



Evaluating the Level of Reflective Practice among Pre-Service Teachers in Tumu College of Education, Ghana

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Abstract

A report from the National Teaching Council of Ghana (NTC) shows that the performance of prospective teachers in General Professional Knowledge is dwindling. This calls for the need to assess the performance of final year pre-service teachers on key indicators like reflective practice, which is a cross-cutting issue in the standards set for teacher education in Ghana. This study sought to assess the levels of reflective practice of pre-service teachers in the Tumu College of Education, as well as differences in their reflective practices based on sex and programme of study. The descriptive survey design was used, where a total of 115 respondents who were conveniently sampled responded to a questionnaire. Data were analysed using means, standard deviations, and t-test. Findings of the study show that pre-service teachers reported a moderate level of reflective practice ($M=3.27$, $SD=.75$). However, the study found no differences in reflective practice among pre-service teachers based on sex $t(113) = .90$, $p = .373$, and programme of study $t(113) = -1.07$, $p = .289$. The study recommends that lecturers in Colleges of Education and mentors in partner schools incorporate reflective teaching in the training and mentorship of pre-service teachers through peer reflections during teaching, action research, and journaling, among others.

Introduction

Reflective practice has received prominence in various disciplines and professions (Sury, 2025). It has become a benchmark of 21st century teacher competence (Milanović & Maksimović, 2025; Xu et al., 2025). Recent studies call for the need to revitalise reflective practice in pre-service teacher education (Li, 2025; Roberts et al., 2021). The important role of reflection to teachers and students is what compels various boards and commissions of education to continue to emphasise the need for educational institutions to identify reflection as a benchmark in education since the last quarter of the 20th century (Rodgers, 2002). From then, reflective practice is increasingly being accepted as an element of professional review in teacher education (Machost & Stains, 2023).

Classroom interactions keep evolving, just as curricular and pedagogical requirements, which require teachers to engage in reflections (Machost & Stains, 2023). Also, the focus of education is shifting towards learning where teachers are increasingly expected to reflect on their approaches to sustain learners' attention (Khelifa, 2009). Reflective practice is a means for teachers to consolidate their competences in relation to pedagogy, innovation, and creativity in the classroom (Mann et al., 2009; Purwanto et al., 2023). Lalor et al. (2014) submits that trainee teachers need to acquire deep reflection to enable them to develop the needed competences to excel in their career. There is a noticeable demand for teachers who are able to adjust their practices to align with new trends and complexities (Salih & Omar, 2022). Reflective practices among preschool educators offer them an avenue to



consistently improve their methods and lead to desirable outcomes in their teaching and learners' learning (Benić, 2025). Reflective practice is pivotal in situation where practitioners have to cope with "divergent" difficulties (Schön, 1983). For instance, during their training, pre-service teachers are introduced to various concepts and theories which become a source of crisis for them, hence the need for reflection to enable them cope (Smith & Black, 2017). To Cole et al. (2022) reflective practice provides the means by which teachers connect theory and practice through introspection. Therefore, scholars generally concur on the belief that reflective practice represents a 'hallmark' of teacher competence (Purwanto et al., 2014).

Extant research has established that reflective practices among pre-service teachers influence their professional Knowledge (Beattie, 1997; Hill et al., 1991; Kulgemeyer et al., 2021; Minott, 2010; Suaib, 2022). It also promotes creativity among teachers (Li, 2025). Mbage (2025) claimed that reflective practice is important for successful execution of new curricular reforms of the century. Evaluation reports from countries such as China (Meng et al., 2024; Yuen et al., 2018), Australia, Bhutan, Canada (DeLuca et al., 2022), United Kingdom (Kolajo, 2025), and Singapore (Rajandiran, 2021) affirm the role of reflection in pre-service teacher training. Based on the forgoing, standards of teacher education underscore reflective practice in 21st century teacher education programmes.

