Assessment of Teachers' Awareness and Utilization of Community Resources for Teaching and Learning Biology in Kwara Central, Nigeria

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Abstract

One of the problems affecting the effective teaching and learning of biological concepts is lack of mass. This problem could be remediated with the use of resources within students' communities. Hence the need to explore biology teachers' awareness and utilization of community resources in senior secondary schools in Kwara Central, Nigeria adopting the mixed-method approach. The research utilised a survey design for the quantitative aspect, sampling 271 biology teachers through simple random techniques, and thematic analysis of interviews with 42 purposively selected participants for the qualitative aspect. Data collection instruments included a validated structured questionnaire, "Biology Teachers' Awareness and Utilisation of Community Resources (BTAUCR)," and an open-ended interview guide. Quantitative data were analysed using descriptive statistics, t-tests, and ANOVA, while qualitative data underwent thematic analysis with NVivo 12.0. Findings revealed that biology teachers were most aware of accessible community resources like nature centres (56.1%), zoological gardens (57.6%), and professional guest speakers (60.9%), while awareness of specialised resources, such as seed banks (35.1%) and ranches (34.7%), was limited. Utilisation patterns showed frequent use of resources such as professional guest speakers (M=2.18) and nature centres (M=2.11), while biological libraries (M=1.67) were underutilised. The interviews enriched these findings, highlighting diverse challenges and benefits associated with integrating community resources into teaching.

Keywords: *Biology Education, Community Resources, Teaching and Learning.*

INTRODUCTION

Education is a prominent factor in the social, economic, and manpower development of all nations. Secondary education prepares students for tertiary institutions and trains manpower for technology, applied sciences and commerce at sub-professional grades. Secondary education is the level of education that prepares students for future careers. In pursuance of the realisation of educational goals in Nigeria, all tiers of government should partake in developing reading clubs in schools, community libraries and other resources that can enhance learning (Federal Republic of Nigeria, 2013). This is to say that the establishment and use of educational resources are a collective effort of federal, state, and local governments, especially in Nigeria, where formal education is ever-increasing. The increase in formal education consequently results in inadequate learning and infrastructural resources, as expressed by (nye & Edafe 2020). The inability of government and school proprietors to provide adequate learning and infrastructure resources necessitates the use of community resources to supplement the inadequate ones. Hence, there is a need to utilise the available resources in the community to alleviate the problem associated with teaching biology. This is in light that community involvement in education is a common phenomenon across the globe. Community participation in funding, provision of manpower and material resources, and students' achievement is crucial to students' learning, as well as to the social and economic progress of a nation. In this regard, the effective and efficient biology teaching and learning cannot be separated from the community in which learning takes place. Educational finance has been reported by Ezema et al. (2021) to be at a minimal level in developing countries like Nigeria. Educational funding involves the construction of classrooms and toilets; it can also involve the provision of infrastructure and social amenities such as furniture, portable water, electricity, etc. However, other forms of community intervention could include providing free teaching to schools with inadequate or non-professional teachers (Kitigwa & Onyango, 2023).

Utilising community resources in teaching and learning is another intervention that goes a long way in imbuing in students the appropriate values required for meaningful learning. This is to say that conceptual understanding of scientific concepts depends greatly on the concretisation of teaching and learning processes. One of the ways of concretising classroom activities is by utilising community resources to supplement

teaching and learning tasks. Community resources are human and non-human resources found within the geographical location of the teachers and used to enhance instructional delivery. Odera (2018) defined community resources as common places and experiences located outside the school within the community. Teachmint (2023) described community resources as those resources that could be used to facilitate and enhance the lives of people in a community. They include zoological and botanical gardens, museums, ranches, industries, educational institutions, waterfalls, parks, etc.

Researchers have documented the significant role of these resources in instructional transfer and learners' development. Odera (2018) affirmed the need for countries of the world to incorporate the use of community in their educational system. The author was of the view that the proper implementation of community resources helps in the attainment of economic and technological development. Teachers and students conversant with their environment will assist greatly in solving some community-based problems. This aligned with the assertion of Akpan and Babayemi (2022) that the lack of knowledge of the immediate environment by learners had deprived them of utilising the knowledge on the daily basis.

