Jewel Journal of Librarianship
ISSN: 2141-3908 (Print); ISSN: 2736-0881 (Online)
Volume 15, Issue 2; Published: Deccember, 2020
https://www.jeweljournals.com

Resource Utilization as Correlates of Students' Academic Achievement in Genetics in Adeyemi College of Education, Ondo, Ondo State, Nigeria

Samuel O. Ogunniyi, Ph.D
samogunniyi2015@gmail.com
08060053878

Johnson A. Akerele, Ph.D
Babs Fafunwa Library,
Adeyemi College of Education,
Ondo, Ondo State. Nigeria.
akereleayodeji100@gmail.com
08033285670

Aminat Omolola Asabi
Department of Biology,
Adeyemi College of Education,
Ondo, Ondo State, Nigeria
asabiaminatportable@gmail.com
+2348060053878

Abstract
This paper examined resource utilization as correlates of students' academic achievement in Genetics in Adeyemi College of Education, Ondo. Genetics is an aspect of Biology concerned with the study of nature and mechanism of heredity. Genetics studies how characteristics of an individual are transferred from his or her parents. It is an important course been studied in secondary and tertiary levels of education. It was observed that some students performed very low in Genetics. As a result of this, some students were not able to graduate in the Department of Biology in Adeyemi College of Education, Ondo, Ondo State, Nigeria. This may be as a result of non-provision or utilization of library information resources and laboratory. Descriptive research design of correlational type was used in this study. Simple random sampling technique was adopted to select 300 out of the 400 undergraduates in 300 level in the college. Three research questions and two hypotheses guided the study. Questionnaire and Students' achievement test in Genetics were the instruments used in this study. Descriptive statistics was used to answer research questions while Pearson's Product Moment Correlation was used to test the hypotheses. The study found that textbooks on Genetics was the only highly utilized library information resources; the rate of students' utilization of laboratory in learning Genetics was high; Students' academic achievement in Genetics was average; there was no significant relationship between library information resources utilization and students' academic achievement in Genetics and there was significant relationship between laboratory resources utilization and students' academic achievement in Genetics. The paper concluded that there was no correlation between library information resources utilization and students' academic achievement in Genetics which may be due to low use of library information resources. It was recommended among others that there should be current awareness services on resources and services available in the library most especially to students which may improve their awareness on the latest resources available in the library in order to make use of them and College Management should provide unavailable laboratory equipment for students' use.

Keywords: Resources; Utilization; Students' achievement; Genetics; Adeyemi College of Education; Ondo, Ondo State.

Jewel Journal of Librarianship
ISSN: 2141-3908 (Print); ISSN: 2736-0881 (Online)
Volume 15, Issue 2; Published: Deccember, 2020
https://www.jeweljournals.com

Introduction

Genetics is an aspect of Biology concerned with the study of nature and mechanism of heredity. It is a branch of Biology concerned with the study of genes, genetic variation and heredity (Wikipedia, 2020). Kapiel (2006) averred that genetics is the study of inherited variation. Human genetics is the scientific study of inherited variation. Genetics is concerned with how characteristics of individuals are passed from his/her parents. Wikipedia (2020) posited that trait inheritance and molecular inheritance mechanisms of genes are still primary principles in the 21st Century, but modern genetics has expanded beyond inheritance to studying the function and behavior of genes. Ndu (2014) asserted that practical works help the students to learn various skills and gives student a series of achievement when they themselves make discoveries and make scientific conclusion through their own experiments. Studying genetics help scientists better understand where humans came from as a species. Genetics help elucidate the connections between different groups of people and give historians and anthropologists a clearer picture of historic human migration patterns. In some cases, a person's genome can give clues to his personal ancestry and help him understand his genealogy.

