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# Appraising young adult built environment researchers training needs in a developing economy: a perspective from stakeholders

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## Abstract

**Purpose** – Studies have shown that research is a global innovation’s “engine room.” Therefore, young adult-built environment researchers (YABER), especially in developing countries, need research upskilling and reskilling training for better-integrated outcomes. Evidence shows that research training can improve YABER

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competencies and proficiencies. In Nigeria, YABER may have had some challenges in training needs. There is a lack of extant literature about the issues facing Nigeria's YABER upskilling and reskilling training needs. Thus, this study investigated the perceived problems facing YABER and proffered measures to improve their training needs in Nigeria.

**Design/methodology/approach** – The researchers used participants from Edo State, Abuja and Lagos State, Nigeria. This study adopted a qualitative research approach. The researchers accomplished saturation after 40 virtual interviews and adopted a thematic analysis for the primary data.

**Findings** – The research shows that the built environment research refines current and creates new knowledge. The built environment researchers (trainers and trainees) need training but face challenges. Findings clustered measures to improve quality research publications in the built environment through YABER training into government/regulatory agencies-related, higher education institutions-related and researcher-related measures.

**Originality/value** – The developed framework and thematic network analysis could be used to stimulate YABER training needs and, by extension, stir Nigeria's higher education institutions regulatory agencies to upgrade requirements for academic staffers, especially published articles, to be compulsorily Scopus/Web of Sciences indexed for promotion exercise. This is the global best practice, and Nigerian scholars cannot be in isolation. It will form part of this study's implication and revitalise UNSDG 4.

**Keywords** Built environment researchers (BER), Nigeria, Stakeholder, Training needs, United nations sustainable development goal 4 (UNSDG 4), Young adult (YA)

**Paper type** Research paper

## 1. Introduction

Students and young career researchers will tell you that conducting research is hard. Yet, guiding a student or young adult through the uncomfortable process may be complicated for the mentors or supervisors. Achieving quality standards in higher education institutions (HEIs), especially postgraduate research programmes, can be challenging (O'Mahony *et al.*, 2013) because it requires the development of new skills connected with the comprehension of a large volume of literature, critical thinking, analysis and the development of the global best practices in academic writing. Hussain *et al.* (2022) asserted that research is critical in developing innovation and knowledge. It is superior for the technological development of countries, societies and professions such as the built environmentalists and individuals. Researchers' competencies and proficiencies are correlated to the success of investments in research, development and prosperity as a nation and region across higher education institutions and research centers. Research training is pertinent to improve outcomes and global best practices. This is part of the research process and critical for government institutions and students, especially postgraduates (Miloradova and Ishkov, 2019).

Hence, research training is inevitable to accomplish this goal. Research and re-training might be challenging in the built environment because of the industry's uniqueness and inadequacies (Ebekozi *et al.*, 2023b). The study focuses on research training for undergraduate, postgraduate or early career researchers in the young adult-built environment. For this study, a young adult means a built environment student or early career within the age bracket of 21–40. It agrees with Allen (2013) and Ebekozi *et al.* (2021b, 2023b). Their research used the same age bracket to designate young adults in developed and developing countries. This study also adopted civil engineering, urban and regional planning, building, estate management, construction management, land surveying, architecture and quantity surveying as the major built environment disciplines (Afolabi *et al.*, 2017; Ebekozi *et al.*, 2022, 2023a). The research will revamp the built environment programmes' research curriculum to global best practices and enhance research competencies and proficiencies during and after higher education programmes. This study is also an emerging niche in a bid to invigorate and promote embracing quality publications through research in Nigeria's higher education institutions (HEIs), particularly built environment programmes. And to use improved research outcomes to proffer measures/solutions to humanity.

Thus, it is appropriate that the research training needs of the built environment researchers meet the global best practices. Several studies (Frame and Allen, 2002; O'Mahony *et al.*, 2013; Ladeji-Osias *et al.*, 2015; Umeokafor and Windapo, 2018; Hussain *et al.*, 2022) have been

conducted in research training but none regarding the YABER in a developing economy. Hence, this study is using Nigeria as a case study. It is a component of the locational gap. [Frame and Allen \(2002\)](#) studies provided empirical proof of the reviewed work of Wellcome Trust regarding the PhD training from the perspective of the students (trainees) and supervisors (trainers) it funds. [Frame and Allen \(2002\)](#) emphasised the need for a continuous influx of highly skilled personnel and high-quality training to enhance transferable skills. [O'Mahony et al. \(2013\)](#) found that the supervisors (trainers) and students (trainees) expressed satisfaction with the service provided. [Ladeji-Osias et al. \(2015\)](#) reviewed developing researchers in engineering and science and alumni perceptions from Morgan State University and contrasted and compared them with the physical sciences and life sciences. [Hussain et al. \(2022\)](#) evaluated the research-related training needs of Pakistan's postgraduate scholars. They found that researchers were interested in developing their research skills by using data analysis software, research design methods, topic selection, etc.

