An Investigation Into English Language Tutors' Pedagogical Content Knowledge for Teaching Grammar at Some Selected Colleges of Education

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Abstract

This study aimed to investigate English language tutors' Pedagogical Content Knowledge (PCK) in teaching grammar at selected Colleges of Education (CoEs) in Ghana. This exploratory sequential mixed methods study employed multi-staged sampling techniques to select 6 tutors and 155 English language major students from CoEs in Eastern and Greater Accra zone (EAGAR). With Shulman's PCK model and Celce-Murcia and Larsen-Freeman's contextual theory as the theoretical lens, data were analysed and interpreted. The tutors were observed and interviewed while the students responded to questionnaires and were tested on their comprehension of grammatical concepts. The deductive thematic analysis found that the tutors demonstrated outstanding PCK expertise in teaching grammar. However, the correlation results of tutors' PCK and students' understanding of grammatical concepts revealed that there was no significant relationship between the tutors' PCK and the students' understanding of grammatical concepts. These results demonstrated that PCK might not be the sole determinant of students' understanding of grammatical concepts. Other factors, such as students' prior knowledge, classroom dynamics, and teaching methodologies beyond PCK, could also influence students' comprehension of grammar. Therefore, other factors that promote students' understanding of grammar should be explored by the English language tutors. Further studies could broaden the study to include other CoEs zones to offer a comprehensive understanding of tutors' PCK in teaching other aspects of the English language.

Keywords: CoEs, cross-cutting issues, differential learning, PCK, grammar

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Introduction

English has become the dominant global language, used for communication across cultures and countries (Jenkins, 2013; Macedo et al., 2015). In Ghana, English serves as the official language and is central to education, governance, and media (Agyekum, 2015; Crystal, 2003). It also functions as a unifying medium among Ghana's diverse ethnic groups, making proficiency in English essential for academic and professional advancement (Boadi, 2007; National Teaching Council, 2017a). The national curriculum emphasises equipping students with skills in English for effective communication and comprehension (Crystal, 2003).

Given the language's significance, understanding how teachers teach English, particularly their Pedagogical Content Knowledge (PCK), is crucial. PCK, introduced by Shulman (1986), refers to the integration of content knowledge and teaching strategies. It is seen as a core element of effective instruction and is embedded in Ghana's National Teachers' Standards (National Teaching Council, 2017b). Scholars like Magnusson et al. (1999) and Shulman (1987) have shown how PCK involves balancing general pedagogy, student knowledge, and subject-specific approaches. However, there is ongoing debate about whether PCK should be generic or tailored to specific subjects, especially in second-language instruction.

In English education, grammar forms a foundation for effective communication. Mastery of grammar is vital for developing listening, speaking, reading, and writing skills (Corder, 1988; Widodo, 2004), yet it presents challenges for second-language learners (Abdulkareem, 2013; Thornbury, 2005).

Although research on PCK has gained traction, most studies focus on science and mathematics or in-service teachers. There is limited focus on grammar instruction in English language education, especially within Ghana's colleges of education. This study addresses that gap by investigating how tutors' PCK informs grammar teaching, with attention to how cross-cutting themes like equity and inclusion are incorporated.

Literature Review

Pedagogical Content Knowledge (PCK) refers to a specialized body of knowledge that blends subject matter understanding with teaching strategies, distinguishing teachers from other professionals (Kind, 2009; Shulman, 1986). In various fields such as Science, Mathematics, Social Studies, and English, PCK is recognized as essential to effective teaching because it supports meaningful learning by merging content expertise with appropriate instructional approaches (Magnusson et al., 1999; Shulman, 1987). Successful teaching relies not only on having these elements but also on how effectively they are integrated and used within specific classroom situations.

Research in Science and Chemistry education provides insight into how PCK functions in subject-specific settings. Ozden (2008) and Sri et al. (2021), using mixed methods, studied pre-service teachers and found that linking pedagogical and content knowledge enhances instructional quality. Sri et al. (2021) highlighted significant gaps in pre-service teachers' mastery of PCK components, while Ozden emphasized how strong content knowledge supports better pedagogical integration. In Ghana, Wilmot (2020) applied Magnusson et al.'s (1999) model to Biology teachers, identifying consistent PCK constructs across diverse

demographics. His findings confirmed that even experienced teachers need structured support integrate PCK to fully.

