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EDITORIAL

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We are grateful to the contributors and hope that our readers will enjoy reading these

contributions.

Prof. Patrick C. Igbojinwaekwu

Editor-in-Chief

iv

TA	RI	Æ	\mathbf{OF}	CO	NT	ENTS

Influence of Farmers Socio-Economic Variables on Adoption of Improved Cassava Varieties in Anambra State	
Obiora Charles Chukwuma (Ph.D), Uchegbu Festus Udoka, Ohanu Victor Chibueze	1
Effect of Jigsaw Cooperative Learning Strategy on Mathematics Achievement of Secondary School Students	
Otumegwu Tina Uchenna, (PhD), Ogoke Chinemeze James, Uguru Ndubuisi Okon, Achugamonu, Pius, C. , Anyanwu Anthony	12
Undergraduate Students' Perception of the Influence of Team Teaching on their Interest in Biology Courses in Anambra State	•
Nzeakor Onyinyechukwu Jennifer	26
Psychological Impact of Pregnancy on Health Status of Secondary Schools Female Teenagers in Calabar, Calabar, Nigeria Emmanuel Ahueansebhor, Egaga Musa Moses	41
Zimmanuel Timueunseonor, Egaga Wasa Woses	71
Innovative Curriculum for Self-Reliance through Entrepernurial Skills in The 21 st Century: A Panacea for Functional Biology Education in Taraba State	
Umoru, Susan Ene (Ph.D), Edache-Abah, Odachi.Felicia (Ph.D)	53
The Role of AI in Advancing Mathematics Education in Nigeria's 21st	
Century Learning Environment	
Omokaro Blessing, Babundo Philip Ekene	63

UNDERGRADUATE STUDENTS' PERCEPTION OF THE INFLUENCE OF TEAM TEACHING ON THEIR INTEREST IN BIOLOGY COURSES IN ANAMBRA STATE

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Abstract

The study analyzed undergraduate students' perception of the influence of team teaching on their interest in biology courses in Anambra State utilizing survey research design. The population of the study was made up of 4, 176 second year regular undergraduate students in Physical Sciences and Science Education that offered Biology courses in the two public universities for the 2023/24 academic session. The participants of the study consisted of 420 (220 males and 200 females) second year regular undergraduate students drawn through simple random sampling technique. 12-item validated questionnaire modelled as 4 point rating scale was used to collect data for the study. Cronbach Alpha method was used to ascertain the reliability of the questionnaire to obtain reliability co-efficient value of 0.81. Data were analyzed using mean, standard deviation and t-test. The findings of the study revealed that undergraduate students perceive that team teaching positively influenced their interest in Biology courses. Furthermore, a significant difference (T-cal. valve = 0.03 at 0.05 level of significance) existed in male and female undergraduate students' interest in Biology on exposure to team teaching as perceived by them in favour of males. Based on the findings of the study, it was recommended that university authorities should ensure that Biology lecturers sustain their use of team teaching technique so as to sustain their students' interest in Biology courses.

Keywords: Undergraduate students' Perception, Team teaching, Interest.

Introduction

University education plays a critical role in the economic and social development of any nation. For university education in Nigeria to play the above role, especially in this 21st century, attention must be paid to the effective implementation of university education programmes and policies. Obviously, the outcome of any educational programme is usually a reflection of what goes on in the classroom in form of teaching and learning. In the course of university education, certain courses are taught; biology inclusive.

Biology is a science subject that focuses on the study of living organisms, their structures, functions and their development. It is quite pivotal for national development because it is the root subject for many careers in science and technology such as medicine, engineering, forestry, agriculture, biotechnology, nursing among others; and has application nearly in every field of life. Consequent upon this, there is a demand for suitable biology instruction in schools, so that, learners will be actively interested in acquisition and exercise.

Biology will continue to hold a distinctive place in the school curriculum in the future, particularly because basic understanding of Biology is required for study in a variety of disciplines such as Medicine, Agriculture, Pharmacy, Micro-Biology, Biochemistry, and Psychology, among others (Njoku, Nwagbo, & Ugwuanyi, 2020). It can be deduced here that any undergraduate student in the afore-mentioned courses will perceive Biology as a matter of priority. It is the recognition of the relevance of Biology to undergraduate students of physical sciences that their interest is considered a matter of necessity.