Few extant literature focused on general research training and supervision development. None addressed YABER, particularly with the uniqueness of the sector. For example, [Pearson and Brew \(2002\)](#) reviewed research training and presented a model for a method for supervisor development. Studies ([Pearson and Brew, 2002](#); [Umeokafor and Windapo, 2018](#); [Perines, 2021](#); [Ocek et al., 2021](#); [Cardilini et al., 2022](#)) showed that research is the "engine room" of global innovation. Therefore, young adult-built environment researchers (YABER), especially in developing countries, need research upskilling and reskilling training for better-integrated outcomes. Evidence shows that research training can improve YABER competencies and proficiencies in sustainable educational skills. It will also guide several policies and strategies, including international accreditation of programmes and ranking and, by extension improve the achievement of UNSDG 4. The UNSDG 4 (quality education) is one of the 17 Goals of the United Nations Agenda 2030. In Nigeria, YABER may have had some challenges in training needs. [IseOlorunkanmi et al. \(2021\)](#) found, among other, that the demoralisation and frustration in postgraduate education programme in Nigeria informed the students to pursue programmes abroad. This is compounded with huge strikes, disrupting research and academic programmes ([Tsanni, 2022](#)). Thus, this study investigates the perceived issues facing YABER and offers feasible measures to improve their training needs in Nigeria. The researchers will accomplish the research's aim through the following objectives:

- (1) To explore the perceived issues facing young adult researchers in a built environment.
- (2) To proffer measures to improve the training needs of young adult built environment researchers.

The research is clustered into eight sections. This section focuses on the introduction. Next is the literature review of related themes. [Section 3](#) focuses on this study's theoretical framework. The study's research method will be reported in [Section 4](#). [Section 5](#) presents the main findings of the thematic analysis and discussion with extant literature. [Section 6](#) will capture the research's implications. The limitations and areas for further research follow in [Section 7](#). [Section 8](#) is the concluding section. It includes the conclusion and recommendations.

## 2. Literature review

### 2.1 Research training needs in the built environment

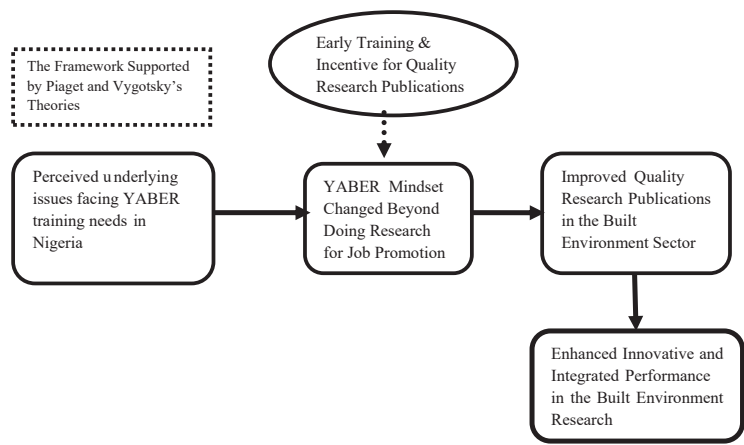
The 21st-century built environment sector requires all-inclusive research training to bring out the sector for the service of humanity. The built environment plays a key role in the revolution of urban identity ([Anastasiou et al., 2022](#); [Agboola et al., 2024](#)). This includes the formation of urban identity. It assists in encouraging liveable communities and is a significant component of developing secure, inclusive, resilient and sustainable cities ([Agboola et al., 2024](#)). Hence, it is key to improving and achieving many sustainable development goals (SDGs). Creating resilience in the sector through healthy research is walking the UN-Habitat route. [Agboola et al. \(2024\)](#) argued that an innovative and regenerative paradigm concept through research is

required to transform the built environment in the face of the current consequences of climate change. Globally, the need to enhance research training in the built environment is critical, given the continuous investment in infrastructure. [Ebekozi et al. \(2021a\)](#) affirmed that the sector is accountable for providing infrastructure facilities and creating large jobs that cut across many industries. Exploring how built environment young adult researchers will evolve through innovative research to meet these demands calls for stakeholders' concerns. Thus, continuous research training is crucial to meet the demand for the newest skills ([Ebekozi et al., 2023b](#)). "Research training needs" assessment is an information-gathering process to identify gaps and strengths of research skills among the YABER within an institute or research center. [Hussain et al. \(2022\)](#) affirmed that scholars must have research skills to conduct a quality study. Thus, research skills should be embraced by researchers. [Pritchard et al. \(2009\)](#) found writing and oral presentation skills, time management, computer, teaching, communication and data collection to be the skills required during postgraduate studies. These skills are evolving and should be updated because the world is dynamic. [Pearson and Brew \(2002\)](#) and [Hussain et al. \(2022\)](#) affirmed that policy setting and strategies are critical to mitigate possible shortcomings in researchers' competencies.

Thus, young researchers must always use training opportunities, and students should understand that they are responsible participating in research-related activities such as statistical and analytical knowledge training ([Guo et al., 2018](#)). This includes research design. [Kwafoa et al. \(2019\)](#) affirmed an increasing request for research training in higher education institutions where the qualitative method is shunned. This is because the research pattern moves from the conventional (quantitative) to qualitative and ICT methods ([Huang et al., 2019](#)). Research is a component of educational skills and will improve the United Nations Sustainable Development Goals (UNSDGs) that are aligned with excellence and global best practices delivered by qualification frameworks ([ADhaen, 2023](#)). [Legusov et al. \(2022\)](#) and [AIDhaen et al. \(2023\)](#) affirmed that higher education institutions should redefine educational skills that combine interdisciplinary management and technology to support self-confidence and responsibility to the digital era. [Cobb and Couch \(2022\)](#) [Legusov et al. \(2022\)](#) assertion corroborated [Sonetti et al. \(2019\)](#), who opined that HEIs play an innovative role in integrating educational skills for sustainable development, including research, teaching, learning methods to transform policies that could support UNSDGs vision. Hence, research may enhance educational competencies for sustainable development.