Persistent use of community resources in teaching and learning has a lot of benefits, some of which are inspiring teachers' and students' experiences, putting reality into students' learning, and providing students with prominent roles of institutions in their community (Teachmint, 2023). Brew (2023) highlighted the significance of community resources in improving learning, and information and as a good source of inspiration and experience to learners. This is to say that utilising community resources cannot be separated from meaningful and experiential learning.

The primary purpose of this study was to identify the community resources Biology teachers are aware of in the Kwara Central region, evaluate the degree to which Biology teachers utilise the community resources in their teaching of Biology, investigate the perceptions of Biology teachers regarding the influence of community resources on students engagement in Biology, and ascertain the challenges encountered by Biology teachers in the successful integration of community resources within their teaching practices.

The following research questions were set to be answered in this study. First, what are the community resources Biology teachers in Kwara Central Senatorial District are aware of? Second, to what degree do Biology teachers utilise community resources in teaching Biology? Third, what perceptions do Biology teachers hold concerning the influence of community resources on students' engagement in Biology? Finally, what are the challenges faced by Biology teachers in the effective utilisation of community resources within their teaching methodologies?

LITERATURE REVIEW

The significance of experiential learning in substantiating textbook information cannot be over emphasised. This is evident from the literature on community participation in education across the world. Teachers and students should be involved in the anticipated positive results. Odera (2018) reported that schools with more community resources appear to perform better than those with fewer resources. Likewise, Kabesa and Okioma (2019) have demonstrated the effectiveness of community learning resources of parks, biological gardens, school grounds, museums, resource persons, models, and dioramas in process skills acquisition. These resources were found to increase students 'process skills acquisition.

Some of the prominent roles expected of 21st-century teachers for the successful use of community resources are those of relationship builders, collaborators, and designers. Effective use of community resources requires that the teacher establish cordial relationships with community members and parents in which the school is situated. This aligned with the assertion of Iyenger (2021) on the need to have project-driven community engagement with problem-based and experiential learning. The teacher is also expected to network with experts, artisans, or heads of places of interest to facilitate communication and the use of their resources. After this, the teacher then designs the activities to suit the needs of the involved students. This is the only way to achieve the desired outcome of using resources within the community. Some instance of teacher use of community resources is discussed as follows.

Atubi (2021) explored teachers' perception and usage of community resources in social studies and civic education in Delta State, Nigeria. The researcher employed the quantitative method to x-ray the extent to which teachers utilised the community resources. The finding reported low

usage of community resources by teachers in the area. It was, however, suggested that teachers should make good use of the resources within the community. In a like manner, Nnamuma and Obikeze (2021) examined the utilisation of community resources in the implementation of environmental adult education. Using descriptive research, the study presented various community resources that could be used to promote environmental health education. One of the paper's recommendations was that community resources are germane to effective teaching and learning.

Brew (2023) assessed teachers' knowledge based on community resources used in appraising social studies concepts. Qualitative research was used to hear their views on the use and impact of community resources on social studies teaching. Evidence from the study was that teachers sparingly use community resources due to insufficient time allocated to teaching the subject, monetary constraints, and the administrative processes involved in seeking permission from the schools. Mensah *et al.* (2023) attributed the nonuse of external resources by Accra teachers to several problems, including over-reliance on textbooks, non-cooperation by parents and other stakeholders, transport fares, and rigid timetables. The researchers recommend using community resources in teaching social studies. Tibane *et al.* (2024) attributed severe lack of resources, over-reliance on out-dated and borrowed materials and heavy burden on teachers to supply resources as some of the key constraints to effective teaching and learning. The researchers recommended integrating technologies in teaching mathematics.

It could be inferred from the reviewed study within and outside the country that researchers agree that the usage of community resources tends to enhance students' learning. However, several factors have been inhibiting its effectiveness, among which are financial constraints, administrative procedures, and over-reliance on textual materials, among others. In contrast to antecedent research, the current investigation employed a mixed-methods framework, thereby facilitating a more nuanced comprehension of biology educators' cognisance and application of community resources. Additionally, it incorporates thematic analysis through the utilisation of NVivo software to elucidate teachers' perceptions and experiences regarding community resources within the Kwara Central Senatorial District.

