

Environmental and Pedagogical Factors Affecting Postgraduate Learning Experiences at Faculty of Education and Extension, Usman Dan Fodiyo University Sokoto

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Abstract

This study examines the environmental and pedagogical factors influencing postgraduate learning experiences at the Faculty of Education and Extension Services (FEES), Usmanu Danfodiyo University, Sokoto (UDUS). Utilizing a descriptive survey design, data were collected from 332 postgraduate students and 60 lecturers through questionnaires, interviews, and focus group discussions. The findings reveal that pedagogical approaches, such as active learning and critical thinking exercises, were perceived as effective by a majority of students (60-63%), though technological integration in courses was limited (30%). Environmental factors, including physical infrastructure and virtual learning resources, were identified as significant challenges, with only 52% of students satisfied with the physical learning environment and 71% dissatisfied with virtual resources. The study highlights the need for improved infrastructure, enhanced technological support, and pedagogical strategies aligned with real-world applications to optimize postgraduate education at UDUS.

Keywords: Environmental factors, Pedagogical factors, Learning, Postgraduate, Education

Introduction

Feedback is a critical component of postgraduate education, serving as a catalyst for students' development as independent learners by enabling them to monitor, evaluate, and regulate their learning processes (Ferguson, 2011). At the Faculty of Education and Extension Services (FEES), Usmanu Danfodiyo University, Sokoto (UDUS), postgraduate programs play a pivotal role in shaping future educators and researchers. However, the effectiveness of these programs is influenced by a range of environmental and pedagogical factors that impact students' learning experiences. Despite the growing emphasis on quality education in Nigeria, empirical studies examining these factors at UDUS remain limited. Research on postgraduate education highlights the

significance of conducive learning environments and effective pedagogical strategies. For instance, Akinmolayan (2020) found that inadequate infrastructure and lack of technological resources hinder academic writing and research productivity among postgraduate students in Nigerian universities. Similarly, Jinyuan et al. (2021) emphasized the role of psychological capital in mediating the relationship between postgraduate competencies and academic performance, underscoring the need for supportive learning environments. This study seeks to bridge this gap by analyzing the environmental and pedagogical factors affecting postgraduate learning experiences at FEES, UDUS, with the aim of identifying areas for improvement and enhancing program outcomes.

Objectives of the Study

The following objectives have been stated to achieve the success of the study.

1. To analyze the environmental factors that affect the postgraduate students learning experiences at FEES, UDUS.
2. To evaluate the effectiveness of pedagogical approaches used in postgraduate courses on students' experience at FEES, UDUS.

Methodology

The research designed used in this study was the descriptive survey design. This design described the situational, characteristics or behavior of a particular population or variables in a systematic and accurate pattern. Descriptive design uses questionnaire, interview or focus group discussions (FGDs) to collect information about the people's attitudes, belief, feeling, behaviors and life styles as well as life career among others. The population of the study comprises of all postgraduates' students from the various Departments within the Faculty which form the total of one thousand seven hundred and fifty-four (1754), which stood at the population in the table below.

Table 1: Population and Sampling Procedure

Year	PhD	M.Phil	M.Ed	PGD	Total
2016/17	32	13	187	16	245
2017/18	11	19	134	15	179
2018/19	29	23	93	20	168
2019/20	91	46	285	13	435
2020/21	90	43	209	16	358
2021/22	-	-	-	-	-

2022/23	87	43	206	31	369
Total	34	187	1114	111	1754

Source: Field work 2023

Table 1 indicated the population of the individuals with varying qualification from 2016/2017 to 2022/2023 academic sessions. It is obvious that the population comprises of 1,754 respondents with different qualifications.

Table 2. Distribution Sample Size of the Students for the Study

Year	Total Population	Sample Size
2016/17	245	46
2017/18	179	34
2018/19	168	32
2019/20	435	82
2020/21	358s	63
2021/22	-	-
2022/23	369	70
Total	1752	332

Source: Field work 2023

Table 2 represented the sample size of the respondents used in the study. A total of 332 respondents were selected from the population of 1,745 distributed across the seven academic sessions.

