Moderating Role of Teacher Characteristics in the Relationship between Accounting Teachers’ Pedagogical Content Knowledge and Lesson Delivery

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Abstract
The purpose of the study was to examine the moderating role of teacher characteristics in the relationship between accounting teachers’ pedagogical content knowledge and lesson delivery. With the use of descriptive research design, the researchers tested three research hypotheses that were formulated from the problem statement. The population of the study consisted of 53 accounting teachers teaching at 11 SHS in the Cape Coast Metropolis. Census approach was used to select all the 53 teachers from the 11 SHS. A questionnaire was adapted from Bosu (2010); Aksu et al., (2014) and were modified to suit the study. Findings of the study indicated that teacher characteristics (gender, age and teacher experience) did not significantly moderate the relationship between teachers’ pedagogical content knowledge and lesson delivery. It was therefore recommended that equal opportunity be given to all teachers irrespective of their gender, age or experience in terms of workshops, in-service training or any other teacher developmental programs.

Keywords: Accounting, Pedagogical Content Knowledge, Lesson Delivery, Moderation Analysis.

Introduction
Accounting has always been the most popular course of study for most students because it aims at providing students with an enriched educational experience that will help them succeed in a career in the accounting field (Ishaq, 2011). It also imparts in students the knowledge to interpret, present business data, and collect valuable knowledge for business decision-making (Curriculum Development Council, 2007). It is undeniable that without the teacher’s support, students’ understanding of accounting will become vague (Musgrove and Taylor, 2012). Teachers guide and show students how to learn and use learning models to support their best academic, social, and personal growth. Without doubts, teachers are essential to their students’ growth and development. According to Aghanta as cited in Dorgu (2016), the teacher is a key player in transforming students who are viewed as raw materials in the educational system into finished goods. They make an effort to engage all their students in learning instead of simply accepting that some are destined to fail.

Williams et al., (2007) asserted that teachers adopt several delivery methods to help learners become more reliant and tactical in accounting education. Simply put, the delivery method includes any approach to learning and teaching that effectively helps students. Dorgu, (2016) also referred to the delivery methods as numerous techniques the teacher employs to convey the subject matter to the pupils in accordance with the learning objectives This indicates that all of the teacher’s efforts to have a beneficial time with the students-including material exposure, the use of methods and strategies, the students’ engagement with their surroundings, the use of resources, and even the evaluation process-amount to instructional delivery (Mezieobi, 2009). Etuk and Umoh (2003) also affirmed that instructional delivery could execute teaching techniques flexibly, not alter the teacher’s original intent for being in the classroom. It goes back to say that teacher delivery’s relevance is to help the instructor overcome challenges when passing on information to students with different learning styles, paces, and knowledge according to their previous experience (Voltz
et al., 2010). Various delivery methods may influence learning outcomes in different ways (Dorgu, 2016). As per Bharadwaj and Pal (2012), when delivery strategies are aligned to learners’ needs, learners become successful in their approach to learning.

**Problem Statement and Hypotheses**

It is acknowledged that the subject matter is an essential part of teachers' teaching abilities (Mayer, 2004). A teacher must possess several kinds of knowledge to act as a professional instructor, not only in the content-matter knowledge but also in supporting students’ learning (Sothayapetch et al., 2013). More importantly, having a comprehensive subject-matter knowledge only does not make one an effective accounting teacher but rather possessing a comprehensive knowledge of the course and the other requisite knowledge. These knowledge and skills help the teacher to retain operative instructional milieu and assist them to achieve their goal. It is clear from the foregoing that good teachers exhibit in-depth pedagogical material knowledge and skill sets that encourage students to take an interest in learning. This therefore introduce the concept of pedagogical content knowledge (PCK). Shulman (1986), explains PCK as a process in which teachers formulate and express subject matter knowledge (SMK) in order to support student learning.