METHODOLOGY

This investigation employed a mixed-methods framework, amalgamating both quantitative and qualitative methodologies to facilitate a comprehensive exploration of Biology educators' cognisance, application, perceptions of impact, and obstacles concerning community resources in Kwara Central. The quantitative segment adopted a descriptive survey design to procure numerical data regarding educators' recognition, degree of application, and perceptions. Simultaneously, the qualitative segment employed a thematic analysis methodology through comprehensive interviews to investigate the intricate experiences and perspectives of Biology educators regarding the incorporation of community resources into their pedagogical practices. The target demographic for this investigation comprised all Biology educators in senior secondary institutions within Kwara Central. Using the research advisor, a total of 271 Biology educators were selected from the population of 987 for the quantitative survey employing simple random sampling techniques to ensure a representative cohort. For the qualitative interviews, 42 Biology educators were purposefully sampled to yield rich, detailed insights into the phenomena under scrutiny.

For the data collection purpose, two primary tools were developed: The Biology Teachers' Awareness and Utilisation of Community Resources (BTAUCR) Questionnaire and an open-ended interview guide designed by the researcher himself. Section B of the BTAUCR questionnaire focused on the community resources available and their utilisation, which was captured primarily using a Likert scale. The interview guide enabled the researcher to conduct detailed semi-structured interviews and gather rich and detailed responses. Both instruments were considered appropriate for this study because they complement each other in making a detailed submission in both quantitative and qualitative manner. To confirm the accuracy and precision of the research instruments, both face and content validity were established by presenting them to three expert supervisors to obtain their evaluative comments and incorporating their suggested revisions. The researcher then conducted a pilot study with 20 participants who did not constitute the main sample for the study, which further refined the instruments. The questionnaire reliability was calculated using split-half and Cronbach's Alpha methods, producing a coefficient of 0.78, which indicates good internal consistency. For the interview guide, reliability was tested using KR-20, obtaining a coefficient of 0.82, supporting its suitability.

The data collection process was conducted in Kwara Central, strictly adhering to ethical protocols, including obtaining informed consent and ensuring anonymity. Questionnaires were administered directly, allowing sufficient time for completion, whereas interviews were conducted individually, audio-recorded with consent, and transcribed verbatim. Thematic analysis was employed to interpret qualitative data from the interviews with the aid of NVivo, Version 12.0. This structured method involved familiarisation with the data set, developing initial codes, identifying major themes by grouping relevant codes, critically evaluating and refining themes for logical consistency, defining and labelling them precisely, and then synthesising a detailed narrative report on the analysis with relevant excerpts to illustrate the findings. This provided insights into educators' perceptions, highlighting the potential advantages and considerable difficulties in using community resources for teaching Biology.

RESULTS

Community Resources Recognised by Biology Teachers in Kwara Central

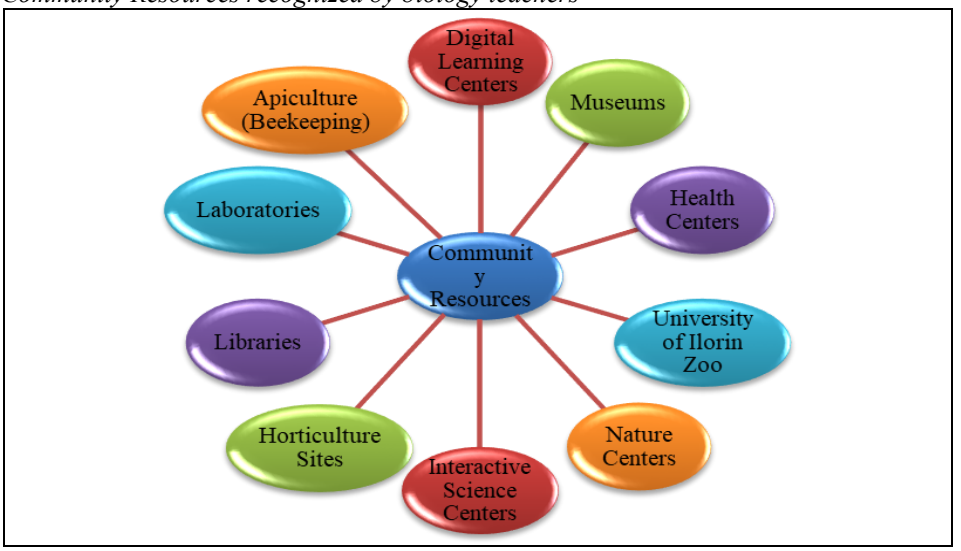
Table 1 indicates that biology teachers were quite aware of common and accessible community resources like nature centres (56.10%), zoological gardens (57.60%), mountains/rocks/hills (53.10%), and livestock farms (52.40%), likely due to their visibility and relevance to everyday teaching topics. However, awareness was notably lower for specialised resources such as seed banks (35.10%), ranches (34.70%), and biological museums (43.50%), suggesting limited exposure or promotion of these facilities. The high awareness of professional guest speakers (60.90%) underscores the value teachers place on human expertise in enhancing learning. These findings suggest a need for targeted awareness programs and partnerships with specialised institutions to expand teachers' utilisation of diverse community resources for enriching biology education.

