



Secondary School Students' Interest Inventory in Biology

Nwafor C. E.¹, Oka, Obeten Okoi²

¹Assoc. Professor, Department of Science & Computer Education, Ebonyi State University, Abakaliki

²Department of Science & Computer Education, Ebonyi State University, Abakaliki

***Corresponding Author:** Nwafor C. E., Assoc. Professor, Department of Science & Computer Education, Ebonyi State University, Abakaliki, Nigeria

Abstract: An objective knowledge of the level of students' interest in Biology will help to reposition the nation towards developing a virile science and technology based society. To this end, this research is a survey of secondary school students' interest inventory in biology. Four co-educational schools were drawn for the study through simple random sampling technique. Interest inventory form was used to collect data from the selected group. Four research questions guided the study. The data for the research questions were answered using statistical mean. The findings of the study revealed that there is abysmal level of student's interest in biology. Based on the findings the researchers made some recommendation.

Keywords: Student, Interest, Inventory, Biology, Science

1. BACKGROUND TO THE STUDY

The quest of every nation to be among the most advanced nations of the world cannot be overemphasized. This has become the prima facie of every nation concerned about making memorable impact in the league of nations and having her name written in gold in the heart of every individual existing in the world. This was noted by Festus and Ekpete (2012) that science and technology have become the hallmark for sustainable development in any national economy, but cannot strive ahead without the science subjects like Biology and Chemistry. The significance of the quest to the Nigerian state cannot also be overemphasized as this will bring her to limelight among the advanced nations of the world.

While this desire for recognition is quite momentous for every nation, including Nigeria, no nation can reach that height without a repositioned science, technology and industrialization. Nwafor and Oka (2016) are of the view that information and communication technologies (which is the brain child of structured science and technology) enable man as well as nations to timely and efficiently increase their speed of operation, interact in flexible ways, utilize their potentials to become innovative and creative. The basis of this virile science and technological base depends on three scientific fields – Biology, Chemistry and Physics.

Unfortunately, as noted by Ali, Toriman and Gasim (2014), Biology which is the a fundamental science subject has been known to continuously record low students' enrolment, interest and poor achievement levels in all examinations – both internal and external. In their words, this “has come a persisted public outcry as regards the falling standard of biology education” (Ali, Toriman and Gasim, 2014).

The investigation of students' attitudes towards studying science has been a substantive feature of the work of the science education research community for the past 30-40 years (Osborne, Simon and Collins in Trumper 2006). The importance of this investigation is stressed by a persistent decline in post-compulsory high school science enrolment over the last two decades. Students' increasing reluctance to choose science courses in their final years of secondary education has serious adverse implications for the health of scientific endeavour, but also for the scientific literacy of future generations. The endorsement of positive attitudes to science, scientists, and learning science, which has always been a constituent of science education, is increasingly a subject of concern (Trumper, 2006).

Biology is a branch of natural science that deals with the study of living organisms, including their structures, functioning, evolution, distribution and interrelationships. (The American Heritage Dictionary of the English language, 2009). Biology occupies a unique position in the secondary school education curriculum because of its importance as science of life. In Nigeria the secondary school Biology curriculum is designed to continue students 'investigation into natural phenomena, to deepen students 'understanding and interest in biological sciences, and also to encourage students' ability to apply scientific knowledge to everyday life in matters of personal, community, health and agriculture among others (Federal Ministry of Education, 2009).

Biology is a very important science subject and stands as the bedrock upon which are based many other science courses like Medicine, Pharmacy, Nursing, Biochemistry, Genetic, Agriculture etc., that are of great economic importance to a nation. Besides, the importance of Biology to mankind as science of life, enables one to understand himself and his intermediate environment.

There can therefore be no meaningful science and technology of a nation with low interest and enrolment rate in the basic foundation of Biology subject in the secondary schools. As Festus and Ekpete (2012) have noted that the attitudes of a student are antecedents which serve as inputs or stimuli that trigger actions as well as interests.

Interest (both intrinsic and extrinsic) and attitudes of students play substantial role among pupils studying science (Slee in Festus and Ekpete, 2012). This is the case because attitude implies a favorable or unfavorable evaluative reactions towards something, events, programmes, etc. exhibited in an individual's beliefs, feelings, emotions or intended behaviors.

