysis yielded the following findings; that instructional materials are not sufficient in the schools and there are no biological gardens for practical in the schools. Also, the finding shows that biology teachers make use of the available instructional materials in the teaching of the subject. The findings also revealed that instructional material are very important to influence and enhance effective learning of Biology. Recommendations were made in line with the findings, which include that the Government through the Ministry of Education and proprietors of private secondary schools should ensure*

*adequate provision of relevant and sufficient biology instructional materials. Teachers should improvise where necessary when instructional materials are not available to teach biology in the secondary schools in Jos North Local Government Area. There should be proper supervision of teachers to ensure that the available instructional materials are effectively utilized. There is need for the schools to provide biological gardens for biology field practicals.*

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## **Introduction**

Biology is a natural science concerned with the study of life and living organism which include plants and animals. It is a fascinating study that ranges from microscopic-cellular molecules to the biosphere, encompassing the earth's surface and its living organisms. Biology is one of the science subjects taught to the senior secondary students at senior levels of the Nigerian schools, (FRN, 2004). It is an important Science subject and a requirement for further study of a number of science-related professional courses like medicine, agriculture, pharmacy, Biochemistry, anatomy, Physiology, Botany, Zoology, Microbiology, Cell Biology, Ecology, Entomology, Immunology, Molecular biology, Evolutionary, Genetics and Adequate laboratory and field skills in biology.

The learning of Biology is so much that it needs to be taught with the proper instructional materials in order to motivate and arouse student's interest. Tabotndip (2004) lamented that abstract teaching goes on today where teachers do not use apparatus and students are not using textbooks. However, the issue remains that in most secondary schools in Nigeria, there is high rate of failure in the subject due to the lack of use of instructional materials which may certainly result in poor academic achievement and performance of the students (Folorunso, 2004). There are other factors attributing to the failure of Biology such as; lack of interest of students in biology, inadequate motivation from teacher, poor incentives to biology teachers, inadequate supply of instructional material, lack of qualified teachers, and use of teacher centered instructional method, inadequate use of instructional materials and use of abstract standardized materials

Biology can be expediently taught in a laboratory setting, a place which is designed and equipped with materials and resources for teaching and learning. Apparently, most secondary schools in this country lack physical laboratories and where they exist, there are inadequate or lack of equipment (Nwoji 1999). One of the problems affecting the effort towards enriching science is the insufficient or absence of teaching aids or materials. It is therefore necessary to introduce the use of materials in teaching and illustration of biology concepts for a meaningful learning to take place (Oriade, 2008). These materials according to Ajayi(2004) include; concrete objects, charts, stored specimens and other teaching aids. Therefore, it is on this background that the study is focused, finding out the availability and utilization of biology instructional materials in secondary schools.

Instructional materials are tools, instruments and resources used in educational lessons to facilitate the achievement of stated objective. Instructional materials are tools locally made or imported that help to facilitate the teaching-learning process (Abdullahi 2010). According to Obanya (2001), instructional materials are didactic materials things which are supposed to make learning and teaching possible. In support of these views, Agina-obu (2005), described instructional materials as concrete or physical objects which provide sound, visual or both to the sense organs during teaching.

The use of instructional materials can attract the individual's attention by creating interest goal that will help the learner achieve direct effort. In anticipation to these, the teacher should ensure that materials to be used are enough for a particular science lesson by ensuring she/he has lesson plan before the lesson. According to Sasson (2009), the quantity of materials depends on the number of learners using them, organization of the materials, group arrangement, time management, and records management. To ensure the availability and adequacy of Instructional Materials, the science lesson should be learner's centered instead of teachers centered in order to motivate learners. This is because all of them will be involved in using the available Instructional Material instead of listening to the teacher explain in class. For example Adequacy of Instructional Materials means that the teacher should ensure that materials to be used for a particular lesson are enough depending on the number of learners using them ( Deso 2001).

