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# Mentoring in Doctoral Studies in Two Culturally Diverse Universities

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## Abstract

This study employed a comparative qualitative case study method to investigate the pivotal role of mentoring in doctoral studies within distinct institutional settings, namely, Ghana and the United States. Using the cognitive apprenticeship model, we compared the mentoring processes deployed in the two studied universities. Noteworthy distinctions emerged in the mentoring processes, levels of engagement, and their impact on students' decision making regarding further studies and career choices. These disparities are traced back to variations in the design of mentoring programmes. Our contention is that fostering effective mentoring processes within higher education institutions wields a substantial influence on graduate students' academic satisfaction. This study, therefore, underscores the imperative of refining mentoring strategies and proposes avenues for future research in this critical domain.

## Keywords

mentoring, cognitive apprenticeship model, triple helix, quartet helix, pedagogical transmitter

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## Introduction

The competition among universities to offer postgraduate programmes is inextricably linked to the higher education enterprise's survival and growth or what Fuller (2018) calls the 'knowledge game'. To survive the competition, universities must be able to sustain a continuous inflow of financial resources from stakeholders such as students, government, industry, and civil society to gain a comparative advantage. To that end, researchers, over the years, have been investigating the university-government-industry (triple helix) partnerships, as well as partnerships with civil societies (quartet helix).

Additionally, Universities are modernizing and tailoring their postgraduate programmes to meet the needs of employers and knowledge consumers. However, the overarching factors that enable these higher education institutions to gain dominance and credibility in the knowledge production

and consumption enterprise are the strategies developed and implemented to train new faculty with innovative ideas. Such innovations are geared towards capacitating the new generation of faculty to take over the teaching and research mantle from the ageing ones (Kilpatrick, 2022). However, due to a lack of postgraduate programmes designed to train and retain human resources, universities mostly struggle to attract bright and high-quality scholars as faculty members. As a result, government financial resource allocation to universities keeps dwindling (Agyekum, 2022; Hayward & Ncayiyana, 2014) while faculty with the capacity to attract finances to their universities through partnerships and grants remain few. Some scholars, for example, Remaker, Gonzalez, Houston-Armstrong & Sprague-Connors (2021) attribute the difficulties that graduate education faces in preparing future faculty members in the various disciplines to assume soon-to-be vacant positions and varying roles that faculty play to a lack of mentoring programmes in graduate schools.

Following from the preceding, it is worth noting that mentoring is essential for training competent faculty to replace ageing ones in universities. It is commonplace to add that the academic profession reproduces itself through mentor-student relationships wherein mentors assist mentees in understanding and advancing the organizational culture, communication, and professional stimulation within the discipline and academic space (Stamps, Cockerell & Opton, 2021). To wit, what the new faculty member knows about the university was learned by absorption in a library or laboratory under the guidance (or, perhaps, the indifferent sponsorship) of a graduate or postdoctoral mentor. Likewise, the faculty member's understanding of his or her academic responsibilities is not prescribed by contract or institutional rule. In this respect, it is unlike the understanding of the core duty one would have as a soldier or as a mid-level executive in a large corporation. It is, rather, part of an inherited culture, and the route of transmission inherent in the institution (Nakamura, Shernoff & Hooker, 2009). As Wunsch (1994) posits, "the quality of an academic institution depends on the quality of the work and learning experience of its faculty, staff, and students" (p. 12). Furthermore, the author believes that mentoring is a communal process that facilitates individual growth and counters feelings of isolation.

By way of context, this study was undertaken in two distinct universities. Due to the sensitive nature of the information shared by some of the participants, the text anonymizes the names of the two studied institutions. The two institutions are a Ghanaian university and a US university, respectively. The Graduate School of the Ghanaian university has in place a Technical Committee to help with the implementation of the university's PhD programme structure. Graduate students and research supervisors can attend research skills workshops organized by the School of Graduate Studies. These activities are codified in the university's handbook, which outlines strategies for improving graduate studies but ignores mentoring issues. Although mentoring processes have not been institutionalized at the university, some units have taken initiatives in this direction. One department's success, for example, was due to its staff's ability to nurture and mentor others. Another department has instituted a mentoring programme for junior female faculty and students.

The university in the USA, on the other hand, has in place a formalized mentoring programme for its graduate students. At the start of their programmes, doctoral students are assigned faculty mentors. The university also has a programme that answers students' questions about the PhD application process. Moreover, students are encouraged to contact or consult faculty members who share their interests. These faculty often become mentors and dissertation advisors who provide academic and professional guidance to students. During the dissertation phase, the advisor also becomes a mentor and role model who continuously guides and advises the doctoral student through the doctoral journey. This is affirmed by the University of Michigan's (2015) faculty guide to mentoring graduate students, which states that "Students and faculty can be paired based upon stated interests" (p. 15). Students who want to work with professors must fill out doctoral research assistantship applications and choose a faculty member based on their research interests and experiences. The graduate programme director and faculty members then meet to deliberate and assign students to the selected faculty member based on their research interests. Doctoral

students are also allowed to work as research assistants at the university while receiving mentoring from faculty members whose research interests, career goals, and aspirations are like their own.