It has been observed that most learners perform below average due to lack of motivation and interest; they are neither motivated to learn nor do they do what they are expected to do (Lebata and Mudau, 2014). Several researchers have suggested that only motivation (which can be sustained by interest) directly effects academic achievement; all factors affect achievement only through the effect of motivation (Tucker et al. 2007). However, it is not easy to understand what motivates learners. Many studies have been conducted on this topic, which has led to the development of several theories of motivation (Lebata and Mudau, 2014).

Researchers have shown that interest, goals, and motivation have been identified as important for learning and academic performance and at the same time, the development of a positive attitude toward science is one of the most important goals of the curriculum (ProkopProkop&Tunncliffe, 2007). Students' attitudes toward science and science education have also received attention (Osborne et al, 2003).

It has been observed that Science is boring for many students: difficult, not relevant to the people's lives, more attractive to boys and less interesting to older students (Ebenezer and Zoller, 1993; Delpech, 2002). These conclusions cannot, however, be generalized to all the sciences. There are differences in attitudes toward physical and biological sciences. Physical sciences receive more negative views than biological sciences (Ramsden in ProkopProkop&Tunncliffe, 2007). Boys express more positive attitudes about physical sciences (Schibeci and Riley, 1986; Francis and Greer, 1999), but girls were found to be more interested in biology than boys (Keeves and Kotte, 1992; Jones *et al*, 2000 Barram-Tsabari *et al*, 2006 in ProkopProkop&Tunncliffe, 2007).

Biology is a unique discipline where experiments with living organisms can take place both in the laboratory and in the field. How do students regard biology compared with other subjects? Do boys and girls prefer different topics? Several studies have been concerned with attitudes toward particular disciplines like physics but few studies have focused on students' attitudes toward biology (ProkopProkop&Tunncliffe, 2007).

It should be noted that both students' out-of-school interests in biology and their attitudes toward biology lessons, information about students' interests, students' interests in hobbies, the types of films they watch on TV, the books they read and their ideas about careers may help teachers to devise strategies to enhance students' interest in biology. (ProkopProkop&Tunncliffe, 2007). Hence, the need for students' interest inventory in biology.

Interest is a kind of awareness inclination for understanding the world and acquiring cultural and scientific knowledge (Xiuhong&Dongyi, 2005). Yan (2001) observed that as students are interested in certain field, they may pay special attentions on it, observing carefully, memorizing well, and

thinking actively. Only by arousing students' interests in learning biology, can we enhance students' enthusiasm for learning biology, help them master biological knowledge and techniques better, and form the scientific spirits and attitudes. Therefore, biological teachers should focus on cultivating, stimulating, and fixing students' interests in biology, activating and maintaining students' enthusiasm for learning biology.

When students are allowed to pursue their own interests, they participate more, stay involved for longer periods, and exhibit creative practices in doing science at the same time, interest has also been found to influence future educational training and career choices therefore, constructing science curricula that enable young people to engage in science-related issues that are likely to be of interest and concern to them is critical to encouraging learning as this can ignite in students the ability to identify own interests in biology which may be used to contextualize and personalize some of the formal biology curriculum. This has already been observed by Jenkins (1999 in Baram-Tsabariet al, 2010) who examined the implications of "citizen science", i.e. science which relates in reflexive ways to the concerns, interests and activities of citizens as they go about their everyday lives, for the form and content of school science education; he suggested constructing science curricula that enable young people to engage in science-related issues that are likely to be of interest and concern to them. This idea also appears in the recommendations of several organizations, including the National Research Council (1996) and the American Association for the Advancement of Science (1993), which have proposed that science curricula provide a common basis of knowledge while addressing the particular needs and interests of students. Therefore, the ability to identify students' own interests in biology is critical for a successful teaching and learning of the sciences.

This trend, if allowed to continue has serious adverse implications for the health of scientific endeavour of the world including Nigeria, and also for the scientific literacy of future generations. It was found that students with a positive view of science, who are fascinated by natural phenomena, and who recognize the general importance of science or the role that science may play in their future, may nevertheless not be so interested in the kind of biology they encounter in the classroom (Trumper, 2006).