Table 1:
Participants' Response on their Awareness of Community Resources (N=271)

S/N	Resources	Aware (%)	Not Aware (%)	Decision
1	Botanical garden	122 (45.00)	149 (55.00)	Unaware
2	Nature centres, e.g., streams, rivers, etc.	152 (56.10)	119 (43.90)	Quite Aware
3	Zoological garden	156 (57.60)	115 (42.40)	Quite Aware
4	Fish ponds	138 (50.90)	133 (49.10)	Quite Aware
5	Mountains/rocks/hills	144 (53.10)	127 (46.90)	Quite Aware
6	Livestock farm	142 (52.40)	129 (47.60)	Quite Aware
7	Biological institutions (school of forestry/fishery)	129 (47.60)	142 (52.40)	Unaware
8	Biological museums	118 (43.50)	153 (56.50)	Unaware
9	Seed banks	95 (35.10)	176 (64.90)	Unaware
10	Biological library	137 (50.60)	134 (49.40)	Quite Aware
11	Ranches	94 (34.70)	177 (65.30)	Unaware
12	Use of professional guest speakers	165 (60.90)	106 (39.10)	Quite Aware

In addition to the quantitative data, interview insights from 42 biology teachers in Kwara Central, shown in Figure 1, revealed a broad awareness of community resources.

Figure 1
Community Resources recognized by biology teachers



Teachers frequently mentioned the University of Ilorin Zoo and interactive science centres as valuable sites, with Participant 11 noting,

"The zoo provides a hands-on experience for students to see and classify animals," and Participant 7 adding, "Science centres *help students engage with biology beyond the classroom."* Museums were another widely recognised resource, as Participant 25 explained, "Museums allow students to visualise historical biological artefacts and specimens." Specialised resources also featured, such as health centres, which Participant No. 2 highlighted for *"practical learning about vaccines and health practices."* Horticulture sites and apiculture were less common but noted by Participant No. 19, who said, *"Beekeeping and horticulture are unique areas that show students biology in action within agriculture."* Libraries and laboratories were valued for access to scientific materials and experiments, with Participant No. 4 stating, *"The library provides essential resources for research, and the lab is where students can apply what they learn."* This diversity of resources reflects the varied approaches teachers use to enrich biology education. The responses, analysed inductively, imply that biology teachers in Kwara centre are aware of digital learning centres, health centres, nature centres, interactive science centres, the University of Ilorin Zoo, museums, horticulture sites, libraries, apiculture (beekeeping), and laboratories."

The Extent to which Biology Teachers Utilize Community Resources in Teaching Biology

In order to explain the extent of utilisation of the community resources, a mean grade system was utilised with figures between 0.00 – 1.00 being classified as not utilised and 1.01 – 2.00 representing rarely utilised while 2.01 – 3.00 signified that the resources are often utilised. Table 2 summarises the extent to which biology teachers in Kwara State utilise various community resources in their teaching. Resources as the nature centres (M=2.11), the zoological garden (M=2.04), mountains/rocks/hills (M=2.01), and professional guest speakers (M=2.18) are "often utilised," indicating moderate to frequent use. Conversely, fish ponds (*M*=1.99) and livestock farms (*M*=1.97) are categorized as "rarely utilised," reflecting limited usage. The biological library (*M*=1.67) is among the least used resources, suggesting it is "rarely utilised." These findings reveal that while accessible resources like nature centres and guest speakers are frequently employed, others, particularly the biological library, are underutilised in biology teaching.

