



## Urban and Rural Students' Perception of Use of Indigenous Language in Teaching Secondary School Biology

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### Abstract

The study investigated students' perception of use of indigenous in secondary school Biology classroom. The study was conducted using SS2 students in Abakaliki Education Zone, Ebonyi State. The design of the study was descriptive survey. One research question and one hypothesis guided the study. 150 students randomly selected from 5 urban and 5 rural government secondary schools formed the sample. The instrument used for data collection was validated Students' Perception of Indigenous Language Questionnaire (SPILQ,  $r = 0.76$ ). The research question was answered using mean and standard deviation while the hypothesis was tested at 0.05 degree of significance using independent sample t-test. The findings revealed that urban and rural students generally perceived that indigenous language should be used in biology teaching in secondary schools. Based on the findings, it is recommended that teacher training programs should include modules on use of indigenous language and its application in biology teaching, and Curriculum planners should also incorporate indigenous language into the biology curriculum. Publishers are encouraged to develop textbooks in indigenous languages

**Key Words:** Urban, Rural, Perception, Indigenous language, Secondary School Biology,

### Introduction

Language is a medium of instruction and teaching. It is used to instill the values and norms of the society to the children both at home and in the school setting. As noted by Adediran, Atanda & Sobola (2020), language is a means of communication, expression and conceptualization. This means that language as a means of interaction in the teaching and learning process will determine the success achieved by the students. Indigenous language also known as mother tongue or native language is the language that is obtainable in an environment or locality. Indigenous language is an indication of whom the person is and where the person comes from. According to Adediran et al (2020) and Baker (2020), indigenous language plays a vital role in a students' personal, social, cultural, economic, educational intellectual life and cognitive development. Adediran et al (2020) also affirms that instruction in indigenous language will help the students to understand concepts easily, because the students are familiar with their vocabularies. Federal Ministry of Education (2014) recommends that the medium of instruction in lower primary school should be indigenous language. Adedigba, Soretire & Ajayi (2023) stated that failure of implementation of

language policy had resulted in decline of quality of education in Nigeria. Empirical research had confirmed that education through indigenous language is a key factor for quality learning (Fafunwa, Macauley & Sokoya (1989); Walter & Chuo (2011); Adedigba et al, (2023). Orji & Udeze (2021) stated that one of the reasons to promote indigenous language in Nigeria is that it stimulates the students' interest in learning. Therefore, this goes on to affirm that indigenous language has the ability to promote and sustain interest of students in biology if used judiciously.

Biology is the study of living things and its processes. Biology deals with many fields which include ecology, conservation, genetics, distribution of organisms, fungi, reproduction and plants and animals. These fields are well rooted in indigenous setting, making it easy for indigenous language to be used to inculcate these concepts. When students are taught biology in their indigenous language, a link is established between home and biology concepts. According to Adedigba et al (2023), this helps students to feel free and accepted and also enables the parents to assist their child with assignments in biology since learning is done in the language they

understand. Teaching students using indigenous language is very important to the student because indigenous language is one of the most enigmatic possessions of our humanity and it is the principal factor that enables students to become fully functioning members of the group into which they are born (Kalasa, Phiri & Thelma, 2023).

Urban secondary schools are educational institutions located in towns and cities while rural schools are found in rural setting. Urban schools are characterized by higher population density, greater access to resources, infrastructure, and technology, larger students' populations and more teachers, diverse student populations with varying indigenous languages. Rural schools on the other hand is characterized by low population density, low access to infrastructure, low population and mostly the same indigenous language. The perception of these group of students are very important in determining the use of indigenous language in biology classrooms.

Perception is the ability to see, hear, or become aware of something through the senses. According to Smith (2002), perception is how something is regarded, understood and interpreted. This study therefore is aimed at understanding how students' perception of use of indigenous language in their biology classrooms.