Genetics is an aspect of Biology which is one of the compulsory courses in the Department of Biology which must be passed before a student could graduate from the university. Adeyemi College of Education, Ondo is affiliated to Obafemi Awolowo University, Ile Ife in running degree programmes including Biology. It may be noted that some final year students in the Department of Biology were not able to graduate as a result of failure in some departmental courses most especially Genetics. In the secondary schools, some students are finding Genetics as a topic in Biology been difficult. This difficulties being experienced by some students may be due to resources provision or utilization in learning and studying Genetics either as a topic in Biology or course in the Department of Biology in secondary schools and tertiary institutions respectively. Resources are germane in teaching and learning in all levels of education. Resources could be human, physical, material or financial. Library information resources and laboratory which are material and physical resources respectively are the focus of this study.

Library information resources consist of physical (textbooks, journals, magazines, reference materials, theses and dissertations etc) and electronic resources (electronic books, journals, theses, databases etc). These resources are consulted either in manual or electronic format to complement teachers' teaching in the classroom and enhance the curriculum. Students are therefore expected to visit the library to make use of relevant information resources on their fields of study. Library information resources play a major role in the process of improving the overall effectiveness of an educational system. According to Dahar and Faize (2011), teacher is not a sufficient source of knowledge for reasons such as large class and time factor etc, and student has to improve the knowledge received from teacher by reading the textbook. Students need to use information resources provided like textbooks, journals, reference materials (physical and online) etc in the library to complement teaching in the classroom and laboratory which may improve their academic achievement. Owoeye and Yara (2011) discovered that textbook is an important tool for academic achievement of students. Use of textbooks and other information bearing resources may enhance students' academic achievement.

Laboratory is a place or room provided for scientific research, test and experiments in teaching and learning most especially science based subjects and courses. According to Dan-Ologe and Shittu (2012), laboratory is mostly used in teaching and learning science subjects. Laboratory work is indispensable to the understanding of science. It is one the physical resources required for teaching and learning subjects or courses that require practical demonstration. Laboratory equipment are expected to be provided in a room or rooms designated to be a laboratory for the

Jewel Journal of Librarianship
ISSN: 2141-3908 (Print); ISSN: 2736-0881 (Online)
Volume 15, Issue 2; Published: Deccember, 2020
https://www.jeweljournals.com

use of teachers and students for practical teaching and learning of a particular subject or course. Well-equipped and used laboratory may improve students' academic achievement. Ogunniyi and Nwalo (2015) cited Macmillan and Mannesseh (2012) found that students exposed to knowledge of practical physics achieved higher than students who were not so exposed. Availability and utilization of library information resources and laboratory may enhance students' academic achievement in Genetics.

Statement of the Problem

Poor academic achievement of degree students in Genetics in the Department of Biology, Adeyemi College of Education, Ondo is the major concern of this study. Some students were not able to graduate due to their poor performance in the course and other courses in the department. This could be due to non-provision or utilization of resources like library information resources and laboratory in the course of their study. If library information resources like textbooks, journals on Genetics are provided and they are not being utilized by students, it may affect their academic achievement in the course. On the other hand, if laboratory is not equipped with necessary facilities, it may likely affect the students' academic achievement in the course. The study therefore investigated resources utilization as correlates of students' academic achievement in Genetics in Adeyemi College of Education, Ondo, Ondo State, Nigeria

Objective of the Study

Objective of the study are to:

i. examine the rate of students' utilization of library information resources in learning Genetics in Adeyemi College of Education, Ondo;
ii. ascertain the level of students' utilization of laboratory in learning Genetics in Adeyemi College of Education, Ondo;
iii. assess the academic achievement of students in Genetics learning Genetics in Adeyemi College of Education, Ondo;
iv. examine the relationship between utilization of library information resources and students' academic achievement in Genetics in Adeyemi College of Education, Ondo; and
v. determine the relationship between laboratory utilization and students' academic achievement in Genetics in Adeyemi College of Education, Ondo.

Research Questions

The following research questions will guide the study:

1. What is the rate of student utilization of library information resources in learning Genetics in Adeyemi College of Education, Ondo?
2. What is the level of students' utilization of laboratory in learning Genetics in Adeyemi College of Education, Ondo?
3. What is the academic achievement of students toward learning Genetics in Adeyemi College of Education, Ondo?