Undeniably, various works identified in the literature (Bayani et al., 2013; Mahdi and Al-Dera, 2013; Kurga, 2014) indicate that teachers' background characteristics, such as (age, gender, years of working experience, qualification) influence their mode of lesson delivery whilst other scholars (Aslam et al., 2016; Imogie and Eraikhuemen 2018; Kavita and Hassan, 2018) have an opposing view. There is therefore the need for this research to be conducted in order to establish a side and contribute to literature. Three alternative research hypotheses were formulated as follows;

1) \[H_1: \text{There is a statistically significant moderating role of gender in the relationship between accounting teachers' PCK and Instructional delivery.}\]
2) \[H_2: \text{There is a statistically significant moderating role of age in the relationship between accounting teachers' PCK and Instructional delivery.}\]
3) \[H_3: \text{There is a statistically significant moderating role of teaching experience in the relationship between accounting teachers' PCK and instructional delivery.}\]

**Theoretical Review**

**Shulman's Pedagogical Content Knowledge (PCK) Theory**

The phrase "pedagogical content knowledge" was coined by Shulman in the 1980s. He claims that PCK is a combination of pedagogy and content that essentially addresses the "what" and "how" to reflect the missing content paradigm that education experts have been ignoring for so long. Shulman asserts that PCK was nothing new because, as early as the 1950s, both content and pedagogy were thought to be part of a single, cohesive body of knowledge; with content focusing on what is known and pedagogy on how to teach it. When compared to professions like law, medicine, and engineering, education was frequently seen as a non-professional one, which is why Shulman invented PCK (Shulman, 1987). It is well recognized that the two key components of Shulman's PCK model are the way teachers portray their subject knowledge and their PK (Loughran et al., 2004).

The fundamental understanding of a teacher in a certain subject and particular content area is referred to as CK. According to Shulman (1987), content knowledge is the volume and organization of knowledge per se in the teachers' minds. He continued by saying that teachers' subject-matter expertise is a crucial prerequisite for good instruction. It is focused on the teacher's theories and comprehension of the subject matter's organizational principles. Teachers need to have a profound understanding of how to teach the subject matter professionally in addition to having a general understanding of the subject (Shulman, 1986).

Richards (2010) also conceptualised content knowledge as what teachers need to know about what they teach and constitutes knowledge that would not be shared with teachers of other subject areas. There is little doubt that teachers' subject-matter expertise affects the teaching-learning process and has a significant impact on students' accomplishments. Teachers' initiative in the classroom may increase as a result of their content understanding. In fact, in almost all jurisdictions, content knowledge is regarded as a requirement for teacher qualification (Faisal, 2016).

In Shulman's PCK model, pedagogical knowledge (PK) is another component. The ability of instructors to provide an effective environment for instruction for all students is tied to their pedagogical knowledge. Shulman defines PCK as the understanding of the act of teaching and the process of learning; this knowledge, theory, and belief are what the teacher's methods for teaching a subject in the classroom are based on. In
other words, pedagogy is merely the approach educators take to teaching, both in theory and in practice. In order to assist students to learn more effectively, a carefully developed and effective pedagogy is essential. The application of the PCK theory brings more humanity to the teaching fraternity. First, in order to deliver effective instruction and improve student understanding, teachers must have subject-matter knowledge (Shulman, 1986). Teaching actually involves at least three different components—teachers, students, and the subject matter—and in order to teach effectively, a teacher must be familiar with the material being covered. Teachers must portray the subject matter while also considering the representations that students are creating in order to comprehend the material being taught (Wilson et al., 1987). Effective teachers should translate their understanding into student-friendly forms of representation.

