# CHALLENGES OF INTEGRATING PROJECT BASED BLENDED LEARNING IN THE IMPLEMENTATION OF ENVIRONMENTAL EDUCATION DURING COVID-19 PERIOD IN TERTIARY INSTITUTIONS

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**Abstract**
*The purpose of the study was to analyze the challenges of integrating project based Blended Learning (Pj-BL) in the implementation of environmental education (EE) during the COVID-19 period in tertiary institutions. Descriptive survey design was adopted. The population consisted of 45 lecturers from the department of Geography/environmental education (University of Nigeria Nsukka) and department of Environmental education (University of Calabar) were considered because the sample size was small. Two research questions were articulated to guide the study and were answered using mean and standard deviation. The instrument used structured questionnaires on a 4-point Linkert scale for very high, high, low and very low by the researcher titled "challenges of integrating project based blended learning in the implementation of environmental education questionnaire" (CIPBBLIEEQ). Analysis of data was done using real limit of numbers. The result revealed that lecturers used for the study had low level of awareness to project based blended learning. The result also revealed that the extent of challenges encounters by lecturers in the integration of project based blended learning in tertiary institutions was high. Based on these findings, it was recommended that there is need for Education authorities to take part in providing adequate working facilities and in-service training to update the lecturers' knowledge to effectively incorporate project based blended learning in the implementation of environmental education.*
**Keywords:** Integration, Project-Based Blended Learning (Pj-BL), Implementation, Environmental Education (EE), COVID- 19.

## Introduction

The outbreak of the Coronavirus disease known as COVID-19 pandemic identified in late December 2019 in Wuhan, China, and was declared by World Health Organization in January, 2020 as a public health emergency of international concern (WHO, 2020). The pandemic infection manifests in high fever, dry cough, difficulty breathing, tiredness, and muscle pain as well as loss of taste and smell. The most dangerous consequence of SARS-CoV-2 infection is it may lead to acute respiratory failure, and the treatment is based on alleviating the symptoms (Hu, Guo, & Zhou, 2021). The lack of knowledge of the virus transmission and how to prevent the infection was an additional danger. The only way of reducing transmission was to keep social distance (Bennardo, Buffone, Fortunato, Giudice, 2020). Therefore, because of the rapid increase in infection cases and death, most countries decided to introduce lockdown, which was supposed to restrict social activities only to meet basic life needs. The worldwide locking of educational institutions causes major disruptions in student learning; impedance with evaluations; and dropping of open appraisals for capabilities with lower options. Numerous families around the globe felt extreme transient disturbance for which there is no model to anticipate it (Ivanov, 2020). The pandemic period stands as a hindrance to the implementation of environmental education.

Environmental education highlights the necessity for pursuit of sustainable development, conservation policies and objectives that requires public sanitization about the multiple dimensions of the environment. The United Nation Educational, Scientific and Cultural Organization (UNESCO, 2014) state that, Environmental education is vital in imparting an inherent respect for nature among society and enhancing public environmental awareness that provide basis for commitment and meaningful action towards environmentally sound sustainable development. This, led to adoption of online class modality for education continuity which required new technologies and environmental condition different from the classroom called blended learning at the Tertiary institutions amid the readiness of transitioning by the department and faculty (Sahu, 2020). Prior to the pandemic period, project based blended learning was considered as most appropriate ICT instructional model to employ effective communication for usage which focuses on teaching-learning activities. Such activities through the integration of project based blended learning can help students stay connected and engaged (Castelo, 2020).

Project based learning (Pj-BL) is an active students-cantered form of instructional model which is characterized by student's autonomy, constructive investigation, goal setting, collaboration, communication, critical thinking and creative reflection on real-world problems through well designed project and self-evaluation. Students strive with their creative thinking skills to complete their tasks by utilizing the knowledge, integrate new concepts and procedures while improving professional skills (Repko, Szostak, & Buchberger, 2017). Therefore, the role of the instructor is to facilitate learning by supporting, guiding and monitoring the learning process

(Wijayati, Sumarni, & Supanti 2019). Project based learning is cooperative, self-directed, interdependent, self-assessed learning in a small group with an individually tailored prompt feedback. The process for Pj-BL is very different from traditional classroom of lecture teaching, so often require more preparation time and resources to support small group learning with enough feedback., Yangsoon, (2021) argue that the same level of inquiry, questioning, critique, reflection, scaffolding and collaboration necessary in Pj-BL is possible in remote online learning environments as much as in offline learning environments. The researcher sums the advantages of Pj-BL such as (i) student-driven & high student engagement; (ii) teachers' immediate feedback; (iii) interdisciplinary classes for innovation and creativity; (iv) students' quick growth beyond content; (v) natural for digital online classes. Therefore, it is important to understand the level of lecturers' awareness of project based blended learning.