Table 3. Lecturers' Population and Sample Size

Departments	Total Population	Sample Size
Educational foundations	34	21
Science and vocational	20	12
Adult and primary	30	18
Curriculum & language	14	9
Information & library		
Total	98	60

Source: Field Work 2024

In conducting the quantitative data collection, interview and focus group (IDI and FGDs) for students and interview for the lecturers. The interview guide was used for both the lecturers and the students that contains questions on the following variables: the effect of students' feedback on postgraduate's programs, the supervisory context, the pedagogical approaches, and the nature of course delivery, the environmental factors, the availability and adequacy of learning materials. The interview guide was used to gather the data, and the interviewer used a smartphone to record each interview, which lasted not longer than 12 to 15 minutes. Swanepoel, & Erasmus, (2000) make it clear that the choice of data gathering method and sources depends on the nature of the problem and the study goal. Despite the fact that the study was qualitative

and quantitative in nature the researcher employed the following technique in gathering the data.

Step1: The introduction and familiarization of the subject method in data collection is a foundational step in qualitative research. By clearly explaining the purpose, methods, ethical considerations, and providing thorough training, researchers can ensure participants are comfortable and informed. This leads to richer, more accurate data, and ultimately, a deeper understanding of the research subject. Effective familiarization also builds trust and rapport, which is essential for gaining genuine and insightful responses from participants

Step2: Use of Smart phone: Using a smart phone to record and capture the participants' answers, the researcher asked the participant the interview question. In order to reduce researcher bias and enable first-hand knowledge, the primary purpose of employing a smart phone in qualitative research is to prevent needless disruption of raw data collection. The interview and the focus group discussion were occasionally being performed in Hausa and during analysis it was transcribed into English.

Two methods were employed in analyzing the data collected from the field work. They are the descriptive methods that are the quantitative and qualitative methods of data analysis. In other words, a triangulation method was employed in analyzing the data.

- i. **Descriptive statistic:** the appropriated method as it involves in the collection of data for the purpose of describing and interpreting the existing situation under study. The data was presented in a tabular form. The responses were recorded accordingly using a sample a simple frequency table and simple percentage.
- ii. **Qualitative Method of Data Analysis:** the data collected from the respondents in Focus Group Discussion that was recorded and analyzed in details and explained in a descriptive form. All what is recorded during the discussion were described under the use of themes and sub-themes.

Results

The data collected was used for answering the research questions for the study. Descriptive statistics of frequency counts, percentages and tables were used to analyzed and interpret the data.

The analysis was done using frequency counts and percentage distribution. The presentation was done by taking each question and presenting the data that affects it as follows.

Table 4: Gender Distribution of the Respondents

Gender	Frequency	Percentage
Male	220	66.0
Female	112	34.0
Total	332	100.0

Source: Field Work (2023)

Result presented in table 4 reveals that 220 (66%) of the respondent of the study were male while 112 (34%) of the participants were female.

Table 5: Age Range of the Respondents

Age	Frequency	Percentage
25-30	27	8.0
31-35	84	25.0
36 – 40	145	43.0
41- above	76	22.0
Total	332	100.0

Source: Field Work (2023)

Table 5 highlights that the age group 36-40years has the highest number of respondents 145 (43%), those within the range of 31-35years has 84 (25%) of the respondents. 25-30 also has 27 (8%) while those between the age range of 41 and above has 76 (22%) of the respondents.

Table 6: Programme of the Respondents

Programme	Frequency	Percentage
Master	147	44.0
M.Phil	57	17.0
PhD	103	31.0
PGDE	25	8.0
Total	332	100.0

Source: Field Work (2023)

Table 6 highlights the program of the students that master has the highest number of students 147 (44%), those within the MPhil has 57 (17%) students. PhD also has 103 (31%) while PGDE has 25 (8%) of the respondents.

Research Question I: What is the effectiveness of pedagogical approach used on postgraduate courses and their experience at UDUS?

The data for answering this research question are presented in Table 8

Table 7: Effectiveness of Pedagogical Approach Used on Postgraduate Courses and Their Experience

S/N	Items Statement	Yes		No	
		Freq.	%	Freq.	%
1	The rate of effectiveness of the pedagogical approaches used in your postgraduate courses in helping you achieve your academic goals?	200	60%	132	40%
2	Have the pedagogical approaches used in your postgraduate courses helped you develop critical thinking skills?	209	63%	123	37%
3	Do you feel that the pedagogical approaches used in your postgraduate courses have adequately prepared you for real-world work and research scenarios?	205	61%	127	39%
4	Has the course work in your postgraduate program been well-aligned with the course learning outcomes and goals?	185	56%	137	44%
5	Did your courses use active learning exercises or group projects to support your learning?	173	52%	159	48%
6	Your courses are incorporate technology and multimedia to augment course materials?	100	30%	232	70%
7	To what extent did faculty encourage active student participation and engagement in your postgraduate courses?	184	57%	148	43%
8	Were assignment and assessments designed to measure your conceptual understanding of a topic, or simply to test your memorization skills?	178	55%	144	45%
9.	Were your professors fair and supportive in their grading practices	231	69%	101	31%

Source: Field Survey, 2023.