Shulman offers three recommendations for structuring a lesson. The needs of the pupils and the educational goals must first be understood by teachers. Additionally, Shulman emphasized that when organising instruction, it is crucial to create objectives and evaluation measures. Lastly, teachers must select appropriate resources and delivery methods for the information they will be teaching. Additionally, by engaging in multiple forms of learning, students maximize their potential. To maximize pupils’ potential, it is crucial for instructors to adapt diverse instructional techniques. By implication, accounting teachers with high levels of PCK can integrate their expertise in teaching accounting with their understanding of the accounting subject to create lessons that are both thorough and efficient. Effective accounting instruction will be challenging if knowledge is not synchronized. In this approach, teachers with high levels of PCK can be thought to have the necessary information to affect how they teach in the classroom. Accounting instructors need to possess the necessary PCK since it affects how lessons are delivered, how well students learn, and how well they perform.

**Conceptual Framework**

![Conceptual Framework](image)

The Framework posits that the relationship between teachers’ PCK and teachers’ lesson delivery methods might differ with different instructional methods. In other words, teachers’ demographics (age, gender and experience) moderate teachers’ pedagogical content knowledge and lesson delivery. It can also be seen from Figure 1 that the independent variable in the model is teachers' PCK with lesson delivery as the dependent variable.

**Materials and Methods**

**Research Design Used**

The study adopted descriptive survey design. Quartey and Awoyemi (2002) described descriptive survey as the approach of collecting, and gathering data to test a hypothesis or answer research questions or, vis-à-vis,
a current position of a phenomenon. They further asserted that this type of survey provides a concise and realistic summary of an illustration of an ongoing scenario or a situation in real life. This design was ideal because it helps in reporting things as they prevail without necessarily explaining them and also explained the moderating effect of teacher demographics in the link between accounting teachers’ PCK and lesson delivery without manipulating any variable. The descriptive survey, however, has some setbacks. Seifert and Hoffgung (1991) asserted that there is a likelihood of inconsistent results because descriptive research explores people’s private affairs. Again, it is confined to educated respondents since descriptive survey formats most frequently use questionnaires. However, efforts were made to lessen the design’s restriction(s).

Participants
The population of the study consisted of all Senior High School (SHS) accounting teachers at the Cape Coast Metropolis. There are twelve SHS in the Metropolis and eleven out of twelve schools offer accounting. The total number of accounting teachers in the eleven SHS are 54 and out of this 28(52%) of them were males while 25(46%) were females. Due to the small sample size and the researchers could reach all the respondents; census approach was used to select all the accounting teachers in the Metropolis. Before data collection, permission was sought from the University of Cape Coast, Institutional Review Board (IRB). Also, permission was taken from school authorities. The informed consent of participants was sought concerning their involvement. Respondents were not coerced to answer questions they did not wish to answer. Confidentiality and anonymity were assured as participants were not required to provide any form of identification. To gain access to the various Senior High Schools selected for the study, an introductory letter attained from the Department of Business and Social Sciences Education, University of Cape Coast, was presented to the various schools in the Cape Coast Metropolis to seek permission to administer the questionnaire.

Instrument Used
Specifically, the researchers adapted a questionnaire from Bosu (2010), and Aksu and Metin (2014) and modified the questionnaire items. The items on the questionnaire solicited for accounting teachers’ demographic background, pedagogical content knowledge, and Teachers’ instructional delivery. An existing instrument was used because as indicated by Owusu (2014), for a multidimensional and complex variable, there is an appropriation in using an existing scale. The question was in two categories or sections labeled A and B. Section A looked at the background information of the respondents (teacher characteristics’). Section B looked at Content, Pedagogical, Instructional delivery, and Pedagogical Content knowledge.

The questionnaire employed a four-point Likert type of scale as the measuring scale with points Strongly Disagree D=1, Disagree SD=2, Agree A= 3, Strongly, Agree SA= 4. The instrument was pilot tested and established an Omega Alpha Coefficient of .782 which indicated a good fit. Both descriptive and inferential statistics were used to analyse data on the instrument. Data on the research hypotheses was analysed using Hayes’ Moderation analysis.

For the inferential analysis, the researcher checked for normality assumptions together with other significant assumptions. Results from the SPSS showed a Shapiro-Wilk test of p>.05 and the homogeneity of variance checked using the Levene Test had p>.05 indicating an equal variance assumed. Details of the assumptions checked are presented on Table 1.