In Mathematics education, studies such as Mishiwo et al. (2017) revealed challenges among pre-service teachers in diagnosing students' misconceptions, especially in topics like fractions. This underscores the need for teacher education programs to embed PCK more explicitly in their curricula. Similarly, Nadas (2019), using Ball et al.'s (2008) framework, found that knowledge of content, curriculum, teaching, and students significantly shapes pedagogical decisions. These findings demonstrate that PCK develops over time, shaped by classroom experience, subject mastery, and reflective practice (Park & Oliver, 2008).

Several scholars have adapted Shulman's original PCK framework to include learner-specific and contextual factors. For example, Ijeh and Nkopodi (2013) integrated learner characteristics into their study of PCK, highlighting the importance of aligning instruction with students' needs. Theoretical expansions like these reflect the evolving understanding of how PCK operates in diverse educational environments.

In Africa, research has explored how PCK interacts with contextual realities such as resource limitations, cultural diversity, and varying teacher training standards. Toerien's (2013) longitudinal study in South Africa found that even experienced teachers may lack depth in subject knowledge or understanding of student learning processes, despite strong classroom management skills. These gaps point to the need for continuous professional development and reflective teaching practices to strengthen PCK.

Troyan et al. (2017) further expanded the field by introducing the Integration-PCK (I-PCK) model for Content-Based Instruction (CBI). This model emphasises interdisciplinary approaches that blend academic content with language learning. It suggests that language teachers benefit from drawing on content from other subjects while using PCK-informed strategies to enhance comprehension and engagement.

Theoretical Underpinnings

Pedagogical Content Knowledge (PCK), first conceptualized by Shulman (1986, 1987), arose from his dissatisfaction with the limited focus on teachers' subject-matter expertise in teaching-related research. Inspired by studies in medical diagnosis, Shulman highlighted the parallels between specialised knowledge in medical practice and teaching. He criticised the process-product research of the 1970s and 1980s for prioritizing general pedagogical practices, such as classroom management, over subject-specific approaches. Shulman argued for a content-centered perspective, emphasising the need for research into effective teaching "subject by subject" to account for the unique requirements of different disciplines.

PCK represents the fusion of content and pedagogy, equipping teachers with the ability to adapt and present subject matter in ways that are accessible, relevant, and engaging for students with diverse abilities and interests (Park & Oliver, 2008; Shulman, 1987). This concept extends beyond simply understanding a subject to include strategies for effectively organizing and delivering content. Shulman and Richert (1987) further refined the components of PCK, incorporating subject-matter knowledge, instructional strategies, learner understanding, curriculum organization, and the identification of common misconceptions. These elements emphasize the teacher's role in addressing subject-specific learning challenges and tailoring content to students' needs.

Two core elements of Shulman's (1987) PCK model are instructional strategies and representations, which focus on transforming subject-matter knowledge for effective teaching, and knowledge of students' understanding, which considers learning processes and content-related difficulties. These elements are foundational for creating inclusive and effective learning environments that support students' diverse needs. The significance of PCK has since been explored across disciplines, affirming its critical role in fostering meaningful learning experiences and prompting further research into its application in various fields.

Research Aims and Research Questions

The aim of this study is to address context, content, analytical, and methodological gaps in the study of grammar instruction in selected Colleges of Education (CoEs) in the EGA zone, Ghana. Specifically, the study expands the understanding of Pedagogical Content Knowledge (PCK) by integrating cross-cutting issues to foster holistic learning, connecting grammar instruction with broader topics and real-world problem-solving. The specific research questions are outlined as follows:

1. What pedagogical content knowledge do English language tutors show in teaching grammar in the selected CoEs in Ghana?
2. How are cross-cutting issues introduced through PCK in grammar teaching by English language tutors in the selected CoEs in Ghana?
3. How does incorporating cross-cutting issues through PCK in teaching grammar promote differential learning among students in the selected CoEs in Ghana?
4. How does integrating the practical aspects of PCK enhance teacher trainees' understanding of grammatical concepts in the selected CoEs in Ghana?

Research Design

The study employed an exploratory sequential mixed methods design, beginning with qualitative data collection and analysis, followed by quantitative data collection to explore how English language tutors in Colleges of Education (CoEs) integrate Pedagogical Content Knowledge (PCK) components into grammar instruction. In the qualitative phase, observations and semi-structured questionnaires were used to gather insights on how tutors incorporate PCK and cross-cutting issues into grammar teaching to promote differential learning among students. In the quantitative phase, a test was administered to assess teacher trainees' understanding of grammatical concepts. The findings from both phases were then integrated to provide a comprehensive understanding of the phenomenon.