It has been rightly noted that this disparity between the high-tech and socially relevant perception of science held by students and the more theoretical, decontextualized version of school science promulgated by teachers, identifies a major gulf between teachers and their students that may impede effective communication of the sciences especially biology. In essence, the vision that school science offers is a backward-looking view of the well-established scientific landscape, whereas, in contrast, what appeals to and excites students is the 'white heat' of the technological future offered by science. In short, to capitalize on students' interests, school science needs to be less retrospective and more prospective. (Osborn et al in Trumper 2010, p. 11)

To this end Yan (2010) made suggestions on Cultivation of Students' Interests in Biology Teaching, thus:

- Build Harmonious Teacher-students Relationships
- Employ the Modern Aids to Establish a Thinking Model
- Guide Students' Interests in Learning Biology by other Interests and Hobbies
- Build the Research-Learning Mode and Arouse the Exploring Desire
- Guide Students to Use the Scientific and Interesting Memory Methods
 - *Memorize by Association*: Make an association between new information and known things.
 - *Memorize by Experiments*: Biology is an experimental science taking observation and experiments as the basic research methods.
 - *Memorize by Interests*: It means to help students to memorize knowledge by using harmonics, jingles, verses, etc. The vivid and interesting materials can impress students better than dull and boring materials.

From the foregoing, an identification of students' interests in biology can help teachers better engage their pupils and meet their needs. An important aspect of biology teaching and learning is to create an atmosphere of complete participation that is guaranteed by interest, in which students can perceive the biology from a positive and initiative stance in a cooperative way which allows the student to place

greater dependence on the scientific activities not just as an academic requirement, but also a demand for the existence, survival and perpetration of life forms in the world. To study in an active, exciting, and relaxing atmosphere, students can fully develop the ability and desire for exploring problems. As students draw a conclusion by active exploration, a pleasure of success comes into being. They feel proud of their success, which can further foster their confidence in learning knowledge, inspiring the interests in study (Baram-Tsabari *et al*, 2010).

It is therefore pertinent to take a students' interest inventory in biology which is the hub of all natural sciences to enable the science teachers, schools, societies and government to be better informed about the status of interest in biology learning in the schools especially in an objective way, so as to take urgent steps to arrest the situation to better place the nation in the limelight among the nations of the world that have great interest in science, technology and world development.

1.1. Objectives of the Study

The objective of this study is to survey secondary school students interest inventory in biology. Specifically, the study will survey:

- Interest of secondary school students in the learning of Biology
- Interest of secondary school students to Biology classes
- Interest of secondary school students in Biology related activities
- Interest of secondary school students in Biology related careers

1.2. Scope Of The Study

The study was restricted to Senior Secondary School I to II (SS I to II) students' interest inventory in Biology.

1.3. Research Questions

The following research questions guided the study:

- To what extent are secondary school students interested in learning Biology?
- To what extent are secondary school students interested on the Biology that you learn in classes?
- To what extent are secondary school students interested in Biology related activities?
- To what extent are secondary school students interested in Biology related careers?

1.4. Design of the Study

The design of this study was survey research. Nworgu (2006) defined survey research "as one in which a group of people or items is studied by collecting and analyzing data from only a few people or items considered to be representative of the entire group."

1.5. Area of the Study

The study was conducted in Abakaliki Urban in Abakaliki Local Area of Ebonyi State, Nigeria. Abakaliki is situated at latitude 6.32⁰ North and longitude 8.12⁰ East. It is the Administrative seat of the Government House of Ebonyi State, Nigeria.

1.6. Population of the Study

The population of the study comprised the entire Senior Secondary School Students in Abakaliki Urban of Ebonyi State. There are 6 approved government secondary schools in the area comprising of 8,203 students (Source: Ministry of Education, Abakaliki, 2017)

2. SAMPLE AND SAMPLING TECHNIQUE

Considering the large population, the available resources and time, the researcher made use of simple random sampling technique in selecting 390 students (using Yaro Yameni's formula) from 3 selected secondary schools hence, the sampled population consisted of 390 respondents (130 from each sampled school).

2.1. Instrument for Data Collection

The instrument for data collection is a structured questionnaire titled: Students' Interest Inventory in Biology (SIIB). The questionnaire is developed on a four-point scale rating of Very Large Extent

(VLE) Large Extent (LE), Small Extent (SE) and Very Small Extent (VSE) with values of 4,3, 2 and 1 respectively.