### 3. Theoretical framework

This study's framework is supported by Piaget and Vygotsky's development and learning theories. For competencies and proficiencies in YABER outcomes, research training needs cannot be overstated and can be achieved through development and learning. Piaget and Vygotsky's Theories provide foundational frameworks for understanding how children learn and develop cognitively. Piaget's Theory is renowned for its contribution to cognitive development. It theorises that children progress through distinct stages characterised by qualitatively diverse thinking processes ([Piaget, 1967/1971](#); [Drew, 2024](#)). The theory emphasised the role of independent exploration and environmental interaction in shaping cognitive growth ([Drew, 2024](#)). Vygotsky's Theory emphasised the sociocultural context of development and argues that social interaction and cultural tools are vital in cognitive development ([Vygotsky, 1930/1981](#); [DeVries, 2000](#); [Drew, 2024](#)). In the concept of stages of development, Piaget proposed a stage-based theory of development (discontinuous development). This can be applied to YABER training growth stages (undergraduate, postgraduate and postdoctoral research fellow). Each stage represents a different level of cognitive maturity and understanding in the built environment research. The framework adopted Vygotsky's concept of readiness. It emphasised that with proper guidance and support, such as mentoring and coaching, students can learn concepts beyond their current abilities ([Drew, 2024](#)), as presented in [Figure 1](#).



Source(s): Authors' work

Figure 1. Proposed framework to improve YABER training needs

Also, both theories support the research design because they are considered constructivists. Creswell and Creswell (2018) affirmed that constructivism views knowledge as constructed as participants work to make sense of their experience. It implies that YABER can construct their understanding and knowledge of the research through experiences and reflecting on those experiences as they grow in their career with the right guidance and support. Hence, learning is active because constructivism is a process. Training and support with incentives are pertinent to achieving this goal, as reflected in the framework. Training is a component of learning processes that could promote the exploration and discovery of innovative outcomes. Hence, both the physical learning environment (Chang and Ramnanan, 2015; Chain et al., 2019) and the parties' relationship (Tompkins et al., 2016; Cardilini et al., 2022), as revealed are crucial to enhancing cognitive development. The framework emphasised individual leading to individual problem-solving (Piaget's view) and collaborative learning through social interactions (Vygotsky's view). In conclusion, through training, Piaget and Vygotsky provided foundational yet distinct perspectives on cognitive development. Despite their differences, they underscore the active role of this framework, and their insights continue to inform and inspire educational practices and developmental research. Therefore, the research intends to revamp the built environment programmes' curriculum to global best practices and enhance research competencies and proficiencies during and after higher education programmes.

4. Research method

4.1 Data collection

This study utilised a qualitative method, and the researchers conducted 40 virtual interviews with participants. This includes YABER, academicians in the built environment, selected experts in the industry and government agencies (research and education) in Edo State, Abuja and Lagos State, Nigeria. Studies showed that Lagos and Abuja are at the top of the municipalities with construction activities (Ebekozi et al., 2023c). The researchers adopted a phenomenological approach because of the need to report the participants' insightful experiences regarding research training in higher education institutions in Nigeria. Ocek et al. (2021) agreed with this. Ocek et al. (2021) adopted a qualitative approach and engaged 35 interviews to investigate research training programme for students and staffers. The researchers used purposive and snowball sampling techniques. Creswell and Creswell (2018) described purposive sampling offers the sample to be selected based on the research's

goal and the traits of the population. A snowball is a method where existing study interviewees suggest future interviewees who may be interested in this study from among their contacts. It is mostly used where there is a challenge with a hidden population (Ebekozi *et al.*, 2025). Table 1 presents details of the participants, and the summary reveals that the interviewees were represented satisfactorily. The researchers achieved saturation point at the 37th interviewee. Although the researchers hid the firms and personal details of the participants in line with this study's ethical policy, the interviewee's posts prove they are knowledgeable in the Nigeria's built environment research. This is in line with the ethical research policy, and the semi-structured interview questions were reviewed by senior colleagues before the final study. This study was subject to ethical review and approval. The virtual interviews were conducted between March 2024 and June 2024. The researchers conducted a pilot study and engaged five selected interviewees before the main interview. This study utilised 40 min on average through WhatsApp video calls and Zoom platforms. The researchers recorded the 40 interviews with the interviewees' consent and later transcripts. For the cover letter and basic semi-structured interview questions asked, refer to Appendix a.

#### 4.2 Data analysis

The researchers tested the inter-rater reliability at 75%. It became necessary to test the inter-rater reliability because two researchers collected and coded the data. It agrees with the work of Kouner (Burns, 2014), who emphasises that an inter-rater reliability test is necessary to establish the agreement of the same data attained by different raters employing the same mechanisms. Table 2 enhances the credibility and validity of the findings because it guides the research design, data collection and post-data analysis (Ebekozi *et al.*, 2023b). This study utilised thematic analysis and developed the codes. The researchers employed a manual method of analysis. The researchers double as the coders and read the forty documents many times. The process allows the participants to gain insights into the phenomenon. The same method was utilised by Ibrahim *et al.* (2022) and Ebekozi *et al.* (2023a). The researchers generated 75 codes and re-read the document to discover new constructs. The coders utilised the thematic method to comprehend the common pattern (Ebekozi *et al.*, 2023b). The study's objectives assisted in the development of the themes. The main themes emerged from ten sub-themes, and the sub-themes emerged from the 75 codes. The research utilised triangulation, member checking and researcher's reflexivity as the validity approaches. The researchers triangulated this study's findings with within different data groups and the extant