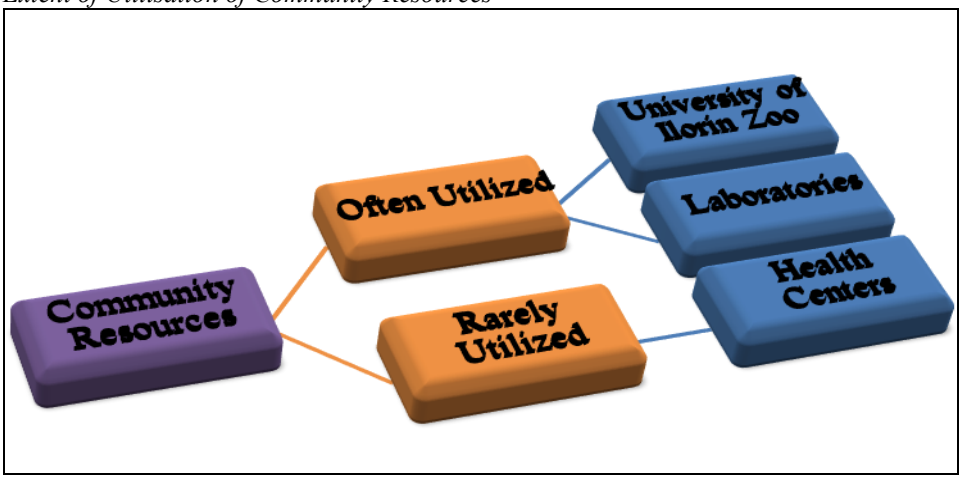
Table 2
Participant's Response on the Extent of Use of the Available Community Resources (N=271)

S/N	Resources	Often Utilised	Rarely Utilised	Not Utilised	Mean	Std. Dev.	Decision
2	Nature centres	105 (38.70)	91 (33.60)	75 (27.70)	2.11	0.81	Often Utilised
3	Zoological garden	103 (38.00)	77 (28.40)	91 (33.60)	2.04	0.85	Often Utilised
4	Fish ponds	87 (32.10)	93 (34.30)	91 (33.60)	1.99	0.81	Rarely Utilised
5	Mountain's/rocks/ hills	89 (32.80)	95 (35.10)	87 (32.10)	2.01	0.81	Often Utilised
6	Livestock farm	86 (31.70)	92 (33.90)	93 (34.30)	1.97	0.81	Rarely Utilised
10	Biological library	58 (21.40)	65 (24.00)	148 (54.60)	1.67	0.81	Rarely Utilised
12	Use of professional guest speakers	126 (46.50)	67 (24.70)	78 (28.80)	2.18	0.85	Often Utilised

Key: 0.00 - 1.00 = Not Utilised; 1.01 - 2.00 = Rarely Utilised; 2.01 - 3.00 = Often Utilised.

Figure 2 illustrates the extent to which biology teachers utilise community resources in their teaching. The resources are categorised into "rarely utilised" and "often utilised." Among the "rarely utilised" resources, health centres and laboratories are mentioned. Participant 12 occasionally takes students to health centres to learn about vaccines, while Participant 34 uses the school laboratory to explain biology concepts.

Figure 2
Extent of Utilisation of Community Resources



Despite recognising the value of these resources, their use is not a common practice among most of the participants. In discussing 'rarely utilised' resources, Participant 2 mentions:

> "*I occasionally take students to health centres to learn about vaccines, but it's not something we do regularly.*"

Moreover, participant No. 24 said:

> *"We have a school laboratory which I use to demonstrate biology concepts, though it's not as frequently used as it could be".*

Conversely, the "often utilised" category highlights the University of Ilorin Zoo as a frequently used resource. Some of the teachers mentioned they regularly take students to the zoo to enhance their understanding of biological concepts through real-life observations. For example, with one of the teachers (Teacher No. 27) noting;

> *"Visiting the University of Ilorin Zoo is a regular activity in our biology lessons. It provides invaluable real-life examples that textbooks can't match."*