Table 1. Descriptive information on study variables.

<table>
<thead>
<tr>
<th>Parameters</th>
<th>PCK</th>
<th>Lesson Delivery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>3.44</td>
<td>2.90</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>0.35</td>
<td>0.56</td>
</tr>
<tr>
<td>5% Trimmed mean</td>
<td>3.45</td>
<td>2.91</td>
</tr>
<tr>
<td>Median</td>
<td>3.50</td>
<td>3.0</td>
</tr>
<tr>
<td>Skewness</td>
<td>-0.50</td>
<td>-0.28</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>-0.10</td>
<td>-0.04</td>
</tr>
</tbody>
</table>

Table 1 revealed that the mean score, 5% trimmed mean, and median for both PCK and lesson delivery are approximately the same. In addition, the skewness and kurtosis coefficients were within the recommended ranges of (-2 to +2) and (-7 to +7), respectively (Hair et al., 2010). Further the Shapiro-Wilk test for PCK (p = .127) and lesson delivery (p = .253).
Results

Statistically significant moderating role of gender in the relationship between accounting teachers’ PCK and instructional delivery

The hypothesis aimed at determining whether gender would moderate the association between teachers’ PCK and their lesson delivery. The predictor variable was teachers’ score on pedagogical content knowledge, the criterion variable was teachers’ score on lesson delivery, whereas the moderating variable was gender. Gender was dummy-coded, where a male was used as the reference group. This hypothesis was tested using moderation analysis with Hayes’ PROCESS using 5000 bootstrap samples. Details of the results are presented on Table 2.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>B</th>
<th>BootSE</th>
<th>LLCI</th>
<th>ULCI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-1.229</td>
<td>0.934</td>
<td>-2.471</td>
<td>1.194</td>
</tr>
<tr>
<td>PCK</td>
<td>1.176</td>
<td>0.274</td>
<td>0.492</td>
<td>1.565</td>
</tr>
<tr>
<td>W1</td>
<td>3.293</td>
<td>1.373</td>
<td>0.152</td>
<td>5.492</td>
</tr>
<tr>
<td>PCK*W1</td>
<td>-0.921</td>
<td>0.401</td>
<td>-1.581</td>
<td>0.0002</td>
</tr>
</tbody>
</table>

Model Summary

- \( R^2 = 0.27 \) (Table 2). The overall model accounted for 27% of the variations in lesson delivery. The results further showed that the interaction between females and PCK, relative to males is not a significant predictor of lesson delivery, \( B = -0.921, \text{Boot95\% CI} [-1.58, 0.0002] \).

This result implies that gender does not moderate the link between PCK and lesson delivery. In other words, the relationship between PCK and lesson delivery is the same for teachers, irrespective of their gender category.

Statistically significant moderating role of age in the relationship between accounting teachers’ PCK and instructional delivery

The aim of this hypothesis was to ascertain whether the association between PCK and lesson delivery is contingent on the age of the respondents. The criterion variable was lesson delivery, whereas the predictor variable was PCK. The moderator variable was age. Age had three levels: 20–29 years, 30–39 years, and 40–49 years. This variable was dummy-coded, with 20–29 years being the reference group. This hypothesis was tested using moderation analysis with Hayes’ PROCESS with 5000 bootstrap samples. A summary of the results is presented in Table 3.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>B</th>
<th>BootSE</th>
<th>LLCI</th>
<th>ULCI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>0.535</td>
<td>1.358</td>
<td>-1.759</td>
<td>3.308</td>
</tr>
<tr>
<td>PCK</td>
<td>0.722</td>
<td>0.395</td>
<td>-0.102</td>
<td>1.381</td>
</tr>
<tr>
<td>W1</td>
<td>-0.277</td>
<td>2.117</td>
<td>-4.229</td>
<td>3.909</td>
</tr>
<tr>
<td>W2</td>
<td>-1.020</td>
<td>3.580</td>
<td>-5.392</td>
<td>10.921</td>
</tr>
<tr>
<td>PCK*W1</td>
<td>0.034</td>
<td>0.614</td>
<td>-1.169</td>
<td>1.207</td>
</tr>
<tr>
<td>PCK*W2</td>
<td>0.218</td>
<td>0.966</td>
<td>-2.883</td>
<td>1.464</td>
</tr>
</tbody>
</table>