In Ghana, reflective practice has become a cross-cutting issue outlined in teacher education curriculum framework as a proficiency to be developed by pre-service teachers during their 4-year training (NTC, 2017; Ministry of Education, 2017). The teacher education curriculum of the country has provided various strategies for pre-service teachers to develop reflective practice during their training. These include use of reflective journals, professional portfolio development, reflections with peers and mentors during their supported teaching in schools (STS), the use of action research to improve practice, assessment *for*, *of*, and *as* learning, among others. These are similar to strategies used in other countries pursuing reforms in teacher education as found in Gudeta (2022). The incorporation of these measures in the new teacher education curriculum of the country is in alignment with global reforms where reflective practice has become a critical indicator of teacher readiness (Milanović & Maksimović, 2025). Despite these provisions in the curriculum framework, over the years, the performance of Ghanaian prospective teachers in the Ghana Teacher Licensure Examination (GTLE) leaves much to be desired. There has been a persistent decline in the performance of candidates in the General Professional Knowledge (GPK) paper as bemoaned by the Chief Examiner's report (NTC, 2025) presented in Table 1. The report shows that the mean performance of candidates in GPK declined from 63 in September 2023 to 50 in October 2025.

The situation calls for evaluation of pre-service teachers' reflective practices as a cross-cutting issue in the curriculum framework. Some scholars have bemoaned that measuring reflective practices has been neglected because contemporary practices have prioritised assessing only certain observable learning indicators (Rodgers, 2002). Asare (2012) expressed concerns about the lack of attention given to reflective practices of teachers in Ghana. Critical scholars including Suaib (2022) have proposed that the role of reflective practice in teacher preparation curricular needs to be investigated. Therefore, this paper seeks to find out the levels of reflective practice among final year pre-service teachers of the Tumu College of Education. Also, the paper seeks to explore differences in the levels of reflective practice among participants in terms of sex and programme of study as self-reported by respondents.

Context of the Study

Reforms in teacher education have brought about guidelines that should serve as benchmarks for preparing teachers for the pre-tertiary levels of education. The country introduced 4-year Bachelor of Education programmes in Colleges of Education in 2018 which has brought about the modification of initial teacher education curriculum. The initial teacher education curriculum framework focuses on



training teachers to meet a set of minimum standards. These standards are put into three domains namely Professional Values and Attitudes (PVA), Professional Knowledge (PK), and Professional Practice (PP). These domains serve as the minimum indicators for evaluating the competences of teachers as outlined by the National Teaching Council (NTC) (2017), the body mandated by Education Regulatory Bodies Act 2020 (act 1023) to licence teachers.

As part of deliberate means of screening teachers for these competences, the NTC introduced the GTLE for graduates from teacher training institutions to write. Candidates who excel in this examination are given licence to teach at the pre-tertiary level of the country's educational system. One area that prospective teachers are assessed on is their general professional knowledge which entails reflective practice, pedagogical and content knowledge, and knowledge of learners. Performance of candidates in this examination illustrates declining performance in GPK for instance (Table 1).

Table 1: Descriptive Statistics of the Percent Total Scores Obtained in the Past GPK

Examination	N	Mean	Std. Dev.
September, 2023	500	63	13
April, 2024	500	60	12
October, 2024	1,451	55	11
July, 2025	1,601	53	12
October, 2025	2,100	50	12

Source: NTC (2025)

This obviously suggests that prospective teachers do not possess secured GPK. The consistent drop in the performance of candidates presents implications for teacher education and practice in the country. The results imply that a number of these graduates may not be licensed to teach in Ghana; and the country risks failing to meet a critical target of Pupil-Teacher Ratio (PTR) by 2030 outlined by the Ministry of Education (2018). It also raises concerns regarding the quality of graduates of the novel 4-year teacher education programme.

The performance of pre-service teachers in this high-stake examination reveals to stakeholders that there are some fundamental factors that confront the performance of pre-service teachers in the examination. The nature of these factors is not clear to teacher training institutions. The Chief Examiner's report for October 2025 emphasised the need to "...investigate the reasons behind this downward trend, including the candidates' entry characteristics." (NTC, 2025). This calls for the need to assess the performance of prospective teachers in other indicators and latent variables such as reflective practice in the various Colleges of Education, and other initial teacher training institutions.