From the preceding, it is obvious mentoring processes in the two studied institutions are distinct. This context, coupled with the fact that mentoring has not been a key feature in the discourse of universities in the study settings and its benefits in raising the next generation of academics gives credence to such a study. To explore the phenomenon, we adopted Vygotsky's (1978) Cognitive Apprenticeship Model (CAM) as a critical lens to investigate the pivotal role of mentoring in doctoral studies within the two distinct cultural, geographical, and institutional settings in Ghana and the United States. To achieve the research aim, we posed the following specific research questions:

1. What mentoring processes are available to doctoral students in the studied institutions?
2. How do doctoral students from the two institutions benefit from [institutionalized or informal] mentoring experiences?

Having set the context, aim, and research questions for this study, the next section presents the review of the literature. This is followed by a critical review of the CAM as an underpinning theory. Other sections will encapsulate methodological matters, results, discussions with the conclusions and implications sections at the end.

## Review of the literature

The dynamic interaction between students and faculty stands as an enduring cornerstone of the university experience, recognized globally for its pivotal role in academic and social development (Boateng, 2012; Agyekum, 2023). Despite its acknowledged importance, concerns persist on a global scale regarding the mentoring and guidance provided to research students across universities. While handbooks for research students frequently acknowledge these concerns, an ongoing and pressing need for enhanced quality and depth of guidance remains evident. This challenge is compounded by the absence of a standardized conceptual framework for mentoring within university systems and curricula, leading to diverse perspectives on teaching, learning, and research among mentors, who typically bring a wealth of experience as seasoned professionals in their respective fields.

The extensive literature surrounding student-faculty relationships, particularly within the mentoring context, underscores the documented benefits associated with effective mentorship (Bäker, Muschallik & Pull, 2020; Walkington, Stewart, Hall, Ackley & Shanahan, 2020). Within this context, Guo, Yang, Zhang, and Gan (2022) emphasises the positive impact of close collaboration on students' self-concept, satisfaction, and enthusiasm. Mullen and Klimaitis (2021) further accentuates that effective mentoring not only nurtures self-confidence but also establishes a platform for diverse learning opportunities. However, Guo et al. (2022) observes a pervasive trend where lecturers, propelled by the demands of research and publication, allocate an increasing proportion of their time to research, often neglecting the crucial aspect of mentoring. This trend is particularly pronounced in institutions where research output serves as the primary criterion for academic promotion.

This landscape aligns seamlessly with the astute observations of Coryell and Murray (2014), who stress the imperative for a continuous and comprehensive mentoring approach throughout the doctoral journey. Consequently, to instil a deep appreciation for mentoring in the doctoral experience, mentors worldwide are expected to guide students, providing orientation for the challenges that lie ahead.

Despite the enormous benefits accrued from doctoral mentoring, some key challenges persist in the realm and must be addressed for a more effective academic landscape. Notable among the

challenges are time constraints on the part of faculty, varying mentoring styles due to the absence of standardized mentoring frameworks, the difficulty to balance between teaching, research, community work and mentoring, limited training for mentors and institutional priorities (Bäker et al., 2020; Boateng, 2012; Mullen & Klimaitis, 2021).

In the face of the above and other challenges, Coryell, Clark, Wagner & Stuessy (2013) recognise the significance of mentoring and propose a proactive approach by advisors, faculty, and administrators. The propositions involve actively creating and expanding opportunities for doctoral students to engage with various facets of academic and professional communities of practice (CoPs). These supplementary encounters are envisioned as valuable additions to formal doctoral programmes, contributing to the enrichment of the overall learning experience.

In conclusion, the comprehensive literature emphasises the pivotal role of effective mentoring in student-faculty interactions, particularly within the context of research and doctoral programmes. The persistent absence of a standardized framework for mentoring poses challenges on a universal scale, underscoring the imperative for holistic strategies. Such strategies should integrate mentoring into university curricula and create multifaceted opportunities for graduate students, allowing them to meaningfully engage with academic and professional communities across the globe.

## **Construing mentoring in doctoral studies through the cognitive apprenticeship model**

Vygotsky developed the cognitive apprenticeship model (CAM) in 1978. The CAM has its roots in social learning theories. Collins, Brown & Holum (1991) posit that the CAM involves “learning through guided experience on cognitive and metacognitive, rather than physical skills and processes” (p. 456). The theory is akin to trade apprenticeship and other forms of guided learning wherein experts and novices interact socially. The learning process focuses on completing tasks and developing cognitive skills through participation in authentic learning experiences. When the CAM is applied, mentors are expected to provide expert knowledge to their protégés. This is evidenced in instances when mentors possess the needed expertise and can effectively share the necessary skills and knowledge with their mentees. According to Polo (2015), the social component of cognitive apprenticeship is guided participation in the mentoring process.

