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Professional Development among In-Service Teachers: Motivational Factors, Pathways and Coping Strategies

Samuel Amponsah, Ernest Ampadu, Michael Thomas

Abstract

While research indicates that teachers' continuing professional development (TCPD) is highly significant for the successful implementation of effective classroom instruction, few research studies to date have explored the role of TCPD in Ghana. This paper aims to map the pathways of TCPD for in-service teachers in Ghana while exploring their motivations and coping strategies of these adult learners. The study employs a cross-sectional survey design in which 45 students enrolled in an MA Education programme were trained to collect data from 352 inservice teachers in 310 schools using a semi-structured questionnaire as the data collection instrument. The data from the study were analysed using both descriptive and inferential statistics. The results from the study show that subject matter, knowledge of curriculum, and assessment knowledge were the three most important factors behind the teachers' motivation to participate in CPD. Moreover, the analysis of the coping strategies of the in-service teachers suggests that there was little or no institutional support for them. In addition to this, despite the significant role mentorship plays in ensuring effective teaching and learning, the overwhelming majority of the teachers saw mentoring and exchange programmes as one of the least important forms of CPD opportunities available. Recommendations from the study indicate that teachers' professional autonomy and the disparity between the professional values and skills demanded in 21st-century education cannot be underestimated and that more research is required on how to design CPD programmes that will provide Ghanaian in-service teachers with the creative and innovative skills they require.

Keywords: Teacher Continuous Professional Development; coping strategies; in-service teachers; motivation.

Introduction

Continuous professional development (CPD) traces its roots to the post World War II period when educational institutions realised the need for structured learning among in-service teachers and lecturers after formal training. Until that point, it had largely been the preserve of professionals to identify the knowledge and skills required for their own CPD and to find a means of addressing any gaps. In that vein, Savage (2018) notes that the increasing advancements in technology around the professional milieu (teaching inclusive) calls for more structured and organised learning programmes among professionals. Similarly, the CPD Standards office (2015) in the UK views CPD as a path that aims to advance the latest developments and knowledge among practitioners. These developments have shifted the attention of CPD from the employee to both organisations *and* employees and the need to

understand the types of motivation guiding the activities as well as the strategies used to successfully complete the training.

While there is no shortage of research on teachers' continuing professional development (TCPD) globally and in Ghana, in particular, research studies from Ghana have mainly focused on policy issues, the impact on teaching and learning, teacher training and preparation, and teachers' participation (Abreh, 2018; Abubakari, 2020; Adu-Yeboah, 2011; Armah, 2016; Asare & Nti, 2014). Aside from that, TCPD efforts have also concentrated on pre- rather than in-service teachers in Colleges of Education (CoE) in Ghana. If UN SDG4, Target 4.c (a substantial increase in the supply of qualified teachers) (United Nations, 2016) is to be achieved by 2030 in Ghana, then these gaps in the research need to be addressed in order to inform policy in the future. As a result, this study seeks to map the pathways of TCPD for in-service teachers in Ghana while exploring their motivations and coping strategies. The specific questions guiding this study in the Ghanaian context were:

RQ1: Which factors motivate in-service teachers to develop themselves through CPD?

RQ2: Which pathways are accessed by or are available to teachers to undertake CPD?

RQ3: What coping strategies are employed by teachers to overcome the challenges they face in undertaking CPD activities?

Review of the Research

Avalos (2011) conceptualises Teacher Continuing Professional Development (TCPD) as teachers' learning, including how they learn and how they embed their knowledge in practice to support pupil learning. Similarly, Guskey (2002) describes teacher professional development as procedures, actions and events that are intended to enhance the professional understanding of educators, teaching abilities and attitudes to improve learning. The need for CPD among teachers globally has become imperative given the advancements necessitated by digital technology and knowledge sharing.

These advancements make the demand for qualified, knowledgeable, and skilled teachers paramount to be able to meet the increasingly intricate needs of the 21st century learner (Darling-Hammond, 2017). Thus, it is essential to recognise that sustained CPD efforts are imperative in attracting and maintaining high calibre teachers whose pedagogical and delivery practices are beneficial to students' outcomes. In this regard, the Cambridge Professional Development Qualifications (2014) state that "The most important factor in the quality of students' learning is the quality of teaching and school leadership. Teachers and leaders need

to develop their professional thinking and practice continuously throughout their careers" (p. 3). If due attention is given to this statement, teachers and school leadership would be positioned to effectively assist their students as indicated in the two definitions by Avalos (2011) and Guskey (2002).