According to the National Teachers Institute (2007), resources in the classroom can be classified into three broad categories which include the following: -

1. Visual Aids: - these are instructional materials that make visual impression – that is, it interprets the vision of the eyes. Visual aid allows

the student to see the actor but no sound accompanies the action. They include chalk board, posters, models, motion pictures, projected transparencies.

2. Audio Aids: - these are instructional materials for teaching that appeal to the sense of hearing the student can only listen and hear sound but they cannot see the actor. They include record players, tape recorders and language laboratories.
3. Audio – visual Aids: - these involve both hearing and visual senses example, based on sound and vision. Advancement in modern technology has led to the production of devices known as Information Communication Technology (ICT), which is also used in teaching.

The significance of instructional materials according to Oriade (2008) emphasized that no matter how good a curriculum maybe, absence of the use of instructional materials can jeopardize its effective implementation. The teacher is the one responsible for the selection and use of the instructional materials, if the biology teacher does not have the skills to manipulate the materials, learning thus becomes difficult. Teachers should be committed towards the use of instructional materials in teaching biology concepts. The provision and application of instructional materials should be reinforced in the school system. An instructional material stimulates student's participation in class, increase knowledge and affects the achievement of biology students. Instructional materials are seen as an improvement and great relief for teachers in impacting knowledge and making the message clearer, more interesting and easier for the learners to assimilate (Onasanya and Adegbiya 2008). In their view, there is no need teaching if what is learnt cannot be recalled. The use of inappropriate teaching aid results in several academic problems which according to Josiah and Okaoboh (2001), ranges from mass failure or under achievement in public examination to the gradual deteriorating situation in educational institution at all levels. Academic performance of a student is always associated with many components of learning environment. In addition to this, the studies by Ogunleye (2002) show that science achievement depends on the proper use of instructional materials by the teachers to enhance learning.

### **Statement of the Problem**

One of the problems faced by most secondary schools in Nigeria is the relative decline in the academic performance of the students especially in the sciences. The academic achievements of students in the sciences have been on the decline

(Ajagun 2000), which is applicable to Biology as a science subject. The poor achievements in biology could be attributed to some factors such as; the quality of materials, teachers, and equipment used in Biology which are usually considered sub-standard, poor perception, and lack of instructional materials in schools. The nonchalant attitude of teachers towards the utilization of these materials, contribute to the poor teaching of Biology education. Also shortage of instructional resources in our secondary schools is not new. What seems to be the practice is that teachers have not been able to utilize the available resources and by implication, these resources are wasted. In this view, the problem of this study is therefore to find out the availability and utilization of biology instructional materials in Secondary Schools in Jos North Local Government Area.

### **Research Questions**

The following research questions guided this study:

1. What are the types of instructional materials available for the teaching and learning of Biology in the secondary schools in Jos North local Government Area
2. How frequent do the teachers use the available instructional materials in teaching Biology in the secondary school in Jos North Local Government Area?
3. To what extend does the use of instructional materials facilitate and enhance effective learning of biology in secondary school in Jos North Local Government Area?

### **Research Methodology**

This study adopted a descriptive survey research design. The descriptive survey design is chosen to enable the researchers investigate, and equally ascertain the views, facts, opinions of the students and teachers and information about the availability and utilization of biology instructional materials in teaching and learning process in the secondary schools in Jos North Local Government Area. The population for the study comprises all the biology students and biology teachers in the secondary schools in Jos North Local Government area, Plateau state.

The selected sample for this study is eighty (80) biology students and ten (10) biology teachers in the secondary schools in Jos North local Government Area. A random sampling technique is adopted in selecting the samples to avoid bias. The instrument used in the research is the Biology Students Questionnaire

(BSQ) and Biology Teachers Questionnaire (BTQ). The questionnaires is made up of questions arranged systematically based on the research questions to collect data and information from both the students and the teachers of biology in the secondary schools in Jos North Local Government Area. The BSQ and BTQ is divided into two different sections; A and B: section ‘A’ is on Bio-data and section ‘B’ is on the questions related to the research.