**Table 1.** Interviewees' background description

| Participant                                           | Rank/Firm                                                                        | Years of experience    | Location<br>Lagos | Abuja   | Edo     | Total |
|-------------------------------------------------------|----------------------------------------------------------------------------------|------------------------|-------------------|---------|---------|-------|
| YABER                                                 | Final year undergraduates/<br>postgraduates/<br>postdoctoral research<br>fellows |                        | P1-P7             | P8-P14  | P15-P20 | 20    |
| Built environment<br>professionals in<br>academics    | Not below Lecturer 1/<br>equivalent                                              | Not below<br>ten years | P21-P24           | P25-P27 | P28-P30 | 10    |
| Built environment<br>professionals in the<br>industry | Directors, Senior Partners<br>and Partners                                       | Not below<br>15 years  | P31-P32           | P33-P34 | P35     | 5     |
| Government<br>agencies (research<br>and education)    | Senior staff and above                                                           | Not below<br>ten years | P36-P37           | P38-P39 | P40     | 5     |
| Total                                                 |                                                                                  |                        |                   |         |         | 40    |
| <b>Source(s):</b> Authors' work                       |                                                                                  |                        |                   |         |         |       |

**Table 2.** The Study’s quality evaluation strategies

| Method           | Assessment strategies                                                    | The phase of research |
|------------------|--------------------------------------------------------------------------|-----------------------|
| Reliability      | Interviewers’ well-guided (consistent)                                   | Data collection       |
| Validity         | The adoption of a recognised method (semi-structured virtual interviews) | Data collection       |
| Generalisability | Recognition of limitation due to sample size potential interviewer bias  | Data analysis         |
| Transferability  | Compare the study’s implications against the reviewed literature         | Post data analysis    |
| Credibility      | Theme approach to establish a pattern from the data                      | Data analysis         |
| Dependability    | Developing semi-structured interview guidelines (Appendix)               | Research design       |

**Source(s):** Modified from Yin (2014, p. 34) and Ebekozien *et al.* (2023a)

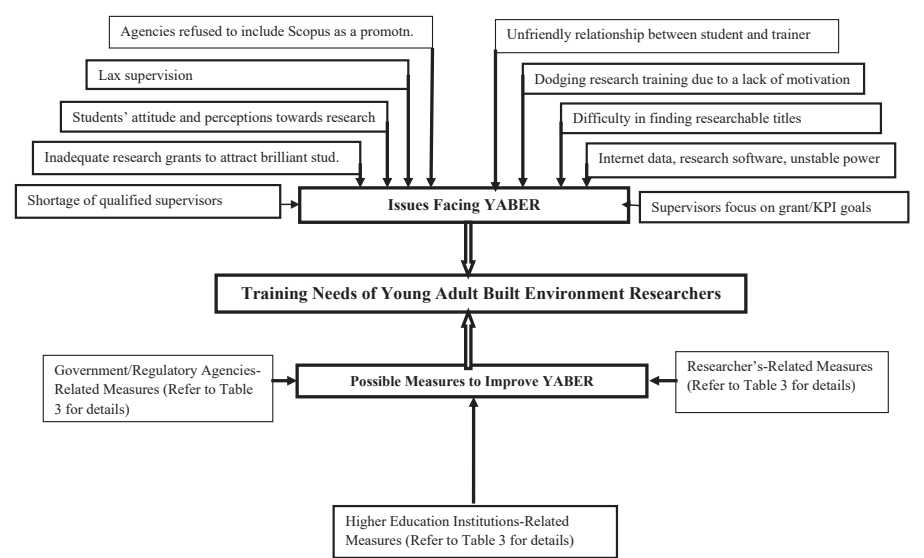
literature, as presented in the next section. The research also adopted themeing, in vivo and narrative techniques. These methods are appropriate for data coding (Saldana, 2015). The researchers coded this study manually.

**5. Findings and discussion**

More studies are needed about the issues facing young adult built environment researchers’ training needs in developing economies, including Nigeria. This may have contributed to the cold research attitude and low article publications in prestigious journal houses in Nigeria’s context. However, findings reveal that many Nigerian academic researchers patronise predatory publishers (majority).

*5.1 Main theme one: issues facing YABER training needs*

Theme two identifies issues facing young adult built environment researchers (YABER) in Nigeria. Figure 2 shows the summarised major issues facing YABER in a thematic network



**Source(s):** Authors’ work

**Figure 2.** Thematic network analysis of young adult built environment researchers training needs

pattern. First, findings agree that the built environment research refines current knowledge and creates new ones. Participant P26 says, "...hence, for research to be contextually relevant in the built environment, it must be purposeful and ethical from the built environment perspective. This is because every good research process consumes resources, including time, brain tasking, and money ...". Second, results reveal that efforts at embracing research global best practices that may translate into prestigious publications among Nigerian academicians are lax, with a few exemptions based on their providence (majority). One germane point emerged: Nigeria's higher education institutions' regulatory agencies' refusal to review promotion requirements to the global best practices has compounded quality research outputs, including research conducted in the built environment. Others are:

- (1) Lax supervision (P1 – P9, P14 – P20, P26 – P28, P35, and P39).
- (2) Students attitude or perception toward research process (P5, P13, P19, P21 – P30, P34, and P39).
- (3) Inadequate research grants to attract brilliant students (P23, P28, P30, P34, P37, and P38).
- (4) Shortage of qualified supervisors/mentors (mediocre trainers) (majority).
- (5) Supervisors focus on grant/KPI accomplishment (students' research training suffers) (P7, P15, P18, P24, and P37).
- (6) Expensive Internet data, research software subscription (Grammarly, Turnitin, Atlas, etc), unstable power (majority).
- (7) Difficulty in finding researchable titles (majority).
- (8) Decrease motivation during the research stage, leading to dodging research training (P2, P5, P19, P25 – P30, P35, and P38).
- (9) Unfriendly relationship between student (trainee) and supervisor (trainer) (majority).