Theoretical Framework

The theoretical framework for this study is the rationalist-technicist model offered by John Dewey (Ansari, 2025; Hérbert, 2015; Salih & Omar, 2022; Sury, 2025). John Dewey contends that "all learning is through personal experience" (Sanyal et al. 2012). Learning from experience means an individual's interactions with the environment (Rawson, 2023). By extension researchers glorify John Dewey as the father of reflective practice in teaching (Shah, 2022; Stains, 2023). In teaching, reflective practice involves a process where teachers link experiences to their teaching goals (Li, 2025).

The rationalist-technicist model generally views reflection as an objective, logical approach to learning based on predetermined steps. It particularly involves three criteria namely: It is a rigorous, and systematic scientific inquiry; it involves a community of practitioners; and a recognition of personal growth and that of other members of the community (Rodgers, 2002). In this context, the theory contends that reflection is based on the premise that a teacher belongs to a community of practitioners who continually work together to ensure their professional development. The theory is applied to this



study because, the pre-service teacher education curriculum framework views reflective practices as competences that can be developed by trainees as members of a community of professionals through initiatives such as Continuous Professional Development (CPD), STS, interactions with lecturers, mentors and peers. These interactions provide pre-service teachers with the experience to learn as practitioners. Particularly the STS is designed for pre-service teachers to acquire knowledge and experience in four phases of progression; beginning teaching, developing teaching, embedding teaching, and extending teaching. Transition through these phases requires pre-service teachers to learn on experience from foundation stage to proficiency stage.

Teachers' Reflective Practices and Professional Knowledge

Some empirical studies have been conducted on reflective practices among preservice teachers. These studies have established the role of reflective practice in teachers' professional knowledge. Kulgemeyer et al. (2021) explored the effect of reflective practice on professional knowledge of pre-service science teachers. Sample of the study comprised 94 participants from German universities who responded to a questionnaire. The study found that reflective practice positively influenced content and pedagogical knowledge of pre-service teachers. This study accentuates the remarks by Brown et al. (2021) that reflective practice provides the framework for teachers to integrate content knowledge among participants. Minott (2010) also testified to how self-reflection ensured teachers' professional growth in terms of subject knowledge required to deliver successfully as teachers.

Cole et al. (2022) explored the concept and drew attention to the fact that reflective practice assists pre-service teachers to handle personal and professional challenges. In the UK, Li (2025) revealed that reflective practice impacted the acquisition of pedagogical competence, and the skills of participants in professional development. Also, Benić (2025) explored how pre-service Early and Preschool teachers in Zagreb reflected on their artworks. The sample of the study comprised 80 regular student teachers and 64 part-time student teachers. The study found higher levels of self-awareness, pedagogical competences and creativity among participants who engaged in comprehensive reflections. These confirm the role of reflective practice in teachers' professional knowledge and competence.

In Ghana, research that seeks to explore reflective practices of teachers is still emerging. Mbage (2025) examined the influence of reflective practice on professional practices of senior high school and senior high technical school teachers. The study relied on mixed-methods where a sample of 51 participants were engaged in the study. Findings implied that reflective practices should be incorporated in teacher professional development to ensure enduring educational outcomes and improved teachers' standards. The study echoed the need to foster reflective practices among teachers in Ghana due to its relevance to performance indicators. Mbage however revealed that some teachers often fall short in reflecting in some key dimensions. Also, Asare (2012) carried out a qualitative study on the topic involving four junior high school teachers. The study affirmed the fact that reflective practice is a means for teachers to connect theory and practice. Among other recommendations, the study proposed for further investigations on reflective practices of teachers. This is followed by other studies elsewhere calling for research on reflective practices particularly among prospective teachers (Almusharraf & Almusharraf, 2021; DeLuca et al., 2022; Salih & Omar, 2022; Shah, 2022; Xu et al., 2025). This study seeks to contribute to the discourse on pre-service teachers' reflective practices in Colleges of Education in Ghana.