## Results

**Research Question 1 :** What are the types of instructional material available for the teaching and learning of biology in the secondary schools in Jos North Local Government Area?

Table1: Students’ Response on the Types of Instructional Materials available

S/N	QI	SA	A	D	SD	A (%)	D (%)		
1	We have school farms for Practical In our school	4	13	18	45	17	21.25	63	78.78
2	Most of the instructional Materials For teaching in my school are locally Made	18	23	28	11	41	51.25	39	4
3	Our school don’t provide us with Pictures, wall charts and textbooks	16	18	26	20	34	42.5	46	57.5
4	We have projectors in my school	7	9	22	42	16	20	64	80
5	Microscopes and slides are readily Available during biology lessons /practical	11	21	13	35	32	40	48	60
6	Biology models are made Available In our classroom	8	20	23	29	28	35	52	65
7	We have different types of biology Textbooks in our school library	21	26	14	19	47	58.75	33	41.25

Table 1 showed the percentage responses of students on the types of instructional materials available for the learning of biology in the secondary schools in Jos North Local Government Area. Questionnaire item one sought to find out if there are school farms for practical’s in their schools. In response to this item, respondents who agreed scored 17 (21.25%), while respondents who disagreed scored 63 (78.78%). This indicates that most of the secondary schools don’t have school farms.

Questionnaire item two sought to find out whether most of the instructional materials for teaching biology in the secondary schools in Jos North Local Government Area are locally made. Responding to this item, respondents who agreed scored 41 (51.25%), while respondents who disagreed scored 39 (48.75%). These showed that most of the instructional materials for the teaching of biology in the secondary schools are locally made. In the same vein, item three on the table indicates that 34 (42.5%) respondents agree that their schools don't provide them with pictures, wall charts and textbooks, while 46 (57.5%) respondents disagreed. This shows that most of the secondary schools are provided with pictures, wall charts and textbooks for the learning of biology.

Also, item four was to investigate the availability of projectors in the secondary schools in Jos North Local Government Area. Responding to this item, 16 (20%) respondents agreed that they have projectors in their schools, while 64 (80%) disagreed. This indicates that most of the secondary schools don't have projectors for learning biology. Questionnaire Item five on the table above sought to find out whether microscopes and slides are readily available during biology lessons/practical. Responding to this item, respondents who agreed scored 32 (40%) while respondents who disagreed scored 48 (60%). This shows that most of the schools are not provided with slides and microscopes during biology lessons/practical. Questionnaire item six sought to find out whether biology models are made available in the school classrooms. 28 (35%) respondents agreed that biology models made available in their classrooms while 52 (65%) respondents disagreed. This implies that most of the secondary schools are not provided with biological models in their classrooms. Questionnaire item seven sought to find out if there are different types of biology textbooks in the school libraries in Jos North Local Government Area. Responding to this item, respondents who agreed scored 47 (58.75%), while respondents who disagreed 33 (41.25%). This indicates that, most of the secondary schools are provided with different types of biology textbooks in their school library.

Table 2: The Percentage Summary of teachers Responses on Types of biology Instructional Materials Available in their schools.

N=10

Table 2: Teachers' Response on the Type of Instructional Materials Available

S/N	QI	SA	A	D	SD	A	(%)	D	(%)
1	We have biological garden in my School	0	0	4	6	0	0	10	10
2	Most of the instructional Materials For teaching in my	18	23	28	11	41	51.25	39	4

3	Our school don't provide us with Pictures, wall charts and textbooks	16	18	26	20	34	42.5	46	57.5
4	We have projectors in my school	7	9	22	42	16	20	64	80
5	Microscopes and slides are readily Available during biology lessons /practical	11	21	13	35	32	40	48	60
6	Biology models are made available In our classroom	8	20	23	29	28	35	52	65
7	We have different types of biology Textbooks in our school library	21	26	14	19	47	58.75	33	41.25

Table 2 showed the percentage responses of teachers on the types of instructional materials available for the teaching of biology in the secondary schools in Jos North Local Government Area. Questionnaire item one sought to find out if there biological gardens in their schools. In response to this item, respondents who agreed scored 0 (0%), while those who disagreed had 10 (100%). This indicate that most of the schools don't biological gardens.