Setting and Participants

The study was conducted in the EGA zone, which includes nine Colleges of Education (CoEs). The target population consisted of English language tutors and third-year teacher trainees majoring in English at these colleges. Third-year trainees were chosen as they had substantial exposure to grammar content, methodology courses, and were nearing their practicum phase. The accessible population comprised 19 English language tutors and 1,150 third-year students from three selected colleges: Kibi Presbyterian College of Education (KPCE), Seventh Day Adventist College of Education (SDACE), and Accra College of Education (ACE). At KPCE, the student population was 380, with a male majority (227 males and 153 females). SDACE had 420 students, predominantly female (266 females and 154 males). At ACE, the student population totalled 350, with a male majority (240 males and 110 females). The total number of English language tutors across these colleges was 19, with

ACE employing seven tutors (four males and three females), and KPCE and SDACE each employing six tutors, evenly distributed between genders. These participants provided a robust representation of English language instruction in the region.

The actual sample for the study included 155 third-year English major teacher trainees from the three selected Colleges of Education (KPCE, SDACE, and ACE) for the quantitative phase. These students were selected using a census method, as each college had a single-stream English elective class, making it feasible to include all students. They were chosen because they had completed sufficient grammar content and methodology courses and were assessed through questionnaires and test items to evaluate the integration of Pedagogical Content Knowledge (PCK) and cross-cutting issues in grammar teaching. For the qualitative phase, six English language tutors (two from each college) were purposively selected based on their teaching experience (minimum of five years in grammar instruction) and gender equality considerations, ensuring representation of both male (three tutors) and female (three tutors) perspectives. This sampling approach aimed to provide a balanced and comprehensive understanding of PCK integration in grammar instruction across the selected colleges.

Instruments and Procedure

The data collection for this study employed multiple instruments to gather comprehensive insights into the integration of Pedagogical Content Knowledge (PCK) in grammar teaching. Four instruments were utilized: an observation guide to examine PCK components during grammar lessons, an interview guide to explore tutors' perspectives on PCK integration, a questionnaire assessing students' understanding of grammatical concepts and tutors' PCK, and a test to verify students' grasp of grammatical concepts.

The process began with an initial visit to the three selected colleges (KPCE, ACE, and SDACE) in March 2023 to familiarise the researcher with the environment and key stakeholders, including principals, Heads of Departments (HoDs), tutors, and students. Meetings were held to explain the study's purpose and schedule data collection. In April and May 2023, classroom observations and interviews with the six selected tutors were conducted. Observations, lasting 45–60 minutes, captured first-hand information on PCK integration, followed by 30–60 minute interviews held in conducive, professional environments. Both were audio- and video-recorded to ensure accurate data capture.

The second phase involved administering questionnaires and tests to 155 third-year English major teacher trainees. The questionnaires were completed within 30 minutes, while the tests were administered three weeks later in the same timeframe. Ethical considerations were upheld throughout the data collection process, ensuring participant confidentiality and intellectual property protection. This approach provided a robust dataset for analysing PCK integration in grammar instruction.

Data Analysis

The data analysis for this study was guided by four research questions and one hypothesis, each focusing on different aspects of Pedagogical Content Knowledge (PCK) integration in grammar teaching. For the qualitative data related to Research Questions 1, 2, and 3, thematic analysis was employed. Data from observations and semi-structured interviews were recorded using digital video and audio devices, transcribed, coded by the researcher with the help of trained assistants, and imported into NVivo 12 for organisation and thematic

exploration. This process highlighted similarities and differences in how tutors incorporated PCK and cross-cutting issues in grammar instruction to promote differential learning.

For Research Question 4, which investigated how the practical aspects of PCK enhanced teacher trainees' understanding of grammatical concepts, data from questionnaires and test items were analysed using both descriptive and inferential statistics. Descriptive statistics, including frequency distributions, mean, and standard deviation, were used to summarise the data, while Pearson Correlation tests were employed for inferential analysis to explore relationships between variables. SPSS software was utilised for these quantitative analyses, providing detailed insights into the relationship between PCK integration and students' grammatical understanding.

The hypothesis tested whether there was a significant relationship between tutors' PCK and students' understanding of grammatical concepts. Correlation analysis in SPSS version 25 was conducted to assess the strength and direction of the relationship, identifying whether it was positive or negative. This combination of qualitative and quantitative analysis ensured a comprehensive understanding of the study's objectives.

Results

This section is organised into two subsections, covering the observation and interviews as well as the questionnaire and test items, to thoroughly examine each instrument and systematically address the research questions.