Hypotheses

The following research hypotheses were tested at 0.05 level of significance

Ho1: There is no significance relationship between library utilization and students' academic achievement in Genetics in ACE, Ondo.

Jewel Journal of Librarianship
ISSN: 2141-3908 (Print); ISSN: 2736-0881 (Online)
Volume 15, Issue 2; Published: Deccember, 2020
https://www.jeweljournals.com

Ho2: There is no significance relationship between laboratory utilization and students' academic performances in Genetics in ACE, Ondo.

Literature Review

Genetics occupies a pivotal position in the entire subject of biology. Therefore, for any serious student of plant, animal, or microbial life, an understanding of genetics is essential (Giffiths, Wessler, Lewontin, Geibet, Suzuki & Miller, 1990). Giffiths (1990) et al defined genetics as the study of genes. A gene is a section of threadlike double-helical molecule called deoxyribonucleic acid (DNA). The discovery of genes and the understanding of their molecular structure and function have been sources of profound insight into two of the biggest mysteries of biology. Genetics, therefore attempts to explain the mechanism of two constants that are found in the universe – similarities and differences. For these reasons, the study of genetics has been viewed as sine qua non for Science, Technology, Engineering and Mathematics (STEM) education thereby necessitating its inclusion in the curricula of secondary schools, colleges of education, polytechnics and universities (Akinnubi, 2012). The role of Genetics in improving lives and advancing national developments has led to increasing efforts towards enthroning Biology education in societies.

Academic achievement is the outcome of education to the extent to which a student, teacher or institution has achieved their educational goals. Academic achievement is commonly measured by examinations or continuous assessment. Poor academic performance according to Aremu and Sokan (2013) is a performance that is adjudged by the examinee/testee as falling below an expected standard. Similarly, Okoye (2012) averred that poor academic performance of the individual or candidate in a learning situation is the one in which a candidate fails to attain a set standard of performance in a given evaluation exercise such as a test, an examination or series of continuous assessments. A candidate who scores below the standard is regarded as showing poor academic performance in school. High academic achievement is the extent an individual or a testee performs above a set standard in a test or an examination.

In some selected secondary schools among Biology students in Jos North Local Government of Plateau State, Maigoro, Nansoh, Pam and Manji (2017) discovered that there was poor trend of students' academic achievement in genetics test. The poor performance according to Maigoro et al (2017) was due to students' held misconceptions which includes abstractness and vernacular misconception of genetics. Akinnubi, Oketayo, Akinwande and Ifedayo (2012) found abstractive presentation of lessons, verbose terminologies and lack of simplification as some of the causes of students' low performance in genetics as a course in Adeyemi College of Education, Ondo. These reasons may hinder high academic achievement of students in the course. Ali and Toriman (2014) discovered that the level of students' academic achievement in Biology subject was found to be very poor. Poor academic achievement of students in the subject should be a source of concern to teachers and educational administrators in those schools with a mind of proffering solution to the challenge. Dinah (2013) averred that availability of text books, laboratory apparatus and other learning resources contribute significantly to the performance of students in Biology examination. Poor academic achievement of student may be as a result of non-provision, or non-utilization of library information resources and laboratory.

Physical and electronic resources provided in various types of libraries for the use of teachers and students are to complement teaching and learning in the schools. Teachers or lectures teaching in the classroom and laboratory may not be enough in assisting students to have high academic achievement in a particular subject or course. The use of library information

Jewel Journal of Librarianship
ISSN: 2141-3908 (Print); ISSN: 2736-0881 (Online)
Volume 15, Issue 2; Published: Deccember, 2020
https://www.jeweljournals.com

resources assists students to have more understanding of the topic taught in the classroom or experiment performed in the laboratory. Dahar and Faize (2011) asserted that textbook is the nucleus of all the learning activities to a particular curriculum. Provision and utilization of textbooks, reference materials (physical and online) with other information resources enhances the teaching and learning of skills, concepts and contents taught and learnt by teachers and students respectively in various schools.