Besides a few private Nigeria higher education institutions, the majority do not make Scopus/ Web of Sciences indexed articles compulsory for academic staffers as a requirement for promotion, especially for ranks for Senior Lecturers and below (P17, P24, P27 and P36). Most YABER in academics belong to this category. "... we are not serious, and I doubt if the current administration has the 'will power' to change the trend ... How many professors (universities) and chief lecturers (polytechnics) can conduct quality research to attract Scopus-indexed journal publications? Can you give what you don't have? Go and verify; many top Nigerian built environment academicians are not indexed in Scopus. Some that managed to be there is a courtesy of the 'add my name syndrome,'" said Participant 23. This is a weighty allegation. Participants P15, P24, P27 and P30 corroborates P23 assertion. P15 and P27 confirm that over 80% of the PhD holders' names in their faculty are not found in the Scopus database. This is of great concern to stakeholders. Elsevier (2024) described Scopus as a comprehensive, multidisciplinary, trusted database of scholarly literature, reliable data, metrics and analytical tools. It covers over 94 million records, 29,200 active serial titles, 330,000 books and 7,000 publishers. When it comes to measuring academic success, Scopus is still the best among other products or output metrics because of the kind of depth and coverage (majority). However, in Nigeria, many scholars are not bothered because there is always an easier alternative (P2, P12, P24, and P28). A quick check in <https://www.scopus.com/freelookup/form/author.uri> with some higher education institutions with available staff directories of the built environment lecturers reveals that many lecturers' names were missing in the Scopus database. Nigerian academic staffers need research training to match their counterparts in other parts of the world. This is the unpleasant truth.

Also, findings reveal the unfriendly relationship between student (trainee) and supervisor (trainer) (majority), students' attitude or perception toward the research process (P5, P13, P19, P21 – P30, P34, and P39) and shortage of qualified supervisors/mentors (mediocre trainers) (majority) as challenges facing YABER training needs. Findings show that students' attitudes or perceptions towards the research process could influence the outcome of the research completion. Many students have negative emotions regarding research, which may lag the research programme backward (P17, P22, P29, and P33). Findings agree with those of [Chang and Ramnanan \(2015\)](#), who found that successful research students had positive perceptions regarding the process. Lagging in the research process stage may cause students' emotions. This stems from their negative feelings towards the research programme. Many factors may influence this emotion, such as the absence of a scientific environment, inadequate mentors, difficulty getting researchable titles, etc. Regarding the unfriendly relationship between the student (trainee) and the mentor/supervisor (trainer), this must be avoided to enhance research productivity. Many novelty studies were inconclusive because of the unfriendly relationship between the parties (P15, P23, P26, P29, P34, P37, and P39). Findings agree with [Tompkins et al. \(2016\)](#) and [Cardilini et al. \(2022\)](#). They found that unfriendly relationships are one of the most important predictors of candidate dissatisfaction and can lead to the discontinuation of the programme or research. For the lax supervision and shortage of supervisors, Participant P19 says, "... the unpleasant truth is that some supervisors, even with Professorship or Chief Lecturership title, are weak in research. Can you imagine that throughout my master's programme in Construction Management at one of the universities, my supervisor, who is a full professor, didn't make any substantive comments, observations, or contributions? Any time I make a chapter submission, after two weeks for his comment/observation/contribution/remark, he would next say to proceed. I had no option but to consult some senior colleagues who assisted in reviewing my dissertation before the final submission ..." "... we had cases of power cut for over three months in my campus, nobody cares ..." said P12. A situation where power is cut off for over three months, and no attempt to fix it does not speak well of an institution.

### 5.2 Main theme two: possible measures to improve YABER training needs

The theme proffers measures to improve YABER training needs in Nigeria. [Figure 2](#) shows the summarised proposed measures presented in a thematic network pattern. Results align that feasible measures could improve YABER training needs and, by extension, stir Nigeria's higher education institutions regulatory agencies to upgrade requirements for academic staffers, especially published articles, to be compulsorily Scopus/Web of Sciences indexed for promotion exercise across all levels (majority). Findings reveal that Scopus, besides helping early career postgraduates (young adults) understand the scholarly communications landscape when it comes to measuring success, its data quality, coverage, sophisticated analytics and advanced technology stand out (P24, P27 and P30). One of the germane points that emerged from this theme is the classification of the measures into three clusters: government/regulatory agencies-related, higher education institutions-related and researcher-related measures, as summarised in [Table 3](#). Some of the measures, such as encouraging transferable research skills training (majority), training the trainers (majority), parties sustaining healthy relationships (majority), etc., cut across the groups as presented in [Table 3](#). The emerged government/regulatory agencies-related measures are as follows: overhaul research-related curriculum (majority), coaching and mentoring (majority), strengthen research development in undergraduate curriculum (P8 – P14, P26 – P30, and P39), compulsorily make published articles indexed in Scopus/Web of Sciences indexed for promotion exercise at all levels (majority), train the trainers (majority), parties should sustain healthy relationship (majority), encourage transferable research skills training (majority) and establish minimum standards of research training (formal guidelines) (majority). For others (higher education institutions-related measures and researcher's (employee)-related measures), refer to the 2nd and 3rd columns of [Table 3](#), respectively.