### Research Questions

This research question guided the study

1. What are urban and rural students' perceptions of use indigenous language in secondary schools biology classroom?

### Hypothesis

1. There is no significant difference between urban and rural students' perception of use indigenous language in biology classroom

### Research Methods

The design of the study is descriptive survey design which deals with present phenomena in terms of

conditions, practices, views, belief and relationships (Adedigba et al, 2023)

The study was carried out in Abakaliki Education Zone in Ebonyi State. Abakaliki Education Zone is made up of four local governments namely Abakaliki, Izzi, Ebonyi and Ohaukwu local government areas.

### Sample and Sampling Techniques

The sample of the study was one hundred and fifty (150) students. Simple random sampling was used to select one out of the three Education zone in the state. Using simple random sampling five 5 schools was selected from the rural setting in the zone and five 5 schools chosen from the urban setting of the zone. Fifteen 15 students were randomly selected from SS II biology students in each of the sampled schools totally 150 students.

### Instrument for Data Collection

The instrument used for data collection was Students' Perception of Indigenous Language Questionnaire (SPILQ). The instrument was constructed on four points (4) point scale of strongly agree (SA), Agree (A), Disagree (D), Strongly Disagree (SD). The questionnaire was divided into two Sections namely Section A and B. Section A deals with the bio data of the respondents while section B deals with the students' perception of indigenous language in biology teaching. The instrument was face validated by experts. SPILQ was trial tested on 20 SS2 students outside the zone of study. The result of the trial test was used to estimate the reliability of the instrument. The reliability of SPILQ was found to be 0.76. A mean benchmark of 2.5 was set for the study, of which mean below it has to be disagreed. The decision rule is that the null hypothesis was rejected when P value is less than or equal to ( $P \leq 0.05$ ), but when P value is greater than ( $P > 0.05$ ), the null hypothesis will not be rejected.



**Results**

**Research question 1:** What are urban and rural students’ perceptions of use indigenous language in Biology classroom?

**Table 1: Mean and Standard Deviation Scores of Urban and Rural Students’ Perceptions of Use of Indigenous Language in Biology Classroom**

Group Statistics						
S/N	Items	Location	N	X	SD	Dec.
1	The use of Indigenous language will enhance my understanding of biology.	Urban	75	3.00	0.93	A
		Rural	75	3.63	0.63	A
2	The use of Indigenous materials in biology teaching will enhance my interest in the subject.	Urban	75	3.05	0.87	A
		Rural	75	3.43	0.57	A
3	Applying biological concepts in my everyday life will be enhanced when Indigenous language is integrated with biology.	Urban	75	3.08	0.73	A
		Rural	75	3.40	0.64	A
4	I will be motivated to learn biology when biological concepts are linked to my Indigenous language.	Urban	75	2.87	0.98	A
		Rural	75	3.28	0.76	A
5	The use of Indigenous language in biology will help me appreciate my culture.	Urban	75	2.97	0.84	A
		Rural	75	3.21	0.74	A
6	The use of Indigenous language will help me to explore things in my immediate environment.	Urban	75	3.01	0.94	A
		Rural	75	3.47	0.60	A
7	The use of Indigenous language in biology will help me change the way I relate to my immediate environment.	Urban	75	2.99	0.91	A
		Rural	75	3.11	0.88	A
Overall Mean and SD on Students’ Perceptions		Urban	75	3.00	0.86	A
		Rural	75	3.36	0.64	A

Table 1 shows the mean and standard deviation scores of the responses of the urban and rural students’ perceptions of indigenous language in biology teaching in secondary schools. The table shows that the urban and rural students generally indicated that they perceive indigenous language as part of biology teaching in secondary schools in Ebonyi State. This was premised on the fact that the overall mean and standard deviation of the urban and rural students which were  $3.00 \pm 0.86$ , and  $3.36 \pm 0.64$  respectively were above the mean benchmark of 2.5 set for the study. This shows specifically that the urban and rural students generally agreed that the use of Indigenous language will enhances their understanding of biology, the use of indigenous materials in biology teaching enhances their interest in the subject, applying biological concepts in their daily lives are enhanced when indigenous language is integrated with biology, they are motivated to learn biology when biological concepts are linked to

their indigenous language, the use of indigenous language in biology helps them to appreciate their culture, the use of indigenous language helps them to explore things in their immediate environment, and the use of indigenous language in biology helps them to change the way they relate to their immediate environment. Meanwhile, the overall mean response of the rural students was higher than that of their urban counterparts with a numerical value of 0.36. However, the table could not establish whether the difference was statistically significant or could be attributed to sampling error. The result was, therefore, subjected to inferential testing of the null hypothesis 1 with the independent sample t-test as shown in Table 2 below. Furthermore, the overall standard deviation of the rural students was lower than that of their urban counterparts. This shows that the responses of the rural students were more clustered around their overall mean than those of their urban counterparts.

