



Access and Use of Open Educational Resources for Blended Learning in Public Universities in Anambra State

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Abstract

The study ascertained access and use of open educational resources for blended learning in public universities in Anambra State. Two research questions guided the study. Survey research design was employed for the study. The sample size for the study consisted of 600 regular undergraduate students of public universities in Anambra State obtained through purposive and simple random sampling techniques. Undergraduate Students' Access to Open Educational Resources Questionnaire (USAOERQ) and Undergraduate Students' Use of Open Educational Resources Questionnaire (USUOERQ) were used to collect data. Data collected were analyzed using mean and standard deviation. The findings of the study revealed that undergraduate students in public universities in Anambra State had access to OER for blended learning. The findings of the study further indicated that OER was used for blended learning by undergraduate students to a low extent. Based on the findings of the study, it was recommended that university authorities should sustain their efforts towards ensuring that unfettered access is granted to undergraduate students to open educational resources for blended learning.

Keywords: Access, Use, Open Education Resources, Blended Learning, Public University

1.1 Introduction

The university system, in recent times appear to be witnessing a gradual transition from traditional lecture approach to blended learning. In other words, blended learning approach seems to be gaining wide acceptance in recent years. This current awakening may not be unrelated to the COVID-19 pandemic that took the world by storm in 2020. Expectedly, experts in the educational system began to fashion out suitable pedagogies that promoted the use of blended learning approaches to sustain instructional delivery to students amidst the

global health crisis and even beyond. Accordingly, blended learning approach provides an opportunity for the integration of the innovative and technological milestones of online learning as complemented by the elements of traditional learning approach such as classroom engagement and involvement (Islam, Sarker and Islam 2022).

Blended learning approach is an online learning approach that facilitates the delivery of instruction through the use of an online platform. Enwemasor and Charles-Odili (2022) define blended learning as an educational method that promotes the use of

multiple means for the transmission of knowledge and experience to learners with a view to achieving the best outputs of learning. Thus, the term 'blended learning approach' is not entirely new in the educational landscape as various scholars (Adams, Tan and Sumintono, 2021; Evans *et al.*, 2020) have considered blended learning approach as the 'new norm' in educational technology and course delivery. Blended learning extends the learning process beyond the classroom in such a manner that learning continues outside the classroom via the use of the learning resources such as Open Educational Resources (OER).

Open Educational Resources (OER) are resources, under copyright protection, that can be accessed online for the tripartite purposes of teaching, learning and research. There are digitally-enhanced open provisions of educational resources which can be adopted for multiple purposes of consultation and use for non-commercial purposes (Obinyan, Okoroafor and Ezenwuzor, 2023). In other words, OER are strictly not for sale. Similarly, UNESCO (2022) defines Open Educational Resources as materials in any format as well as medium with which copyright protection has been distributed under an open license in a manner that others are allowed unfettered access, re-use, adaption and redistribution for learning, teaching and research. UNESCO adds that they include: textbooks, syllabi, curricula, lecture notes, assignments, assessments, projects, audio, video and animation. It is expected that university students access and use these resources for learning and research.

The use of OER is quite a cost-effective investment for learning as well as carrying out researches among university students. In conventional learning, students expend time improving learning materials, reviewing lecture notes and preparing for examinations. However, this method appears to be a passing fad given that modern day students are digital natives to whom technology has become the

extension of their fingers. OER is primarily used for curriculum support. In contemporary times, they are made available without restraint over the Internet for consumption of lecturers and students in some universities. Its availability has reinforced the need for lecturers to become innovative in their pedagogy through the flexibility permitted by their use of the open licensing of materials (Karunanayake, Naidu, & Mohan, 2016). Wiley (2014) describes the following: "rights to access materials: retain (the right to make, to own and control copies of content), reuse (in many ways), revise (adaptation, making adjustments, modifications and change), remix (combinations with the original or revised content with other open content, thereby making something innovative such as a mash up), and finally, re-distribute (sharing the new content with others)"

In public universities in Anambra State, it is instructive to note that Open Educational Resources, based on the researcher's observation, are available for use by both lecturers and students. However, a cursory look at the academic activities in the school reveals the preponderance of printed materials even in blended learning environment by the university students for the dual purposes of learning and research. This has raised questions as to whether the students have access to the OER. Again, OER research with a concentration on university students in Anambra State is almost non-existent. It is in view of the foregoing that the researcher sought to investigate access and use of open educational resources for blended learning in public universities in Anambra State.