Interest entails an individual's feeling for something on which they spend time and energy. According to Danjuma (2015), interest refers to someone's development of passion for something and their consequent commitment of time in undertaking it. In other words, the interest of an undergraduate student in Biology courses is expected to be seen in their passion for the course and by extension, their unwavering commitment in the learning of it. Interest can be situational when it is triggered temporarily by features of the immediate situation (Amadi, 2016). Furthermore, Amadi stated that unusual sights, sounds, or words are capable of stimulating situational interest. An undergraduate student's interest can be triggered when a teacher makes a surprising remark; displays a visually stimulating image on the overhead projector, or makes a brief bit of sonorous sound. A student's interest is key to the inculcation of the relevant

knowledge, skills as well as values which the curriculum seeks to achieve. Thus, interest is an integral part of the learning process to the extent that it sustains concentration, commitment and by extension, co-operation with the lecturer in the process of learning. In a bid to sustain students' interest in Biology, the use of team teaching could come in handy.

Team teaching is an instructional technique that involves use of two or more lecturers to teach a course with a view to enhancing instructional effectiveness. Team teaching in Biology is a process in which a group of teachers with separate but inter-linked knowledge and skills implement instructional decision before, during and after instruction with a view to increasing the probability of covering the scheme of work in time while promoting effective learning for students (Yashim, Lawal, Dambo, Asuke & Anele, 2019). This points to the fact that in team-teaching, more than one lecturer is involved in instructional delivery. Similarly, Liebel, Burden and Heldal, (2017), defined team teaching as a communal term that captures numerous variations of a technique to deliver instruction with more than one trainer. In other words, this technique ensures that teaching is done by more than one lecturer to make for effectiveness and possibly address issues of victimization that may arise from having just a lecturer making instructional decision on a course. Team teaching is targeted at making constant adjustment in the educational system so as to change students' needs and teachers' abilities (Zubkova & Burak, 2016).

Team teaching is of vital importance for students and teachers development as it ensures proper planning and delivery of lectures to Biology students in a concise and intellectual manner. Team teaching provides opportunities for students to not only learn from different teachers, but allows them to share ideas on a given subject with many teachers (Okechukwu & Opara, 2021). The importance of team teaching as a method of instructional delivery in tertiary education has been stressed because of many advantages both on the part of the students and the lecturers. Through team teaching, lecturers can develop their approaches to teaching and acquire a greater depth of understanding of the subject matter of the unit or module (Osuala *et al.*, 2015). The presence of co-lecturers promote continuous interactions between course lecturers and their students.

In some public universities in Anambra State, the use of team teaching was seriously enforced by the university management nine years ago in many faculty courses. This practice has become necessary with a view to giving the students an opportunity of

experiencing many lecturers' styles of teaching. This is because a student who is not favourably disposed towards a particular lecturer's style of teaching will have an opportunity of experiencing another lecturer's style. Additionally, this practice is geared towards reducing the workload of lecturers and by extension ensuring that a lecturer does not take a unilateral instructional decision in a course.

As noble as the afore-mentioned objectives are, team teaching appears to give room for lecturers to victimize some students who are not in their good books. Again, some students who are not satisfied with the teaching method of the lecturer will likely show unfavourable disposition to the course and worse still, perform woefully in their examinations. Expectedly, the perceptions of students come to fore. Team teaching can be confusing for students when they are confronted with several lecturers in the classroom. For instance, multiple lecturers telling students what to do and giving different responses to the same question may confuse them. In addition, students may be confused about whom to go to with questions. Team teaching implementation boarders on management issues such as who will lead the team, who will be in the team, what will be expected and in what time frame, how will meetings be conducted, how will teaching activities and events be actually planned and so on. It is interesting to know that students' perception of the influence of team teaching on their interest in Biology could be influenced by myriad of factors; gender inclusive.

Gender is a psychological term need in describing behaviour and attributes expected of individuals on the basis of being born of either male or female. As gender is an issue with important pedagogical implications in students' interest in Biology, it is worthy of consideration. More so, it will make for research-worthiness to find out undergraduate students' perception of the influence of team teaching on their interest in Biology courses in Anambra State.

Statement of the Problem

Biology is one of the vital science courses in universities and to the extent, it is central to the success in natural sciences in the higher institutions. The relevance of Biology to several disciplines in physical sciences, its environment and even in education at large. It is expected that the interest of students be sustained in the course. Poor interest of undergraduate students in Biology / practical oriented courses from 2023/24 academic session could be seen from the reports of quality assurance committee. The report states that students' poor attendance to lectures, utilization of mobile devices in

the course of instruction, failure to keep to assignment deadlines could be factors responsible for poor undergraduate students' interest in Biology courses. However, could it be that the instructional technique employed by lecturers is at the core of students' poor interest in Biology? It could be that students seek blend of lecturers in the course of instructional delivery to arouse their interest.