Furthermore, the CAM is regarded as a method of passing on knowledge from an expert to a novice. It is based on constructivism and capacitates students to create an understanding of new knowledge by inferring from prior knowledge and experiences (Pinto & Zvacek, 2022; Owusu-Agyeman, 2022). Also, it can serve as a critical lens for studying how new doctoral students perceive and anticipate university life, as well as how they adapt to their new surroundings. Brown, Collins & Duguid. (1989) proposed using the CAM model for student enculturation. This is based on the notion that the model advocates for coaching practices which socialize students into activities and practices that allow for social interaction, learning of craft knowledge, skills, values, norms, and expert imitation/modelling. This is consistent with existing literature suggesting that CAM can be used in graduate education. For instance, Gardner (2010) perceives that when the CAM is applied to doctoral socialization, it leads to learning relationships which prepare doctoral candidates for careers in the academy as they get acquainted with the norms and nuances of university environments. Similarly, Walker, Golde, Jones, Bueschel & Hutchings (2008) believe that applying the theory in doctoral education should be viewed as a presupposition of learning a set of practices that are generally relevant to enlighten and strengthen all aspects of the doctoral programme.

It is important to put across that cognitive apprenticeship occurs through a six-stage sequential process. These are modelling, coaching, scaffolding, articulation, reflection, and exploration. Palmer and Williams (2013) explain that *Modelling* occurs in two ways, thus behavioural and cognitive

modelling. Behavioural modelling occurs in the socialisation of the doctoral students when they observe their supervisors (pedagogical transmitters in this case). These supervisors are perceived as experts who provide instructions on specific subjects which align with their mentees' research interests. Thus, in supervisory relationships, supervisors serve as models who are observed by students to provide critical reviews on their tasks. Doctoral students in turn model the behaviour of their supervisors in areas they have received mentoring on. For instance, in literature reviews and manuscript preparation. Cognitive modelling, on the other hand, involves supervisors/pedagogical transmitters demonstrating their thought processes with students who are considered neophytes (Gardner, 2010). Cognitive modelling occurs for students when supervisors review their written and oral work and provide feedback. In sum, cognitive modelling allows supervisors who are considered as experienced or experts to share the "tricks of the trade" (Palmer & Williams, 2013) with doctoral students.

The second phase, *coaching* as applied in the context of the socialisation of doctoral students involves the doctoral students attempting activities, such as preparing manuscripts. At this stage, students explain the reasoning behind their actions and what they intend to address with that subject matter to their supervisors during this phase (Rüttnann & Kipper, 2014). The supervisor's role at this stage is to guide the student by putting their publishing expertise at the students' disposal. Coaching is paramount at this stage as students reflect on the knowledge they have gained and why they interpret it differently than what they have observed from their supervisor's performance. Parker, Kram & Hall (2014) accentuated that effective coaching provides conducive learning environments for mentees.

Dennen (2003) conceptualizes scaffolding as an allegory put in place to help learners achieve their goals. These forms of support are gradually removed when it is no longer needed. Thus, the terms scaffolding as the process replicates how physical scaffolds are removed once buildings are completed. Scaffolding occurs through a process of mentoring and remodeling of responsibilities (Kuo, Hwang, Chen & Chen 2012). It is perceived as a learner-centred phase in the CAM because it addresses students' learning of concepts, strategies, and meta-cognitive skills (McLoughlin, 2002). Besides, scaffolding occurs in the pedagogical relationship as either directive or supportive depending on where the drive of support originates (Lanski & Nierstheimer, 2002). Dennen (2003) perceives directive scaffolding as teacher-centred whereby one creates skills and strategies for teaching specific subject matter while supportive scaffolding is learner-centred as it involves the co-construction of knowledge with others. Directive scaffolding works well with successful students while supportive scaffolding provides instruction suitable for doctoral students' needs based on their present capability and interest (Dennen, 2003). When scaffolding is applied to doctoral mentoring, it simply involves the supervisor or the pedagogical transmitter coaching or remodeling of tasks for doctoral candidates to correct their misunderstandings or misinterpretation of tasks (Polo, 2015).

When using scaffolding, pedagogical transmitters in the doctoral socialisation process should assist students in reaching the zone of proximal development (ZPD). The ZPD refers to the variation in terms of what the novice can do with or without support and guidance (Schunk, 2012). The ability of the learner to overcome the difference is the basis for the knowledge construction and the cognitive development of the individual (Vygotsky, 1978). Dennen (2003) points out that scaffolding affects the learners cognitively and emotionally since its impacts transcend the learner's skills and knowledge to influence their motivation and confidence. Scaffolding should cognitively be oriented towards the use of activities and varied aids such as hints, models, analogies, and demonstrations to make learning more meaningful.