1.2 Objectives of the Study

The following research questions were raised for the study.

1. How accessible are the Open Educational Resources to undergraduate students for blended learning in Anambra State?

2. To what extent are Open Educational Resources used by undergraduate students for blended learning in Anambra State?

2.1 Literature Review

Blended learning promotes the use of computers as a veritable tool alongside face-to-face learning. The implication here is that teaching can be done using laptops, palmtop, mobile phones, televisions, video conferencing, and other digital tools while integrating them with channels of face-to-face learning (Aswad, Hamid & Syafryadin, 2020). Lending credence to this, Zulhamdi *et al.* (2022) aver that the use of blended learning approach alongside the traditional learning method have the capability to improve students' information retention. Ibenegbu *et al.* (2020) note that teachers grant the students the opportunity of using their gadgets in a blended learning approach. Considerably, blended learning approach tailors learning as well as development to individual needs of students (Shohel *et al.*, 2022).

The use of blended learning approach is enhanced by the active participation of students. In other words, students and teachers are the key members of a long-term implementation of blended learning approach (Magableh and Abdullah, 2020). Teng and Zeng (2022) aver that the use of blended learning approach in foreign language classrooms can enhance students' learning experience by making learning more interactive, autonomous, and perhaps, more vital for all involved. Iyiola, Olaniyi, Okegbola and Oyeyode (2021) pointed out that blended learning gives the learner ample opportunities for social interaction and guides them to mindfully attend to the learning process. Iyiola *et al.* added that cost-effectiveness, time efficiency and location convenience are the characteristics of blended learning approach. These characteristics

enable learners' use of Open Educational Resources in the university.

Open Educational Resources (OER) are embodying research resources such as all and parts of e-courses, textbooks, curriculum maps, course materials, lesson plans, multimedia content, simulations, audio-visual recordings, applications, experiments and games (Cosan, 2021). Similarly, Premo (2018) is noting that OER include affordable course materials, which broadly captured textbook affordability via mechanisms such as library reserves and alternative course materials. Sandanayake (2019) noted that OER materials are understandable; their courses are user-friendly; gives practical examples; gives a well-organized course format; gives readable lessons; promotes interaction among learners as well as easy access to users.

The use of OER is enabling learners' access and ease of use of learning materials, reduces their cost, dismantles learning barriers, facilitates sharing of learning materials and by extension, improves learning performance (Cheung, Wong and Li, 2023). In similar vein, Wiley *et al.* (2017) pointed out that the use of OER promotes differentiated learning by reaching students at their current academic levels. More so, Ghosh and Ghosh (2023) are noting that one of the benefits of OER is the prospect of academics offering constructive criticism on present OER content material; thereby making contributions to the enhancement of tutorial sources. Given the "low-cost (free of charge, limited access at no cost, or full access at a discounted rate) online access to OERs, they could be a great resource for use in emergency online education, where everything from lecture notes to classrooms is web-based (Reimers *et al.*, 2020)" However, the way universities have approached with emergency remote teaching as a fallout of Covid-19 is a confirmation that despite the hopeful projections for the future, massive adoption of distance education into higher education remains a mirage (Kollalpitiya, Partigianoni & Adsmond, 2020).