Observation and Interviews

The purpose of the interview and observation was to explore how English language tutors in selected colleges of education in Ghana demonstrate their Pedagogical Content Knowledge (PCK) in teaching grammar, introduce cross-cutting issues through PCK in grammar instruction, and incorporate these issues to promote differential learning among students, aligning with research questions 1, 2 and 3, respectively. These methods provided in-depth and first-hand insights into the tutors' instructional practices and strategies for integrating PCK and cross-cutting issues to enhance grammar teaching and learning. The English language tutors observed in the selected CoEs demonstrated strong Pedagogical Content Knowledge (PCK) in grammar teaching. From the observations, in teaching Nouns, ET1, ET2, and ET6 used the same representations and activities. Therefore, it could be concluded that the topic-specific strategies for teaching Nouns/Noun Phrases were verbal exposition and discussion methods. However, ET1 made the lesson interactive. ET3 used group work, discussion, verbal exposition, and presentation methods in teaching Relative Clauses. ET4 also used presentation, group work, verbal exposition, and discussion methods to teach the topic Types of Sentences. From ET3 and ET4, there is a sign that in teaching grammar at the clausal/sentence level, tutors employed these strategies. ET5 used demonstration, discussion, and verbal exposition methods in teaching the topic, Subject-verb agreement. Overall, these tutors integrated the approaches, inductive and deductive to teach grammar content.

Also, individual differences were skilfully accommodated by the tutors through differentiated instruction, contextual grammar instructions, and a variety of assessment methods. Their excellent classroom management and integration of cross-cutting issues, such as communication skills and gender inclusivity, helped to create a respectful and inclusive

learning environment. Overall, the tutors demonstrated broad pedagogical knowledge and a dedication to providing meaningful and engaging learning experiences for their students.

In the interviews with English language tutors, it was evident that their understanding of Pedagogical Content Knowledge (PCK) was aligned with Shulman's (1986, 1987) definition. By leveraging PCK, English language tutors design lessons that actively involve students, fostering higher levels of engagement and participation (Kidwell & Triyoko, 2012). The tutors revealed that they employed various methods in teaching grammatical concepts, including introducing lessons in engaging ways, utilising question-and-answer techniques, drawing linkages between topics, and incorporating group work and presentations. These strategies demonstrate the tutors' effective integration of PCK constructs, pedagogical knowledge, and content knowledge in teaching grammar, ensuring a comprehensive and inclusive educational experience for all students. The deliberate consideration of learners' Relevant Prior Knowledge (RPK) was another significant theme from the interviews. Addressing these gaps early promoted deeper conceptual understanding and prevented cognitive conflicts that could hinder learning progress (Vygotsky, 1978).

Furthermore, the tutors displayed a commitment to differential learning by catering to individual differences through multiple assessments and multimodal teaching approaches (Hall et al., 2013; Kurzweil, 2001). They promoted equity, gender inclusivity, and sometimes professional values and attitudes (Lee & Park, 2021; National Teaching Council, 2017a). Various methods were employed in teaching grammatical concepts, including introducing lessons in engaging ways, utilising question-and-answer techniques, drawing linkages between topics, and incorporating group work and presentations. These strategies demonstrate the tutors' effective integration of PCK constructs, pedagogical knowledge, and content knowledge in teaching grammar, ensuring a comprehensive and inclusive educational experience for all students.

Questionnaire and Test Items

The purpose of the questionnaire and test was to assess how integrating the practical aspects of Pedagogical Content Knowledge (PCK) enhances teacher trainees' understanding of grammatical concepts and to examine the relationship between English tutors' PCK and trainees' grammatical understanding, aligning with research question 4. The questionnaire gathered data on trainees' perceptions of PCK integration, while the test validated their understanding of specific grammatical concepts. The results were analysed using descriptive statistics (mean and standard deviation) and Pearson correlation to determine the strength and significance of the relationship between tutors' PCK and trainees' learning outcomes. Table 1 and 2 depicts the descriptive statistics and normality test of variables.

Table 1
Descriptive Statistics of Variables

	N	Mini-mum	Maxi-mum	Mean	Std. Deviation
PCK of Tutors	155	1.00	5.00	4.1463	**.62268**
Word Class Test	155	2.00	10.00	7.0387	**1.77239**
Functions Test	155	2.00	10.00	8.9355	**1.52331**
Concord Test	155	2.00	5.00	4.4194	**.79667**
Understanding of Grammatical Concepts (Test & Explanation)	155	2.60	5.40	4.3523	**.53213**
Valid N (listwise)	155				

