

## Training and Staff Development as a Vital Means for Academic Productivity and Sustainable Development Goals Achievement in Nigerian Colleges of Education

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### Abstract

**Objective:** This study examines Training and Staff Development as a Vital Means for Academic Productivity and Sustainable Development Goals (SDGs) Achievement in Nigerian Colleges of Education. The primary objective is to analyze the role of professional development in enhancing academic outcomes and contributing to the attainment of SDG 4 (Quality Education) and SDG 8 (Decent Work and Economic Growth). **Theoretical framework:** Anchored in the Personnel Management (PM) Theory and Maslow's Hierarchy of Needs, the study explores how structured training, capacity building, and institutional support influence lecturers' performance, motivation, and research output. **Literature review:** A review of existing literature highlights the critical role of continuous professional development (CPD) in promoting knowledge acquisition, innovation, and sustainable educational practices. Prior studies emphasize that investing in human capital directly correlates with improved academic standards, retention rates, and institutional growth. **Methods:** Using a correlational research design, data were collected through structured questionnaires administered to 833 academic staff across 12 Colleges of Education in North-East Nigeria. The quantitative analysis revealed strong positive relationships between training access, leadership engagement, and academic productivity. Staff members who regularly engaged in CPD activities reported higher job satisfaction, greater research involvement, and improved student outcomes, barriers such as limited funding, inadequate ICT infrastructure, and insufficient policy implementation hindered the optimal impact of these programs. **Results:** The findings call for targeted, context-specific training models, periodic training needs assessments, and stronger leadership commitment to staff development. These measures are critical for fostering a competent academic workforce aligned with national development strategies and the United Nations' 2030 Agenda. **Implications:** The study implies that strategic investment in staff training directly enhances academic productivity and supports SDG achievement, urging policymakers and educational leaders to prioritize sustainable development through regular capacity-building programs, adequate funding, and stronger institutional commitment to professional development. **Novelty:** The study's novelty lies in linking training and development with SDG implementation within the under-researched context of Nigerian Colleges of Education. It provides practical insights into how human resource strategies can bridge performance gaps and accelerate sustainable educational reform.

**Keywords:** academic productivity, staff development, sdgs, colleges of education, capacity building.

### INTRODUCTION

In the contemporary global educational landscape, training and staff development have emerged as critical drivers of institutional effectiveness and academic productivity. Particularly within Nigerian Colleges of Education, these elements are essential for

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equipping academic personnel with the necessary skills, knowledge, and competencies to meet the evolving demands of teaching, research, and community engagement. As Nigeria strives to enhance its educational quality and workforce readiness, aligning staff development initiatives with global goals has become increasingly important. The United Nations' Sustainable Development Goals (SDGs), especially Goal 4 (Quality Education) and Goal 8 (Decent Work and Economic Growth), emphasize the role of inclusive, equitable, and lifelong learning opportunities as well as productive employment. Within this framework, academic institutions are not only expected to deliver quality education but also to build internal capacity through systematic human capital development. Yet, in many Nigerian Colleges of Education, staff development remains underfunded, poorly structured, and inconsistently implemented [1].

Despite these challenges, there is growing recognition that continuous professional development (CPD) enhances academic staff performance, job satisfaction, and research output. However, these outcomes are often constrained by inadequate institutional support, lack of ICT infrastructure, and limited access to modern pedagogical training. Moreover, without a strategic framework that aligns development programs with national education policies and the SDGs, such efforts may fall short of sustainable impact. This study, therefore, seeks to investigate the relationship between training, staff development, and academic productivity in Nigerian Colleges of Education, while highlighting their potential in accelerating SDG achievement. Guided by the Personnel Management System theory and Maslow's Hierarchy of Needs, the research provides empirical evidence to inform policies and practices aimed at fostering a resilient, competent, and globally aligned academic workforce in Nigeria's higher education sector [2].

Employee performance is a vital criterion for determining organizational success or failure. Employees are the lifeblood of the organization, be it public or private, and are the most valuable assets of every organization as they can make or break the organization's reputation and can adversely affect profitability. The impact of training on a highly responsible workforce is capable of improving a company's efficiency through their cordial relationships with customers. Training improves employee performance only when it is properly done and through proper identification and selection of trainees, timely scheduling of training, and based on the gaps identified in the areas of knowledge, skills, abilities, and change of attitude of the concerned staff. By doing so, training generates benefits for the employee, as well as for the organization by positively influencing employee performance. Training and retraining of staff has been seen as a way to improve the performance of employees in the organization [3].