Despite the seeming importance of TCPD, Armah (2016, p.2) pointed out that the "disparity between the professional values and skills demanded from a 21st century teacher and those available among the teaching population" remain a key challenge to professional development efforts among Ghanaian teachers. Abonyi, Yeboah and Luguterah (2020) in their analysis of how environmental factors influence the application of teacher professional development in Ghanaian basic schools, also established that despite the significance of the type and availability of professional development programmes, headteachers' support through the provision of resources and peer support through the culture of shared values and norms are critical to individual teachers' ability to apply the knowledge acquired in their respective classroom. They further argued that rigid and inflexible teaching timetables and teacher workload were the main constraints that affect individual teacher's attendance in professional development programmes. Among Malaysian teachers, Omar et al. (2017) identified complex bureaucratic approval systems, distance, the high cost of fees and workload at school as impediments to pursuing effective CPD. Opfer and Pedder (2011) add that most CPD activities have remained traditional in terms of the short durations assigned to them and the focus has been increasingly aligned with content without recourse to active and self-directed learning as desired by adult learners. The authors also decried aligning CPD with curriculum standards at the expense of other systemic aspects.

In the face of these and other related challenges to TCPD in different contexts, identifying the most appropriate model of CPD remains essential to provide effective post-training. For instance, Pelochino (2014) identified five major types of TCPD: in-house, district-wide or organisational-wide, institution-based, professional inquiry group and coaching. Kennedy (2005) earlier proposed nine models of TCPD which he synthesised into three categories: training, award-bearing, and deficit (transmission category); standard-based, coaching/mentoring, and community of practice (transitional category); action research, transformative, and cascade (transformative category). Kennedy's three categories range from teachers having low control over their learning to having more professional autonomy. To

benefit meaningfully from TCPD school leadership and teachers should be cognizant of their knowledge and skill gaps and subscribe to the most beneficial model(s) of training.

Furthermore, based on the correlation between TCPD and the outcomes of students' learning, Guskey (2002) introduced five levels of evaluation as benchmarks for improving TCPD programmes. The levels include participants' reaction, participants' learning, organisational support and change, participants' use of new knowledge and skills, and students' learning outcomes, respectively. The assumption is that when the most appropriate model or type of CPD is subscribed to at the correct time, and appropriate benchmarks are put in place, investment in such programmes can yield tangible benefits.

In Ghana, like in most other African countries, TCPD is organised both at the micro and macro levels including pre-service teacher training at the colleges of education, in-service training within school settings, and distance education programmes and sandwich programmes organised by both public and private universities in the country. The forms of TPD programmes, which have become common in recent times in Ghana are distance education and sandwich programmes. TPD programmes in Ghana adopted a competency-based framework in 2012 when it was recognised that teacher education institutions and agencies were tasked with developing detailed standards and competencies, professional attributes and values, planning teaching and learning, and observable classroom skills (MOE/GES, 2012). This framework was underpinned by the principles of mastery of learning and criterion-referencing assessment with identified competencies that learners are expected to achieve (Lassnigg, 2017). However, despite the important role of such a competency-based framework, research by Perry and Bevins (2018) has shown that this approach of importing practices from more established education systems has been widely criticised and, in most situations, does not pay attention to the contextual needs of the teachers that they train. Similarly, Hardman et al. (2011) also argued that the development of professional development programmes for subSaharan Africa should not just be underpinned by the internationally accepted standards but should begin with a critical analysis of the contextual factors that exist in these countries and use that as the starting point for such programmes. One of the most efficient and creative ways of helping teachers to develop themselves from within their context is through the use of the cascade-type of professional development. Despite this approach's effectiveness in reaching out to a larger number of people at a low cost, the organiser normally underestimates the significance of epistemological coherence (Perry & Bevins, 2018). This means that it is essential to make sure that the belief and ideologies of the co-trainers and facilitators are consistent with the

underpinning principles of the new programme or approach. The provision of training for co-trainers should start with a deliberate attempt to provide support and guidance to enable their epistemological beliefs with the underlining principles of the new teaching approach, as this is the only way that they can develop self-confidence, and the knowledge skills needed to support their colleagues in a similar setting.