Table 7 indicates effectiveness of pedagogical approach used on postgraduate courses and their experience at UDUS. The results reveals that in item No 1, 60% of the participants says yes that the rate of effectiveness of the pedagogical approaches used in your postgraduate courses in helping you achieve your academic goals, 40% of the participants says No with the

opinion. Item 2 shows that 63% of the participants choose yes that the pedagogical approaches used in your postgraduate courses helped you develop critical thinking skills, 37% of the participants choose No to this claim. Item 3 indicated that 61% of the participants choose yes that the pedagogical approaches used in your postgraduate courses have adequately prepared you for real-world work and research scenarios, 39% of the participants submitted their No. Item 4 indicated that 56% of the participants' opinion was in yes that course work in postgraduate program been well-aligned with the course learning outcomes and goals, but less of the participants consisting of 44% No with this opinion.

In items 5, it shows that 52% of the participants choose yes that the courses use active learning exercises or group projects to support learning, 48% of the participants says No with this claim. Item 6 indicated that 30% of the respondents says yes that courses are incorporate technology and multimedia to augment course materials, while 70% of the participants says No. Item 7 indicated that 57% of the participants choose yes the extent did faculty encourage active student participation and engagement in postgraduate courses, 43% of the participants selected No with this claim. Item 8 indicated that 55% of the participants' opinion was in yes that assignment and assessments designed to measure your conceptual understanding of a topic, or simply to test your memorization skills, 45% of the participants choose No. In items 9, it shows that 69% of the participants choose yes that their professors are fair and supportive in their grading practices, 31% of the participants says No with this claim.

The findings above showed that the effect of pedagogical approach used on postgraduate courses and experience were very Effectiveness based on the respond of the participants of postgraduate students in Usmanu Danfodiyo University, Sokoto.

Research Question II: What are the environmental factors that affect the postgraduate students learning experience at UDUS?

The data for answering this research question are presented in Table 9:

Table 8: Environmental Factors That Affect he Postgraduate Students Learning Experience

S/N	Items Statement	Yes	No
		Freq. %	Freq. %

1	Are you satisfied with the physical learning environment provided by the postgraduate program?	174	52%	158	48%
2	How comfortable do you feel studying in the physical learning environment provided by the postgraduate program?	233	70%	99	30%
3	Do you encounter any barriers in the physical learning environment that prevent you from fully engaging in your studies?	175	53%	157	47%
4	Are you satisfied with the virtual environment provided by the postgraduate program?	99	29%	233	71%
5	Virtual learning environment is effective in facilitating our learning experience?	57	8%	275	92%
6	Do you encounter any technical difficulties when using the virtual learning environment?	253	76%	79	24%
7	I have a frequent support with a use of virtual learning environment to my studies.	72	22%	260	78%

Source: Field Survey, 2023.

Table 8 indicates environmental factors that affect the postgraduate students learning experience at UDUS. The results reveal that 52% of the participants chooses yes to item 1, you satisfied with the physical learning environment provided by the postgraduate program, 48% of the participants selected No with the opinion. Item 2 revealed that 70% of the participants selected yes that they are comfortable studying in the physical learning environment provided by the postgraduate program, 30% of the participants selected No with the opinion. Item 3 revealed that 53% of the participants selected yes with the encounter any barriers in the physical learning environment that prevent them from fully engaging in their studies, 47% of the participants chooses No with this opinion. Item 4 revealed that 29% of the participants says yes that they are satisfied with the virtual environment provided by the postgraduate program, 71% of the participants says No with the opinion.