**Table 3.** Measures to improve YABER training needs

| Measures<br>Government/Regulatory agencies-<br>related measures                                                                | Higher education institutions-<br>related measures                                                                                                             | Researcher's (Employee)-<br>Related measures                                                      |
|--------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| Overhaul research-related curriculum (majority)                                                                                | Overhaul research-related curriculum (majority)                                                                                                                | Coaching and mentoring (majority)                                                                 |
| Coaching and mentoring (majority)                                                                                              | Review supervisory mechanism (engage qualified staffers) (majority)                                                                                            | Disciplinary network/committee (P22, P25, P29, P34, and P38)                                      |
| Strengthen research development in undergraduate curriculum (P8 – P14, P26 – P30, and P39)                                     | Coaching and mentoring (majority)                                                                                                                              | Students need to build innovative and creativity mindset (P5, P16, P26, P29, P35, and P39)        |
| Compulsorily make published articles indexed in Scopus/Web of Sciences indexed for promotion exercise at all levels (majority) | Disciplinary network/committee (P22, P25, P29, P34, and P38)                                                                                                   | Train the trainers (majority)                                                                     |
| Train the trainers (majority)                                                                                                  | Strengthen research development in undergraduate curriculum (P8 – P14, P26 – P30, and P39)                                                                     | Mastery and research skills development require commitment (majority)                             |
| Parties should sustain healthy relationships (majority)                                                                        | Compulsorily make published articles indexed in Scopus/Web of Sciences indexed for promotion exercise at all levels (majority)                                 | Parties should sustain healthy relationships (majority)                                           |
| Encourage transferable research skills training (majority)                                                                     | Train the trainers (majority)                                                                                                                                  | Encourage transferable research skills training (majority)                                        |
| Establish minimum standards of research training (formal guidelines) (majority)                                                | Parties should sustain healthy relationships (majority)                                                                                                        | Establish minimum standards of research training (formal guidelines) (majority)                   |
|                                                                                                                                | Encourage transferable research skills training (majority)                                                                                                     | Participate in all related research activities, including statistics analysis training (majority) |
|                                                                                                                                | Establish minimum standards of research training (formal guidelines) (majority)                                                                                |                                                                                                   |
|                                                                                                                                | Incentives to outstanding scholars yearly, such as payment of article processing cost (APC) for paid journal house and editing/proofreading charges (majority) |                                                                                                   |

**Source(s):** Authors' work

Among the top-ranked suggestions is the compulsory Scopus/Web of Sciences indexed published articles as part of the requirements for academic staffers' promotion exercise across all levels. This is long overdue and in line with global best practices for scholars (majority). P13, P22, P24, P26, P27 and P30 opine that not enforcing Scopus or Web of Sciences indexed articles mandatory requirement for promotion by NBTE and NUC has worsened the situation for many Nigerian lecturers. The outcome is promoting predatory publications across all fields, including the built environment. Participant P22 says, "... since there is always an alternative during promotion, the lax quality of publications from many Nigerian lecturers may remain ...". Regarding training the trainers, mastery and research skills development, overhauling research-related curriculum, strengthening research development in the undergraduate curriculum and establishing minimum standards of research training (guidelines), Participant P7 says, "... many Nigerian supervisors, including the built

environment programmes, need research training. A Professor/Chief Lecturer who has never published in a Scopus/Web of Sciences indexed journal house may find it difficult to supervise a young adult researcher study to attract a Scopus-indexed journal house. This is the unpleasant truth. Hence, intensive and regular global best practices training is compulsory for the trainers ....”