Table 2
Normality Test of Variables

	N	Mean	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
PCK Tutors	155	4.1463	-1.694	.195	5.647	.387
Test Word Class	155	7.0387	-.726	.195	-.006	.387
Test Functions	155	8.9355	-2.011	.195	4.341	.387
Test Concord	155	4.4194	-1.137	.195	.287	.387
Understanding of grammatical concepts	155	4.3523	-.982	.195	1.063	.387
Valid N (listwise)	155					

The mean for tutors' Pedagogical Content Knowledge (PCK) was 4.15 with a standard deviation of 0.62, indicating that tutors demonstrated a generally high level of PCK with relatively low variability among them. For the student tests, the mean scores for the Word Class Test (7.04, SD = 1.77) and Functions Test (8.94, SD = 1.52) suggest that students performed well overall, with the Functions Test showing slightly higher mean scores and lower variability, indicating a better understanding of functions compared to word classes. The Concord Test had a mean of 4.42 with a standard deviation of 0.80, reflecting moderate performance with low variability. The mean for the overall understanding of grammatical concepts (4.35, SD = 0.53) indicates a high level of comprehension among the trainees, with minimal variability across participants. These results suggest that tutors' strong PCK positively aligns with trainees' high levels of grammatical understanding. The low standard deviations across most variables imply consistency in performance among participants. The relatively higher variability in the Word Class Test indicates potential differences in student comprehension, suggesting areas where teaching strategies may need refinement to ensure uniform understanding.

Hypotheses Testing

Hypothesis 1: There is a strong relationship between English educators PCK and teacher trainees understanding of grammatical concepts.

The hypothesis of this study relates to the statistical relationship between English tutors PCK and teacher trainees understanding of grammatical concept. As a result, the Pearson Correlation was resorted to in testing this statistical relationship. The factor analysis from the 25 items that sought to measure PCK revealed that four main factors that affect understanding of grammatical concepts include effective teaching practices, student-centred teaching practices, adaptive teaching practices, and varied instructional teaching strategies. These four variables were then computed into a composite variable by taking their average. This new variable was then correlated with students' understanding of grammatical concepts. Students' understanding of grammatical concept is also a composite variable which was obtained by calculating the average of the test scores obtained by students as well as their ability to explain some of their answers. The results of the correlation is captured in Table 3.

Table 3
Correlation Analysis Between English Language Tutors PCK and Students' Understanding of Grammatical Concepts

Statistic	***Variable***	***Correlation Coefficient(r)***	***p-Value***
Pearson	Tutor PCK vs. student understanding of Grammatical concept	0.070	0.390

Source: Field data (2023)

The results recorded in Table 3 shows that the correlation coefficient between the tutors' PCK and the students' understanding of grammatical concepts as obtained from the test is 0.070. This indicates that there is a weak positive correlation between the two variables. Also, the probability value (p-value) for this correlation obtained is 0.390, which is more than 0.05 significant level; hence, the null hypothesis is not rejected. It can, therefore, be concluded that, there is no significant relationship between English language tutors' PCK and teacher trainees' total understanding of grammatical concepts.

Discussion

The findings from Research Question 1 revealed that English language tutors in the selected Colleges of Education (CoEs) in Ghana exhibit a strong command of pedagogical content knowledge (PCK) in teaching grammar. Through observations and interviews, it was evident that the tutors had a thorough understanding of curriculum requirements, aligning their instruction with prescribed learning objectives. This is a fundamental aspect of PCK, as outlined by Shulman (1986). The tutors utilised diverse teaching strategies, incorporating verbal exposition, group work, and problem-solving activities to cater to students' varied learning preferences. They effectively combined inductive and deductive methods, an essential practice in language education that enables students to comprehend grammar rules explicitly while also learning through practical application (Ellis, 1993; Larsen-Freeman, 2000; Thornbury, 2005). These approaches ensured meaningful engagement and facilitated deeper understanding of grammar concepts.

The findings from the second research question emphasise the integration of cross-cutting issues in grammar teaching by English language tutors in Ghanaian classrooms through their pedagogical content knowledge (PCK). A significant aspect of the findings was the tutors' commitment to fostering an inclusive learning environment by addressing gender inclusivity, individual learning differences, and diverse preferences. Inclusive education, as noted by Darling-Hammond and Bransford (2005), ensures equitable participation and success for all students. Tutors avoided perpetuating stereotypes, valued diversity, and tailored their teaching to accommodate varying student needs, leading to a more personalized and engaging learning experience (Dunn & Dunn, 1992). Furthermore, the tutors demonstrated effective communication skills, creating supportive classroom environments that encouraged active participation and critical thinking, enabling students to express their ideas and enhance their understanding of grammar concepts (Grossman & McDonald, 2008).