Purpose of the Study

The main purpose of the study is to investigate undergraduate students' perception of the influence of team teaching on their interest in Biology courses in Anambra State. Specifically, the study sought to determine;

- 1. undergraduate students' perceptions of the influence of team teaching on their interest in Biology courses in Anambra State.
- 2. Male undergraduate students' perceptions of the influence of team teaching on their interest in Biology courses in Anambra State.
- 3. Female undergraduate students' perceptions of the influence of team teaching on their interest in Biology courses in Anambra State.

Research Questions

The following research questions were raised to guide the study:

- 1. What are undergraduate students' perceptions of the influence of team teaching on their interest in Biology courses in Anambra State?
- 2. What are male undergraduate students' perceptions of the influence of team teaching on their interest in Biology courses in Anambra State?
- 3. What are female undergraduate students' perceptions of the influence of team teaching on their interest in Biology courses in Anambra State?

Hypothesis

The following hypothesis were tested at 0.05 level of significance:

1. There is no significant difference between male and female undergraduate students' perceptions of the influence of team teaching on their interest in Biology courses in Anambra State.

Methodology

Research Design. Descriptive research design was employed for the study. According to (Nworgu, 2015), descriptive research design focuses on studying a group of items or people by collecting and analyzing data from only a few people or items considered to be representative of the entire group.

Population and Sample Size. The population of the study was made up of 4, 176 second year regular undergraduate students in Physical Sciences and Science Education that offered Biology courses in the two public universities for the 2023/24 academic session. The sample size for the study comprised 420 (220 males and 200 females) second year regular undergraduate students. The sample size for the study was composed using simple random sampling and accidental sampling technique. Simple random sampling technique was used to obtain Nnamdi Azikiwe University, Awka out of the two public universities in Anambra State. Thereafter, accidental sampling technique was employed to obtain students who were present in class at the point of data collection.

Procedure. Semi-structured questionnaire was used as an instrument for data collection. It was entitled 'Students' Perception of the Influence of Team Teaching on their Interest in Biology Courses Questionnaire (SPITTIBCQ). SPITTIBCQ was developed by the researcher from literature. SPITTIBCQ is a 12-item questionnaire that was structured in such a manner that the respondents would respond using a fourpoint response scale of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD) with numerical indices of 4, 3, 2 and 1 for positively worded items while negatively worded items are reversely scored. Content and face validation of SPITTIBCQ was done by three lecturers in faculty of Education, Nnamdi Azikiwe University, Awka. The reliability of SPITTIBCQ was ascertained using Cronbach Alpha statistics. The internal consistency of the items in SPITTIBCQ was determined and reliability index of 0.81 was found for SPITTIBCQ. This was enough to certify the SPITTIBCQ as reliable given that it falls within the stipulated threshold value of >0.70 by (Shrestha, 2021) for Cronbach alpha. The researcher familiarized herself with biology lecturers in physical sciences who ensured that the SPITTIBCQ was administered to the students during biology lectures.

Data Analysis. Research questions were answered with mean scores and standard deviations while the hypotheses were tested using t-test at 0.05 level of

significance. The decision on the questionnaire items were based on item and cluster means relative to real limits of numbers as shown below: SA (3.50-4.00), A (2.50-3.49), D (1.50-2.49) and SD (1.00-1.49) with numerical indices of 4, 3, 2 and 1 respectively. For the hypotheses, p-value interpretation was used with the decision rule that if the p-value is less than <0.05, the null hypothesis was rejected but when the p-value is higher than 0.05, the null hypothesis was not rejected.