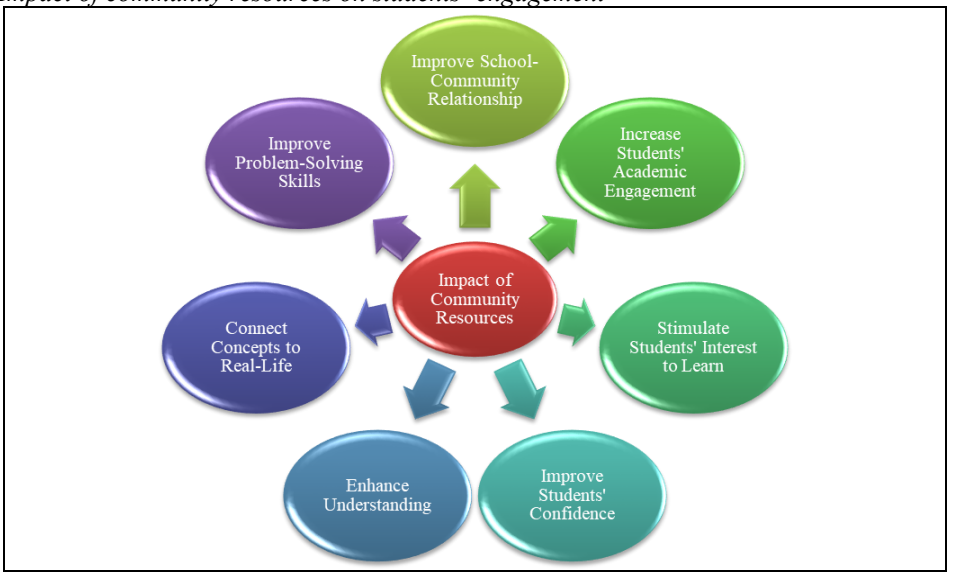
The frequent utilisation of the zoo demonstrates its perceived effectiveness in making biology more interesting and engaging for students. Figure 2 reveals that half of the biology teachers sampled in this study actively utilise community resources in their teaching, with a particular preference for the University of Ilorin Zoo. This finding underscores the importance of accessible and engaging community resources in enriching the biology curriculum.

Perceptions of Biology Teachers on the Impact of Community Resources on Students' Engagement

Figure 3 highlights biology teachers' perceptions of the impact of community resources on student engagement. The teachers identify several key benefits of utilising these resources in their teaching. There is consensus on the positive impact of community resources on student engagement.

Figure 3

Impact of community resources on students' engagement



The teachers recognise that community resources significantly enhance the learning experience. Enhanced understanding is another major benefit acknowledged by the teachers. The teachers also note that community resources help students connect theoretical concepts to real-life situations, leading to a deeper and more practical understanding of biology. As stated by Participant No. 41:

> *"Community resources such as the University of Ilorin Zoo and museums bring biology to life for our students. They see the concepts we teach in class in a real-world context, which makes it easier for them to grasp."*

This connection is believed to make the subject matter more relatable and engaging for students. Improved participation is also highlighted by the teachers, who observe that the prospect of using community resources motivates students to be more actively involved in the learning process. The teachers also mention that community resources stimulate student interest, making the subject of biology more intriguing and exciting. Teachers believe that practical exposure to biological concepts through these resources equips students with better problem-solving abilities. Improved confidence in understanding and applying biology concepts is noted by the teachers, suggesting that community resources help build students' confidence in their academic abilities. The teachers also underscore the role of community resources in fostering stronger school-community relationships, indicating that these resources not only benefit students but also strengthen the bond between schools and their surrounding communities.

Figure 3 shows that biology teachers perceive community resources as highly beneficial for enhancing student engagement, understanding, participation, interest, problem-solving skills, and confidence, while also fostering stronger school-community relationships.