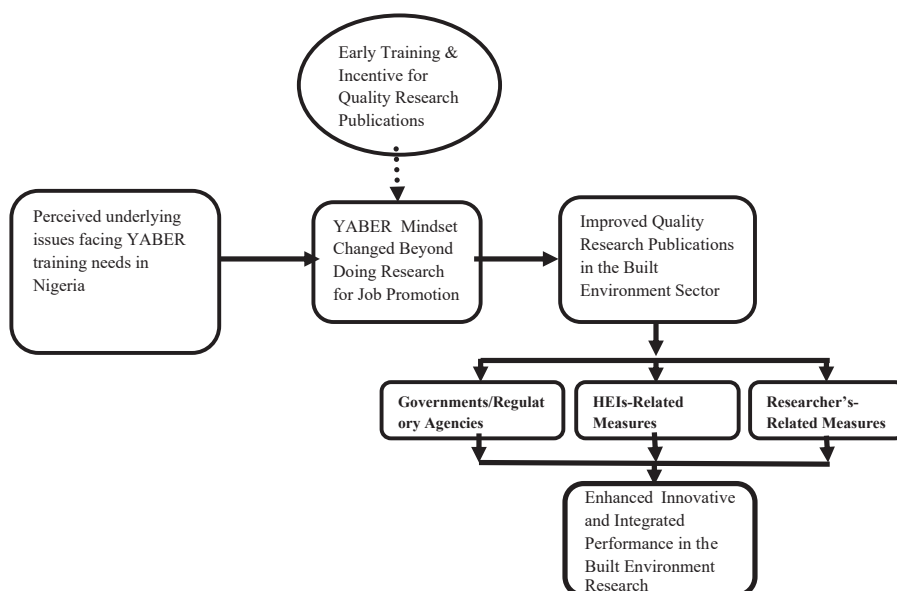
Participant P28 says, “... . . . basic research skills (how to generate researchable titles, research gaps, paraphrasing, review of literature, etc) should start at the undergraduate level. The HEIs operators should engage qualified academic experts with results to teach the module/course/subject. This is not always the case .... Undergraduate students should be exposed to quality publications procedure at the undergraduate level and encouraged to participate ....” Many lecturers need research training because the skills are absent (P1, P6, P9, P12, P16, P20 and P21). This is a weighty allegation, and two participants (P27 and P29), senior academic staffers, corroborated it. It turned out to be an unpleasant truth when Participant P27 validated that a Chief Lecturer with over 25 years of teaching and project supervision experience does not have a Scopus-indexed article. A quick check in <https://www.scopus.com/freelookup/form/author.uri> confirmed the name was missing in the Scopus database. Academic staffers need research training indeed (P27). Regarding mastery and research skills development, findings show that the mindset for dedication and persistent practice to achieve excellence in the research domain is pertinent. This includes critical and strategic thinking to delve into researchable titles development (P16, P25, P29 and P37). Besides titles, it would improve transferable research skills training to reflect changes in academia and reality if they decide to leave academia. P25 says, “... mastery and excellence take time and process. It’s not magic but requires frequent practice and commitment. The YABER must go for the knowledge and skills such as how to develop researchable titles, how to establish the research gaps, how to select suitable research design, how to operate basic rules in common research software, how to paraphrase, how to review literature, and how to present findings and discussion, writing and oral presentations skills, time management, etc.. ....” Results align with Guo et al. (2018) and Hussain et al. (2022). Guo et al. (2018) opined that student’s active participation in research-related activities is key to productive outcomes. Hussain et al. (2022) evaluated the research-related training needs of Pakistan’s postgraduate scholars. They found that researchers should be interested in developing their research skills by using data analysis software, research design methods, topic selection, etc.

Participant P10 says, “... the issue of lax supervision is critical. The relevant authorities need to over-haul the supervisory mechanism to improve research supervision, especially at postgraduate levels (Post Diploma, Masters, Doctor of Philosophy, and Postdoctoral Research Fellow) ....” Findings show that mentoring and coaching should be all-inclusive, including supporting young adult students in managing their candidature (majority). Participant P39 ... . . . says, “... . . mentoring in the 21st century is evolving with the increasing cases of students committing suicide. So, the mentor should manage an emotional dimension, including personal assistance and development through support relationships ....” These supports, including ensuring that more than technique is learnt, are crucial to assist students in likely depression and facilitate the research completion (majority). Results align with Ocek et al. (2021), who recommended that mentors and programme coordinators give structured and intensive programme support to research students. The coordinators should guide the students throughout the process and offer timely support to those experiencing challenges (P13, P17, P20, P24, P25, P27, P33 and P37). Findings agree with Chang and Ramnanan (2015) and Chain et al. (2019). They affirmed that programme coordinators should assume a pertinent role in maintaining the continuity of research programmes and sustaining a supervisory relationship between the students and the faculty to create a positive pedagogical and research environment. Regarding the healthy relationship of the parties involved in the research, findings insist that a healthy relationship between parties is the best option to enhance excellence and proficiencies. This study’s findings agree with Cardilini et al. (2022), who avowed that research success is assured when developing a good relationship between the

trainee (student/early career researcher) and the trainer (mentor/supervisor). It is advantageous if the young researcher can foster innovation and creativity to drive researchable titles and adapt to trending research methodologies (majority). This is key and requires critical thinking and resilience skills to achieve this long-term goal as a researcher.

## 6. Study's implications

From the extant literature, a few studies were conducted in related areas, but none concerning perceived issues facing YABER training needs and proffered measures to improve and revamp the built environment programmes' research curriculum to global best practices and enhance research competencies and proficiencies during and after higher education programmes. More knowledge is needed regarding issues facing Nigeria's YABER training needs. The research proposed a framework to improve YABER training needs in Nigeria. It was supported by Piaget and Vygotsky's Theories as part of the implications of this study. As described, Piaget and Vygotsky provided foundational yet distinct perspectives on cognitive development through training. Despite their differences, they underscore the active role of this framework, and their insights continue to inform and inspire educational practices and developmental research. Figure 2 is a component of this study's implications because it shows the thematic network analysis of the main results. The virtual data collection empirically developed the framework illustrated in Figure 3. Figure 3 shows that improving YABER training requires an all-inclusive approach to major parties' roles (higher education institutions, government/regulatory agencies of HEIs, and researchers-related measures). Therefore, from a theoretical perspective, this study identifies the issues facing YABER and proffers feasible measures to improve their training needs in Nigeria. Theoretically, the research intends to revamp the built environment programmes' research curriculum to global best practices and enhance research competencies and proficiencies during and after higher education programmes.