Reference materials like dictionaries, encyclopaedias, biographical sources, indexes, abstracts etc provide background information to any subject or course of learning in every level of education. Journal articles and magazines are very important information resources in teaching and learning. There is nothing that has ever replaced the printed word as the key element to educational process. Textbook is therefore very important in teaching and learning process in any level of education. There are thousands of information resources on various subjects and courses available physically or electronically for the use of students most especially in tertiary institutions. Students are expected to register in the library in order for them to make use of the various resources provided for them. On the relationship between resources utilization and students' academic achievement, Ogunniyi and Nwalo (2015) cited Okemakinde, Adedeji and Ssempebwa (2008) discovered that there was significant relationship between the utilization of resources allocated to the technical colleges and their academic achievement.

Laboratory has been described as a room or building specially built for teaching by demonstration of theoretical phenomenon into practical terms. Laboratory experience enables students in translating what they have read in their texts or taught in the classroom to practical realities, thereby enhancing their understanding of the learnt concepts (Hamidu, Ibrahim & Mohammed, 2014). Olarewaju (2014) stated that utilization of laboratory facilities is a practical procedure through manipulative process of learning which promoted good academic performance in Genetics teaching and learning. Olarewaju, added that among other factors, when laboratory facilities were adequately utilized by students, it elicited desired behavioural change in the learners. Utilization of laboratory facilities is an activity-oriented instruction, student centred and leads to self-reliant instruction. Science laboratory has a direct effect on students' academic performance as per the instructional theory of learning instruction (Pareek, 2020). Utilisation of Genetics laboratory may therefore influence students' academic achievement.

Ihejiamaizu and Ochui (2016) found that utilization of Biology laboratory equipment significantly influenced students' academic achievement in Biology. Similarly, Musah and Umar (2017) discovered that there was a significant relationship between Biology laboratory facility availability and utilization and students' academic achievement. Ogunniyi and Nwalo (2015) found that there was strong and positive correlation between resource utilization and undergraduates' academic achievement in cataloguing and classification in library schools in Southern Nigeria.

Methodology

Descriptive research design of correlational type was used in this study. Simple random sampling technique was adopted to select 300 out of the 400 undergraduates in 300 level in the college. Questionnaire and achievement test in Genetics were the instruments used in this study. Copies of the questionnaire and twenty (20) items test were administered to students of Obafemi Awolowo University, Ile Ife that were not part of the respondents of the study (Adeyemi College of Education, Ondo) to test the reliability of the instruments. A reliability of .66 indicates 66% consistency in the scores produced by the instrument. The reliability shows

Jewel Journal of Librarianship
ISSN: 2141-3908 (Print); ISSN: 2736-0881 (Online)
Volume 15, Issue 2; Published: Deccember, 2020
https://www.jeweljournals.com

correlation between the scores and students achievement in Genetics. After trial testing, the questionnaire was subjected to a test of internal consistency to ensure its reliability; Cronbach alpha (x) was used. The coefficient of reliability was found to be 0.936. Descriptive statistics was used to answer research questions while Pearson's Product Moment Correlation was used to test the hypotheses.

Results and Findings

The total of 300 questionnaires were administered, retrieved and found usable for analysis from the respondents (300 Level) in Department of Biology, Adeyemi College of Education (ACE), Ondo.

Demographic Information of Respondents

Table 1: Gender Distribution of Students

Gender	Frequency	Percentage
Male	145	48.3
Female	155	51.7
Total	**300**	**100.0**

Table 1 shows that 145(48.3%) of the students were male while the remaining 155(51.7%) were female. The result from this table implies that more of the students were female. This implies that, more female teachers will be available in teaching Biology in the nearest future.