2.2. Reliability of the Instrument

To ensure the reliability of the instrument, a test-retest was conducted on 20 teachers outside the study area. Their responses were analyzed and yielded a coefficient of 0.93 which indicated that the instrument is reliable.

3. METHOD OF DATA COLLECTION

The researchers employed direct delivery method in the administration of the instrument. Questionnaires were personally distributed to the respondents on their respective assembly grounds. This was to ensure timeliness and high rate of return.

3.1. Method of Data Analysis

The data collected for this study was analyzed using the Statistical Mean to answer the research questions.

The research questions were answered using the data obtained with the research instrument. The rating of the extent of interest is shown as follows:

- 0.0 – 1.4 - Very Low Interest
- 1.5 – 2.4 - Low Interest
- 2.5 – 3.4 - High Interest
- 3.5 – 4.0 - Very High

4. RESULTS

4.1. Research Question 1

To what extent are secondary school students interested in learning Biology?

For this research question, data obtained with the study instrument from forty (40) items were analyzed to answer the research question. Summary of result of data analysis is presented in table 1 and 2.

Table1. Extent of Students Interests in learning of Biology

~	ITEM	X	VLE	LE	SE	VSE	X	Extent Of Interest
1	Aerobic respiration	390	63	47	269	11	2.42	Low Interest
2	Anaerobic respiration	390	64	47	261	18	2.40	Low Interest
3	Biological Signaling	390	57	94	199	40	2.43	Low Interest
4	Birth control and contraception.	390	327	56	6	1	3.82	Very High Interest
5	Cell division (meiosis and mitosis)	390	12	34	69	275	1.44	Very Low Interest
6	Circulatory system in humans	390	130	87	28	145	2.52	High Interest
7	Cloning of animals	390	324	54	9	3	3.79	Very High Interest
8	Defense and immunity in humans	390	198	130	45	17	3.31	High Interest
9	Development and growth in animals	390	40	104	206	40	2.37	Low Interest
10	Development and growth in plants	390	67	26	130	167	1.98	Low Interest
11	Digestive system and digestion in humans	390	69	39	107	175	2.01	Low Interest
12	Dinosaurs	390	71	112	165	42	2.54	High Interest
13	Endocrine system and hormones in humans	390	15	46	130	199	1.68	Low Interest
14	Energy and energy types	390	45	48	130	167	1.93	Low Interest
15	Excretion system in humans	390	45	107	175	63	2.34	Low Interest
16	Gene cloning and cloning tools	390	45	55	256	34	2.28	Low Interest
17	Genes and chromosomes	390	46	63	112	169	1.96	Low Interest
18	Genetic code	390	65	64	189	72	2.31	Low Interest
19	Genetic disorders in humans	390	78	32	199	81	2.27	Low Interest
20	Genetic engineering	390	12	76	296	6	2.24	Low Interest
21	Living things (Animals, plants, etc..)	390	130	234	16	10	3.24	High Interest
22	Matter cycles (water cycle, carbon cycle, nitrogenous cycle, phosphorous cycle)	390	71	62	112	145	2.15	Low Interest
23	Matter exchange in cell (active transportation and passive transportation)	390	45	93	8	244	1.84	Low Interest
24	Mendel principals and applications	390	45	122	206	17	2.50	High Interest

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25	Mutation of genetic materials	390	45	55	130	160	1.96	Low Interest
26	Nervous system in humans (central and peripheral nervous system)	390	35	49	139	167	1.88	Low Interest
27	Nucleic acids	390	24	84	107	175	1.89	Low Interest
28	Organic compounds in living things (proteins, carbohydrates, fats)	390	34	69	275	12	2.32	Low Interest
29	Photosynthesis	390	76	87	107	120	2.31	Low Interest
30	Protein synthesis	390	71	42	165	112	2.18	Low Interest
31	Reproduction (sexual and asexual)	390	11	128	130	121	2.07	Low Interest
32	Reproduction system in humans	390	134	130	89	37	2.93	High Interest
33	Respiratory system in humans	390	45	107	175	63	2.34	Low Interest
34	Structure and function of the cell	390	45	48	130	167	1.93	Low Interest
35	Support and movement in humans	390	46	112	169	63	2.36	Low Interest
36	Support and movement in plants	390	55	54	189	92	2.18	Low Interest
37	Tissues (epithelium, blood, muscle, etc.,)	390	78	32	199	81	2.27	Low Interest
38	Variation and classification of living things	390	78	4	12	296	1.65	Low Interest
39	Variation and modification	390	56	34	201	99	2.12	Low Interest
40	Views of evolution of living things	390	71	195	113	11	2.84	High Interest
CUMMULATIVE MEAN							2.33	Low Interest