Results

Research Question 1: What are undergraduate students' perceptions of the influence of team teaching on their interest in Biology courses in Anambra State

Table 1: Undergraduate Students' Perceptions of the Influence of Team Teaching on their Interest in Biology Courses

S/N	I perceive that team	SA	A	D	SD	Mean	SD	Remark
	teaching:							
1.	Makes me shelve any other engagement any day I have a Biology courses.	232	88	70	30	3.24	.96	A
2.	Makes me look forward to doing assignments in Biology courses.	210	46	50	114	2.84	.82	A
3.	Increases my love for doing experiments in Biology courses.	174	90	61	95	2.81	.83	A
4.	Encourages me to carry out activities in Biology.	195	97	83	45	3.05	.86	A
5.	Makes me unwilling to spend a whole day learning Biology.	103	59	58	200	2.15	.53	D
6.	Encourages my participation in Biology test.	189	64	46	121	2.76	.83	A
7.	Discourages my participation in Biology classwork.	41	82	90	207	1.89	.52	D

	Grand Mean					2.51	.69	A
	carrying out some of the Biology activities on my own.					1,50	.54	D
12.	Biology lecturers demonstrate some activities in Biology. Discourages me from	25	74	187	134	1.98	.75	A
11.	developments in Biology. Encourages me to watch	155	74	90	101	2.67		
10.	information in Biology. Makes me want to surf the internet for latest	131	101	58	130	2.55	.77	A
9.	Discourages me from discovering more	52	35	108	225	1.79	.45	D
8.	Makes me dislike doing Biology practical.	122	12	187	99	2.37	.46	D

Data in Table 1 show the item by item analysis of undergraduate students' perceptions of the influence of team teaching on their interest in Biology courses. From the analysis, undergraduate students agree on items 1, 2, 3, 4, 6, 10 and 11. The grand mean of 2.51 indicate undergraduate students agree that team teaching positively influence their interest in Biology courses. The standard deviation score ranging from 0.45-0.96 means that undergraduate students do not vary much in their ratings on their perceptions of the influence of team teaching on their interest in Biology courses.

Research Question 2: What are male undergraduate students' perceptions of the influence of team teaching on their interest in Biology courses in Anambra State

Table 2: Male Undergraduate Students' Perceptions of the Influence of Team Teaching on their Interest in Biology Courses

S/N	I perceive that team	SA	A	D	SD	Mean	SD	Remark
	teaching:							
1.	Makes me shelve any other engagement any day I have a Biology courses.	112	52	50	06	3.23	.91	A
2.	Makes me look forward to doing assignments in Biology courses.	105	40	28	47	2.92	.87	A
3.	Increases my love for doing experiments in Biology courses.	148	40	26	06	3.50	1.00	SA
4.	Encourages me to carry out activities in Biology.	121	65	18	16	3.32	0.96	A
5.	.	43	19	58	100	2.02	.49	D
6.	Encourages my participation in Biology test.	89	58	10	63	2.79	.93	A
7.	Discourages my participation in Biology classwork.	31	62	32	75	2.04	.54	D
8.	Makes me dislike doing Biology practical.	62	12	118	28	2.49	.42	D
9.	Discourages me from discovering more information in Biology.	52	35	48	85	2.24	.44	D
10.	Makes me want to surf the internet for latest developments in Biology.	123	71	10	16	3.36	.96	A
11.	Encourages me to watch Biology lecturers	145	14	30	31	3.24	.82	A

12.	demonstrate some activities in Biology. Discourages me from 17 36 119 48	2.10		
	carrying out some of the Biology activities on my own.		.51	D
	Grand Mean	2.77	.74	A

In Table 2 show the item by item analysis of male undergraduate students' perceptions of the influence of team teaching on their interest in Biology courses. From the analysis, male undergraduate students strongly agree on items 3 while agreeing on items 1, 2, 4, 6, 10 and 11. The grand mean of 2.77 indicates male undergraduate students agree that team teaching positively influence their interest in Biology courses. The standard deviation score ranging from 0.42 - 1.00 means that male undergraduate students do not vary much in their ratings on their perceptions of the influence of team teaching on their interest in Biology courses.

Research Question 3: What are female undergraduate students' perceptions of the influence of team teaching on their interest in Biology courses in Anambra State

Table 3: Female Undergraduate Students' Perceptions of the Influence of Team Teaching on their Interest in Biology Courses

S/N	I perceive that team	SA	A	D	SD	Mean	SD	Remark
	teaching:							
1.	Makes me shelve any other engagement any day I have a	120	36	20	24	3.26	.91	A
	Biology courses.							
2.	Makes me look forward to	105	06	22	67	2.75		
	doing assignments in Biology						.87	A
	courses.							
3.	Increases my love for doing experiments in Biology	26	50	45	89	2.17	.60	D
	courses.							
4.	Encourages me to carry out activities in Biology.	74	32	65	29	2.76	.91	A