Model Summary

- \( R^2 = 0.20 \) (Table 3). About 20% of the variances in lesson delivery were accounted for by the model. Further, it was revealed that interaction between age category 30–39 years (W1) and PCK was not a significant predictor of lesson delivery, \( B = 0.03, \text{Boot95\% CI} [-1.17, 1.21] \). Similarly, the interaction between age category 40–49 years (W2) and PCK was not
a significant predictor of lesson delivery, $B = 0.22$, $Boot95\% CI [-2.88, 1.46]$. The results mean that age does not moderate the relationship between PCK and lesson delivery. By implication, the relationship between PCK and lesson delivery does not vary based on the age of the teachers.

**Statistically significant moderating role of teaching experience in the relationship between accounting teachers' PCK and instructional delivery**

This hypothesis examined whether the link between accounting teachers' PCK and lesson delivery would vary based on teachers' teaching experience. The predictor variable was teachers' PCK, whereas the criterion variable was lesson delivery. The moderator variable, teaching experience had three levels: 1–5 years, 6–10 years, and 11+ years. The category, 1–5 years was used as the reference group. A summary of the results is presented in Table 4.

**Table 4. Moderating effect of teaching experience in the relationship between pck and lesson delivery.**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>$B$</th>
<th>$BootSE$</th>
<th>LLCI</th>
<th>ULCI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>0.501</td>
<td>1.135</td>
<td>-1.557</td>
<td>2.843</td>
</tr>
<tr>
<td>PCK</td>
<td>0.698</td>
<td>0.333</td>
<td>0.013</td>
<td>1.30</td>
</tr>
<tr>
<td>W1</td>
<td>0.006</td>
<td>5.366</td>
<td>-4.264</td>
<td>14.768</td>
</tr>
<tr>
<td>W2</td>
<td>2.328</td>
<td>3.063</td>
<td>-2.410</td>
<td>10.678</td>
</tr>
<tr>
<td>PCK*W1</td>
<td>-0.045</td>
<td>1.529</td>
<td>-4.221</td>
<td>1.233</td>
</tr>
<tr>
<td>PCK*W2</td>
<td>-0.605</td>
<td>0.834</td>
<td>-2.814</td>
<td>0.718</td>
</tr>
</tbody>
</table>

**Model Summary**

<table>
<thead>
<tr>
<th>$R^2$</th>
<th>$F$</th>
<th>df1</th>
<th>df2</th>
<th>$P$</th>
</tr>
</thead>
<tbody>
<tr>
<td>.222</td>
<td>2.40</td>
<td>5</td>
<td>42</td>
<td>.053</td>
</tr>
</tbody>
</table>

W1 = 6–10 years; W2 = 11+ years

From Table 4, the overall model was not statistically significant, $F(5, 42) = 2.40$, $p = .053$, $R^2 = .22$. The result signifies that about 22% of the variations in lesson delivery were accounted for by the model. The results further showed that interaction between 6–10 years of experience and pedagogical content knowledge was not a significant predictor of teachers’ lesson delivery, $B = -0.05$, $Boot95\% CI [-4.22, 1.23]$. In a similar vein, the interaction between 11+ years of experience and pedagogical content knowledge did not significantly predict teachers’ lesson delivery, $B = -0.61$, $Boot95\% CI [-2.81, 0.72]$. The results generally imply that the relationship between accounting teachers' PCK and lesson delivery is not contingent on teachers’ years of experience. Put differently the relationship between accounting teachers’ PCK and lesson delivery is similar for teachers, irrespective of their years of teaching experience.