Table 2: Age Distribution of Students

Age Range	Frequency	Percentage
15-20 years	80	26.7
21-25 years	177	59.0
26-30 years	40	13.3
31years and above	3	1.0
Total	**300**	**100.0**

Table 2 shows that the highest number of the age bracket of the respondents was 21-25 years 177 (59%). There are younger students in the institution than older (age 26 and above) students. There will be more productive teachers in schools if they are employed at the end of their programme.

Answer to Research Questions

Table 2: ***Available Library Resources in Learning Genetics in ACE***

Library Resources	Available		Not Available		Remark
	Freq.	%	Freq.	%	
Textbooks on Genetics	300	100.0	0	0	Available
Journals in Genetics	99	33.0	201	67.0	Not Available
Cassettes	77	25.7	223	74.3	Not Available
VCD of Genetics	76	25.3	224	74.7	Not Available
Magazines	81	27.0	219	73.0	Not Available
e-books	92	30.7	208	69.3	Not Available
e-journals	58	19.3	242	80.7	Not Available

Key: **2** =Available, **1** = Not Available,

Table 2 reveals that majority of the respondents stated that only textbooks on Genetics was able in learning Genetics.

Jewel Journal of Librarianship
ISSN: 2141-3908 (Print); ISSN: 2736-0881 (Online)
Volume 15, Issue 2; Published: Deccember, 2020
https://www.jeweljournals.com

Research Question 1: What is the level of student utilization of library information resources in learning Genetics in Adeyemi College of Education, Ondo?

Table 3: Students' Utilization of Library Information Resources

Item	VHU	HU	OU	NU	Mean	Std. D.
Textbooks in Genetics	158	89	28	25	3.26	.94
Journal in Genetics	54	51	129	66	2.31	1.01
Cassettes	12	59	101	128	1.85	.87
VCDs of Genetics	31	56	87	126	1.97	1.01
Magazines	30	55	131	84	2.10	.92
e-books	35	64	91	110	2.08	1.02
e-journals	33	66	101	100	2.11	.99
Weighted Average					**2.24**	

Key: VHU =Very Highly Used, **HU** = Highly Used, **OU** = Occasionally Used, **NU** = Not Used
Decision Value:0.00 - 2.49 = *Low*, **2.50 - 4.00** = *High*

Table 3 shows that only textbooks were being utilized by the respondents in learning Genetics. This is a confirmation of their statement that it was only textbooks that were available in learning the course. Based on the value of the weighted average (2.24 out of 4.00 maximum value obtainable) which falls within the decision value for low, it can be inferred that the level of students' utilization of library information resources in learning Genetics in Adeyemi College of Education, Ondo is low.

Table 4: ***Available Laboratory Resources in Learning Genetics in ACE***

Laboratory Resources	Available		Not Available		Remark
	Freq.	%	Freq.	%	
Biology Laboratory	300	100.0	0	0.0	Available
Wall Chart of Genetics	256	85.3	44	14.7	Available
Laboratory technician	266	88.7	34	11.3	Available
Laboratory Assistants	290	96.7	10	3.3	Available
Genetics Model	256	85.3	44	14.7	Available
Petri Dishes	237	79.0	63	21.0	Available
Beakers	289	96.3	11	3.7	Available
Hand Lens	293	97.7	7	2.3	Available
Conical flask	269	89.7	31	10.3	Available
Tripod stand	300	100.0	0	0.0	Available
Test tube rack	300	100.0	0	0.0	Available
Dissecting Kits	243	81.0	57	19.0	Available
Fire Extinguisher	189	63.0	111	37.0	Available
Filter papers	279	93.0	21	7.0	Available
Preservative	298	99.3	2	0.7	Available
Transparencies	267	89.0	33	11.0	Available
Hand lens	203	67.7	97	32.3	Available
Microscope	251	83.7	49	16.3	Available
Flannel boards	244	81.3	56	18.7	Available
Posters	267	89.0	33	11.0	Available

Jewel Journal of Librarianship
ISSN: 2141-3908 (Print); ISSN: 2736-0881 (Online)
Volume 15, Issue 2; Published: Deccember, 2020
https://www.jeweljournals.com

Pamphlets	278	92.7	22	7.3	Available
Brochure	190	63.3	110	36.7	Available
Pictures	186	62.0	114	38.0	Available
Filmstrips and films	41	13.7	259	86.3	Not Available
Graphs	263	87.7	37	12.3	Available
Specimens	285	95.0	15	5.0	Available

N = 300
Key: **2** =Available, **1** = Not Available,
Table 4 reveals that all the listed laboratory resources except filmstrips and films were available in learning Genetics.