	Grand Mean					2.23	.66	D
	out some of the Biology activities on my own.						.51	D
12.	Discourages me from carrying	08	38	68	86	1.84	<i>5</i> 1	Б
	Biology lecturers demonstrate some activities in Biology.	,	- 0	- 0			.62	D
11.	developments in Biology. Encourages me to watch	10	60	60	70	2.05		_
10.	Makes me want to surf the internet for latest	08	30	48	114	1.66	.46	D
٦.	discovering more information in Biology.	00	00	00	170	1.50	.34	SD
9.	Biology practical. Discourages me from	00	00	60	140	1 30	.02	D
8.	in Biology classwork. Makes me dislike doing	60	00	69	71	2.25	.62	D
7.	Discourages my participation	10	20	58	112	1.64	.44	D
6.	Encourages my participation in Biology test.	100	06	36	58	2.74	.93	A
5.	Makes me unwilling to spend a whole day learning Biology.	60	40	00	100	2.30	.69	D

Table 3 points at the item by item analysis of female undergraduate students' perceptions of the influence of team teaching on their interest in Biology courses. From the analysis, female undergraduate students agree on items 1, 2, 4 and 6. The grand mean of 2.23 indicate female undergraduate students disagree that team teaching positively influence their interest in Biology courses. The standard deviation score ranging from 0.34-0.93 means that female undergraduate students do not vary much in their ratings on their perceptions of the influence of team teaching on their interest in Biology courses.

H0₁: There is no significant difference between male and female undergraduate students' perceptions of the influence of team teaching on their interest in Biology courses in Anambra State.

Table 4: Test of Significance of Male and Female Undergraduate Students' Perceptions of the Influence of Team Teaching on their Interest in Biology Courses.

Sources of variation	N	Mean	SD	df	α- level	p-value	Remark
Male Students	220	2.77	0.74				_
				418	0.05	0.03	Significant
Female Students	200	2.23	0.66				_

Result analysis in Table 4 show p-value of 0.03 with 418 degree of freedom and alpha level of 0.05. Since the p-value of 0.03 is less than alpha level of 0.05, the null hypothesis is rejected. This means that there is a significant difference between male and female undergraduate students' perceptions of the influence of team teaching on their interest in Biology courses in favour of the males.

Results

The finding of the study revealed that undergraduate students perceived that team teaching positively influenced their interest in Biology courses. This is understandably so given that team teaching offers undergraduate students the opportunity of acquiring knowledge from different lecturers. More so, it reduces the incidence of victimization of students by sole lecturers in charge of a course. Additionally, the positive influence of students could be linked to the fact that they have opportunity of making up for any poor performance on exposure to assessment by one lecturer. The finding of the current study is in collaboration with that of Darma (2018) who found that students developed high interest in learning of Basic Science Concepts on exposure to team teaching strategy. In order words, team teaching elicit students' interest in a subject or course. The finding of the study is further consistent with that of Okechukwu and Opara (2021) who found that a significant difference existed in interest scores of students exposed to Basic Science and Technology using team teaching strategy. This speaks to the effectiveness of team teaching in enhancing students' interest.

Furthermore, the finding of the study showed that team teaching positively influenced male undergraduate students' interest in Biology courses more than their female counterparts as perceived by them. In other words, interest of male students is higher in biology courses than their female counterparts on exposure to tem teaching. This is however contradicted by Kans and Claesson (2022); Palmer, Burke, and Aubusson

(2017); Slavit, Holmlund and Lesseig (2016), who found that females were more interested in biology than their male counterparts. The afore-mentioned trend could be attributed to the fact that while female students linked practical subjects with a sense of creativity and relaxation, male students linked practical subjects principally with usability. The foregoing contradiction could be traceable to sample characteristics of the subjects in the disparate areas of study.

Conclusion

Consequent upon the findings of the study, it was concluded that team teaching has a positive influence on undergraduate students' interest in Biology courses as perceived by them. It was further concluded that undergraduate students' interest in Biology courses as perceived by them on exposure to team teaching is moderated by gender.

Recommendations

Based on the findings of the study, the following recommendations were made;

- 1. University authorities should ensure that Biology lecturers sustain their use of team teaching technique so as to sustain their students' interest in Biology courses.
- 2. Guidance and counsellors should schedule counselling sessions for female undergraduate students on the need to shore up their interest in Biology on exposure to team teaching. This is with a view to bridging the interest gap between the male and female undergraduate students in Biology courses when exposed to team teaching.

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