Apart from the competency-based framework for TPD, a new reform dubbed Transforming Teacher Education and Learning (T-TEL) was introduced in the country in 2015. The T-TEL programme, which was funded by UK Aid Direct and aimed at improving classroom practice in the colleges of education through the use of activity-based learning, adopted innovative strategies to foster learner-centred pedagogy and provide quality practice for pre-service teachers in all the then 40 public Colleges of Education (CoEs) in Ghana (T-TEL, 2016). One of the key components of the new reform has been the presence of weekly CPD sessions which require college tutors to meet to examine course manuals critically and explore how the different concepts should be taught. The rationale behind this professional development programme is based on the premise that "interventions to improve tutors' teaching skills will lead to changes in the behaviour, performance, and teaching skills of student teachers" (T-TEL, 2017, p.10). This implies that as college tutors learn and adopt interactive and student-centred instructional strategies, the pre-service teachers will in turn teach using these approaches as they have experienced them in their training. T-TEL provides support for the college-based professional development of the tutors through weekly sessions to improve teachers' teaching practice. In addition to this, apart from the pre-service teachers undergoing training at the colleges of education who receive this kind of professional development training as part of the T-TEL programme, the National Council for Curriculum and Assessment in partnership with the Ministry of Education and Ghana Education service introduced a new curriculum called Standard-Based Curriculum in all basic schools in Ghana during the 2019/2020 academic year. In view of this, in-service teachers teaching in the various basic schools in the country have been trained on the application of this new standards-based curriculum and it is worth noting that most of the teachers in this study had completed their teacher training programmes from these colleges of education and may have experienced this kind of professional development programmes run by the T-TEL project. Also, it is assumed that all teachers teaching at the basic level in Ghana have been trained on this new curriculum.

Educational contexts in Sub-Saharan Africa are shaped by socioeconomic factors and political upheavals that constantly challenge teachers to engage in meaningful and sustainable CPD activities (Sayed, 2018). There is strong evidence in the research literature that varying approaches to CPD are evident, with some teachers preferring formal programmes, while others engage in self-initiated courses or a mixture of both. An awareness of the personal context of each teacher, rather than developing a one-size-fits-all approach is also essential. Though measuring success of CPD programmes has remained a complex and contested area, we agree with Mokhela and Jita's (2010) assertion that teachers' ability to innovate and develop resilience, as well as to identify activities that strongly align with their motivation and professional and personal context amount to success. Similarly, where teachers' capabilities, willingness to adopt new policy initiatives and positively contribute to student learning outcomes could be used as a measure of success of CPDs.

Desimone's (2009) framework for teacher professional development aims to link the core features of CPD with an understanding of change in teacher and learner behaviour. The framework contains four main steps:

1) teachers' individual experience of CPD which includes core features such as recognising the need for changes in content, developing active forms of instruction that are coherent and based on collective participation over a sustained period.
2) the acknowledgement that the CPD aims to enhance or transform teachers' knowledge and skills which in turn lead to changes in their beliefs and attitudes to teaching and learning.
3) this new knowledge is deployed to transform teachers' pedagogical and instructional approaches.
4) these changes in pedagogical approach and content lead to an enhancement of student learning outcomes as a measurable indicator (Mokhele & Jita, 2010).

With the focus on a clear pathway from changing teachers' perceptions, beliefs, and attitudes to enhancing students' learning outcomes, the model is operational in orientation but fits with the turn toward more student-centred approaches to learning outlined above. Its strength is in the realisation that effective CPD is not a short-term activity or merely focused on acquiring additional content knowledge that may or not be used or applied, as can be the case with many professional training activities. On the contrary, this model derives from the clear understanding that CPD activities need to be personally meaningful for teachers and that it leads to material changes in behaviour and outcomes.

In summary, while there has been considerable research on TPD few if any studies have examined the pathways of TPD in Ghana. Likewise, there is no unified framework to guide TPD in Ghana and the literature also points to the fact that most efforts to date to establish meaningful programmes of TPD in the country have been initiated by donors and/or foreign entities. In responding to this context, this paper is significant in that it aims to be one of the first studies to highlight these deficiencies in the field, to undertake empirical research on TCPD with in-service teachers in Ghana, and to explore an appropriate framework to help policymakers, educational managers and leaders, teacher trainers and teachers to understand the complex dynamics involved.