Item 5 revealed that 8% the participants says yes that virtual learning environment is effective in facilitating our learning experience, 92% of the participants selected No with the opinion. Item 6 revealed that 76% of the participants selected yes that encounter any technical difficulties when using the virtual learning environment, 24% of the participants says No with the opinion. Item 7 revealed that 22% of the participants selected yes to the statement that if there is any frequent support with a use of virtual learning environment to my studies, 78% of the participants selected No with the

opinion. It can be seen from table the data above those environmental factors affected postgraduate students learning experience at Usmanu Danfodiyo University, Sokoto.

Research Question III: What are the environmental factors that affect both lecturers and students regarding postgraduate programs at FEES, UDUS?

The data for answering this research question are presented in Table 16:

Table 9: Environmental Factors That Affect both Lecturers and Students Regarding Postgraduate Programs

S/N	Items Statement	Agreed		Disagreed	
		Freq.	%	Freq.	%
1	The physical environment (e.g., classrooms, laboratories) is conducive for effective postgraduate teaching.	38	63%	22	37%
2	The availability of technological resources (e.g., computers, online platforms) supports the postgraduate learning experience.	40	66%	20	34%
3	The university provides a supportive work environment for postgraduate researchers.	39	65%	21	35%
4	The postgraduate program's facilities (e.g., libraries, study areas) meet the needs of students and staff.	34	57%	26	43%
5	The workload in postgraduate programs is manageable with the available environmental resources.	20	33%	40	67%
6	Collaboration between postgraduate students and faculty is encouraged through the physical and virtual environment.	30	50%	30	50%
7	The postgraduate program provides a positive and inclusive academic culture.	51	85%	9	15%
8	The environmental factors (such as safety and comfort) in the postgraduate learning spaces are adequate.	24	40%	36	60%
9	The university's administrative support enhances the overall postgraduate learning environment.	50	83%	10	17%
10	Postgraduate students have access to adequate research resources and equipment in the university's environment.	40	66%	20	34%

Source: Field Survey, 2025.

Table 9 indicates environmental factors that affect both lecturers and students regarding postgraduate programs. The results reveal that 67% of the

participants agreed to item 1, the physical environment (e.g., classrooms, laboratories) is conducive for effective postgraduate teaching, 33% of the participants disagreed with the opinion. Item 2 revealed that 66% of the participants agreed that the availability of technological resources (e.g., computers, online platforms) supports the postgraduate learning experience, 34% of the participants disagreed with the opinion. Item 3 revealed that 65% of the participants agreed that the university provides a supportive work environment for postgraduate researchers, 35% of the participants disagreed with this opinion. Item 4 revealed that 57% of the participants agreed that the postgraduate program's facilities (e.g., libraries, study areas) meet the needs of students and staff, 43% of the participants disagreed with the opinion.

Item 5 revealed that 33% the participants agreed that the workload in postgraduate programs is manageable with the available environmental resources, 67% of the participants disagreed with the opinion. Item 6 revealed that 50% of the participants agreed that the Collaboration between postgraduate students and faculty is encouraged through the physical and virtual environment, 50% of the participants disagreed with the opinion. Item 7 revealed that 85% of the participants agreed that the postgraduate program provides a positive and inclusive academic culture, 15% of the participants disagreed with the opinion. Item 8 revealed that 40% of the participants agreed that the environmental factors (such as safety and comfort) in the postgraduate learning spaces are adequate, 60% of the participants disagreed with the claim. Item 9 revealed that 83% of the participants agreed that the university's administrative support enhances the overall postgraduate learning environment, 17% of the participants disagreed with the opinion. Item 10 revealed that 66% of the participants agreed that Postgraduate students have access to adequate research resources and equipment in the university's environment, 34% of the participants disagreed with the claim.

It can be seen from the data above that the potential sources of conflicts between principals and teachers and among teachers in senior secondary schools are problem in communication, role ambiguity or unclearly defined roles, difference in goals, conflict of interest, difference in values and beliefs, the nature of schools and the way in which work is organized and changes in them, personal factors like perceptions, diversity and communication, and inadequate resources; all in varying degrees.

Research Question IV: The question of environmental factor that affect the postgraduate student learning experience.

“The respondent described the environment not conducive especially during lectures of general courses like advance statistics, research method and advance philosophy of education among others. In addition another respondent express her view and speak

“When you look at the lecture theater assign to postgraduate students for general courses, that is the audio-visual center (AV Center) cannot contain all the students, and for the period of two or more is not ideal. Another respondent narrated that “this problem of lecture space could be due to lack of fully electrical device or large lecture theater that is fully equipped with enough facilities and even with a different source of power for learning to be conducive.