Research Question 2: What is the rate of students' utilization of laboratory in learning Genetics in Adeyemi College of Education, Ondo?

Table 5: Students' Utilization of Laboratory Resources in ACE, Ondo

Item	VHU	HU	OU	NU	Mean	Std. D.
Biology Laboratory	154	88	44	14	3.27	.88
Wall Chart of Genetics	82	81	90	47	2.66	1.04
Laboratory technicians	161	91	32	16	3.32	.86
Laboratory assistants	110	97	55	38	2.93	1.02
Genetics Model	86	87	80	47	2.70	1.04
Petri Dishes	128	73	72	27	3.00	1.01
Beakers	118	90	59	33	2.97	1.01
Hand Lens	119	111	50	20	3.09	.90
Conical flask	134	101	48	17	3.17	.89
Tripod stand	135	95	50	20	3.15	.92
Test tube rack	130	96	49	25	3.10	.96
Dissecting Kits	106	90	64	40	2.87	1.04
Fire Extinguisher	100	91	74	35	2.85	1.01
Filter papers	98	98	70	34	2.86	.99
Preservatives	125	109	34	32	3.09	.97
Transparencies	91	102	70	37	2.82	1.00
Hand Lens	120	104	56	20	3.08	.92
Microscope	139	85	45	31	3.10	1.00
Flannel boards	97	129	42	32	2.97	.94
Posters	97	99	56	48	2.81	1.05
Pamphlets	76	91	70	63	2.60	1.08
Brochure	64	87	91	58	2.52	1.03
Pictures	76	89	86	49	2.64	1.03
Filmstrips and films	62	102	61	75	2.50	1.08
Graphs	84	106	54	56	2.72	1.06
Specimens	143	77	47	33	3.10	1.03
Weighted Average					2.92	

N= 300
Key: VHU =Very Highly Used, **HU** =Highly Used, **OU** = Occasionally Used, **NU** = Not Used
Decision Value: 0.00 - 2.49 = *Low*, **2.50 - 4.00** = *High*
Table 5 shows that all listed laboratory resources were being utilized despite the fact that majority of the students stated that filmstrips and films were not available in learning Genetics in table 1. Meanwhile based on the value of the weighted average (2.92 out of 4.00 maximum value obtainable) which falls within the decision value for high, it can be inferred that the rate

Jewel Journal of Librarianship
ISSN: 2141-3908 (Print); ISSN: 2736-0881 (Online)
Volume 15, Issue 2; Published: Deccember, 2020
https://www.jeweljournals.com

of students' utilization of laboratory in learning Genetics in Adeyemi College of Education, Ondo is high. Table 5 is on students' academic achievement in Genetics.

Research Question 3: What is the academic achievement of students in Genetics in Adeyemi College of Education, Ondo?

Table 5: Academic Performance of Students in Genetics

Score	Frequency	Percentage	Mean	Std. Deviation
0 – 39	21	7.0		
40-49	22	7.3		
50-59	60	20.0	59.87	12.81
60-69	110	36.7		
70 and above	87	28.9		
Total	**300**	**100**		

N = 300
Highest Mark Obtainable =100
Decision Value: **Low** 0.00-39.00**. Average** 40.00-69.00**, High** 70.00-100.00.

Table 5 reveals the level of academic performance of students in ACE, Ondo. The overall mean score of the students is 59.87 (a value within the range of decision value for average) with standard deviation value of 12.81. Based on this result and in line with the decision value, it can be inferred that the level of academic performance of students in Genetics in Adeyemi College of Education, Ondo is average.