Item two of the Questionnaire sought to find out whether most of the instructional materials for teaching biology in the secondary schools in Jos North Local Government Area are locally made. Responding to this item, respondents who agreed had 9 (90%). while respondents who disagreed scored 1 (10%). These showed that most of the instructional materials for the teaching of biology in the secondary schools are locally made. In the same vein, item three on the table indicates 2 (20%) respondents who agree that the only make use of chalkboard as aid while teaching, while 8 (80%) respondents disagreed. This shows that the most of the teachers don't only make use of the chalkboard as the only aid for the teaching of biology. Also on the table, item four was to investigate if teachers make use of projectors to teach biology in the secondary schools in Jos North Local Government Area. Responding to this item, 0 (0%) respondents agreed that that they have projectors in their schools, while 10 (100%) disagreed. This indicate that the teachers don't use projectors in teaching biology.

Questionnaire Item five on the table above sought to find out whether teachers are provided with sufficient microscopes during biology practical's in their

schools. Responding to this item, respondents who agreed scored 2 (20%), while respondents who disagreed scored 8 (80%). This shows that most of the schools are not provided with microscopes during biology practical. Questionnaire item six sought to find out whether biological charts and models are made available in the schools. 3 (30%) respondents agreed that biology models are made available in their schools, while 7 (70%) respondents disagree. This implies that majority of the secondary schools are not provided with biological models and wall charts. Questionnaire item seven sought to find out if teachers use relevant textbooks for teaching of biology in the schools in Jos North Local Government Area. Responding to this item, respondents who strongly agreed scored 10 (100%), while 0 (0%) disagreed. This indicate that, most of the teachers in the secondary schools in Jos North Local government Area make use of relevant biology textbooks for teaching biology.

**Research Question Two:** How frequent do the teachers use the available instructional materials in teaching Biology in the secondary schools in Jos North Local Government Area?

In order to enable the researchers answer these questions, questionnaire items eight to thirteen in section B were sought, analyzed and interpreted in the tables below.

Table 3: The Percentage Summary of students' responses on how frequent teachers make use of the available instructional materials in teaching biology. N = 80

Table 3; Students' Response on how frequent teachers make use instructional Materials

S/N	Q1	SA	A	D	SD	A	(%)	D	(%)
8	Our biology teacher always make us design diagrams in order to use it during his class	24	24	20	12	48	60	32	40
9	Our biology teacher make use of real objects during his class lessons	21	22	19	18	43	53.75	37	46.
10	Our biology teacher don't usually teach using posters, models or charts even thou we have it in our school	12	16	24	28	35	43.75	45	56.25
11	During Biology practical, our teacher makes sure he/she provides us with microscope and slides	17	18	16	29	35	43.75	45	56.25
12	Our biology teacher uses charts and diagrams for the illustration of biology lesson in my school	22	37	12	9	59	73.75	21	26.25
13	Our biology teacher comes to class and only use the chalkboard	18	15	26	21	33	41.25	47	58.75

Table 3 shows the students responses on how frequent teachers make use of the available instructional materials in teaching Biology in the secondary school in

Jos North Local Government Area. Questionnaire item eight sought whether biology teacher's makes students design diagrams in order to use it during class. In response to this item, respondents who agreed scored 48 (60%), and respondent who disagreed had 32 (40%) scores. This indicate that most teachers make students design diagrams in order to use it during their class.

Item nine sought to investigate whether biology teachers make use of real objects during their class. Responding to this item, students' respondents who agreed scored 43 (53.75%), while respondents who disagreed had 37 (46.25%) scores. This indicates that most biology teachers make use of real objects during their class lessons. More so, questionnaire item ten sought to find out whether biology teachers don't usually teach using posters, models or charts even thou they have it in their schools. In response to this item, 28 (35%) respondents agreed, while 52 (65%) respondents disagreed. This shows that most biology teachers usually teach using posters, models or charts which is provided in their schools.