Methodology

Research design

This study sought to map the pathways of TCPD in Ghana while exploring in-service teachers' motivations and coping strategies. Since the study assumed a national scope and studies in Ghana have centred on other issues related to TCPD apart from the teachers' pathways, the exploratory cross-sectional survey was deemed appropriate. As explained, the crosssectional survey approach can help in collecting and evaluating data from a sample that is representative of a particular population at a particular point in time. They further expounded that the cross-sectional survey assumes a descriptive nature when there is no consideration for further development and data collection from the same sample at a later point. In this regard, teachers from across the length and breadth of Ghana were targeted as participants in the study to share their views on TCPD by answering the survey instrument.

Sampling

The sample was drawn from all in-service teachers from Ghana. Specifically, the study was interested in teachers who have been involved in PD efforts in at least the past two years (2017-19). The purposive sampling technique also called judgemental or expert sampling was employed to recruit the participants. Though this technique is mostly aligned to non-probability sampling, the researchers realised it would be practically impossible to target and select teachers who have been involved in TCPD in the past two years, so the adopted technique was deemed best for this study. Also, Lavrakas' (2008) asserts that purposive sampling aims to produce a sample that is logically assumed to be representative of the general population. He further noted that this can be accomplished through the application of expert knowledge of the population to select a sample of elements that represent a cross-section of the population in a

non-random manner. In this regard, headteachers were approached so the researchers could seek their permission to engage teachers who had been involved in TCPD within a two-year period. Once the sampling frame was obtained, the teachers were approached either physically or via telephone to establish the veracity of their TCPD engagement before obtaining their agreement to participate in the study. In total, a sample of 352 teachers from 310 schools across the country agreed to participate in the study.

Background Characteristics of the Participants

The first part of the questionnaire addressed the background characteristics of the participants (see Table 1).

Table 1. Demographic characteristics of respondents (*N* = 352)

Characteristic	Parameter	Frequency (N)	Percentage (%)
Gender	Female	123	34.1
	Male	229	65.9
Age (years)	20–29	124	35.2
	30–39	168	47.7
	40-49	47	13.4
	50+	13	3.7
School Level of Teachers	Pre-school	13	3.7
	Primary	93	26.4 26.4
	JHS	93	43.5
	SHS	153	
Educational Qualification	WASSCE	12	3.4
	Certificate	4	1.1
	Diploma	65	18.5
	Degree	216 55	61.4
	Postgraduate		15.6

Note: WASSCE is an acronym for West African Senior Secondary Certificate Examination which is a terminal examination held for students who pass out of secondary/high schools in West Africa.

As highlighted in Table 1, a total of 352 in-service teachers (123 females, and 229 males) took part in the study and the sample was drawn from the whole country with majority 281 (79.8%) of the participants from the southern part of the country and 44 (12.5%) from the northern part. Also, the participants were drawn from all the different levels of education in the country, with a greater number 153 (43.5%) teaching at the senior high school level and 1(3.7%) at the preschool level and 93 (26.4%) each teaching at the primary and junior high school level.

Meanwhile, data gleaned from GhanaWeb (2021) indicates that there are 18,530 primary schools, 8,850 junior high schools and 900 senior high schools which translates to 28,280 pretertiary institutions in the country. In terms of teaching staff in the country, Sasu (2020) highlighted that there are 168,546 basic schoolteachers, and 187,914 senior high school teachers which amount to 356,460 teachers engaged at the pre-tertiary level in Ghana.

Instrumentation

A researcher-constructed questionnaire instrument was designed based on gaps identified in the research literature and consisted of four sections incorporating a total of 29 questions.
Section A contained nine closed-ended questions eliciting respondents' biographic information. Sections B, C and D addressed the motivation behind respondents' CPD efforts, the trajectories or pathways guiding their CPD and the challenges and coping strategies used in pursuit of their CPD efforts respectively. The three sections used four and five-point Likert scales (see the analysis section of this paper) and several open-ended questions to enable the participants to elaborate on their answers to the closed-ended questions or add a view that had not been captured but that they felt was essential to the study.