Hypotheses Testing

Ho1: There is no significant relationship between library information resources utilization and students' academic performance in Genetics in Adeyemi College of Education, Ondo.

Table 6 shows that there is no significant relationship between library resources utilization and students' academic performance in Genetics (N = 300; r = -.003; p<0.05). Hence, hypothesis 2 is accepted.

Ho2: There is no significant relationship between laboratory resources utilization and students' academic performance in Genetics in Adeyemi College of Education, Ondo.

Table 7 shows that there is significant relationship between laboratory resources utilization and students' academic performance in Genetics (N = 300; r = .473; p<0.05). Therefore, hypothesis 2 is rejected.

Discussion of Findings

The study found that most of the respondents stated that only textbooks were available and being used in learning Genetics in Adeyemi College of Education, Ondo. Information resources like journals, e-books, cassettes, VCD on Genetics were not utilized by the respondents. It is worthy of note that journals and electronic resources are available in the College Library. Students may likely not be aware of their availability or how to locate them in the library.

The rate of students' utilization of laboratory in learning Genetics in Adeyemi College of Education, Ondo is high. This is a good development. The academic achievement of students in Genetics in Adeyemi College of Education, Ondo is average. The scores could be improved if students utilize more of library information resources in learning Genetics.

The result further revealed that there is no relationship between library information utilization and students' academic achievement in Genetics in Adeyemi College of Education, Ondo. This

is contrary to the finding of Owoeye and Yara (2011) which revealed that there is relationship between the use of library information resources and their academic achievement.

The study showed that there is significant relationship between laboratory resources utilization and students' academic performance in Genetics. This finding is in tandem with Ihejiamaizu and Ochui (2016), Musah and Umar (2017) and Pareek (2020) findings.

Conclusion

The study established that utilization of laboratory has significant relationship with academic achievement of students in Genetics in Adeyemi College of Education, Ondo. Students' academic achievement may improve if laboratory equipment provision is sustained and the resources are highly utilised by the students. Furthermore, the study revealed that there is no significant relationship between library information resources utilization and students' academic performance in Genetics in Adeyemi College of Education, Ondo. This finding may be due to low use of library information resources. It was only textbooks that were being utilized by the students. Academic achievement of students was at average level despite high rate of laboratory resources utilization.

Recommendations

Based on the findings of the study, the following recommendations were made to improve students' academic achievement in Genetics in Adeyemi College of Education, Ondo in particular and Nigeria at large:

1. There should be current awareness services on resources and services available in the library most especially to students which may improve their awareness on the latest resources available in the library in order to make use of them
1. College Management should provide unavailable laboratory equipment for students' use.
2. Librarians teaching general study course on the use of the library should give group practical assignment to their students in locating and listing relevant information resources on their courses and make necessary corrections and improvement on the submitted assignments before the end of their lectures. This may improve their awareness and use of the library information resources and their academic achievement.
3. Lecturers teaching Genetics may device other strategies in teaching the course in order to improve the students' academic achievement.
4. Students should endeavour to be serious with the course in terms of studying, attending classes regularly and make use of all the resources available to excel in Genetics and other courses perceived to be difficult.

References

Akinnubi, A.O (2012). *Provision and Management of Facilities for Primary Education in Nigeria.* Paper Presented at the Conference of Nigeria Association of Education Administration and Planning (NAEAP) University of Ibadan Oct-29th -31, 2012.

Akinnubi, R. T et al (2012). Student-lecturer variables and low performance of students' in genetics: A Case of course in Adeyemi College of Education, Ondo State. *Nigeria. Journal of Research in Education and Society*, 3(2):78.

Ali, A. R & Toriman, M. E. (2014). Academic achievement in Biology with suggested solutions in selected secondary schools in Kano State, Nigeria. International Journal of Education and Research, 2 (1): 215.