In same vein, questionnaire item eleven sought to find out if during biology practical, teachers makes sure they provide students with microscopes and slides. In response to this item, respondents who agreed scored 35 (43.75%) while respondents who disagree scored 45 (56.25%). This shows that most teachers don't provide their students with microscopes and slides during biology practical. Questionnaire item twelve investigates whether biology teachers uses charts and diagrams for the illustration of biology lessons in their schools. In response to this item, respondents who agreed scored 59 (73.75%), while those who disagree scored 21 (26.25%). This indicates that most biology teachers use charts and diagrams for the illustration of biology lessons.

Item thirteen on table 4.3.1 sought to find out whether biology teachers comes to class an only use the chalkboard. In response to this item, respondents who agreed scored 33 (41.25%), while respondents who disagreed scored 47 (58.75). This responses indicates that, most of the biology teachers don't only use the chalkboard during their class.

Table 4: The Percentage Summary of teachers Responses on how frequent teachers make use of the available instructional materials in teaching biology.

N=10

**Table 4; Teachers response on how frequent they make use of Instructional Materials**

S/N	QI	SA	A	D	SD	A	(%)	D	(%)
8	There are available instructional Materials for the teaching of biology In my school	0	4	6	0	4	40	6	60
9	I cannot teach biology effectively Without the use of instructional Materials	1	5	4	0	6	60	4	40
10	I seldom use instructional materials when teaching	1	6	3	0	7	70	3	30
11	I make sure I use charts and pictures During biology lessons for easy Understanding by the students	1	8	1	0	9	90	1	10
12	I use specimen when necessary for Illustration during biology class\ Practical	2	8	0	0	10	100	0	0
13	I always teach biology with the aid Of chart, models and pictures for my Students to understand faster	1	9	0	0	10	100	0	0

Table 4 showed the percentage responses of teachers how frequent teachers make use of the available instructional materials in teaching biology in the secondary schools in Jos North Local Government Area. Questionnaire item eight sought to find out if there are available instructional materials for the teaching of biology in the secondary schools. In response to this item, respondents who agreed scored 4 (40%), while respondents who disagreed had 6 (60%). This indicates most schools don't have available instructional materials for the teaching of biology.

Questionnaire item nine sought to find out if teachers cannot teach biology effectively without the use of instructional materials. Responding to this item, teacher respondents who agreed scored 6 (60%), while respondents who disagreed had 4 (40%) scores. This implies that most teachers can teach biology effectively without the use of instructional materials. More so, questionnaire item ten sought to find out whether teachers seldom use instructional materials when teaching biology in their schools. In response to this item, 7 (70%) respondents agreed, while respondents who disagreed scored 3 (30%). This shows that most biology teachers seldom use instructional materials when teaching biology in their schools. In same vein, questionnaire item eleven sought to find out if teachers make sure they use charts and pictures during biology lessons for easy understanding by the students. In response to this item, respondents who agreed scored 9 (90%), while respondents who disagree scored 1(10%). This shows that majority of the teachers make sure they use charts and pictures for easy understanding by the students. Questionnaire item twelve

investigates whether biology teachers use specimens when necessary for illustrations during biology class/practical. In response to this item, respondents who agreed scored 10 (100%), while those who disagree scored 0 (0%). This indicates that the biology teachers use specimens for illustration of biology during class/practical.

Item thirteen on table 4.3.2 sought to find out whether biology teachers always teach biology with the aid of charts, model and pictures for their students to understand faster. In response to this item, respondents who agree scored 10 (100%), while respondents who disagree scored 0 (0%). This responses indicates that, biology teachers always teach biology with the aid of charts, models and pictures for their students to understand faster.

**Research Question Three:** To what extend does the use of instructional materials facilitate and enhance effective learning of biology in secondary school in Jos North Local Government Area?