Ethical considerations

Following recommendations from Wassenaar (2006) and Flick (2006), the researchers sought permission from the district education offices in all 16 administrative regions of Ghana where participants were drawn from. This was followed by a process that obtained permission from the headteachers whose teachers responded to the survey instrument. Individual respondents provided their consent either in person or via telephone. Furthermore, the rubrics of the questionnaire carefully described the protocols governing the confidentiality and anonymity of participants' responses. The participants were also made aware that they were not obliged to answer any questions they felt warranted personal information or could harm them in any way. Finally, the data were stored in a password protected domain known only to the researchers and the analysis of the data was done without recourse to any of the participants' identities.

Validity and reliability

The validity of the instrument was ensured through a pilot study of 27 teachers who were not part of the main study sample. Following the pilot study, several changes were made to make the instrument relevant to the context. For example, the wording of some of the questions had to be changed to make sure that participants understood what was required from them.

Moreover, several redundant questions were deleted. The reliability of the questionnaire was confirmed (*Cronbach Alpha = 0.853*).

Data Collection and Analysis Procedures

The fieldwork commenced in May 2019 after the survey instrument had been finalised, and clearance had been given by the district education offices and respective headteachers. Fortyfive students in a Master of Education programme at the University of Ghana in the 2019/2020 academic year agreed to serve as field officers for this study. The lead and second researchers for this study delivered a two-day training event to enable them to understand the processes involved in survey data collection and the pilot study. Four hundred questionnaires were printed and distributed to the teachers with whom initial contact had been established by the end of April 2019.

The field officers were encouraged to maintain contact with the respondents so that they would answer all the survey questions. They checked on the respondents on a weekly basis and collected those that were ready. The researchers created a WhatsApp group to answer questions that needed explanation from the respondents, while encouraging them to answer the questionnaire and reminding them of the study's purpose and issues of confidentiality. By the end of July 2020, 352 fully completed questionnaires had been returned by the field officers. The data were cleaned and made ready for analysis. The data gathered from the participants were entered into SPSS version 22 and both descriptive (percentages and means), as well as inferential statistics (independent t-test and ANOVA), were used to answer the study's research questions.

Results

RQ1: Which factors motivate in-service teachers to develop themselves through CPD?

To answer the first research question, the participants were asked to rank 15 items using a 4point and 5-point Likert scale. Items 1-7 was ranked using a 4-point Likert scale and the last eight items were ranked using a 5-point Likert scale, hence the differences in the mean values and the results are depicted in Table 2. The first seven items were used to elicit knowledge from the participants regarding their motivation to develop themselves to be knowledgeable in these areas. The last eight items were used to elicit information from participants regarding their motivation to develop their competencies in various aspects.

Table 2: Motivational factors behind teachers' efforts to develop themselves

Sources of motivation	Mean	SD	Std Error Mean	T-values	Sig. (2 tail)
Knowledge of teaching pedagogy*	3.46	.631	.034	33.713	.000
Subject matter content knowledge*	3.81	.503	.027	48.728	.000
Knowledge of learners*	3.48	.627	.034	29.224	.000
Knowledge of curriculum*	3.58.	.662	.035	30.593	.000
Knowledge of assessment criteria*	3.53	.658	.035	29.147	.000
Knowledge of technology*	3.38	.638	.034	25.707	.000
General knowledge*	3.35	.668	.036	23.842	.000
Competence in teaching learners**	4.56	.734	.039	39.819	.000
Competence in self-study**	4.34	.807	.043	31.052	.000
Competence in leadership**	4.16	.901	.048	24.130	.000
Competence in collaboration and communicating with others **	4.27	.869	.048	27.364	.000
Competence in current issues in field**	4.36	.808	.043	31.549	.000
Competence in curriculum development**	4.11	.866	.046	24.117	.000
Competence in integrating technology**	4.12	.806	.043	25.997	.000
Competence in classroom management**	4.58	.696	.037	42.384	.000

**The above motivational factors were ranked using a 4-point Likert scale (1- no need at all, and 4 – high level of need).*

*** The above motivational factors were ranked using a 5-point Likert scale (1- not significant, and 5 – greatly significant*