Table2. Areas of High and Very High Students' Interest in learning of biology

~	ITEM	X	VLE	LE	SE	VSE	\bar{X}	Extent Of Interest
4	Birth control and contraception.	390	327	56	6	1	3.82	Very High Interest
6	Circulatory system in humans	390	130	87	28	145	2.52	High Interest
7	Cloning of animals	390	324	54	9	3	3.79	Very High Interest
8	Defense and immunity in humans	390	198	130	45	17	3.31	High Interest
12	Dinosaurs	390	71	112	165	42	2.54	High Interest
21	Living things (Animals, plants, etc.,)	390	130	234	16	10	3.24	High Interest
24	Mendel principals and applications	390	45	122	206	17	2.50	High Interest
32	Reproduction system in humans	390	134	130	89	37	2.93	High Interest
40	Views of evolution of living things	390	71	195	113	11	2.84	High Interest
CUMMULATIVE MEAN							3.05	High Interest

The table above (table 1) shows that students showed high interest in the study of biology only in nine (9) items (as shown in table 2) out of forty (40) items (topics) in the questionnaire items relative to this research question. There is also a noticeable cumulative mean of 2.33 (in table 1 above) which showed low students' interest in learning of Biology.

4.2. Research Question 2

To what extent are secondary school students interested in the Biology that you learn in classes?

For this research question, data obtained with the study instrument from fifteen (15) items were analyzed to answer the research question. Summary of result of data analysis is presented in table 3 and 4.

~	ITEM	X	VLE	LE	SE	VSE	\bar{X}	Extent of Interest
41	Biology has increased my appreciation of nature.	390	57	94	199	40	2.43	Low Interest
42	Biology has increased my curiosity about things we cannot yet explain	390	23	99	222	46	2.25	Low Interest
43	Biology has made me more critical and skeptical.	390	44	37	269	40	2.22	Low Interest
44	Biology has opened my eyes to new and exciting jobs.	390	64	47	261	18	2.40	Low Interest
45	Biology has shown me the importance of science for our way of living	390	47	69	99	175	1.97	Low Interest
46	Biology has taught me how to take better care of my health.	390	94	145	57	94	2.61	High Interest
47	Biology is interesting.	390	20	38	327	5	2.19	Low Interest
48	I like Biology better than most other subjects.	390	55	45	199	91	2.16	Low Interest
49	I think everybody should learn Biology at school.	390	64	47	239	40	2.35	Low Interest
50	I think that the Biology I learn at school will improve my career chances.	390	57	89	77	167	2.09	Low Interest
51	I would like to have as much Biological lessons as possible at school.	390	12	3	177	198	1.56	Low Interest
52	I would like to take up a profession in the Biological	390	12	34	145	199	1.64	Low Interest

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Science								
53	My attitudes to nature has changed for good because of Biology.	390	66	78	99	147	2.16	Low Interest
54	My perception about nature has changed for good because of Biology.	390	16	18	169	187	1.65	Low Interest
55	The things that I learn in Biology at school will be helpful in my everyday life.	390	134	101	92	63	2.78	High Interest
CUMMULATIVE MEAN							2.16	Low Interest

Table4. *Arears of High and Very High Students' Interest in the Biology learnt in classes.*

ITEM	X	VLE	LE	SE	VSE	X	Extent Of Interest	
46	Biology has taught me how to take better care of my health.	390	94	145	57	94	2.61	High Interest
55	The things that I learn in Biology at school will be helpful in my everyday life.	390	134	101	92	63	2.78	High Interest
CUMMULATIVE MEAN							2.70	High Interest

The table above (table 3) shows that students showed high interest in the biology learnt in the classes only in two (2) items (as shown in table 4) out of fifteen (15) items in the questionnaire relative to this research question. There is also a noticeable cumulative mean of 2.16 (in table 3 above) which showed low students' interest in the Biology learnt in schools/classes.