Further, *articulation* occurs when the support offered to the doctoral candidate decreases due to their increased knowledge levels. Doctoral students, at this stage, demonstrates improved levels of mastery over tasks or concepts compared to the earlier phases (Francom & Gardner, 2014; Wedelin & Adawi, 2014). However, when doctoral students are left unsupervised at the articulation stage, they may restrict their learning to a narrow acquirement of techniques and may miss



opportunities to widen their proficiency and their abilities to critically appraise their work (Pearson & Brew, 2002). This brings to the fore the importance of providing scaffolds in the doctoral journey as a strategy for mitigating the challenges students face.

At the *Reflection* phase, doctoral students are offered the chance to apply their theoretical knowledge to real-world situations and receive feedback or confirmation (Francom & Gardner, 2014). For example, doctoral candidates may be given the opportunity to present manuscripts they have prepared at seminars or conferences. Feedback from such platforms and their mentors help the students strengthen their manuscripts as well as advance their research, writing and presentation skills. Finally, the process concludes with *exploration*, which occurs when doctoral students can discuss and generalize from what they have learned, as well as generalize to practical situations (Francom & Gardner, 2014; Wedelin & Adawi, 2014). Based on the foregoing, it is in the right direction to conclude that the CAM foreshadows numerous mentoring processes, particularly in academic institutions. As a result, it is a fitting lens to establish the mentoring processes and its concomitant experiences from the perspectives of participants from the studied institutions.

## Method

This study explores doctoral students' experiences in relation to mentoring opportunities and activities they have been exposed to in two culturally diverse universities. The comparative case study method was adopted for this study since it approaches doctoral students as the people who can tell their stories, in their own terms. Hence, fidelity to the phenomenon as it is lived means apprehending and understanding it in the lived context of the doctoral students living through the situation (Daniels, 2002). This study was oriented toward the *Dasein* (interpretive) phenomenology posited by Martin Heidegger in *Being and Time* (1927). The interpretive phenomenology was chosen as a means of bracketing our perspectives and biases of the phenomenon. All three researchers have been through doctoral socialisation processes and have developed certain presuppositions and experiences about the need for and how mentoring should occur in the doctoral process. We investigated the experiences of doctoral students as continuing doctoral students and faculty at the focal universities. If no design is used, these characteristics may influence how we interpret the data gathered from the students.

A total of 10 participants were selected from the two focal sites; five from each university using homogenous purposive sampling which focuses on the shared characteristics of the selected participants (Holloway & Wheeler, 2010; Patton, 2002). The use of the homogeneous sampling technique was informed by the supposition that any institutional policy enacted and implemented to facilitate mentoring of doctoral students in the supervisory relationships and department, may likely expose the students to similar activities and practices that have the tendency to produce a homogenized experience. However, the individual doctoral students were contacted in the field through referral sampling.

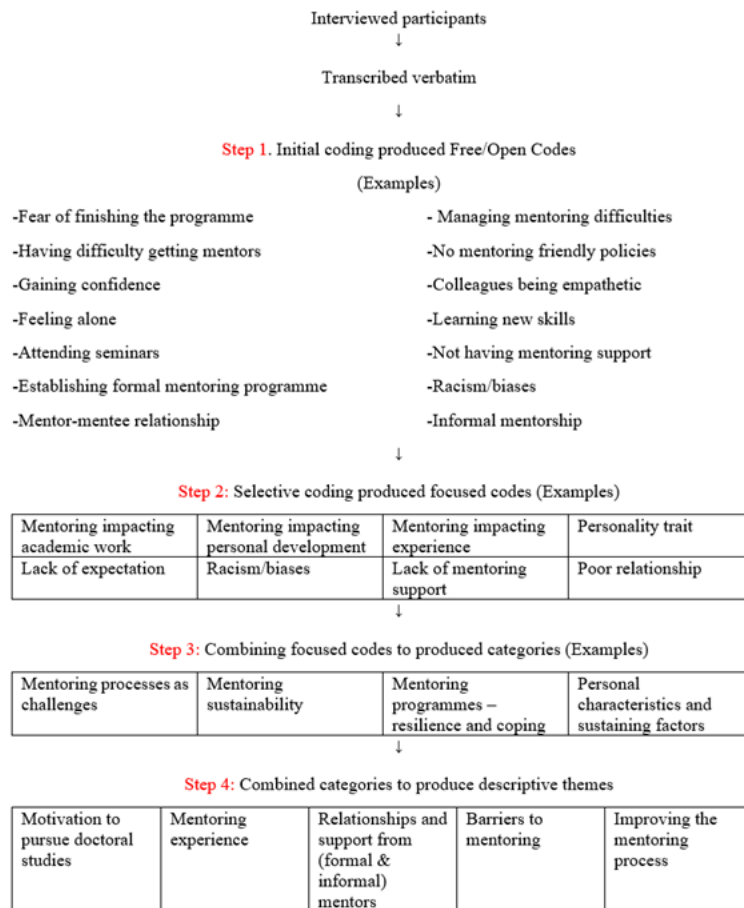
After ethical approval was acquired from the two universities, data was gathered through interviews of participants using a sequential approach. The interviews of the first five participants were carried out at the university in the USA between March and May of 2021 and were followed by the last five at the university in Ghana between December 2021 and February 2022. The researchers serving as data collection tools. We carried out the 10 interviews using a semi-structured interview guide which encompass the study participants' conceptualisation of mentoring, their perception of mentoring in the supervisory relationships, their evaluation of the mentoring they have received and other relevant issues pertaining to mentoring. The interviews, which lasted between 30 and 35 minutes, were audio-recorded and transcribed verbatim for the analysis. Each interview record was played three times to achieve submersion into the data before the transcription. We then subjected the transcripts to independent verification using professional transcribers who listened to the tapes