Training and development are essential components of higher education, serving as the cornerstone for improving the quality of teaching, research, and overall academic productivity. In the context of Nigerian Colleges of Education, training plays a pivotal role in equipping academic staff with the necessary skills and knowledge to excel in their roles, which in turn influences the success of the institution. Effective training programs are crucial for fostering academic excellence and ensuring that educators are capable of shaping future generations. As noted by Shodinde, training and development programs add value by enhancing staff productivity, morale, and organizational efficiency. The ability of colleges to meet their educational goals is directly linked to the development of their teaching staff [4].

In higher education, the link between staff productivity and institutional success cannot be overstated. Academic productivity, which encompasses teaching, research, and community service, is largely influenced by the continuous professional development of educators. Colleges of Education in Nigeria are tasked with producing competent teachers for the nation's basic education system, and this can only be achieved if academic staff are motivated and continuously developed. The productivity of academic staff, therefore, directly impacts the ability of these institutions to fulfill their mission of training future educators [5].

Training according to Jie refers to bridging the gap between the current performance and the standard desired performance [6]. Training could be given through different methods such as coaching and mentoring, peer cooperation, and participation by the subordinates. This teamwork enables employees to actively participate on the job and produce better performance, hence improving organizational performance. Training programs not only develop employees but also help an organization make the best use of its human resources in favor of gaining a competitive advantage. Therefore, it seems mandatory for the firm to plan for such a training program for its employees to enhance their abilities and competencies that are needed at the workplace [7].

Training; according to Cole is a type of activity that is planned, and systematic, and results in an enhanced level of skill, knowledge, and competency that are necessary to perform work effectively [8]. Karim, Choudhury, and Latif opined that training not only develops the capabilities of the employee but sharpens their thinking ability and creativity to make better decisions in time and more productive manner [9]. Moreover, it also enables employees to deal with the customer effectively and respond to their complaints promptly Hollenbeck, Derue, and Guzzo [10].

Training develops self-efficacy and results in superior performance on the job. Svenja sees training to take place when we replace the traditionally weak practices with efficient and effective work-related practices [11]. According to Chiaburu and Amanuel, training refers to a planned intervention aimed at enhancing the elements of individual job performance” [12]. He submitted further that it is all about improving the skills that seem to be necessary for the achievement of organizational goals.

Training programs may also help the workforce to decrease their anxiety or frustration, originating from the work on the job [13]. He submitted further that those workers who feel they are unable to perform a task with the desired level of performance often decide to leave the firm otherwise their stay at the firm will not add to productivity.

This study aims to explore the impact of training and development on academic productivity in Nigerian Colleges of Education, with a focus on how professional development initiatives enhance job performance and contribute to institutional success. It will examine the effectiveness of current training programs and identify barriers that may hinder their success. Furthermore, the study seeks to address issues such as the inconsistency of training programs and the need for a systematic approach to professional development. By investigating these factors, the study aims to provide insights into how improved training and development can boost the academic productivity of staff and, by extension, the overall success of Nigerian Colleges of Education. The paper, therefore, would respond to the following research questions:

1. How does continuous participation in capacity-building programs such as seminars, workshops, and conferences affect academic staff performance in Nigerian Colleges of Education?
2. What is the relationship between training needs assessments and the alignment of professional development programs with institutional goals in Nigerian Colleges of Education?
3. What are the major barriers to the effective implementation of training programs in Nigerian Colleges of Education, and how can these challenges be addressed to improve academic productivity?

## LITERATURE REVIEW

The study investigates the impact of training and development on academic productivity in Nigerian Colleges of Education, using the theoretical frameworks of the Personnel Management System (PM) Theory by Wright and Snell (1988) and Maslow’s Hierarchy of Needs (1943) [14], [15]. Both theories emphasize the critical role of systematic personnel

management practices—such as recruitment, training, and development—in managing human resources effectively and driving organizational success. The PM System Theory underscores how structured personnel practices, particularly training and development, enhance staff performance and commitment, thus contributing to institutional success. Maslow's theory complements this by highlighting the motivational aspect of training, where meeting employees' needs leads to higher job commitment and productivity [16], [17].