### Hypothesis Testing

**Null hypothesis 1:** There is no significant difference between urban and rural students' perceptions of use Indigenous Language in Biology classroom

**Table 2: Independent Sample t-test of Urban and Rural Students' Perceptions of Use of Indigenous Language in Biology Classroom**

		Levene's Test		t-test for Equality of Means					95% CID	
		F	Sig.	T	Df	p	MD	SED	Lower	Upper
Equal variances assumed		1.199	0.275	-2.941	148	0.004	-0.364	0.124	-0.608	-0.119
Equal variances not assumed				-2.941	137.314	0.004	-0.364	0.124	-0.608	-0.119

Table 2 shows the independent sample t-test conducted on the responses of the urban and rural students to test the null hypothesis 1. The table shows that Sig. value ( $p = 0.275$ ) obtained in Levene's test was greater than 0.05. This implies that the variances are assumed equal. The results in the equal variances assumed section in the Table show a t-value of -2.941 and a p-value of 0.004,  $p < 0.05$  at a 148 degree of freedom. Therefore, null hypothesis one ( $H_{01}$ ) which states that there is no significant difference between urban and rural students' perceptions of indigenous language in biology teaching in secondary schools was rejected. This shows a significant difference between urban and rural students' perceptions of indigenous language in biology teaching in secondary schools. This implies that the numerical difference observed in Table 1 was statistically significant and could not be attributed to sampling error. This study, therefore, found a statistically significant difference in the perceptions of the urban and rural students on the use of Indigenous language in Biology teaching in secondary schools at  $t_{(148)} = -2.941, p = 0.004 < 0.05$ .

### Discussion of Result

The result of the study revealed that urban and rural students generally perceive indigenous language as very useful in biology teaching in secondary schools in Ebonyi State. They specifically agreed generally that the use of indigenous language enhances their interest and understanding of biology. The finding of this study is in line with the findings Adediran et al (2020) and Adedigba et al (2023) who in their different studies discovered that indigenous language supports effective teaching and learning, and also promotes understanding of the concepts taught. The finding is in contrary with the finding of Udeze & Orji (2021) who found out that students' exhibit a feeling of apathy towards their indigenous languages.

Urban and rural students perceived that indigenous language should be inculcated into biology teaching, however there is a significant difference between the rural and urban students' perception on the use of indigenous language in biology teaching in Ebonyi State. This may be because the rural students are closer to nature and are more prone to make use of their indigenous language in their environment. The response of urban students may be as a result of being mixed with students from different indigenous languages and as such use English language as a means of communication both in school and at home.

### Conclusion

Indigenous language will enhance knowledge and understanding of biological concepts like conservation, heredity, osmosis, diffusion, reproduction and host of others. This is because indigenous language exposes the students to indigenous knowledge about plants and animals that are peculiar in the students' locality. Using a language a student understands makes it easy for the students to learn. Local Nigeria environment is very rich in plants and animals, for example mosses and lichen are found in each home and there's an indigenous name by which it is known, using such indigenous name will help the student to comprehend the concepts involved mosses and lichen.

### Recommendations.

The following recommendations were made, based on the findings

1. Teacher training programs should include modules on indigenous language and its application in biology teaching.
2. Curriculum developers should incorporate indigenous language into the biology

curriculum both at the secondary and tertiary levels of education.

3. Educational policymakers should support the integration of indigenous language into secondary school biology.
4. Textbook publishers should start development of biology text using indigenous languages, this they can do by co-opting experts in indigenous languages.

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