and checked the printed-out transcription to verify if we had captured the actual contents of each audio recording. After that, we used thematic analyses to examine the transcripts. Thematic analysis was used to organize the emergent categories and group codes into meaningful clusters and themes that addressed the research questions (Patton, 2002). Cohen, Manion & Morrison (2000) adduce that thematic analysis commences with reading and making a judgement about the data contained in the refined transcripts. The analysis process is shown in Fig. 1.

After the thematic analysis was done, the anecdotes or experiences gathered from the participants were mapped on the tenets and processes involved in the mentoring process associated with the CAM through analytic induction. Analytic induction is a data analysis “approach [which involves] collecting and analyzing data as a well as a way to develop and test a theory” (Bogdan & Biklen, 2003, p.63). The frequent meetings we had as co-authors provided the platform to discuss issues pertaining to the conduct of the study which helped to boost the credibility and dependability of the data collected and analysed. The discussion in the meetings aided us to come out with a synergistic approach for conducting the study in terms of the data collection and analysis phases. Thus, the frequent meetings we had to discuss the manuscript helped us to notice flaws in the proposed approach, bias, and preferences that could compromise the credibility of the study findings. Anney (2015) reiterates this by asserting that feedback from peers helps researchers to enhance the quality of the findings of their studies. We also employed member checking to test with participants about the data, analytic categories, interpretations, and conclusions to ensure that the final data presentation accurately represents the informants’ experiences and allows participants to voice their concerns or seek clarification (Gardner, 2010).

# Data Analysis

**Fig. 1: Data Analysis Flow Chart: Adapted from Williams, Sethi, Duggleby, Ploeg, Markle-Reid, Peacock & Ghosh (2016).**



Member checking also helped to eliminate any biases associated with the analysis and interpretation of the results. To meet ethical considerations, the names of the studied institutions and study participants were anonymised. This is due to the sensitive nature of some of the information shared by the study participants which include racism and the low-level knowledge of supposed mentors. Consequently, we eliminated every citation and references that might give clues to the studied institutions and participants. It has been helpful to use the comparative case study. Nonetheless, considering the many contexts and factors involved, one of the approach's shortcomings was deciding what information to include and reject. Authors must thus be able to accept the complexity of each case and use critical thinking to interpret the data and formulate a convincing argument. Despite these drawbacks, the comparative case study has the following advantages: first, it is helpful in cases of more complex causal relationships when there are several ways of achieving an outcome, like mentorship. Second, it gave the authors the chance to triangulate data from several sources to address postgraduate mentoring difficulties. As a result, the comparative case study method assisted in identifying several intersecting factors that sustain policy influence. Lastly, it was believed that the finding of some similarities between the two settings and contents strengthened the impact of these factors on mentoring decision-making.



## Results

The mentoring processes at two culturally diverse universities in the Ghana and United States were investigated in this study. The main themes that emerged were motivation to pursue doctoral studies, mentoring experiences, mentoring relationships and mentor support, mentoring barriers, and improving mentoring processes. This section goes over each of these themes in depth, using specific examples from the data.