Existing literature supports the significant role of training and development in improving staff motivation and productivity. Bhauwna, Samax, and Vinod found that career advancement, recognition, and appropriate benefits significantly enhance motivation and performance in higher education institutions, aligning with the PM System Theory's emphasis on structured training and reward systems [18]. Similarly, Khan and Abdullahi demonstrated that essential training components—such as skills development and job awareness—have a direct, positive impact on teacher productivity in Nigerian institutions [19]. These studies affirm the necessity of regular training and retraining to improve job performance and align staff efforts with institutional goals.

Husseina examined the impact of staff development programs on job performance in Nigerian Federal Polytechnics, finding that seminars, workshops, and conferences positively influenced academic productivity [20]. However, a lack of consistent institutional support limited the effectiveness of these initiatives, highlighting a critical issue identified in the PM System Theory: without proper institutional backing, even well-designed training programs may not fully enhance staff performance. Peretornode and Bello further emphasized the importance of both local and international training opportunities in boosting staff productivity across Nigerian tertiary institutions [21].

In Nigerian Colleges of Education, Continuous Professional Development (CPD) is crucial in ensuring academic staff stay up-to-date with teaching methods and administrative skills. Studies, such as Bolarinwa and Adesina, have demonstrated that CPD initiatives lead to improved classroom delivery, research output, and student satisfaction [22]. This finding resonates with the PM System Theory's focus on continuous development as essential for institutional success. Additionally, the integration of technology into training programs has expanded access to professional development. Abioye and Olalekan argue that digital tools such as e-learning platforms and virtual seminars enhance the flexibility and effectiveness of training, especially in regions where traditional training methods face geographic or financial constraints [23]. However, barriers such as limited internet access and inadequate ICT infrastructure must be addressed for technology-driven training to be successful.

Institutional leadership plays a pivotal role in the effectiveness of training programs. Ojo emphasized that leadership commitment to staff development fosters a culture of continuous learning and professional growth, significantly improving staff productivity [24]. Conversely, Asah identified poor leadership as a key challenge that stifles training efforts and hinders productivity in Nigerian tertiary institutions. Effective leadership, characterized by resource allocation and support for training initiatives, is critical for maximizing the impact of staff development [25].

Despite the recognized importance of training and development, several barriers limit their effectiveness in Nigerian Colleges of Education. Financial constraints are a primary challenge, as inadequate funding restricts the scope and frequency of training programs. Adeyemi highlighted how budgetary limitations also prevent staff from participating in international conferences and research exchanges, which are crucial for broadening academic perspectives [26]. Additionally, administrative bottlenecks often delay or undermine training initiatives. Eze and Igbokwe found that many institutions struggle to align training programs with the specific needs of their academic staff, leading to a mismatch between training content and the skills required for improved performance [27].

Job satisfaction is closely linked to training opportunities, as academic staff who receive regular professional development tend to report higher job satisfaction, which boosts their

commitment and productivity. Tunde and Ogundele demonstrated that training is a significant predictor of job satisfaction and staff retention. Conversely, Usman revealed that the absence of structured training programs leads to frustration, dissatisfaction, and even staff turnover, negatively influencing institutional performance.

While much research has been conducted on the role of training and development in higher education, significant gaps remain. Most studies focus on universities, leaving Colleges of Education underexplored, particularly in terms of how these dynamics play out across Nigeria. Additionally, research has largely focused on individual aspects of training, neglecting the combined effects of other personnel management practices, such as motivation and discipline. Further studies are needed to examine the long-term impact of inconsistent or poor-quality training programs, especially in resource-constrained regions like North-East Nigeria.

In conclusion, training and development are key components of personnel management that significantly impact academic productivity in Nigerian Colleges of Education. Supported by strong leadership, adequate funding, and modern technology, effective training programs can enhance staff motivation, satisfaction, and productivity. However, institutions must address challenges such as funding constraints, weak leadership, and infrastructural limitations to fully realize the potential of training and development in improving institutional outcomes. Additionally, further research is needed to fill the existing gaps and provide a more holistic understanding of how these factors influence academic productivity in Nigerian higher education.

## **METHODOLOGY**

The methodology for the study on the impact of training and development on academic productivity in Nigerian Colleges of Education employs a correlational research design to investigate the relationships between personnel management practices and academic outcomes. This design is particularly suitable for examining how various factors, such as recruitment, training, and motivation, correlate with academic productivity. By adopting a quantitative approach, the study aims to assess the strength and direction of these relationships, thereby providing a clear understanding of the impact of training and development on academic performance.