Results from Table 2 suggest that the respondents ascribed positively to all the seven motivational factors, but a critical analysis of the results indicates that subject matter, knowledge of curriculum, and assessment knowledge were the three most important factors behind teachers' efforts to develop themselves through CPD. General knowledge was the least motivational factor and it is also worth noting that knowledge of digital technology was not considered as a higher motivational factor. This is an issue of concern especially

now that most teachers and educational authorities are advocating for the use of digital technology to enhance teaching and learning because of the COVID-19 pandemic. Similar to the findings, the participants were positive about the other eight items which measured their perceptions of the factors that influence their participation in CPD programmes. The results suggest that knowledge of classroom management and the teaching of learners were considered as the most highly rated motivational factors that influence teachers' participation in CPD. Comparable to the findings in Table 2, it is interesting to note that knowledge of curriculum development and the integration of digital technologies were the two least ranked motivational factors. The development of the curriculum has become an integral part of teacher development like the integration of technology into teaching to help improve students learning. However, it was noteworthy to see how the majority of the teachers ranked 'acquiring knowledge for teaching learners' as one of the most important factors that influenced their participation in CPD. Knowledge of this point may be a great asset in the field of adult learning and teacher education as diversity in Ghanaian classrooms continues to increase and teachers have to learn to adapt to different and innovative ways of remaining relevant in their field of work, and also for catering for the individual differences among their students.

RQ2: What were the pathways ~~or trajectories~~ accessed by or available to the teachers to pursue CPD?

To find an answer to the second research question, the participants were asked to indicate the frequency of their engagement with different CPD activities over a two-year time period (see Figure 1).

Insert Figure 1: Types of CPD attended by teachers

From Figure 1, it is evident that teachers participate in different forms of CPD programmes. Analysis of the results shows that self-study and teacher reflection are the most common forms of CPD that teachers participate in. This suggests that most of the respondents develop themselves through processes involving self-learning and reflection which are characteristic of adult learners. Being a reflective practitioner has become one of the hallmarks of the development of the professional identities of teachers. Teachers using this mode of

development can therefore play a critical role in the quest to develop reflective practitioners in the teaching field. However, analysis of the data also suggests that the majority of the respondents had never been involved in either domestic or international exchange programmes.

Considering the diverse nature of Ghanaian classrooms, exchange programmes could provide teachers with varied and practical experiences relevant to understanding the different dynamics in classrooms and contexts, and the strategies that could be used to provide support for all students. The results also show that the majority of the teachers had participated in different types of further education studies as a means of developing themselves. An awareness of this strategy could be a significant asset to the teaching profession as it is evident that teachers are willing to participate in different forms of CPDs for both personal and professional development.

RQ3: What coping strategies were employed by the teachers to overcome the challenges they faced in pursuance of their CPD efforts?

Participants' involvement in a CPD programme is affected negatively and/or positively by many factors. To answer RQ3, the participants were asked to indicate the extent to which their participation was affected by nine different factors in particular (see Table 3).

Table 3: Challenge to teachers' professional development efforts

Challenge	Mean	SD	Std Error Mean	T-values	Sig. (2 tail)
Conflict with curricula activities	2.73	1.245	.066	-4.029	.000
Management resistance	2.92	1.246	.067	-1.201	.230
Finance	3.66	1.271	.068	9.728	.000
Family responsibilities	2.98	1.296	.069	-0.329	.0742
Social responsibilities	2.74	1.206	.064	-4.11	.000
Proximity to training programme	3.07	1.224	.065	1.132	.258
Requirements for programme	2.03	1.246	.066	-2.523	.012
Alignment to career goals	3.05	1.268	.068	0.799	.425
Alignment to promotion	3.02	1.337	.071	0.239	.811

Note: The above motivational factors were ranked using a 5-point Likert scale (1- not significant, and 5 – greatly significant).

As Table 3 suggests, the majority of the respondents indicated that the major challenge that influences their participation in CPD concerns the issue of financing their studies. Moreover, most of the participants identified the importance of the proximity of the training programmes, the course's alignment to their career goals and promotion pathway. That is, financial challenges, and the inability of educational authorities to organize meaningful and relevant programmes are major factors affecting teachers' participation in CPD. Although issues of conflict with curriculum activities, management resistance, family and social responsibilities had some impact on the respondents' ability to participate in CPD, the results suggest that most teachers are normally motivated to participate in any given programme if they know that they will benefit from it in terms of career progression. Based on this data, it is clear that most teachers acknowledge the importance of CPD and are willing to participate in such programmes but normally find it difficult to attend because of financial challenges and the lack of suitable programmes.