The findings from the third research question highlight how integrating cross-cutting issues through pedagogical content knowledge (PCK) in teaching grammar fosters differential learning among students. By creating an inclusive classroom environment, tutors acknowledged and addressed individual differences and diverse learning needs, ensuring that each student felt valued and supported. This inclusive approach aligns with Darling-Hammond and Bransford's (2005) assertion that recognising students' strengths and backgrounds enhances both academic outcomes and well-being. Tutors employed differentiation and individualisation strategies to tailor their teaching to students' unique learning styles, fostering a sense of belonging and facilitating academic success. Additionally, the tutors used various teaching strategies to engage students, enabling them to connect theoretical knowledge with practical applications, thereby deepening their understanding of grammar concepts (Grossman & McDonald, 2008).

The study also revealed that the use of inductive and deductive teaching techniques was instrumental in promoting differential learning. Inductive methods encouraged students to discover grammar patterns through exploration, while deductive approaches provided explicit explanations, catering to diverse cognitive styles (Celce-Murcia & Larsen-Freeman, 1999). Furthermore, incorporating technology empowered students to access learning materials at their own pace, fostering autonomy and self-direction (Darling-Hammond & Bransford, 2005). Finally, the tutors' student-centred approach, which encouraged active participation, discussions, and reflection, enabled students to tailor their learning experiences to their individual needs. These findings align with Coffield et al. (2004), who found that matching instruction to learning styles improves educational outcomes. Ultimately, the tutors' practices demonstrated how integrating cross-cutting issues through PCK can enhance student engagement, foster deeper comprehension of grammar concepts, and create a more inclusive and effective learning environment.

The fourth research question examined how integrating pedagogical content knowledge (PCK) constructs enhances teacher trainees' understanding of grammatical concepts in the classroom. Using a 25-item scale, factor analysis identified four main dimensions of PCK: effective teaching practices, adaptive teaching practices, student-centred teaching practices, and varied instructional strategies. Among these, effective teaching practices emerged as the most influential, explaining 47.067% of the variance. This factor includes teaching techniques such as welcoming diverse ideas, handling students' questions professionally, providing timely feedback, and reflecting on teaching practices. These strategies create an engaging and supportive learning environment, promoting students' comprehension of

complex grammatical concepts. While varied instructional strategies had the least impact, they still contributed to a dynamic and diverse learning experience.

However, hypothesis testing using Pearson correlation revealed a weak positive correlation ($r = 0.070$) between educators' PCK and students' understanding of grammatical concepts, with a p-value of 0.390, indicating no statistically significant relationship. This suggests that while PCK is critical, it is not the sole determinant of students' grammar comprehension. Other factors, such as prior knowledge, motivation, and teaching methods, may also play a significant role. Studies by Celce-Murcia and Larsen-Freeman (1999) and Larsen-Freeman (2000) emphasise the importance of contextualised grammar instruction using authentic materials, multimedia, and real-world examples to enhance student learning. These findings suggest that integrating alternative instructional strategies and contextualised approaches, alongside PCK, could foster deeper understanding and improve outcomes in grammar instruction.

The results highlight English language tutors' dynamic approach to grammar instruction, rooted in pedagogical content knowledge (PCK) constructs. Observations revealed that tutors effectively applied the four PCK dimensions identified through factor analysis: effective teaching practices, student-centred approaches, adaptive teaching methods, and varied instructional strategies. Tutors demonstrated strong curriculum knowledge, employing diverse teaching strategies such as discussions, group work, and problem-solving activities. They prioritised differentiation, individualisation, and formative assessments, fostering inclusive and engaging classrooms. Student-centred methods encouraged active participation, autonomy, and critical thinking, while the use of ICT and inductive/deductive techniques supported personalised and practical grammar learning. Adaptive teaching practices included flexible lesson delivery, scaffolding, and the integration of relatable examples to address diverse learning needs and challenges.

Moreover, varied instructional strategies, including lectures, hands-on activities, and interactive sessions, created dynamic and inclusive environments. Tutors skilfully integrated technology, promoting self-directed exploration and enhancing engagement. These approaches not only accommodated different learning styles but also enriched students' understanding and application of grammar concepts. Overall, the tutors' practices reflect a commitment to fostering inclusive and supportive classrooms, enabling students to actively participate, comprehend, and apply grammatical concepts effectively. This integration of qualitative insights and quantitative findings underscores the importance of holistic and adaptable instructional approaches in English grammar teaching.