D'Souza (2021) in his study found that lecturers and students consistently used OER twice per week. Similarly, Ghosh and Ghosh (2023) found that majority of students frequently used OER. Obinyan, Okoroafor and Ezenwuzor (2023) in investigating students' awareness and use of open educational resources (OERs) in selected universities, found that the majority of the students used theses/projects, journal articles, lecture notes, courseware, and books while video contents, inaugural lectures, and Conference proceedings/presentations were among the least used resources. In similar vein, Kumar and Singh (2019) in exploring the use of OERs by social scientists at the University of Delhi and found that social scientists' reason for not accessing OER was due to the dearth of ICT knowledge and preference for print materials. More so, Padhi (2018) in investigating the usability of OERs, found that using OER made learning better, more accessible and interactive. Additionally, Manju (2021) exploring the use of OER by faculties of universities in Delhi and found that no significant difference existed among the involvement of faculty in the use, modification and recommendation of OERs. Again, in Nigeria, Oloidi et al. (2021) in their study, observed that there was moderate use of OER for research by postgraduate students of history. Going further, Bulugu and Ponera (2024) looked at access and utilisation of open educational resources by academics and students among tertiary institutions in Tanzania. The findings of the aforementioned study revealed that the majority of academics frequently used OER for teaching and learning purposes, while the use of OER among students was moderate. Furthermore, Jhangiani *et al.* (2018) and Ocean *et al.* (2019) found that positive perceived usefulness of OER were noted among university students; depicting that OER are needful in enhancing their learning. The review is showing the paucity of research work on access and use of open educational resources for blended learning in public universities in Anambra

State; hence the current study.

3.1 Research Method

Research Design: Survey research design was adopted for the present study.

Participants: The population of the study is 36, 104 regular undergraduate students. The sample size for the study comprised 600 regular undergraduate students in public universities in Anambra State. Purposive and accidental sampling techniques were used to compose the sample for the study. Purposive sampling technique was used to obtain three departments from each of the two public universities (Nnamdi Azikiwe University, Awka and Chukwuemeka Odumegwu Ojukwu University, Igbariam) in Anambra State with the record number of regular undergraduate students. Then, stratified sampling technique was used to obtain 100 students from each of the six departments which gave rise to the sample size.

Procedure: Data were collected using Undergraduate Students' Access to Open Educational Resources Questionnaire (USAOERQ) and Undergraduate Students' Use of Open Educational Resources Questionnaire (USUOERQ). USAOERQ and USUOERQ were developed by the researcher from literature and contain 10 items apiece. USAOERQ was developed in such a manner that the respondents responded in a four response options of Highly Accessible, (HA), Accessible (A), Fairly Accessible (FA), Not Accessible (NA) with numerical indices of 4, 3, 2 and 1 respectively. For USUOERQ, the response options were: Very High Extent (VHE), High Extent (HE), Low Extent (LE) and Very Low Extent (VLE) with numerical indices of 4, 3, 2 and 1 respectively.

Data analysis: Mean and standard deviation were used for data analysis. The decision rule for the research questions were based on item and cluster means relative to real limits of numbers as shown below:

Response	Rating Scale	Real Limit of Numbers
HA/VHE	4	3.50 – 4.00
A/HE	3	2.50 – 3.49
FA/LE	2	1.50 – 2.49
NA/VLE	1	1.00 – 1.49

4.1 Results

Table 1 : Level of Accessibility of Open Educational Resources to Undergraduate Students for Blended Learning

I have access to the following open educational resources for blended learning:	Mean	SD	Remark
1. e-courses	2.24	.60	FA
2. Videos	2.47	.79	FA
3. Textbooks	2.72	.81	A
4. Curriculum maps	2.35	.52	FA
5. Journal articles	2.82	.86	A
6. Multimedia content	2.42	.55	FA
7. Thesis/projects	3.01	.97	A
8. Lesson plans	2.50	.63	A
9. Simulations	2.63	.75	A
10. Conference proceedings/presentations	2.58	.74	A

Data in Table 1 show that items 3, 5, 7, 8, 9 and 10 have mean scores within the range of 2.50 – 3.49. This shows that textbooks, journal articles, thesis/projects, lesson plans, simulations and conference proceedings/presentations are accessible to majority of the respondents for blended learning. In contrast, items 1, 2, 4 and 6 have mean scores between 1.50 and 2.49; indicating that e-courses, videos, curriculum maps and multi-media are fairly accessible to the respondents for blended learning. Overall, open educational resources are accessible to undergraduate students for blended learning in public universities in Anambra State.