### Motivation to pursue doctoral studies

The study participants had varied motivations for pursuing graduate studies. Though the motivations and aspirations of the participants are quite varied, one thing that underlines all their responses is the roles their mentors played in their decision to embark on doctoral studies. These motivations ranged from direct advice, to modelling and career requirements laced with personal ambitions. As already noted, the participants perceived the mentorship experience as a catalyst in their postgraduate studies. For instance, a male participant (US 4) shared the following,

*One of my professors asked me if I ever thought about pursuing a doctorate which of course I hadn't given any serious thought to. As I progressed through my master's degree work it became clear that if I could do the Master's degree work, I could also earn my PhD. I decided, you know, why not life is short I might as well pursue it, if it works it works if it doesn't it doesn't.*

The above denotes the importance of coaching in doctoral mentoring (Rüütmann & Kipper, 2014) as the professor's guidance served as the needed motivation for the study participant to pursue doctoral studies. The ensuing reflections also bring to bear the essence of behavioral and cognitive modelling. The participant's observation of her mentor (Palmer & Williams, 2013) spurred her to pursue a doctoral degree.

*I had wanted to read law after [my] first degree but fortunately or unfortunately for me I happened to do my national service with the Department of [department's name withheld] where I worked with a faculty who is an expert in so many fields. So, I will say that the decision to enroll on the PhD programme has been based on the experience I gathered and the inspiration I had from my first mentor. I wanted to be a grounded academic like him. (Ghana 5, Female).*

In addition to the motivation derived from mentors, three of the study participants (one from the USA and two from Ghana) were pursuing their doctoral degrees to fulfil career requirements and build their capacities. The reflection below summarizes the perception of such participants,

*Basically, since I work in a higher educational institution, it's been a requirement to have a terminal degree as a faculty member. And so first and foremost, that is the driving force. And then personally, I felt I want to develop further in my area of specialty just as my mentor who is admired by both faculty and students (Ghana 2, Male).*

The reflections revealed varied motivations for pursuing doctoral motivations for pursuing doctoral degrees. Invariably, their experiences will not be the same which is what the ensuing section elicited participants' responses on.

### Mentoring experiences

The participants interviewed identified mentorship as a major influence on their carrier goals. While those from Ghana had informal mentoring experience, those from the USA had formal and institutionalized mentorship experience. The Ghanaian situation is expressed in the views of study participants in the following examples.

*The university did not provide me with any formal mentoring opportunities but some personalities within the department who see it necessary to guide students who have difficulties provide mentoring. There is no institutionalized method which you pass through to get a mentor... I got my mentor when I was a national service personnel and I worked with him, and I realized that he works in a field that is of interest to me. (Ghana 1, Female).*

*I think initially I stated that there hasn't been a formalized way of assigning us to mentors. But every faculty member has been very open. I remember I contacted the Dean; I have also spoken to Dr. [Name withheld], my supervisor, Professors [Names withheld], the H.O.D Dr. [Name withheld]. With all these contacts, I have learnt a lot. And nobody has refused to share information when I contacted them. (Ghana 2, Male).*

Contrary to the above, the university in the USA has in place a structured institutional programme. Commenting on how they were formally assigned mentors to provide mentorship in their doctoral trajectory, a female student (US 3) said:

*Well, yeah when we started the programme we all were told we were broken up [split] into groups to have one person we could talk to us. Errm there were 12 or 13 people in my cohort. We were broken into groups of fours and fives, and we had five professors, so we were broken up that way with some professors so yeah I had someone assigned to me or I was assigned to someone.*

This was corroborated by a male student (US 4) in the following,

*The university used information we shared with them during the application process to assign us mentors. My initial interactions with my mentor went well so she has been with me throughout the journey. She has exposed me to conferences and helped build my confidence in academic writing and presentations.*

## **Relationships and support from [formal and informal] mentors**

Participants in the study reported using informal mentors in addition to [formal] mentors as a support base for their programmes. This extra or informal (unassigned) mentors came in handy since they assisted the participants to navigate their academic journey with stability. A male participant relating the support he had from his unassigned mentors in the departmental, disciplinary, and institutional spaces who were academic and non-academic staff said,

*Yeah! I've adopted some people that work in the school, that work in the various administrative offices because they understand the administrative and business side of it. I've adopted people that are in the PhD programme that have earned theirs to kind of help me say, ok this is what you need, this is what you need to know, this is what to avoid because we don't always get those things as part of the process as students. So, I had to go outside of my cohort and go outside of the programme and find people that had different expertise and then pull from them. (US 4, Male).*

Commenting on the mentoring relationships, participants shared contrasting views. While seven people thought the relationship was fruitful, the remaining three thought it was frustrating. The scenarios played out in both institutions. The following reflection crystallizes views on relationships,

*Ohh, our relationship was very academically related. It was very cordial, such that, I could always walk to his office whenever I had a problem or a challenge concerning my Experiential Learning and he was always ready to assist me. So, the relationship between I and my mentor was very fruitful and productive. (US 5, Male)*

The other side of mentoring relationships which turned out to frustrate the participants are captured in the following:

*There are things I wish she [referring to his mentor] had told me before I found out. She should be interested in what I do. I don't know whether she was deliberately doing it or because there are many students and few faculty in the department, so she was overwhelmed with supervision and mentoring. I often felt frustrated that I sometimes go in a certain direction only to be told later that I should not have done that, so I had to start all over again. (Ghana 3, Male).*

Two participants shared similar sentiments in the ensuing anecdotes.