Table 5: The Percentage Summary of students Responses on the extent to which the use of instructional materials facilitate and enhance effective leaning of biology.

N=80

Table 5: Students' response on how Instructional material enhance effective learning of biology

S/N	QI	SA	A	D	SD	A	(%)	D	(%)
14	The use of biology instructional materials Arouses my interest by attracting my Attention	40	28	9	3	68	85	12	15
15	I understand biology more when my teacher uses practical illustrations	46	30	2	2	76	95	4	5
16	My retention ability is improved since my biology teacher started making use of live specimen and real object during his lessons	33	26	13	8	59	73.75	21	26.25
17	Am motivated an perform well when our biology teacher uses instructional materials and teach biology	36	31	13	0	67	83.75	13	6.25
18	Instructional materials attracts my attentionthereby, influencing my academic performance in biology	37	30	12	1	67	83.75	13	16.25
19	Use of instructional materials such As charts, pictures and models tend to stick to my memory during biology class	38	32	10	0	70	87.5	10	12.5
20	I find it easy to understand biology conceptswhen taught with instructional materials	49	29	2	0	78	97.5	2	2.5

Table 5 shows the students responses on the extent to which the use of instructional materials facilitates and enhance effective leaning of biology in the secondary school in Jos North Local Government Area. In attempt to address the above stated objective, Questionnaire item fourteen sought to find out whether the use of biology instructional materials arouses the interest of the students by attracting their attention. In response to this item, respondents who agreed scored 68 (85%) and respondents who disagreed scored 12 (15%). This indicates that the use of biology instructional materials arouses most of the students' interest by attracting their attention. Questionnaire item fifteen investigates if the students understand biology more when their teacher uses practical illustrations. In response to this item, respondents who agreed scored 76 (95%), while those who disagree scored 4 (5%). This indicates that majority of the students tend to understand biology more when their teacher makes use of practical illustrations. Questionnaire item sixteen which state that my retention ability is improved since my biology teacher started making use of live specimen and real object during his lessons, has 59 (73.75%) respondents who agreed while 21 (26.25%) respondents disagreed. This shows that more of the students agreed that their retention ability is improved since their teacher started making use of live specimens and real object during lessons.

Questionnaire item seventeen state that am motivated and perform well when our teacher uses instructional materials and teach biology. In response to this item, respondents who agreed scored 67 (83.75%), while respondents who disagreed scored 13 (16.25%). This indicates that, majority of the students are motivated and perform well when their teacher uses instructional materials and teach biology. In same vein, questionnaire item eighteen states that Instructional materials attracts my attention thereby, influence my academic performance in biology. In response to this item, respondents who agreed scored 67 (83.75%), while respondents who disagreed scored 13 (16.25%). This implies that instructional materials attracts most of the student's attention, thereby influencing their academic performance in biology. Questionnaire item nineteen investigates whether the use of instructional materials such as charts, pictures and models tend to stick to students memory during biology class. In response to this item, respondents who agreed scored 70 (87.5%), while those who disagreed scored 10 (12.5%). This indicates that the use of instructional materials such as charts, pictures and models tend to stick to the memory of the students during biology class. Item twenty on table 4.4.1 sought to find out if the students find it easy to understand biology concepts when taught with instructional materials. In response to this item, respondents who agreed scored

78 (97.5%), while respondents who disagree scored 2 (2.5%). This shows that students find it easy to understand biology concepts when taught with instructional materials.