Conclusion, Implication and Recommendations

The study concludes that English language tutors in the selected colleges of education in Ghana demonstrate a strong understanding of pedagogical content knowledge (PCK) constructs and their integration into grammar instruction. Their expertise in incorporating effective teaching practices, student-centred approaches, adaptive teaching strategies, and varied instructional methods into grammar lessons highlights their commitment to high-quality teacher preparation. The integration of cross-cutting issues, such as inclusivity, ICT, and transferable skills, further enriches their approach, promoting a holistic learning environment. However, the weak correlation between tutors' PCK and teacher trainees' grammatical understanding suggests that while PCK is critical, it may not be the sole determinant of students' comprehension, with other factors such as prior knowledge,

motivation, and classroom dynamics playing significant roles. These findings underscore the importance of continuous professional development for English language tutors to refine their teaching methods and expand their pedagogical repertoire. The incorporation of cross-cutting issues into grammar instruction not only prepares trainees to address diverse learning needs but also equips them to solve real-world problems. However, the lack of a significant correlation between PCK and grammatical comprehension implies that additional efforts are needed to bridge this gap. This includes exploring innovative teaching approaches like Task-Based Language Teaching (TBLT) and addressing unmeasured factors such as student engagement and motivation. Furthermore, raising awareness among teacher trainees about the relevance of PCK constructs and cross-cutting issues will help them better understand their application in teaching and learning. To enhance grammar instruction, it is recommended that tutors actively expose teacher trainees to the importance and integration of PCK constructs through reflective practices and explicit discussions. Professional development sessions should be organised by the Ministry of Education and relevant agencies to introduce tutors to alternative grammar teaching methods, such as TBLT, and to strengthen their capacity to incorporate additional cross-cutting issues into PCK. Training sessions should include needs assessments, workshops, and follow-up evaluations to ensure effective implementation. Tutors should also help teacher trainees understand diverse learning styles and demonstrate adaptive teaching strategies to cater to individual differences. Finally, tutors are encouraged to explore and address other factors influencing grammatical comprehension, such as classroom dynamics, student motivation, and engagement, to create a more comprehensive and effective approach to grammar instruction.

References

Abdulkareem, N. M. (2013). An investigation study of academic writing problems faced by Arab postgraduate students at University Teknologi Malaysia. *Theory and Practice in Language Studies*, *3*(9), 1552-1557.

Agyekum, K. (2015). Language and globalization: An autoethnographic study of linguistic landscape in Accra, Ghana. *Language and Communication*, 42, 82-91.

Ball, D. L., Thames, M. H., & Phelps, G. (2008). Content knowledge for teaching: What makes it special? *Journal of Teacher Education, 59*(5), 389–407. https://doi.org/10.1177/0022487108324554

Boadi, L. A. (2007). English in Ghana: The Sociolinguistics of a non-native English-speaking country. *World Englishes*, *26*(3), 267-281.

Celce-Murcia, M., & Larsen-Freeman, D. (1999). *The grammar book: An ESL/EFL teacher's course* (2nd Ed.). Boston, MA: Heinle and Heinle.

Coffield, F., Moseley, D., Hall, E., & Ecclestone, K. (2004). *Learning styles and pedagogy in post-16 learning: A systematic and critical review*. Learning and Skills Research Centre. https://www.voced.edu.au/content/ngv%3A13692

Corder, S. P. (1988). Pedagogic grammar. In W. Rutherford & M. Sharwood Smith (Eds.), *Grammar and second language teaching* (pp. 123–145). Harper & Row.

Crystal, D. (2003). *English as a global language* (2nd ed.). Cambridge: Cambridge University Press.

Darling-Hammond, L., & Bransford, J. (Eds.). (2005). *Preparing teachers for a changing world: What teachers should learn and be able to do*. San Francisco, CA: Jossey-Bass.

Dunn, R., & Dunn, K. (1992). *Teaching elementary students through their individual learning styles*. Boston, MA: Allyn & Bacon.

Ellis, R. (1993). The structural syllabus and second language acquisition. *TESOL Quarterly*, *27*(1), 91-113.

Grossman, P., & McDonald, M. (2008). Back to the future: Directions for research in teaching and teacher education. *American Educational Research Journal*, *45*, 184-205.

Hall, S., Evans, J., & Nixon, S. (Eds.). (2013). *Representation: Cultural representations and signifying practices* (2nd ed.). Sage Publications Ltd.

Ijeh, S., & Nkopodi, N. (2013). Developing a theoretical Model for investigating the Mathematics and Science Teachers' PCK in South Africa and Zimbabwe. *Mediterranean Journal of Social Sciences*, *4*(14), 473-479.