When asked to indicate how they coped with these challenges, 35 (9.9%) of the respondents indicated that they received support from their families and other relatives. A response from the open-ended questions to corroborate this stated, *"My wife decided to pay for the kids' school fees when we agreed I embark on a professional development programme."* In addition to this 7 (1.98%) were of the view that they tried to complete weekend CPD events, while 29 (8.2%) also indicated that they saved money and took out loans from friends and financial institutions to support their CPD efforts. It is, however, interesting to note that about 174 (49.4%) of the participants indicated that they coped with these challenges through proper planning and effective collaboration with colleagues. This is reflected in one participant's response as follows, *"throughout the two years I was engaged in further studies* [a master's programme], *I hardly attended any social function. It was always me and my books so I could finish and return to work on time."* The quest for learning improvement largely depends on how trained and knowledgeable teachers are, as there is a direct relationship between teachers' knowledge and skills and students' performance (Jepketer, et al., 2015). Hence, knowledgeable teachers and staff members can make critical decisions and engage in initiatives that will improve the teaching and learning process in the school and the overall development of the school. Despite the numerous challenges that teachers encounter in their quest for attending CPDs, most teachers were eager to find ways of participating in training opportunities, and suggested that educational authorities and other stakeholders should provide support for teachers to enable them to attend meaningful CPD activities.

Discussion

The results from the data indicated that teachers' professional development is critical to the quest to improve the quality of instruction and students' achievement. A critical analysis of the results suggests that the participants appreciated the important role of CPDs for their personal and professional growth and ascribed positively to the many motivational factors that had been outlined. This is consistent with the ideas of Mokhele and Jita (2010) that in this era of globalisation, teachers have to be innovative and develop resilience and identify and align themselves with CPDs that will not only support their personal growth but improve their work as professionals. However, there were some contextual differences in the teachers' responses that may be interesting to explore to aid us further in understanding their specific motivations.

For example, while the introduction of the blended mode of learning as a consequence of the COVID-19 pandemic has made teachers more aware of the use of digital technology in the teaching and learning process, knowledge of technology and knowledge of curriculum or assessment were the least ranked motivational factors. This might be due to the lack of CPDs in these areas, or the relevance of such programmes to these teachers before the COVID-19 pandemic in Ghana. Therefore, it is critical to ensure variety in the CPD offer to help provide optimal opportunities for teachers to upgrade different aspects of their personal and professional growth by having more autonomy (Kennedy, 2005). It needs to be emphasised also that participants in the study were adults engaged in learning whose sense of autonomy was important to them and would most likely subscribe to CPD programmes that take into account their contextual issues (Hardman et al., 2011).

Teachers from the study have been involved in different forms of CPD and because of the diverse nature of classrooms often found in Ghana, teachers must participate in most of these activities to provide the individual support that students need. However, it was found that many of these teachers had little or no previous experience of participating in exchange programmes, mentoring and further studies. As highlighted by Kennedy (2005) and Armah (2016), teachers' professional autonomy and the disparity between the professional values and skills demanded by 21st-century teaching environments cannot be underestimated, hence the need to provide a holistic CPD package for teachers that will help them to design and deliver innovative and creative lessons is essential. Indeed, given the dynamic nature of society, teachers need to stay abreast of new developments in pedagogy and international education to be better able to adapt to them. Also, on account that around 82% of the teachers in this study were aged between 20

and 39, they had quite a number of years of service. Hence, bespoke CPDs are imperative for their personal and professional growth (Desimone, 2009) instead of imported CPDs that may not take care of environmental factors affecting these teachers' professional development (Abonyi et al., 2020; Perry & Bevins, 2018).