Table 6: The Percentage Summary of teachers Responses on the extent to which the use of instructional materials facilitate and enhance effective leaning of biology

N=10

Table 6: Teachers' Response on how the use of Instructional Material enhance effective learning of biology

S/N	QI	SA	A	D	SD	A (%)	D (%)	(%)
14	my students tend to understand concepts better whenever I use instructional materials	8	2	0	0	80	10	100
15	I use instructional materials always because it makes biology lessons more attractive, thereby capturing students attention and motivating them to learn	4	6	0	0	100	0	0
16	My students performance is poor whenever I fail to make use of instructional materials during biology class	1	6	3	0	70	3	30
17	Proper utilization of instructional materials enhance the academic performance of biology students in my school	4	5	1	0	90	1	10
18	I make sure that I properly utilize instructional materials because it assist in the achievement of the stated educational goals and objectives of biology in my school	4	6	0	0	100	0	0
19	my students retention ability has been improved through the use of instructional materials	6	4	0	0	100	0	0
20	I use instructional materials to simplify and clarify what is complex to the students and difficult to express in words.	6	3	1	0	90	1	10

Table 6 shows the teachers responses on the extent to which the use of instructional materials facilitates and enhance effective leaning of biology in the secondary school in Jos North Local Government Area. In attempt to address the above stated objective, Questionnaire item fourteen sought to find out whether students tend to understand biology concepts better whenever the teacher use instructional materials. In response to this item, respondents who agreed scored 10 (100%), while respondents who disagreed scored 0 (0%). This indicates that students tend to understand biology concepts better whenever the teacher use instructional materials. Questionnaire item fifteen states that I use instructional materials always because it makes biology lessons more attractive,

thereby capturing student's attention and motivating them to learn. In response to this item, respondents who agreed scored 10 (100%), while those who disagree scored 0 (0%). This indicates that teachers use instructional materials always because it makes biology lessons more attractive, thereby capturing student's attention and motivating them to learn. Questionnaire item sixteen which state that my student's performance is poor whenever I fail to make use of instructional materials during biology class, has 7 (70%) respondents who agreed while 3 (30%) disagreed. This implies that, most students perform poor whenever the teacher fail to make use of instructional materials. Questionnaire item seventeen state that the proper utilization of instructional materials enhance the academic performance of biology students in my school. In response to this item, respondents who agreed scored 9 (90%), while respondents who disagreed scored 1 (10%). This indicates that, proper utilization of instructional materials by the teachers enhance the academic performance of biology students the secondary schools.

In same vein, questionnaire item eighteen states I make sure that I properly utilize instructional materials because it assist in the achievement of the stated educational goals and objectives of biology in my school. In response to this item, respondents who agreed scored 10 (100%), while respondents who disagree scored 0 (0%). This implies that the teachers properly utilize instructional materials because it assist in the achievement of the stated educational goals and objectives in the secondary schools in Jos North Local Government Area. Questionnaire item nineteen investigates whether the student's retention ability has been improved through the use of instructional materials. In response to this item, respondents who agreed scored 10 (100%), while those who disagree scored 0 (0%). This indicates that student's retention ability has been improved through the use of instructional materials. Item twenty on table 6. States that I use instructional materials to simplify and clarify what is complex to the students and difficult to express in words. In response to this item, respondents who agree scored 9 (90%), while respondents who disagree scored 1(10%). This shows that teachers use instructional materials to simplify and clarify what is complex to the student's and difficult to explain in words.

## **Conclusion**

This study investigated the Availability and Utilization of Biology Instructional Materials in the secondary Schools in Jos North LGA. Based on the findings in this study, the following conclusions were drawn: The proper utilization of

instructional materials impact teaching and learning of students in biology. The use of biology instructional materials make learning real and permanent. Instructional materials are not sufficiently made available to the teachers for effective teaching and learning of biology in the secondary schools. Biology teachers always make use of the available instructional materials during instruction. The use of instructional materials arouses the student's interest by attracting their attention and thus, promotes retention. The proper utilization of instructional materials influences the academic performance of students in biology.

### **Recommendations**

Based on the findings of this study, the researchers recommends as follows.

1. The Government through the Ministry of Education and proprietors of private secondary schools should ensure adequate provision of relevant and sufficient biology instructional materials for effective utilization by the teachers enhance students' academic performance in biology.
2. Teachers should improvise where necessary when instructional materials are not available to teach biology in the secondary schools in Jos North Local Government Area.

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