Lecturers' awareness of project based blended learning is crucial. Awareness according to Merriam-webster refers to state of being aware: knowledge and understanding that something exists at the present time based on information or experience. Roinson (2006) pointed that awareness is to be inform and educate people about issue with the intention of influencing their attitudes and behavior towards the achievement of a defined purpose. Lecturers Awareness of project-based learning according to Michael (2019) can deliver on greater awareness of self, others and the world. Mainly student-driven learning involves students in learning knowledge and skills through developing inquiry processes where instructors just act as facilitators or motivators (Sumarni et al, 2016). Despite the essentialities of project-based learning, it poses some challenges to the implementation of environmental education during the covid-19 period in tertiary institutions.

The challenges lecturers could encounter while integrating project based blended learning include lack of teamwork/collaboration, demand for excess workload, greatly depend on technology etc. Teamwork is a challenge for both teachers and students as an important skill that holds the potentials for conflict riding by students and difficulties experienced in adapting to non-traditional teaching and learning (Miriam, 2016). Teamwork is the process of working collaboratively with a group of people in order to achieve a goal to provide excellent quality of service or help others understand the content and tackle complex tasks that build knowledge of core concepts. Teamwork in order for Pj-BL to be cooperative learning, must require a team project cooperation in small groups which includes, preparation/planning, implementation, reporting and communicating the results of activities, prompt feedback and evaluations within a predetermined period (Yangsoon, (2021). According to Maureen (2016) report has it that, most students hate teamwork because they say "the smartest person do all the work" as it turns out, students resent a lack of framework for ensuring equal collaboration and would greatly benefit from training about collaboration. Pj-BL is one of the scientific learning models that gives students the freedom to plan learning activities, carry out projects collaboratively, and ultimately produce work products for presentation to others (Sumarni, 2015). Tom (2016)

maintained that googles efforts improve teamwork to establish group norms as the keys to better teams and concluded that one could have a safe discussion and different viewpoint more in a psychologically safe environment and students also felt that, Pj-BL encouraged their collaboration and negotiations within the group. However, some students reported a lack of motivation for teamwork. The absence of teamwork concept and strategies can lead to excess workload demand.

Project based blended learning requires an instructor's excess workload to provide students with consistent feedback since the individually tailored feedback is a time-consuming work. Demand for excess workload for teachers and student could be an aggregation several times. The sudden shift to this project based blended learning during the COVID-19 period has created an unexpected workload, particularly on building e-platforms and integrating external applications for both teachers and learners' system in a timely manner (Adedoyin & Soykan, 2020). Emad, & Hosam, (2017) identified that to reduce staff workload was to reconsider how the marking of assessments was conducted. The use of peer assessment, where one group assessed the work of another group, has been reported to have positive implications on staff workload. Teachers who play an inseparable role also face the pressure of sharing extra workload because they are in charge of transforming course/subject contents, learning resources, and assessments to online platforms. With the immediate demand, this workload has more or less caused stress and anxiety (MacIntyre et al., 2020; Winthrop, 2020). This means that, while peer assessment reduces staff workload, it is likely to also have a positive impact on the students' work and the final outcome of the project. The key to successful peer assessment is to have clear guidelines for the students and teachers. Teacher's reliance on availability of adequate technology could contribute effectively.

Project based blended learning depends greatly on technology: Both instructors and students find themselves in the situation where they have to embrace the digital academic experience of the online classes. Students state the problem clearly, describe the process of problem solving, and then support the solution using relevant data analysis. Being able to communicate and present the solution clearly is the key to the success of the online Pj-BL classes since it directly affects the learning outcomes (Duffy, 2017). On the other hand, utilizing technology makes presentation much easier and more effective as it can incorporate visual aids. The web-based tools have collaborative functions for the effective Pj-BL process. Therefore, for Pj-BL to be successful and sustainably integrated, it must carefully combine technology, infrastructure, standardized tests and students' recognition. However, this study investigates the challenges of integrating project based blended learning in the implementation of environmental education during the COVID 19 period in Tertiary institutions.

Purpose of the study: Specifically, seeks to

1. Determine the level of lecturers' awareness of project based blended learning.
2. Examine the challenges lecturers encounter in integrating project based blended learning in the implementation of environmental education.

**Research question:**

The following research questions guide the study.

1. What is the level of lecturers' awareness of project based blended learning?
2. What are the challenges lecturers encounter in integrating project based blended learning in the implementation of environmental education?

**Methodology**

To accomplish the purpose of the study, descriptive survey research design was adopted. Nworgu (2015) defined descriptive survey as studies which aim to collect data and to describe such data in a systematic manner in order to ascertain the characteristics or features about a given population. The design is considered suitable since it solicited information using questionnaire and finding could be generalized to the population. The population of the study consist of 45 lecturers from the Department of Geography/environmental Education (University of Nigeria Nsukka) and Department of Environmental Education (University of Calabar). The sample and sampling techniques size consists of 45 teachers. No sample was drawn; the whole population was used. The instrument used structured questionnaires on a 4-point Linkert scale for very high (3.50-4.00), high (2.50-3.49), low (1.50-2.49) and very low (1.00-1.49) by the researcher titled "Challenges of integrated project based blended learning in the implementation of environmental education questionnaire" (CIPBBLIEEQ). The instrument was verified by the lecturer and specialist in the department of science education (measurement and evaluation) University of Nigeria Nsukka. The reliability of the instrument was tested using Cronbach alpha coefficient.