4.3. Research Question 3

To what extent are secondary school students interested in Biology related activities?

For this research question, data obtained with the study instrument from fifteen (15) items were analyzed to answer the research question. Summary of result of data analysis is presented in table 5 and 6.

Table5. *Extent of Students Interests in the Biology related activities*

ITEM	X	VLE	LE	SE	VSE	X	Extent Of Interest	
56	Cared for animals on a farm	390	33	27	269	67	2.10	Low Interest
57	Cleaned and bandaged a wound.	390	2	4	261	123	1.71	Low Interest
58	Collected different stones or shells.	390	30	57	199	104	2.03	Low Interest
59	Collected different leaves to compare	390	1	56	106	227	1.57	Low Interest
60	Collected edible fruits, mushrooms or plants.	390	99	161	97	33	2.84	High Interest
61	Made compost of grass, leaves or garbage.	390	28	89	129	144	2.00	Low Interest
62	Made dairy products like yoghurt, butter, cheese or ghee.	390	3	54	324	9	2.13	Low Interest
63	Milked animals like cows, sheep or goats.	390	45	17	198	130	1.94	Low Interest
64	Planted seeds and watched them grow.	390	40	104	206	40	2.37	Low Interest
65	Taken herbal medicines or had alternative treatments (acupuncture, homeopathy, yoga, healing, etc.).	390	66	26	131	167	1.98	Low Interest
66	Teaching Biology to your friend	390	67	39	107	173	1.98	Low Interest
67	Visited a science center or science museum.	390	72	19	134	165	1.99	Low Interest
68	Visited a zoo	390	30	31	132	197	1.73	Low Interest
69	Watched (not on TV) an animal being born.	390	45	48	130	167	1.93	Low Interest
70	Watched nature programmes on TV or in a cinema.	390	35	67	113	175	1.90	Low Interest
CUMMULATIVE MEAN							2.01	Low Interest

Table6. *Arears of High and Very High Students' Interest in the Biology related activities*

ITEM	X	VLE	LE	SE	VSE	X	Extent Of Interest	
60	Collected edible fruits, mushrooms or plants.	390	99	161	97	33	2.84	High Interest
CUMMULATIVE MEAN							2.84	High Interest

The table above (table 5) shows that students showed high interest in Biology related activities only in one (1) item (as shown in table 6) out of fifteen (15) items in the questionnaire relative to this research question. There is also a noticeable cumulative mean of 2.01 (in table 5 above) which showed low students' interest in Biology related activities.

4.4. Research Question 4

To what extent are secondary school students interested in Biology related careers?

For this research question, data obtained with the study instrument from thirty (30) items were analyzed to answer the research question. Summary of result of data analysis is presented in table 7 and 8.

Table7. Extent of Students Interests in the Biology related careers.