The population for this study comprises 3,323 academic staff from twelve Colleges of Education in North-East Nigeria, including both federal and state institutions. To ensure a representative sample, a multi-stage sampling technique was employed, selecting 25% of the total population, resulting in a sample size of 833 academic staff members. Initially, stratified sampling was used to categorize the colleges into strata, followed by simple random sampling to select participants from each stratum. This systematic approach guarantees that the sample reflects the diverse characteristics of the entire population.

Data collection was conducted using two structured instruments: The Personnel Management Practices Questionnaire (PMPQ) and the Academic Staff Job Commitment Questionnaire (ASJCQ). The PMPQ focuses on personnel management practices, including training and development, while the ASJCQ measures academic staff commitment. Both questionnaires utilize a four-point Likert scale, providing a quantitative basis for analysis. To ensure the validity of these instruments, expert reviews were conducted, leading to necessary modifications. A pilot test was also carried out to establish reliability, with coefficients of 0.802 for the PMPQ and 0.842 for the ASJCQ, confirming their robustness for the study.

The data analysis process involves descriptive statistics, such as mean and standard deviation, to summarize the responses and address research questions. A criterion means of 2.5 is used to interpret the results, with scores of 2.5 and above indicating a high extent of impact on academic productivity. Additionally, inferential statistics, specifically simple linear regression analysis, are applied to test the study's hypotheses at a 0.05 significance level. This comprehensive analysis aims to elucidate the relationship between training and

development practices and academic productivity in Nigerian Colleges of Education, providing valuable insights for policy and practice.

## RESULTS AND DISCUSSION

### Data Presentation and Analysis

The analysis of data collected for this study is presented under three main sub-themes: capacity building and staff performance, training needs assessment and institutional development, and barriers to effective training programs. Each sub-theme includes relevant statistics and insights that reflect the impact of training and development on academic productivity in Nigerian Colleges of Education.

#### 1. Capacity Building and Staff Performance

##### a. Overview of Capacity-Building Programs

Capacity-building programs, including seminars, workshops, and conferences, play a significant role in enhancing staff performance. The following table presents the participation rates of academic staff in various capacity-building programs over the past year:

**Table 1. Capacity-Building Program**

Capacity-Building Program	Participation Rate (%)
Seminars	85
Workshops	77
Conferences	65

**Source: Field Study 2023**

The data indicates that seminars had the highest participation rate, suggesting they are the most accessible form of professional development for academic staff.

##### b. Relationship between Continuous Training and Improved Academic Performance

The relationship between continuous training and improved academic performance was analyzed, revealing that staff who attended training programs reported significant enhancements in their teaching effectiveness and research outputs. The table below illustrates the percentage improvement in academic performance based on the frequency of training attendance:

**Table 2. Relationship between Continuous Training and Improved Academic Performance**

Frequency of Training Attendance	Improvement in Teaching Effectiveness (%)	Improvement in Research Output (%)
Regularly (4+ times/year)	30	25
Occasionally (1-3 times/year)	15	10
Rarely (0 times/year)	5	2

This analysis underscores the importance of regular participation in capacity-building activities for enhancing academic performance.

##### c. Evaluation of Training Outcomes in Colleges of Education

An evaluation of training outcomes indicates that while many staff members participate in training, only 60% reported applying the skills learned in their daily activities. The table below summarizes the application of training outcomes:

**Table 3. Training Outcomes in Colleges of Education**

Application of Training Outcomes	Percentage of Respondents
Frequently applied	60%
Occasionally applied	25%
Rarely applied	15%

**Source: Field Study 2023**

These findings indicate that while most staff members attend training programs, there is a noticeable gap in the effective application of the knowledge and skills acquired. This gap suggests the need for enhanced post-training support mechanisms, such as follow-up programs, peer mentoring, or further reinforcement of skills, to ensure that training outcomes are fully integrated into academic practices.

## 2. Training Needs Assessment and Institutional Development

### a. Importance of Conducting Training Needs Assessments

Conducting regular training needs assessments is crucial to aligning staff development with institutional goals. Data analysis reveals that only 45% of Colleges of Education conduct regular training needs assessments, leading to misalignment between staff development and institutional goals. The following table presents the findings related to training needs assessments:

**Table 4. Assessment Conducted**

Assessment Conducted	Percentage of Institutions
Yes	45%
No	55%

**Source: Field Study 2023**

This indicates a significant gap in understanding and addressing the specific training needs of academic staff, which can hinder overall institutional development.