Furthermore, mentoring is critical in the personal and professional development of the mentee and the mentor. As highlighted by Moor et al. (2005), mentoring helps the mentee to become more confident and committed, aids the personal and professional development of teachers and produces additional gains to the learner and the school in general (Desimone, 2009). Despite the numerous advantages associated with taking part in CPDs, the findings from this study suggest that teachers may encounter challenges in participating in this type of training and therefore must develop different coping strategies to overcome the challenges they face. As indicated, about 49.4% of the participants developed practical strategies which enabled them to cope with the numerous challenges that confronted them through proper planning and effective collaboration with colleagues.

Concluding the discussion section of this study, it is important to mention that Desimone's (2009) framework for TPD that underpinned this study is instrumental in filling the gaps identified so far and for strengthening CPD efforts in Ghana. Thus, Desimone's framework calls for CPDs that are holistic in nature, focuses not only on teacher development but also on student outcomes and a plurality of different approaches in any one CPD strategy.

Conclusion

This study explored professional development among in-service Ghanaian teachers by examining their motivational factors, pathways, and coping strategies. That is, the research examined the nature of CPD workshops that in-service teachers have participated in, what motivational factors accounted for their participation, the challenges and the coping strategies used by these in-service teachers. It is important to note that the findings provide some valuable implications to support Ghana's attempt to improve teaching and learning practices in line with the 2030 goal integral to UN SDG 4.c. However, due to the sample size and other variables (e.g. regional composition of the participants, educational and professional background, resources, and institutional related factors), the findings cannot be generalised. Further research with larger sample sizes needs to be conducted to examine the relationship between these

factors and in-service teachers' participation in CPDs to help provide a more holistic picture of the situation.

In this study, the results suggest that in-service teachers have several reasons for participating in CPDs. Issues relating to the subject matter, knowledge of the curriculum, and assessment knowledge were the three most important factors behind these teachers' motivation to participate in CPDs. Since an overwhelming majority of the respondents ascribed positively to the importance of CPDs and hence their willingness to participate in these workshops, further research could be conducted to understand the reasons why these three factors in particular, achieved such prominence in terms of motivation. With cognisance of this, we also suggest that future studies should consider several other important variables (e.g. regional composition of the participants, educational and professional background, resources, and institutional related factors) highlighted above. One of the most significant contributions of this research is the analysis of the coping strategies of these in-service teachers in their quest to develop their personal and professional practices. It is important to note that despite the teachers' willingness to participate in CPD, institutional support was either not available or very minimal. Most of these respondents attested to the fact that they must support themselves through CPD or receive support from friends and family members.

Another original contribution of this study to the gaps identified in research in the Ghanaian context is the fact that mentoring and exchange programmes were considered as one of the least significant forms of CPD opportunities available to the adults engaged in professional development. This implication affirms Kennedy (2005) and Armah's (2016) assertion that teachers' professional autonomy and the disparity between the professional values and skills demanded cannot be underestimated in the quest for creative and innovative teachers who can provide the knowledge required by 21st-century teaching and learning environments. Similarly, the findings from the study suggest that acquiring technological competency was one of the least mentioned motivational factors for attending CPD workshops, and future research will need to examine this more closely, especially as online learning has become part of the 'new normal' as a result of COVID-19 and remote forms of education. Overall, these findings provide support for the assertion of McKinsey and McKinsey (2007) that "the quality of an education system cannot exceed the quality of its teachers" (p. 16). Hence there is the need for effective and innovative CPD for teachers to equip them with 21st-century skills on effective teaching and learning.

Overall, the framework by Desimone (2009) has served as a useful starting point for understanding the motivational factors, pathways and coping strategies of this cohort of adult learners in the study. It is, however, rather linear and deterministic in orientation and future research on Ghanaian in-service teachers and CPD will need to explore dynamic frameworks to explain the complex personal and institutional motivations behind CPD activity, as well as the personalised coping strategies the study identified. Moreover, the policy-level insistence on designing CPD pathways for in-service teachers to develop pedagogies for 21st-century skills associated with the 4th Industrial Revolution and the digital economy may risk turning educational institutions into training centres preparing learners for the world of employment and marginalising the public function of universities. The importance of CPD as a bottom-up space for developing teachers' critical awareness and ability to reflect on the role of education and pedagogy are important aspects of future empirical research on the subject. As the teachers in this study recognised, TCPD should be holistic, embedded in the teachers' own career plans, supported by local institutions, but also critical and empowering in orientation.

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