**Results**

Table 1: Mean and standard deviation of the level of Lecturers Awareness of Project Based Blended Learning

| S/N | ITEMS | MEAN ( $\bar{X}$) | SD | DECISION |
|---|---|---|---|---|
| 1. | Students learning centered | 2.48 | 2.12 | High awareness |
| 2. | An interdisciplinary class for innovative and creativity | 2.65 | 2.21 | Very high |
| 3. | A type of blended learning | 2.34 | 1.61 | High |
| 4. | Contribution of online and traditional learning | 1.51 | 0.94 | Low |
| 5. | Supporting, guiding, monitoring and facilitating process by instructors | 2.25 | 1.52 | High |

| | | | | |
|---|---|---|---|---|
| 6. | Different from traditional classroom of learning | 2.53 | 1.46 | High |
| 7. | An interactive learning process | 2.63 | 2.19 | High |
| | Clusters mean $\bar{x}$ | 2.34 | | Low awareness |

The analysis in table 1 indicates that the mean respondents on the items revealed that the level of lectures awareness of project based blended learning show a low activity on students learning centered, the types of blended learning, the role of instructors to facilitate learning by supporting, guiding, and monitoring as well as the difference in online and traditional classroom learning and interactive learning process. While interdisciplinary class for innovative and creative skills was to a very high extent. Therefore, having the clusters mean (x) of 2.34 shows that the level of teachers' awareness of project based blended learning on the implementation of environmental education during the COVID -19 tertiary institutions was low.

**Table 2**: Mean and standard deviation of the challenges lecturers encountered in integrating project based blended learning in the implementation of environmental education during COVID- 19

| S/N | ITEMS | MEAN ($\bar{x}$) | SD | DECISION |
|---|---|---|---|---|
| 1. | Lack of teamwork/collaboration | 3.08 | 2.29 | High |
| 2. | Excess demand for workload | 3.04 | 1.84 | High |
| 3. | Inadequate technology | 3.05 | 2.25 | High |
| 4. | Poor implementation guideline | 3.45 | 2.23 | Very High |
| | Clusters mean (x) | 3.18 | | Very High |

The result in table 2 shows that the mean ($\bar{x}$) responses on the items indicates that the challenges lecturers encounter in integrating project based blended learning show high extent to the lack of teamwork/collaboration, excess demand for workload and inadequate technology. While poor implementation guidelines indicated a very high extent. Thus, having the clusters mean (x) mean of 3.18 shows that there were challenges in integrating project based blended learning in the implementation of environmental education during COVID-19 period in Tertiary Institutions.

**Discussion of findings**

The result of the findings in research question one/ table 1 revealed that lecturers in Tartary institutions had low awareness of project based blended learning. These is in consonant with. Michael, (2019) view that lecturers' awareness of project-based learning can deliver on greater awareness of self, others and the world. In addition, the findings agree with Roinson (2006) noted that awareness is to be inform and educate people about issue with the intention of

influencing their attitudes and behavior towards the achievement of a defined purpose. In my opinion, the reason lecturers had low awareness of project based blended learning may be that, technologies are not frequently used which make them inefficient, unexperienced and may not easily access information as lecturers.

Furthermore, the findings in research question two/table 2 revealed that lecturers in the study area experience high level of challenges in integrating project based blended learning. This finding agrees with Miriam (2016) view teamwork challenges for both lectures and students as an important skill that holds the potentials for conflict riding by students and difficulties experienced in adapting to nontraditional teaching and learning. The reason may be that the school do not have facilities necessary for easy project based blended learning application or may be lacking incentives by the governing council. Which result in lecturers not being able to afford laptop for themselves on their own which makes them lack behind in applying blended learning.

**Conclusion**

Amid the COVID-19 pandemic and after corona period, online classes will be more dominant than offline classes. This paper therefore analyzes the challenges of integrating project based blended learning. The online lack of teamwork/collaborative Pj-BL becomes one of the hot issues with the rapid growth of online learning during the COVID-19 period. The role of the instructor is to facilitate learning by supporting, guiding and monitoring the learning process. Pj-BL is an instructional model which includes the strategic, active engagement of students in opportunities to learn through doing. It is cooperative, self-directed, interdependent, self-assessed learning in a small group with an individually tailored prompt feedback. Pj-BL process is very different from traditional classroom of lecture teaching, so often require more preparation time and resources to support small group learning with enough feedback. Pj-Bl motivate students to learn material that exists in everyday life while enhancing creativity. The challenges teachers could encounter in integrating project based blended learning includes lack of teamwork/collaboration, demand for excess workload, greatly depend on technology.

**Recommendations**

Despites the challenges in the integration of project based blended learning, lecturers in tertiary institution can still make project based blended learning meaningful in this era of technological advancement. Based on the findings, the following recommendations were made:

1. Education authorities should take part in providing adequate working facilities and in-service training to update the lecturers' knowledge to effectively incorporate project based blended learning.
2. There should be an integration of technology as tools in the classroom with the aim of increasing the effectiveness of teaching and improving students' learning.

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