Jenkins, J. (2013). *English as a lingua franca in the internal university*. London, England: Routledge.

Kidwell, T. J., & Triyoko, H. (2012). Implementing a student-centered pedagogy: Doing so in the Indonesian Teaching-Learning context. *Register*, 5(1), 1-30.

Kind, V. (2009). Pedagogical content knowledge in science education: Potential and perspectives for progress. *Studies in Science Education*, *45*(2), 169-204.

Kurzweil, R. (2001). *The age of spiritual machines: When computers exceed human intelligence*. New York, USA: Penguin Books.

Larsen-Freeman, D. (2000). Grammar: Rules and reasons working together. *ESL/EFL Magazine*, *3*(1), 10-12.

Lee, T., & Park, H. (2021). *Individual differences in no-native phonological contrast learning: The role of within-category cue sensitivity in native language perception*. Online proceedings of 2021 the phonology – Morphology circles of Korea. Summer Conference.

Macedo, D., Dendrinos, B., & Gounari, P. (2015). *Hegemony of English*. Abingdon: Routledge.

Magnusson, S., Krajcik, J., & Borko, H. (1999). Nature, sources and development of pedagogical content knowledge for science teaching. In J. Gess-Newsome, & N. G. Lederman, (Eds.), *Examining pedagogical content knowledge: The construct and its implications for science education*. Dordrecht, the Netherlands: Kluwer Academic Publishers.

Mishiwo, M., Sedega, B. C., Anane, E., & Kofi, G.A. (2017). Pre-service teachers' use of pedagogical content knowledge in teaching and learning mathematics at Basic seven in Akatsi District, Ghana. *British Journal of Education*, *5*(2), 65-76.

Nadas, L. (2019). *A case study of exploring the pedagogical content knowledge of intermediate phase of Mathematics teachers* [Unpublished master's thesis]. University of KwaZulu-Natal, Pietermaritzburg, School of Education.

National Teaching Council (NTC). (2017a). *National Teacher Education Curriculum Framework: The essential elements of initial teacher education.* National Teaching Council.

National Teaching Council (NTC). (2017b). *National Teacher's Standards for Ghana: Guidelines.* National Teaching Council.

Ottevanger, E., Van de Akker, J., & de Feiter, L. (2007). *Developing science, mathematics and ICT education in sub-Sahara Africa: Patters and Promising Practices*. World Bank Working Paper; No. 101. Africa Human Development Series. Washington, DC: World Bank.

Ozden, M. (2008). The effect of content knowledge on pedagogical content knowledge: The case of teaching phases of matters. *Educational Sciences: Theory & Practice*, *8*(2), 633-645.

Park, J., & Oliver, S. (2008). Revisiting the conceptualization of pedagogical content knowledge (PCK): PCK as a conceptual tool to understand teachers as professional. *Research in Science Education*, *38*(3), 261-284.

Shulman, L. S. (1986). Those who understand: Knowledge growth in teaching. *Educational Researcher*, *15*(2), 4-14.

Shulman, L. S. (1987). Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review 57*(1), 1-22.

Shulman, L. S., & Richert, A. E. (1987). Teaching knowledge: Its process and structure. In J. Calderhead (Ed.), *Exploring teachers' thinking* (pp. 104–116). Cassell Education.

Sri, Y., Mardhiyah, A. A., Mohammed, M., & Endang, S. (2021). Identification of pedagogical content knowledge (PCK) for prospective chemistry teachers: Efforts to Building Teachers professional knowledge. International Conference on Science Education and Technology (ICOSETH). *Journal of Physics: Conference Series*, 1-9.

Thornbury, S. (2005). *How to teach speaking*. Harmer, J. (Ed.) London: Longman.

Toerien, R. (2013). *Transforming content knowledge: A case study of an experienced science teacher teaching in a typical South African secondary school* [Unpublished Master's thesis]. University of Cape Town, Faculty of Engineering and the Built Environment.

Troyan, F. J., Cammarata, L., & Martel, J. (2017). Integration PCK: Modeling a world language teacher's implementation of CBI. *Foreign Language Annals*, *50*(2), 458-476.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.

Widodo, H. (2004). Kemampuan, mahasiswa Bahasa Inggris dalommenganalisis Kalimat bahasa Inggris. *Fenomena*, *3*(2), 27-38.

Wilmot, E. M. (2020). *Assessing biology teachers' pedagogical content knowledge for teaching genetics at the senior high school level in Ghana* (Master's thesis, University of Cape Coast). University of Cape Coast Institutional Repository. https://ir.ucc.edu.gh/handle/123456789/7160

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