*Hmm first, I expect a mentor to be willing and ready to mentor. He must be willing and ready because I realized that most of the professors we have were not willing maybe genuinely because they had their own plate very full of academic work and all that. But for me the mark of one's success is how they can share their knowledge and groom people who are under them but that wasn't the case with my mentor. (US 1, Female).*

*If the mentor is not willing to share knowledge, there wouldn't be a mentoring process. I mean it will not work effectively. And the mentor should be more knowledgeable. The mentor should be more experienced in knowledge, in ideas, to be able to impart the knowledge or guide the mentee in the process. The mentor should also be very patient, because I feel that as we deal with human beings who are the most complex creatures on earth, if you don't have a big heart. Honestly, my mentor did not have many of these qualities. (Ghana 2, Male).*

From the interactions above, participants from the USA who enjoyed institutionilised mentoring shared similar negative experience just as their Ghanaian counterparts whose institutions have no such arrangements in place. This led to further explication on the barriers to mentoring at the two study settings as reflected in the section which follows.

## Barriers to mentoring

Diverse forms of challenges also made it difficult for participants to enjoy the benefits of mentoring. Critical disparities in the mentorship, lecturers working under severe constraints, and the lack of confidence from students impede mentoring processes. All participants were of the view that their mentors either never had any expectation of them or were unable to make time for them.

*Mentors don't know really what they are supposed to do as mentors and mentees may not also know what they should expect from the mentors. They are just there you don't see anything. But apart from, the issue of time constraint, the mentor may want to be committed to the life or affairs of the student mentee but may not be available because of several activities which consume their time. May be conferences, workshops, travelling and attending meetings... (Ghana 4, Female).*

In a similar manner, another participant related similar experiences,

*Time constraints on the part of the mentor, the mentor's unavailability. I was ready and willing to be mentored but I hardly met my mentor. He only occasionally responded to my calls and text messages. Because the mentoring engagement was informal and nobody provided me with an understanding of the process, I had to rely on myself. Hopefully, my mentor will come around before I complete my studies. (Ghana 2, Male).*

Some participants from the USA bemoaned the challenges posed by cultural differences and subtle forms of racism in the mentoring process.

*I think cultural differences is one, it's very major and I also think personal bias comes to play ... Because they [mentors] want to prove that either they are not racist or homophobic, they try to put up appearances, but it doesn't take long to backfire. The whole mentoring process is filled with biases and mentees struggle all through. (US 3, Female).*

*I think sometimes specifically for people of colour not having enough mentors. I think that's a barrier for us is sometimes not knowing how to select the mentors. Sometimes we select them for their academic credentials where there are no variety, but they are not really the people who maybe should be mentoring you per se. (US 4, Male).*

Over half of the study participants also reported personality traits, which pushed both mentors and mentees into awkward relationships, affecting the mentorship process. A female participant (US 1), concurring with the other participants stated,

*You get some daring students who will come to you and push you and say I need you to do this for me and other students are also reserved and laid back and all that you see so they don't usually have that confidence to come forward to approach the mentor. I think that student not having the confidence to approach the mentors mostly because they see them as busy people is another setback. And I think some of them are unapproachable in terms of the way they present themselves. (US 1, Female).*

Evidently, barriers to mentoring abound in the studied institutions. Surprisingly, the barriers at the two institutions were hardly varied despite the availability and unavailability of an institutionalized mentoring framework at the US and Ghanaian institutions respectively. From this, the results shift to the last section on how best mentoring processes can be improved from the perspective of the participants.

## Improving the mentoring process

Given the challenges experienced in the mentoring relationship, the participants advanced ways of improving the mentoring process for mentees to gain the utmost benefits. Three outstanding recommendations which offer snapshots of the views of the study participants were gleaned from both studied institutions. Their reflections are as follows.

*I think if we really want mentoring to work well, then number one, there should be policies that will come out clearly stating what we [referring to doctoral students] want to do, how we want to do it for all parties to be aware. If for example, it's part of a PHD programme and I must go through it, I don't have any excuse than to go through it. (Ghana 5, Female).*

*I think any formal education system that brings in new students should have some established formal mentoring programmes so that students, whether they are undergraduate or graduate students, will benefit from mentoring. I think it should be, it should be done like we do financial aid. (Ghana 2, Male).*

The last quote on this theme is from a participant in the USA who touts his school's policy as important. Yet he identifies a gap for which he advocates for a monitoring strategy to make the mentoring process more effective.

*My school has an excellent mentoring system where you are assigned right from the onset of your doctoral studies. It is important for a hectic doctoral study, but the school needs to put in place strategies to monitor the relationships. Sometimes, the subtle racism and the likes destroy the very essence of graduate mentoring (US 5, Male).*

From the responses, one could adduce that both the institutionalized and non-formal mentoring processes are faced with certain critical challenges which could be ameliorated to make it better as suggested by the study participants.