Aremu, B & Sokan, M (2013) *An Evaluation of the Comparative Education Study and Adaptive Centre (cesac) Chemistry programmeM.ed Dissertation*, unpublished, Ibadan University of Ibadan.

Dahar, M. A & Faize, A (2011). Effect of the availability and use of instructional materials on academic performance of students in Punjab. Middle Eastern Journal of Finance and Economics, 11:7-11.

Dan-Ologe, I. A & Shittu, O. A. (2012). Improving the standard of teaching and learning of practicals in our secondary schools: emphasis on biology and chemistry practicals. Journal of Qualitative Education, 18:1. Retrieved from http:www.wesoeduonline.com/journals/asseqen/improving the standard of teaching of practicals in our secondary sc.

Dinah, C. S. (2013). Factors which influence academic performance in biology in Kenya: a Perspective for global competitiveness. International Journal of Current Research, 5 (12):4296.

Giffiths, A. J. F et al (1990). *Introduction to genetic analysis.* Retrieved from https://biolozi.bio.bg.ac.rs/files/biblioteka/3godina/Prezentacije/genetika/%5bmed%20eng%5d%20griffiths%20-%20an%20introduction%20to%20genetic%20analysis.pdf

Hamisu, M. Y, Ibrahim, A. I & Mohammed, A (2014). The use of laboratory method in teaching secondary school students: a key to improving the quality of education. *International Journal of Scientific and Engineering Research, 5(9):* 2. Retrieved from http://www.ijser.org

Ihejiamaizu, C. C & Ochui, I. O. (2016). Utilisation of Biology laboratory equipment and students' academic performance in Cross River State, Nigeria. British Journal of Education, 4 (9). Retrieved from http://www.eajournals.org

Kapiel, T. Y. S. (2006). Lecture and notes: Principles of genetics. Retrieved from https://www.researchgate.net/publication/2899802

Maigoro, I. L et al (2017). The Relationship between types of misconceptions and achievement in genetics among senior secondary school biology students in Jos North LGA of Plateau State. *International Journal of Quantitative Research Methods*, 5 (3): 1.

Musah, A & Umah, A. A. (2017). Effects of availability and utilization of Biology laboratory facilities and students' academic achievement in secondary schools in Yobe State, Nigeria. International Journal of Innovative Social and Science Education Research, 5(2):1. Retrieved from http://www.seahipaj.org

Ndu, H. (2014), The impact of cost sharing on internal efficiency of public secondary schools in Ndivisi Division, Bungoma District Kenya, *Educational Research and Review 4 (5). 272-284.* Retrieve from http://www.academic Micjornals org/err

Ogunniyi, S. O & Nwalo, K. I. N. (2015). Utilisation of resources as correlate of undergraduates' academic achievement in cataloguing and classification in library schools in Southern Nigeria. *Journal of Teaching and Education*, 4(3):103-118.

Okoye, S. (2012). *Threats to Academic Integrity in Nigerian Universities*. Lead paper presented at the conference of the National Association of Educational Researcher and Evaluators, University of Ado-Ekiti, June 13-17.

Olarewaju, H. O. (2014). Teachers' attitude towards Biology practical with particular reference to school certificate Biology practical examinations. A Case study of Lagos B.Sc Project Report, University of Lagos. Analysis of laboratory activities in selected Nigerian secondary schools. *European Journal and Science Education, 5 (2).*

Owoeye, J. S and Yara, P. O (2011). School facilities and academic achievement of secondary school agricultural science in Ekiti State, Nigeria. Asian Journal of Social Science, 7(7): 66.

Pareek, R. B. (2020). An Assessment of availability and utilization of laboratory facilities for teaching science in secondary level. *Science Education International*, 30(1): 75.

Wikipedia, the free encyclopedia (2020). Genetics. Retrieved from en.wikipedia.org/wiki/Genetics. https://biolozi.bio.bg.ac.rs/files/biblioteka/3godina/Prezentacije/genetika/%5bmed%20eng%5d%20griffiths%20-%20an%20introduction%20to%20genetic%20analysis.pdf