Table 2: Extent of Use of Open Educational Resources for Blended Learning by Undergraduate Students.

I use the following open educational resources for blended learning:	Mean	SD	Remark
1. e-courses	1.62	.46	LE
2. Videos	1.75	.62	LE
3. Textbooks	2.54	.97	HE
4. Curriculum maps	2.13	.52	LE
5. Journal articles	2.61	.67	HE
6. Multimedia content	2.10	.55	LE
7. Thesis/projects	2.76	1.01	HE
8. Lesson plans	2.05	.50	LE
9. Simulations	2.57	.66	HE
10. Conference proceedings/presentations	2.29	.74	LE

Data in Table 2 show that items 3, 5, 7 and 9 have mean scores within the range of 2.50 – 3.49. This shows that textbooks, journal articles, thesis/projects and simulations are used to high extent by majority of the respondents for blended learning. In contrast, items 1, 2, 4, 6, 8 and 10 have mean scores between 1.50 and 2.49; indicating that e-courses, videos, curriculum maps, multi-media, lesson plans and conference proceedings/presentations are used to a low extent by the respondents for blended learning. Overall, majority of open educational resources are used to a low extent by undergraduate students in public universities for blended learning in Anambra State.

4.2 Discussion of Findings

In line with the findings of the study, discussions were made. The discussions were thus made:

Level of Accessibility of Open Educational Resources for Blended Learning to Undergraduate Students

The findings of the study showed that open educational resources are accessible to undergraduate students for blended learning in public universities in Anambra State. This is rather expected given that there is availability of open educational resources for access by both educators and students. More so, there is enlightenment about its availability. Furthermore, the fallout of the Covid-19 pandemic has re-enforced the need for university management to ensure access of open educational resources to their students. Much as there is paucity of research works on students' access to open educational resources for blended learning, Reimers et al. (2020) found that "low-cost (free of charge, limited access at no cost, or full access at a discounted rate) online access to OERs, there could be a great resource for use in emergency online education, where everything from lecture notes to classrooms is web-based".

Obviously, access to open educational resources in line with global trend of digitalization is a matter of inevitability.

Extent of Use of Open Educational Resources for Blended Learning by Undergraduate Students

The findings of the study revealed that majority of open educational resources are used to a low extent by undergraduate students in public universities for blended learning in Anambra State. Specifically, the finding of the study indicated that while textbooks, journal articles, thesis/projects and simulations were used to high extent by the students, e-courses, videos, curriculum maps, multi-media, lesson plans and conference proceedings/presentations were used to a low extent by the students for blended learning. This is rather expected given that much as regular undergraduate students are digital natives who have become accustomed to the use of technological resources for blended learning, they tend to place more premium of materials that promote learning that they are used to. Additionally, the current findings of the study are not surprising as a result of the fact that textbooks, journal articles, thesis/projects and simulations appear to be the dominant features of what students do online for learning. In agreement with the findings of the current study, Obinyan, Okoroafor and Ezenwuzor (2023) who found that the majority of the students used theses/projects, journal articles, lecture notes, courseware, and books while video contents, inaugural lectures, and Conference proceedings/presentations were among the least used resources. This points to the low usage of Open educational resources which could be traceable to poor lecturers' teaching methodology. The findings of the study are further consistent with that of Bulugu and Ponera (2024) who found that the use of OER among students was moderate. In other words, despite students' inclination to

technology, they tend to have a preference for printed materials in blended learning environment. In contrast to the finding of the study, Ghosh and Ghosh(2023) found that majority of students frequently used OER. This contradiction could be as a result of the dissimilarities in sample characteristics.

Conclusion

Based on findings of the study, it was concluded that undergraduate students in public universities in Anambra State had access to OER for blended learning. It was concluded that OER is used for blended learning by undergraduate students to a low extent.

Recommendations

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

1. Universities authorities should sustain their efforts towards ensuring that unfettered access is granted to undergraduate students to open educational resources for blended leaning.
2. Undergraduate students should ensure that they take advantage of the learning opportunities provided by open educational resources for blended leaning.

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