Source(s): Authors' work

**Figure 3.** Revised framework to improve YABER training needs

The research confirms that the trainers and trainees require training measures. More and better research training skills in the built environment may lead to economic growth and improve achieving more sustainable development goals. This practical implication would assist and stir up policymakers and other stakeholders that are linked with improving quality research in the built environment through training for YABER. Achieving this task requires inclusiveness, including regulatory agencies (NUC and NBTE) and chief executives of higher education institutions to overhaul research-related curricula and strengthen research development in undergraduate curricula through qualified scholars with results to show from their Scopus database. This is pertinent because it may be difficult for someone to give what the individual does not have. Hence, HEIs regulatory agencies should make Scopus/Web of Sciences articles mandatory for promotion at all levels. It will expose Nigeria's built environment academicians to global best practices. It is pertinent that appropriate government agencies (Tertiary Education Trust Fund, National Board for Technical Education and National Universities Commission, etc.) leverage the measures as highlighted in the developed framework to promote quality research that would yield prestigious publications in the built environment and, by extension, regenerating and transforming the built environment to mitigate carbon emissions through quality regenerative paradigm research. Other countries with similar research training needs may modify and adapt the measures to promote transformative and regenerative built environments that centre around sustainable and resilient human habitats.

### 7. Limitations and areas for further study

The research has limitations. The researchers utilised a virtual interview for this study's data collection. The researchers limited the research population to three (Edo State, Lagos State and Federal Capital Territory) locations in Nigeria. Yet, this study reveals that these restrictions do not harmfully influence the quality of the result. The researchers adopted quality assessment strategies, as described in [Table 2](#), which assisted in circumventing the negative influence. The researchers' robust literature and achieved this study's saturation at the 37th participant dodge issues associated with insufficient sample size. Therefore, future studies are required to authorise the results, validate the revised framework and develop items/dimensions from the new concepts/constructs such as "transferable research skills training", "incentives to outstanding scholar", "imposed mandatory Scopus/Web of Sciences article on the built environment scholars", etc.

### 8. Conclusion and recommendations

This study showed the importance of young adult-built environment researchers' (YABER) training needs in driving countries' economics, including Nigeria, and in the era of sustainable environment and climate change threats cannot be over-stated. The built environment research refines current knowledge and creates new ones. The researchers identified issues facing YABER training needs and proffered measures to improve training needs in Nigeria's built environment. The new research approach is dynamic. The emergence of the regenerative paradigm as a transformative and promising opportunity for creating a healthier environment through sustainable research and regenerative practices is being embraced. As revealed, accomplishing YABER training needs faces challenges. These issues need to be addressed. The research recommended feasible measures:

- (1) This study acknowledged that measures that can improve YABER training must be all-inclusive. However, through higher education institutions, regulatory agencies and executive officers of various institutions, the government has a critical role in enforcing policies and programmes and backing them up with incentives to motivate employees willing to embrace quality research. These agencies can sponsor special research training workshops by engaging the employees and enlightening them on the benefits of being global researchers and how it can attract international research grants

- to them or their host institutions. This is possible because where there is evidence of quality publications extracted from good research. Also, the CEO of HEIs should create an environment that will enable more researchers to embrace quality research.
- (2) Findings reveal that the trainers need quality research training because Scopus/Web of Sciences only indexes a few names. The research suggests an urgent need to address the lacuna in the train the trainer's scheme. One way to enforce the trainer's embrace of quality research training is to ensure that published articles for academic staffers' promotion must be compulsorily Scopus/Web of Sciences indexed across all levels. They will be forced to learn how to do quality research for promotion and, by extension, teach their students or trainees.
- (3) Also, this study suggests revamping the built environment programmes' research curriculum to global best practices and enhancing research competencies and proficiencies during and after higher education programmes. This is pertinent to inform and inspire educational practices and developmental research in the built environment and engage the young adult at the early stage of the built environment research to refine current knowledge and create new ones. Through this process, an emerging niche aims to invigorate and promote embracing quality publications through research in Nigeria's higher education institutions (HEIs), especially the built environment programmes.

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## Appendix

### Semi-structured interview questions

#### Dear Participant,

#### Request for Virtual Interview

Studies have shown that research is global innovation's "engine room". Therefore, young adult-built environment researchers (YABER), especially in developing countries, need research upskilling and reskilling training for better-integrated outcomes. Evidence shows that research training can improve YABER competencies and proficiencies. In Nigeria, YABER may have had some challenges in training needs. There is a lack of extant literature about the issues facing Nigeria's YABER upskilling and reskilling training needs. Therefore, this study is titled: *Appraising Young Adult Built Environment Researchers Training Needs in a Developing Economy: A Perspective from Stakeholders*. Specifically, the researchers will achieve the paper's aim via the following objectives:

- (1) To evaluate the relevance of young adult-built environment researchers' training needs.
- (2) To explore the perceived issues facing young adult researchers in a built environment.
- (3) To proffer measures to improve the training needs of young adult-built environment researchers.

Kindly note that the virtual interview questions will be within the stated objectives. Your responses will be collated and analysed with that of other interviewees. It will make up the value and contribution to achieving the success of this work. Information provided will be treated with the greatest secrecy.

Hence, the researchers will highly cherish your valuable time and input in answering the questions. With regards.

Yours faithfully,  
(Researchers).

#### Basic questions for the participants

- (1) For our records, please tell us your organisation and position.
- (2) Please give us the details if you teach or what you do in your organisations.
- (3) Please tell us your years of work experience.
- (4) Are you knowledgeable about the young adult built environment researchers (YABER) training needs?
- (5) If yes to question 4, in general terms, from your perception, how can you describe the significance of YABER to the industry?
- (6) As a built environmentalist, are you satisfied with the YABER output?
- (7) From your perception, can you identify possible challenges facing YABER training needs in Nigeria?
- (8) What role can major stakeholders play in improving YABER training needs?
- (9) What feasible policies can improve YABER training needs?
- (10) Will curriculum review improve YABER training needs in Nigeria? Please more details.

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