Challenges faced by Biology Teachers in Effectively Implementing Community Resources

Figure 4 outlines the various challenges biology teachers face in effectively implementing community resources in biology learning. The participants' responses highlight several key barriers. Financial constraints are the most frequently mentioned challenge. For example, Teacher 1 stated;

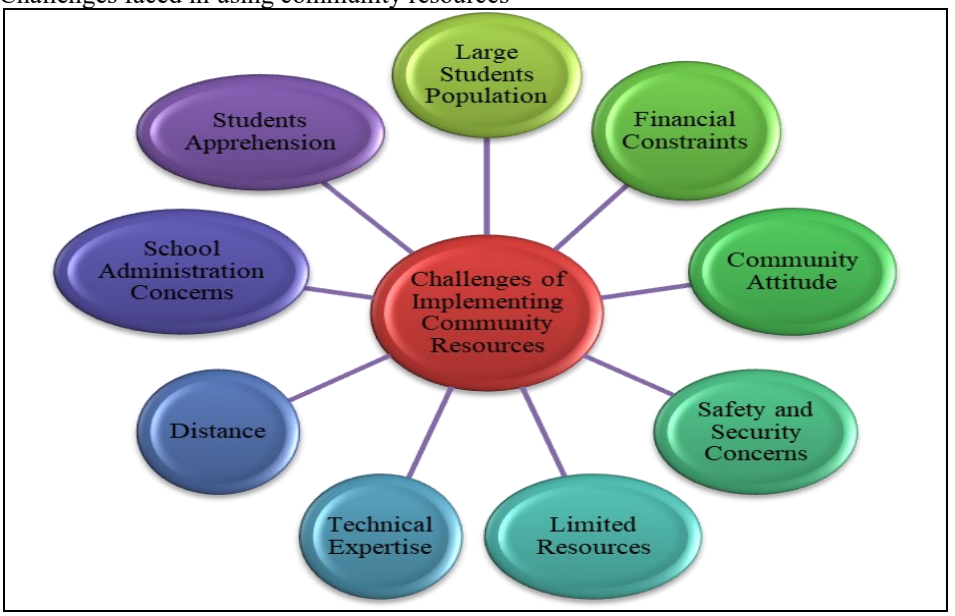
> *"Organising field trips to places like museums and the zoo requires funding beyond our school's budget. We often struggle to cover transportation and entry fees."*

These constraints include the costs associated with organising field trips and acquiring the necessary resources for hands-on learning experiences. Limited resources within the community are highlighted by the teachers. This includes a lack of available zoos, museums, and other educational

facilities in the vicinity, making it difficult for teachers to plan visits that would enhance their biology lessons. Teacher No. 34 highlighted:

> *"We lack nearby zoos or museums that are adequately equipped for educational visits. This limits our options and opportunities to enhance biology lessons with real-world experiences."*

Figure 4
Challenges faced in using community resources



School administration concerns were also mentioned by the teachers. These concerns primarily revolve around obtaining permission for field trips, which often involves lengthy bureaucratic processes and hesitations from the administration due to budget limitations. A large student population poses a logistical challenge for organising effective field trips, as noted by Teacher No. 23. Managing and ensuring the safety of a large number of students on trips to community resources can be particularly daunting and resource-intensive. Security concerns are raised by Teacher No. 17, who mentions past experiences of theft of laboratory equipment. This makes it difficult to fully utilise community resources without worrying about the safety and security of the materials. The scarcity of educational materials is an issue highlighted by Teachers No. 5 and No. 18. The lack of adequate materials and resources within the community facilities themselves can limit the effectiveness of these visits for educational purposes.

Distance to resources is a challenge identified by Teachers No. 25 and 37. The physical location of certain community resources can be far from schools, posing significant logistical and transportation challenges. Community attitude and maintenance are concerns raised by Teachers No. 6, 32, 34, and 40. This includes issues related to the upkeep of community resources and a general lack of understanding within the community about the importance of these facilities for educational purposes. Teachers have noted student apprehension, suggesting that some students may have anxieties or fears about participating in field trips, which can affect their engagement and learning experience. Teacher No. 9 mentioned:

> *"Some students are hesitant to participate in field trips due to fears or anxieties, which can impact their engagement and learning experience during these valuable outings."*

Figure 4, therefore, reveals that biology teachers face a myriad of challenges in implementing community resources in their teaching, including financial constraints, limited resources, administrative hurdles, logistical issues with large student populations, security concerns, scarcity of educational materials, distance to resources, community attitudes, and student apprehension. These barriers collectively hinder the effective integration of community resources into the biology curriculum.