### b. How Training Needs Align with Institutional Goals

The analysis of how training needs align with institutional goals in Nigerian Colleges of Education shows a clear correlation between well-aligned training programs and increased academic staff productivity. Colleges that aligned their training initiatives with key institutional objectives reported a 40% increase in productivity. This correlation is further broken down in the table below:

**Table 5. Alignment of Training Needs with Institutional Goals**

Institutional Focus	Percentage of Aligned Training Programs (%)	Productivity Improvement (%)
Curriculum Development	75	42
Research Output	68	38
Student Engagement	55	33

**Source: Field Study 2023**

The data suggests that when training programs are closely aligned with institutional goals such as curriculum development, research output, and student engagement they lead to noticeable improvements in staff productivity. For example, aligning training with curriculum development initiatives resulted in a 42% improvement in productivity, while training focused on research output and student engagement saw improvements of 38% and 33%, respectively. This highlights the importance of strategic alignment in training programs to maximize their impact on institutional success.

c. Benefits of Targeted Training Programs for Academic Staff

The analysis indicates that targeted training programs have a significant positive impact on academic staff performance in Nigerian Colleges of Education. Participants in these programs reported a 20% improvement in their teaching performance, alongside a 30% increase in student satisfaction rates. This data is compared with the outcomes from general training programs, which showed a more modest 10% improvement in teaching performance and a 15% increase in student satisfaction:

**Table 6. Benefits of Targeted Training Programs for Academic Staff**

Type of Training Program	Improvement in Teaching Performance (%)	Increase in Student Satisfaction (%)
Targeted Training Programs	20	30
General Training Programs	10	15

**Source: Field Study 2023**

The data demonstrates the greater effectiveness of targeted training programs in enhancing academic staff performance and meeting specific professional development needs. Compared to general training programs, targeted efforts are twice as effective in improving both teaching performance and student satisfaction, underscoring the value of customized professional development that addresses particular skills and institutional objectives.

3. Barriers to Effective Training Programs

a. Challenges to Implementing Training Programs in Nigerian Institutions

The study highlights key barriers to the effective implementation of training programs in Nigerian Colleges of Education, primarily focusing on funding issues, lack of institutional support, and irregular training schedules. The following tables present the identified challenges and proposed solutions.

**Table 7. Barriers to Effective Training Programs**

Barriers to Training	Percentage of Respondents Affected (%)
Funding Issues	70
Lack of Institutional Support	55
Irregular Training Schedules	45

**Source: Field Study 2023**

Funding issues emerged as the most significant barrier, affecting 70% of respondents, followed by a lack of institutional support and irregular training schedules, which affected 55% and 45% of respondents, respectively. These barriers severely limit the availability and quality of training opportunities for academic staff.

**Table 8. Funding Issues, Lack of Institutional Support, and Irregular Training Schedules**

Issue	Percentage of Respondents Reporting Issue (%)
Funding Constraints	70
Inadequate Institutional Support	55
Irregular Training Opportunities	45

**Source: Field Study 2023**

The analysis underscores that limited financial resources, reported by 70% of respondents, are the most significant obstacle to effective training. Additionally, inadequate institutional support (55%) and irregular training schedules (45%) contribute to low participation and inconsistent professional development.

**Table 9. Strategies to Overcome Barriers to Training and Development**

Strategy	Percentage of Respondents Supporting Strategy (%)
Secure External Funding	85
Improve Institutional Support	75
Regularize Training Schedules	70

**Source: Field Study 2023**

The majority of respondents (85%) suggested securing external funding as a primary strategy to overcome training barriers. Improving institutional support (75%) and regularizing training schedules (70%) were also identified as crucial steps to enhance the effectiveness of training programs. These strategies indicate a strong consensus among academic staff on the need for more resources and better management to ensure sustainable and impactful professional development.

The analysis of data collected for The Impact of Training and Development on Academic Productivity in Nigerian Colleges of Education highlights significant relationships between various training initiatives and academic staff performance. Despite the potential benefits, barriers such as funding constraints and lack of support must be addressed to optimize the effectiveness of training programs. Implementing the suggested strategies can help overcome these challenges and foster a more productive academic environment.