Methodology

Research Design

The study used the descriptive survey design to explore self-reported views of pre-service teachers on their reflective practice in Tumu College of Education. Descriptive survey design was chosen because



it provides a reliable means of investigating the prevailing levels of reflective practice among respondents. It also allows for numerical data to be collected on subjects using questionnaire for quantitative analysis.

Sampling Procedure

The study was conducted in Tumu College of Education. The college was chosen because it offers programmes based on the pre-service teacher education curriculum framework. The accessibility of the college to the researcher facilitated data collection. Also, Studies evaluating aspects of the novel 4-year teacher education programme seems not to be generalised to pre-service teachers in the Tumu College of Education. This study lasted from February to May 2026. Participants of the study are final year pre-service teachers who have successfully completed their macro-teaching in partner basic schools. Pre-service teachers in the college are expected to go through various stages of STS coupled with their course work during which they are to engage in a variety of activities to develop reflective practice. These are consolidated during macro-teaching often undertaken in the final year of the Bachelor of Education programme.

The population of the study comprised 236 final year pre-service teachers in the college for the 2025/2026 academic year. Out of this number, 114 pursued Early Grade Education whereas 122 pursued Primary Education. Convenience sampling was used to sample 115 respondents from the Tumu College of Education where the researcher is a lecturer. This represents 49% of the population consistent with Gay (1992) for survey studies. Participants of the study comprised 44 (38.30%) males and 71(61.70%) females who pursued Bachelor of Education (Early Grade) or Bachelor of Education (Upper Primary). A total of 62 pursued B. Ed Early Grade Education whilst 53 pursued B.Ed Primary Education.

Data Collection Instrument

The study relied on a five-point Likert scale questionnaire to collect data from participants. The questionnaire was adapted from a modified version of reflective practice questionnaire titled “Further development of the reflective practice questionnaire” developed by Rogers et al. (2024). The original instrument has a scale of 1 = very rarely to 6 = Almost always, with a Cronbach alpha scale of .89. The adapted instrument contained a total of ten items which participants responded to. Each of the items in the original instrument were re-worded to suit the context of teaching and learning. The term ‘client’ in the original instrument was replaced with ‘learners’ in each of the items. For example, the first item (During interactions with clients I recognize when my pre-existing beliefs are influencing the interaction) was re-worded to read “During teaching of my learners, I recognise when my pre-existing beliefs are influencing the interaction”. The questionnaire was pilot tested on final year pre-service teachers who undertook their STS in Egala Basic School. Participants of the pilot study were excluded from the final study. The Cronbach alpha scale of the adapted instrument was .83. This is a good reliability scale for research purposes.

Ethical Considerations

The study abided by the appropriate research protocols. Ethical approval was obtained from the Tumu College of Education Research Committee. The consent of participants was sought by informing them that findings of the study was to inform policies on pre-service teachers’ reflective practices in the Tumu Colleges of Education. Participants were encouraged to provide honest views on each of the ten items by ticking the most appropriate option that described their individual reflective practices. Participants were told that their participation was voluntary, and they could opt out of the study at any stage. They were also assured of the confidentiality and anonymity of their responses.



Data analysis

Data collected for this study was entered into SPSS (version 27) for analysis. The levels of pre-service teachers’ reflective practices were analysed using means and standard deviations. This was done by calculating the mean of means for all the ten items. The results analyses were done using the following range: 1.0–2.49 = Low, 2.50–3.49 = Moderate, and 3.50–5.0 = High. Norman (2010) stated that it is appropriate to analyse Likert scale data on interval scales such as low, moderate, and high. The differences in pre-service teachers’ reflective practices based on sex and programmes of study were analysed using t-test.