ITEM	X	VLE	LE	SE	VSE	\bar{X}	Extent Of Interest
71 Anatomist	390	230	111	38	11	3.44	High Interest
72 Biological Technologist	390	12	47	261	70	2.00	Low Interest
73 Biology Educator	390	13	94	199	83	2.09	Low Interest
74 Biomedical Engineer	390	245	96	42	9	3.49	High Interest
75 Biophysicist	390	15	34	69	273	1.47	Very Low Interest
76 Biostatistician	390	17	87	128	158	1.91	Low Interest
77 Botanist	390	15	54	188	133	1.87	Low Interest
78 Cell Biologist	390	27	130	45	188	1.99	Low Interest
79 Crime Lab Scientist	390	92	40	206	52	2.44	Low Interest
80 Dentist	390	70	23	130	167	1.99	Low Interest
81 DNA Analyst	390	20	39	156	175	1.75	Low Interest
82 Medical Doctor	390	321	61	3	5	3.79	Very High Interest
83 Ecologist	390	25	46	130	189	1.76	Low Interest
84 Entomologist	390	56	48	130	156	2.01	Low Interest
85 Epidemiologist	390	43	107	175	65	2.33	Low Interest
86 Food and Drug Inspector	390	64	55	256	15	2.43	Low Interest
87 Forensic Lab Analyst	390	32	63	112	183	1.86	Low Interest
88 Geneticist	390	53	64	189	84	2.22	Low Interest
89 Health Educator	390	23	32	199	136	1.85	Low Interest
90 Herpetologist	390	33	55	296	6	2.29	Low Interest
91 Marine Biologist	390	25	234	116	15	2.69	High Interest
92 Medical Laboratory Technologist	390	153	145	62	30	3.08	High Interest
93 Microbiologist	390	36	9	244	101	1.95	Low Interest
94 Molecular Biologist	390	53	114	206	17	2.52	High Interest
95 Molecular Biophysicist	390	52	55	130	153	2.02	Low Interest
96 Pharmacist	390	22	62	139	167	1.84	Low Interest
97 Registered Nurse	390	251	107	21	11	3.53	Very High Interest
98 Soil Scientist	390	25	78	275	12	2.30	Low Interest
99 Wildlife Biologist	390	56	87	127	120	2.20	Low Interest
100 Zoologist	390	64	49	165	112	2.17	Low Interest
CUMMULATIVE MEAN						2.31	Low Interest

Table8. Arears of High and Very High Students' Interest in the Biology related careers.

ITEM	X	VLE	LE	SE	VSE	\bar{X}	Extent Of Interest
71 Anatomist	390	230	111	38	11	3.44	High Interest
74 Biomedical Engineer	390	245	96	42	9	3.49	High Interest
82 Medical Doctor	390	321	61	3	5	3.79	Very High Interest
91 Marine Biologist	390	25	234	116	15	2.69	High Interest
92 Medical Laboratory Technologist	390	153	145	62	30	3.08	High Interest
94 Molecular Biologist	390	53	114	206	17	2.52	High Interest
97 Registered Nurse	390	251	107	21	11	3.53	Very High Interest
CUMMULATIVE MEAN						3.22	High Interest

The table above (table 7) shows that students showed high interest in Biology related activities only in seven (7) items (as shown in table 8) out of fifteen (30) items in the questionnaire relative to this research question. There is also a noticeable cumulative mean of 2.31 (in table 7 above) which showed a general low students' interest in Biology related careers.

5. RESULT

Results presented in this chapter reveal that:

- There is low interest of secondary school student in learning of Biology.
- There is low interest of secondary school student in Biology learnt in classes.
- There is low interest of secondary school student in Biology related activities.
- There is low interest of secondary school student in Biology related careers?

6. DISCUSSION, CONCLUSION AND RECOMMENDATIONS

From the results obtained, the study reveals that there is a general low students interest in the study of Biology in secondary schools. This agrees with Ali, Toriman and Gasim (2014) that Biology, which is the basis for every science has been known to continuously record low students' enrolments and interest and also culminate to recording poor achievement levels in all examinations – both internal and external. In their words, this “has come a persisted public outcry as regards the falling standard of biology education” (Ali, Toriman and Gasim, 2014). As a result, Lebata and Mudau (2014) have observed that most learners perform below average due to lack of motivation and interest; they are neither motivated to learn nor do what they are expected to do.

Again, in relation to biology related activities, Prokop Prokop & Tunnicliffe (2007) have already noted that students' out-of-school interests in biology and their attitudes toward biology lessons, information about students' interests, students' interests in hobbies, the types of films they watch on TV, the books they read and their ideas about careers may help teachers to devise strategies to enhance students' interest in biology.

There is therefore a clear indication that students level of achievement in Biology in the secondary school will continue to decline until proper measures are put in place to enhance students' interest in the learning of toward biology.

Based on the findings of this study, the researchers recommend that interest based activities should be incorporated into the biology scheme to trigger learning of biology; computer use should also be integrated in the learning of biology to trigger students' interest especially as it has to do with learning biology with modern gadgets. In addition, conferences, seminars and workshops should be organized regularly by government and relevant professional bodies to educate biology teachers on the relevance of students' interest in high level of achievement in biology. Government agencies and professional associations, whose responsibilities it is to design and revise the curriculum for secondary schools, should incorporate and interest based concepts in the biology curriculum for effective teaching and learning.

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