### **Discussion of Major Findings**

The findings from the study on the impact of training and development on academic productivity in Nigerian Colleges of Education are closely aligned with the theories and existing research highlighted in the literature review. The application of the Personnel Management System (PM) Theory by Wright and Snell, and Maslow's Hierarchy of Needs provided a solid theoretical foundation for understanding how structured personnel management practices, particularly training and development, enhance staff performance and commitment [28], [29].

#### **a. Capacity Building and Staff Performance**

The study's data revealed that capacity-building programs such as seminars, workshops, and conferences are essential in improving staff performance. This is consistent with findings from Bhauwna, Samax, and Vinod, who emphasized that career advancement, recognition, and adequate benefits contribute to enhanced staff motivation and productivity [30]. The study affirmed that continuous training improves teaching effectiveness and research output,

as demonstrated by Khan and Abdullahi, whose research found that essential training components directly impact teacher productivity [31]. The improvement in academic staff performance, highlighted by increased classroom effectiveness and research output in this study, further validates the role of regular and well-structured capacity-building programs, as outlined in the PM System Theory.

b. Training Needs Assessment and Institutional Development

The study highlighted the critical importance of conducting training needs assessments, as institutions that aligned training with their goals saw significant improvements in academic productivity. This finding aligns with Husseina, who observed that staff development programs had a positive impact on job performance but were limited by inconsistent institutional support [32]. Institutions that regularly assess and target specific training needs can achieve better outcomes, which is a concept rooted in both the PM System Theory and Maslow's theory, emphasizing the need to address employees' specific development needs for enhanced job commitment and productivity.

However, the study also found that 55% of Colleges of Education do not conduct regular training needs assessments, a gap that could hinder academic productivity. This supports the findings of Eze and Igbokwe, who noted that many institutions struggle to align training programs with staff needs, leading to mismatches between training content and the skills required for improved performance [33].

c. Barriers to Effective Training Programs

Financial constraints emerged as the most significant barrier to effective training programs, with 70% of respondents indicating that limited funding restricted training opportunities. This finding echoes Adeyemi, who reported that budgetary limitations prevented staff from participating in vital professional development activities such as international conferences [34]. The study also highlighted challenges such as lack of institutional support and irregular training schedules, which are consistent with Ojo, and Asah, who emphasized the role of leadership in providing the necessary support for successful training programs. The data reaffirmed that poor leadership and resource allocation hinder training efforts, further validating the findings of Asah, who identified weak leadership as a key obstacle to effective staff development in Nigerian tertiary institutions [35], [36].

The findings also pointed out the role of technology in enhancing training opportunities, as noted by Abioye and Olalekan, who argued that technology-driven training programs could expand access and flexibility [37]. However, the study found that inadequate ICT infrastructure and limited internet access still pose significant challenges, as suggested by Adebayo and Ogundeji [38]. These infrastructural limitations need to be addressed for technology-based training to achieve its full potential in improving academic productivity.

d. Link Between Training, Job Satisfaction, and Academic Productivity

The study revealed that academic staff who regularly participate in professional development report higher job satisfaction, which in turn boosts their productivity. This supports the findings of Tunde and Ogunde, who demonstrated that training is a significant predictor of job satisfaction and staff retention [39], [40]. On the other hand, the absence of structured training programs, as identified in this study, leads to frustration, dissatisfaction, and higher staff turnover, consistent with Usman, who found that lack of training opportunities negatively impacts institutional performance.

The study's findings align with the broader literature, reinforcing the critical role of training and development in enhancing academic productivity in Nigerian Colleges of Education [41]. The application of structured personnel management practices, as outlined in the PM System Theory, and addressing staff needs as proposed by Maslow, are key to improving staff performance. However, barriers such as funding constraints, weak

leadership, and inadequate infrastructure still limit the effectiveness of training programs. Addressing these challenges is essential for Nigerian Colleges of Education to fully harness the benefits of training and development, thereby fostering a more productive academic workforce. The study also underscores the need for institutions to invest in targeted, continuous professional development that aligns with institutional goals to achieve long-term success.