Results

The results of the study are presented according to the aims of the study as follows; level of pre-service teachers’ reflective practices, and differences in pre-service teachers’ reflective practices based on sex and programme of study.

Level of Pre-Service Teachers’ Reflective Practices

The study sought to ascertain the level of reflective practices among final year pre-service teachers at the Tumu College of Education. Means and standard deviations were computed for each of the ten items of the questionnaire. The overall mean was also calculated. The results are presented in Table 2.

Table 2: Descriptive Statistics for Pre-Service Teachers’ Reflective Practices

	N	Mean	Std. Deviation
I recognise when my pre-existing beliefs are influencing the interaction.	115	2.77	1.13
I consider how my personal thoughts and feelings are influencing the interaction.	115	2.97	1.30
I recognise when learners’ pre-existing beliefs are influencing the interaction.	115	2.92	1.16
I consider how learners’ personal thoughts and feelings are influencing the interaction.	115	3.21	1.17
I spend time thinking about what was said and done.	115	3.36	1.25
I wonder about the learners' experience of the interaction.	115	3.17	1.16
I wonder about my own experience of the interaction.	115	3.13	1.15
I think about how things went during the interaction.	115	3.62	1.26
I think about how I might improve my ability to work with learners.	115	3.83	1.18
I critically evaluate the strategies and techniques I use in my work with learners.	115	3.74	1.22
Mean of means	115	3.27	.75
Valid N (listwise)	115		

From Table 2, out of the ten items, pre-service teachers reported moderate levels of reflective practices for all of them apart from three. They reported high levels of reflective practices for only “I think about how things went during the interaction” (M= 3.62, SD= 1.26); “I think about how I might improve my ability to work with learners” (M= 3.83; SD= 1.18); and “I critically evaluate the strategies and techniques I use in my work with learners” (M= 3.74; SD= 1.22). Also, the results show that the overall level of reflective practice among preservice teachers is moderate (M=3.27, SD= .75).

Differences in Pre-Service Teachers’ Reflective Practice Based on Sex

This hypothesis was tested by conducting independent sample t-test analysis. The results are presented in Table 3.



Table 3: Difference in Pre-Service Teachers Reflective Practice Based on Sex

Dimension	Male		Female		T	P	Cohen's d
	M	SD	M	SD			
Pre-Service Teachers Reflective Practice	3.35	.815	3.22	.708	.895	.373	.751

From Table 3, the results show no statistically significant differences in the reflective practices of male (M = 3.35, SD = .82) and female (M= 3.22, SD = .71), $t(113) = .90, p = .373$ pre-service teachers. Although there was no statistically significant difference, the effect size was large (Cohen's d = .751). The decision is to fail to reject the null hypothesis.

Differences in Pre-Service Teachers' Reflective Practice Based on Programme of Study

This hypothesis was tested by conducting independent sample t-test analysis. The results are presented in Table 4.

Table 4: Difference in Pre-Service Teachers Reflective Practice Based on Programme

Dimension	Early Grade		Primary		T	P	Cohen's d
	M	SD	M	SD			
Pre-Service Teachers Reflective Practice	3.20	.824	3.35	.651	-1.068	.289	.750

From Table 4, the results show no statistically significant differences in the reflective practices of Early Grade Education (M = 3.20, SD = .82) and Primary Education (M= 3.35, SD = .65), $t(113) = -1.07, p = .289$ pre-service teachers. Although there was no statistically significant difference, the effect size was large (Cohen's d = .750). The decision is to fail to reject the null hypothesis.

Discussion

The study sought to assess the levels of reflective practices among final year pre-service teachers in the Tumu College of Education. The results from the analysis show that pre-service teachers reported moderate levels of reflective practices for all of the items apart from three. Particularly, respondents reported least levels of reflective practice in relation to recognising how their own pre-existing beliefs, personal thoughts and feelings, as well as how those of learners influence their interaction with learners. This means that pre-service teachers have challenges in reflecting on how emotions and cognitions shape the teaching process. The overall self-reported levels of reflective practice among preservice teachers is moderate. This means that final year pre-service teachers view themselves not have satisfactory levels of reflective practice provided by NTC even though this might not be the case in practice. The challenges associated with performance of pre-service teachers are not unique to Ghana as similar issues have been documented in other contexts. Hu et al. (2025) also exposed difficulties associated with reflective practice among Chinese pre-service teachers.