## Discussion

This study delved into students' experiences with mentorship during their doctoral studies. According to the findings of this study, postgraduates' perceptions of the quality of mentoring provided by their universities could be an important cognitive apprenticeship tool. The CAM could aid in the design of postgraduate education instructional materials and can be used to improve mentoring programmes (Garcia-Cabrero, Hoover, Lajoie, Andrade-Santoyo, Quevedo-Rodríguez & Wong, 2018). Thus, the importance of mentorship programmes in the development of valuable research competencies has been documented (Trott, Sample McMeeking, Bowker, & Boyd 2020). Based on the study findings, whereas the US institution had a formalized mentoring system, the Ghanaian university did not. Seven out of ten participants thought the mentoring process was appropriate. Meanwhile, the remaining participants faced challenges such as mentor shortages, time constraints, a lack of mentoring processes, and insufficient university support which informed their reservations about their entire process. Also, mentorship experiences and expectations are critical for the professional development of postgraduate students. (Lee & Chiang, 2021).

The study further discovered that mentors in postgraduate education play an important role in engaging and directing students through the doctoral training process. Some mentors, however, lack interest and focus, resulting in complicated situations and little university support for their efforts. Investing in mentorship training for faculty, as well as professional support, has been identified as a critical component in higher education by many researchers (Johnson, 2015; Giust & Valle-Riestra, 2017; Mazerolle, Nottingham & Coleman, 2018). Furthermore, the study found that some potential doctoral students changed their career plans after their mentorship experience. There are studies in the mentorship literature that provide insight into career plan changes during mentorship experience (Eesley & Wang, 2017). In this context, it may be expressed that mentoring experiences in a particular space have a long-term effect on individual's career plan. As a result, this analysis establishes the theoretical framework within which fewer tangible aspects of mentoring experience can serve as cognitive apprenticeship and support. Empirical research on student experiences has confirmed many of the model's predictions (Greer, Cathcart & Neale, 2016; Tsukube & Matsuo 2020; Pittaway, Brush, Corbett & Tantawy, 2023).

This study discovered differences in the mentorship programmes of the institutions studied, such as long-standing programmes, mentor availability, and institutional support. Participants from the United States raised concerns about cultural differences and racism, whereas participants from Ghana's university raised concerns about a lack of formalized mentorship programmes, mentors being overburdened with heavy workloads, and a lack of mentor support. Despite these obstacles, participants from both institutions valued the mentoring process as an important part of their personal and emotional connection to the university as well as their career plans (Agyekum, 2022; Seraj & Leggett, 2023). It is, therefore, imperative to note that when designing mentorship programmes to assist doctoral students in their studies, universities and departments must consider the various contexts.

## Conclusion and Implications for Effective Mentoring

This article looks at the cognitive apprenticeship model as a tool for examining doctoral students' mentoring experiences, with a focus on the higher education sectors in Ghana and the United States. The incentive to obtain a doctorate, mentoring experiences, mentor connections and



support, obstacles to mentoring, and streamlining mentoring procedures were the primary issues that came to light. It is recommended that the study be replicated by expanding the study sites, seeking samples from more departments, and involving more study contexts. This study attempted to leave the cognitive apprenticeship model open to acknowledge that such mentorship programmes are complex. More research is needed, however, to critically examine how graduate students experience mentorship, particularly in mentoring relationships and support. Because in-depth interviews may have introduced bias, a study using alternative data collection methods may be required. Based on the findings of this study, it is possible to make the following recommendations to universities and departments of higher education to make mentoring, which has an essential place in postgraduate studies, more effective.

Postgraduate students should be able to select their mentors based on their academic and career goals. Both mentors and mentees should concentrate on their respective strengths, weaknesses, interests, expectations, and requirements. This study provides policy guidance for universities and departments seeking to implement effective strategies for attracting and retaining postgraduate students. Implementing mentorship programmes is a good way to create an enabling environment that assists students in developing professional relationships and networks, better preparing them for experiential learning, and increasing student satisfaction. The task would then be to apply the recent call for "mentoring practices" to the needs of specific student groups (Walkington et al., 2020) to investigate how higher education students are positioned, empowered (or not), and enlivened (or not) in knowledge production. If it is agreed that informal mentors and mentors who are not academic advisors on research projects have negative implications for mentees' subsequent career success (Bäker et al., 2020), this task is critical.

Postgraduate students' experiences are impacted by a lack of mentoring support because they feel abandoned and disconnected from their mentors. Furthermore, some participants' informal mentoring processes can cause stress and hopelessness, undermining the programme's success. Policy elements must be considered from the standpoint of the participants.

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