### **Analysis**

This study offers a comprehensive exploration of how training and staff development enhance academic productivity in Nigerian Colleges of Education, with strong implications for achieving the United Nations Sustainable Development Goals (SDGs), particularly Goal 4 (Quality Education) and Goal 8 (Decent Work and Economic Growth). The research is grounded in the Personnel Management (PM) Theory and Maslow's Hierarchy of Needs, both of which emphasize the importance of structured human resource strategies and motivation in organizational success. The quantitative findings—drawn from a sample of 833 academic staff across 12 colleges—demonstrate a direct correlation between frequent participation in capacity-building programs and improvements in teaching performance, research output, and job satisfaction. For example, staff attending training four or more times annually reported a 30% improvement in teaching effectiveness and a 25% boost in research output, validating the significance of continuous professional development (CPD).

However, the study also identifies critical systemic barriers to training implementation, including financial constraints (reported by 70% of respondents), lack of institutional support (55%), and irregular training schedules (45%). These obstacles limit access to developmental opportunities and weaken the long-term sustainability of academic advancement initiatives. Furthermore, only 45% of institutions regularly conduct training needs assessments, revealing a disconnection between development programs and institutional goals. Where alignment exists, productivity increases dramatically—up to 42% in curriculum development-focused institutions. This misalignment and underinvestment undermine the institutions' ability to contribute effectively to the SDGs. The SDGs call for equitable access to lifelong learning, yet many colleges lack the infrastructure, policies, or leadership commitment to sustain such access. To address these challenges, the study suggests securing external funding, strengthening institutional leadership, and leveraging technology to expand access to e-learning and virtual seminars, especially in underserved regions.

The novelty of this research lies in its contextual focus on Colleges of Education, a sector often overshadowed by university-based studies. It reinforces that academic productivity is a function of sustained, targeted training, and recommends strategic interventions including regular needs assessments, policy alignment, and digital integration. In conclusion, the study underscores that staff development is not only a tool for institutional effectiveness but also a vital mechanism for achieving global educational and labor-related SDGs. Institutions must adopt inclusive, well-funded, and policy-driven training models to cultivate a resilient and productive academic workforce capable of driving national and global development.

### **CONCLUSION**

This study explored the impact of training and development on academic productivity within Nigerian Colleges of Education, using the theoretical frameworks of the Personnel Management System (PM) Theory and Maslow's Hierarchy of Needs. The research provides critical insights into how structured personnel management strategies, particularly continuous professional development (CPD), influence the performance, motivation, and job satisfaction of academic staff. Key findings confirm that capacity-building programs—such as seminars, workshops, and conferences—positively affect teaching effectiveness, research output, and overall commitment to academic responsibilities. A major contribution of this study lies in its emphasis on the alignment between training initiatives and institutional goals. Institutions that conduct regular training needs assessments and align staff development programs with

targeted educational priorities report significantly improved academic productivity. Notably, productivity in areas like curriculum development and research output increased by over 40% in colleges with well-aligned training strategies. However, this positive trend is hampered by persistent structural challenges. Financial constraints, limited institutional support, and inadequate ICT infrastructure were identified as key barriers to effective implementation of training programs across many institutions. In light of these findings, the study underscores the strategic importance of training and development as not only a tool for institutional success but also as a direct enabler of Sustainable Development Goals (SDGs)—particularly SDG 4 (Quality Education) and SDG 8 (Decent Work and Economic Growth). Academic institutions that invest in human capital development contribute to building resilient educational systems and inclusive, sustainable economic growth, both of which are central to the 2030 Agenda. To address the identified gaps and foster sustainable academic progress, five key recommendations are proposed. First, funding for CPD programs must be enhanced, allowing for consistent participation in both local and international training. Second, institutionalized training needs assessments should guide the design of staff development initiatives. Third, strong institutional support—logistical, administrative, and motivational—must be cultivated to foster a culture of continuous learning. Fourth, technology should be leveraged to deliver training, particularly in underserved or remote areas, enabling wider access and participation. Lastly, leadership engagement is essential; administrators must champion and model commitment to professional development to ensure its institutionalization and sustainability. In conclusion, this study affirms that effective training and staff development practices are vital for enhancing academic productivity and achieving broader educational and economic goals. By addressing structural barriers and implementing targeted, inclusive strategies, Nigerian Colleges of Education can serve as pivotal actors in realizing the SDGs. Future research is encouraged to explore the long-term impacts of these interventions across varying regional contexts and disciplines, thereby informing scalable and sustainable academic development policies.

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### Author Contribution

Khadijatu Adamu Mafindi: Conceptualization, Methodology, Writing – review & editing

### Conflicts of Interest

The author declared no conflict of interest.

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