Findings of this study could partly be attributed to the fact that in-service teachers in Ghana also struggle with reflection (Mbage, 2025). This is because pre-service teachers are attached to in-service teachers in partner schools during their micro and macro-teaching or STS for mentorship. Therefore, if mentors in partner schools struggle with reflections, it has direct ramifications for pre-service teachers attached to them. Even though the findings partly affirm the observation made by Dangor and Osman (2026) that the training of teachers aligns with the teacher education curriculum framework, there is the need to examine other aspects of the teacher education curriculum, particularly the selection of partner schools where pre-service teachers are attached for STS.

Findings of this study disagree with research findings in other countries and cultures. First, it disagrees with Almusharraf and Almusharraf (2021) who found sex differences among samples in Saudi Arabia. It is also in contention with Afshar and Farahani (2015) who reported significant statistical differences in reflective teaching and reflective thinking among male and female teachers in Iran. The findings of this study equally refute the observation by Suryani (2024) in Indonesia, and



Tabassum et al. (2024) in Pakistan where they found differences in the levels of reflective practices among male and female pre-service teachers. Different models of teacher education, and cross-cultural differences could account for these conflicting findings as these studies were situated in eastern cultures other than Africa. This aligns with the conjecture by Wanda et al. (2014) that masculinity as a characteristic of eastern societies could be a hindrance to reflective practices of male professionals as evidenced in those studies. Other researchers such as Sa'dijah et al. (2021) have reported that males leverage more on reflective thinking whilst Olawale et al. (2023) also said that males perceive reflective practice to be less useful. These suggest that studies on sex differences in reflective practices among pre-service teachers are still inconclusive.

Pre-service teachers reported similar levels of reflective practice based on programme of study. This is consistent with Bawaneh et al. (2020) who found no differences in reflective practice based on qualification. This finding is justified by the fact that there is greater similarity in the course structure, content, and curriculum framework for students pursuing Early Grade Education and those offering Primary Education. Students in both programmes undertake similar reflective practices, assessments, and STS. These could account for this finding.

Conclusion

In light of the findings of this study, it is concluded that pre-service teachers in Tumu College of Education reported moderate level of reflective practice even though this may not reflect their actual reflective practices. This suggest that pre-service teachers view themselves not to satisfactorily meet the expectations outlined in the national teachers' standards set by NTC. This could be implicated in the performance of pre-service teachers in terms of professional knowledge.

Even though this study provides preliminary insight on reported levels of reflective practice among pre-service teachers, it has some limitations. First, the sample size of the study is not nationally representative. This means that the findings cannot be generalised to all pre-service teachers across all Colleges of Education in Ghana. Also, the use of convenience sampling is a limitation. Another limitation of this study is that, it has not established any relationship between the levels of reflective practice and the GPK of pre-service teachers, nor has it implied any predictive relationship.

Based on the findings of the study, it is recommended that Colleges of Education and lecturers should examine the teacher education curriculum to identify how innovative approaches could be adopted to improve on reflective practices of pre-service teachers. The starting point could be for lecturers in Colleges of Education to vigorously practice reflective teaching themselves. This will assist pre-service teachers to nurture and practice reflective teaching as well. Also, mentors in partner schools should be encouraged and supported to implement reflective teaching for pre-service teachers to observe during their micro and macro-teaching (STS). This could be done through peer reflections during teaching, action research, journaling, among others.

Future studies should consider a nationally representative sample, and also explore the predictive role of reflective practice of pre-service teachers on their GPK. Further research should also consider using documentary evidence to evaluate pre-service teachers' reflective practices instead of relying on self-reports which is susceptible to social desirability.



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