Therefore, it can be justified that the learning environment for the postgraduate students of the faculty of education and extension services Usmanu Danfodiyo University Sokoto is not conducive and need to use a conducive place for learning fully equipped with electrical device.

Expressing a similar view with the respondent from the faculty recounted that

“Well in my view inadequate physical, virtual and Lecture Theater for postgraduate students of the faculty makes things difficult during lectures and sometimes even during examination, there is also need for postgraduate students to have facilities like a student’s common room a different e-library for them.”

The statement above shows that if the lecture halls, common rooms among others are made available and adequately fixed with necessary facilities will make teaching and learning effective

Furthermore, another respondent says

“Apart from lecture halls, laboratories there are other things that help the postgraduates’ students to be computable with the physical learning environment provided like twenty-four hours internet and e-library; I think that will help much in encouraging students in engaging fully in their studies.”

in line with the above respondent is in a view that a virtual learning environment can be used for effective and facilitating our learning experiences.

Discussions

The findings from research question2, reveals that the effect of pedagogical approach used on postgraduate courses and experience were very effectiveness among postgraduate students in Usmanu Danfodiyo University, Sokoto. The above findings are in agreement with the views Jinyuan, Zhixia and Binyao (201) had examined Postgraduate Competence and Academic Research Performances: The Mediating Role of Psychological Capital. Their results indicated that postgraduate competences and academic performances was positively associated with academic research performance. Among the competences composed of six dimensions, research ability was the most predictive dimension of academic research performance. Additionally, psychological capital partially mediated the relationship between postgraduate competences and academic research performances. These findings contributed to the ongoing discussion about improving postgraduates’ academic research performance under the circumstance of competence-based education.

Also the work of Crane et al (2016) investigated the engagement of postgraduate students and supporting higher education to enhance the 21st century student experience. This is a case study presentation on career development and employability which is grounded in Australian national research on postgraduate student experiences. The analysis of focus groups revealed that career development and employability experiences and recommendations for improvements consistently emerged as primary themes. Many of the postgraduate students and staff who support them perceived a ceiling on their learning and graduate contribution, as they were not fully embraced as Australia’s future knowledge resource (an aspirational concept

which Arvanitakis & Hornsby, 2016, call ‘citizen scholars’). Their recommendations emerged from the research. They are employability is embedded in the everyday postgraduate curriculum and assessment. Employability is made explicit to postgraduate students. Postgraduate studies actively engage with industry to facilitate practical experiences.

The findings from research question 3, indicates that the environmental factors affected postgraduate students learning experience at Usmanu Danfodiyo University, Sokoto. The above findings are also in line with the work of Akinmolayan (2020) who investigated postgraduate students’ experiences of academic writing: a case study of the University of Nigeria Nsukka. The process of producing academic text, especially at the postgraduate level is challenging for non-native speakers of the English Language. Although according to him there is a robust body of literature globally which has sought to understand this phenomenon; the same cannot be said about Nigeria, as academic writing in general and postgraduate academic writing seems to be an underexplored area. His study was framed within a socio-cultural view, which sees academic literacy, including research writing as a socially situated practice. Theoretically, Gee’s Typology of Discourses, Bourdieu’s Cultural Capital and Lave and Wenger’s Communities of practices were used to understand students’ experiences in line with advancements elsewhere, newer supervision models be adopted, which move away from the focus on the thesis, to a pedagogy of training students to be competent writers.

Conclusion

The study underscores the critical role of both pedagogical and environmental factors in shaping postgraduate learning experiences at FEES, UDUS. While pedagogical methods were largely effective in fostering academic goals and critical thinking, gaps in technological integration and resource accessibility persist. Environmental challenges, such as inadequate lecture spaces and unreliable virtual platforms, significantly hinder student engagement. These findings align with prior research emphasizing the importance of psychological capital, competence-based education, and supportive infrastructure in postgraduate success. To address these issues, the study recommends: Enhancing physical infrastructure (e.g., larger lecture theaters, reliable power supply), Investing in virtual learning tools (e.g., 24-hour internet access, e-libraries), Adopting innovative pedagogical models that prioritize active learning and industry collaboration. By implementing these

measures, UDUS can create a more conducive learning environment, ultimately improve postgraduate outcomes and align with global educational standards.

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