DISCUSSION

The finding that most biology teachers in Ilorin West are aware of a wide array of community resources suggests a high level of awareness and knowledge of potential teaching aids. These resources encompass visiting biological gardens, nature centres, zoological gardens, fish ponds, mountains/hills/rocks, and utilising professional guest speakers. This awareness likely stems from professional development programs and a general increase in access to information through digital means. This finding implies that teachers are in a good position to utilise these resources to enhance teaching. This finding corroborates those of Atubi (2021), who opined that social studies teachers are aware of community resources, as they are essential for effective teaching. In support of this, Olelewa, Nzeadibe, and Nzeadibe (2014) argued that the availability of educational resources makes the school environment conducive to teaching and learning. Akpan (2022) has advocated for the integration of

such resources to promote hands-on and experiential learning, which can foster better understanding and engagement among students.

Among the community resources integrated into biology instruction, botanical gardens, nature centres, zoological gardens, fishponds, mountains/rocks/hills, and professional guest speakers were found to be frequently employed. The frequent use of the University of Ilorin Zoo and laboratories by biology teachers indicates a preference for resources directly relevant to biological studies and likely easier to access. This may be due to a common belief among teachers that these resources provide the most immediate and practical benefits for enhancing students' understanding and engagement in biological concepts (Duban, Aydoğdu & Yüksel, 2019). The rare utilisation of health centres may be due to bureaucratic hurdles or a lack of perceived relevance. This finding implies that while teachers are willing to use community resources, they might be constrained by accessibility and relevance issues. This aligns with the study by Akpan (2022), which found that even when Social Studies and Civic Education teachers in Delta State perceive community resources as essential for effective teaching, their use remains low. Research by Frances et al (2025) emphasised the importance of outdoor learning in promoting multifaceted tasks for enriched learning activities by the students.

Teachers' belief that community resources significantly enhance student engagement, understanding, and other positive educational outcomes highlights the potential of experiential learning. This belief is likely rooted in their observations of increased student interest and participation during field trips and hands-on activities. The implication is that leveraging community resources can lead to more effective teaching and learning experiences. This finding is supported by the work of Duban, Aydoğdu and Yüksel (2019), who reported that students showed higher engagement and understanding when exposed to practical learning environments. Similarly, Brew (2023) found that community resources can help teachers teach more effectively by motivating students, helping them achieve learning objectives, and exposing them to positive role models and real-life situations.

The identification of financial constraints, limited resources, and other challenges as barriers to the effective implementation of community resources reflects systemic issues within the educational infrastructure.

These challenges likely stem from inadequate funding, administrative bottlenecks, and logistical difficulties. The implication is that without addressing these barriers, the potential benefits of community resources remain underutilised. This finding aligns with the study by Atubi (2019), which highlighted financial and administrative challenges as major obstacles to educational innovation in Nigeria. Similarly, there are inadequate time allocated for teaching the subject, financial constraints, bureaucratic processes involved in obtaining permission and the need to meet the requirements of external examinations. Similarly, Brew (2023) noted that challenges associated with utilising community resources include inadequate time allocated for the teaching of the subject, financial constraints, bureaucratic processes involved in obtaining permission and the need to meet the requirements of external examinations.

CONCLUSION

It was concluded based on the findings that while teachers demonstrate broad awareness of diverse resources, including digital learning centres, museums, and horticulture sites, their actual utilisation primarily focuses on the University of Ilorin Zoo and laboratories, with health centres being less frequently employed. Teachers unanimously perceive these resources as pivotal in enhancing student engagement, understanding, and problem-solving skills, while also strengthening school-community relationships. However, the integration of these resources faces significant challenges such as financial constraints, logistical issues, and concerns over student participation and safety. Addressing these challenges could potentially optimise the educational benefits derived from community resources, ensuring a more enriching biology learning experience for students. Hence, it is recommended that initiatives to raise community awareness about the educational benefits of local resources like museums and horticulture sites should be prioritised to garner support and enhance student learning experiences in biology. Also, schools should encourage continuous professional development programs that highlight the benefits of community resource utilisation, aiming to foster an inclusive approach among all educators.

Disclosure Statement

The authors declare that there are no competing financial or non-financial interests that have influenced the research presented in this article. All aspects of the study, including design, data collection, analysis, and interpretation, were conducted independently and without bias.

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