**Discussion**

The results showed that the interaction between females and PCK, relative to males is not a significant predictor of lesson delivery. This result implies that gender does not moderate the link between PCK and lesson delivery. In other words, the relationship between PCK and lesson delivery is the same for teachers, irrespective of their gender category. The study findings are consistent with works done by Obidile and Uzoekwe (2018) who examined the impact of gender on the academic performance of students in line with the teaching method used during an instructional period. It was found that male and female accounting learners who were taught utilising the discussion method of teaching received higher post-test results. Furthermore, no significant difference in the mean scores of male and female accounting learners taught utilising the discussion mode of instruction. It means that no gender difference was found when teachers adopted the discussion method in teaching accounting (Naseer, 2018).

Interestingly, Naseer (2018) found a substantial difference in male and female teachers’ opinions regarding dedication, competence, accountability, and professional ethics with female teachers having stronger beliefs. It was suggested that the teaching profession’s stature be elevated to make it more appealing as a career choice for male instructors. The findings of Young *et al.*, (2009) are inconsistent with the study’s findings. They asserted that pedagogical and course content features revealed significant relations between student and instructor gender. For example, several researchers have found that the gender of teachers positively influences PCK and academic performance (Feldman, 2009; Mustafa, 2013; Appleby, 2014). However, other studies discovered that teachers’ gender did not affect their PCK or how they delivered lessons (Imogie and Eraikhuemen, 2008; Hamdan, 2010; Clifford 2015; Shah and Udgaonkar, 2018).
Study findings also showed that age does not moderate the link between PCK and lesson delivery. By implication, the relationship between PCK and lesson delivery does not vary based on the age of the teachers. Findings from the study support work done by Bodhe and Jankar (2015) who found that learners do discriminate between diverse teachers' characteristics. According to this study, a dedicated and intelligent teacher gains respect from learners regardless of age, gender, or classification. Learners place a premium on information, explanation, and clarity. Learners value communication and emphasise the importance of teacher-student relationships as well as an incentive for improved learning. However, Kaighobadi and Allen (2008) found a statistically significant relationship between age and lesson delivery. In addition, the results also showed generally that the relationship between accounting teachers' PCK and lesson delivery is not contingent on teachers' years of experience. Put differently the relationship between accounting teachers' PCK and lesson delivery is similar for teachers, irrespective of their years of teaching experience. Unal and Unal (2012) asserted that teachers who are experienced most often prefer being in control than beginning teachers while interacting with students when making decisions (Irvine, 2019). However, Adeyemi (2008) disagreed to the link between teachers’ educational level, teaching experience, and its impact on their PCK competency and students' knowledge. Mirzagitova and Akhmetov, (2015) added that gender, age, teachers professional experience and qualification does not influence performance of teachers.

**Conclusion**

The study concluded that gender, age, and teaching experience did not moderate the relationship between teachers’ PCK and their lesson delivery. It can be concluded that the relationship between PCK and the level of lesson delivery of accounting teachers is not moderated by teacher demographics like gender, age and teaching experience. The small sample size might have been the reason for gender, age, and teaching experience not moderating the relationship between PCK of teachers and their lesson delivery.

**Declarations**

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**Author Contributions:** The authors confirm sole responsibility for the following: study conception and design, data collection, analysis and interpretation of results, and manuscript preparation.

**Conflict of Interest:** The authors declare no conflict of interest.

**Consent to Publish:** All authors agree to publish the paper in International Journal of Recent Innovations in Academic Research.

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**Institutional Review Board Statement:** The proposal for the study was approved by the Institutional Review Board of the University of Cape Coast.

**Informed Consent Statement:** Written informed consent has been obtained from the participant(s) to participate in this study.

**Research Content:** The research content is original and has not been published elsewhere.

**References**


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