

# An Evaluation of Teachers Pedagogical Content Knowledge (PCK) in Religious and Moral Education Curriculum in the Junior High Schools (JHS) of Ghana

Uriel Amuah<sup>1\*</sup>, Bismark Kwasi Osei<sup>2</sup>, Gertrude Otubea Dadey<sup>2</sup>, Lovedale Adzo Tsotovor<sup>2</sup>

<sup>1</sup> Department of Social Sciences, Komenda College of Education, Komenda, Ghana

<sup>2</sup> Department of Social Sciences, Seventh Day Adventist College of Education, Asokore-Koforidua, Ghana

## Email Address

[bordohlity@yahoo.co.uk](mailto:bordohlity@yahoo.co.uk) (Uriel Amuah)

\*Correspondence: [bordohlity@yahoo.co.uk](mailto:bordohlity@yahoo.co.uk)

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## Abstract:

The objective of the study was to evaluate teachers Pedagogical Content Knowledge (PCK) in Religious and Moral Education Curriculum in Junior High Schools (JHS) in the Komenda Edina Eguafo Abirem (KEEA) municipality of Ghana. The study adopted the descriptive survey design using quantitative and qualitative methods. Methods were combined both for triangulation and complementarity. Triangulation was used to test the consistency of findings obtained through different instruments used, whilst complementarity clarifies and illustrates results from one method with the use of another method. The accessible population for the study was 130 JHS Religious and Moral Education teachers in the Komenda-Edina-Eguafo-Abirem Municipality. Purposive and census sampling techniques were used to select municipality, circuits and RME teachers respectively. The main instruments for data collection of study were questionnaire and an observation checklist. The quantitative data entry and analysis was done by using the Statistical Package for the Social Sciences (SPSS) version 22, software for data analysis. The data analysis was informed by the research question which guided the study. Descriptive statistics were used to analyse the research question (frequencies, percentages, means, and standard deviation). At the same time, the data for the hypotheses were analysed through ANOVA and an independent-sampled t-test. The qualitative data was analysed by the use of the interpretative method based on the themes arrived at during the data collection. The themes were related to the research question and interpreted on the number of issues raised by respondents. These were based on question on the structured observation checklist. The study revealed that teacher's pedagogical content knowledge is critical when it comes to children's moral and spiritual development because content and pedagogy have to be presented and adopted to the learning needs, interests, and uniqueness each learner brings to the learning context. And this is where the usefulness of teachers' pedagogical content knowledge becomes a useful tool. The research hypotheses of the study also concluded that years of teaching experience do not always guarantee the development of PCK for RME

teachers in the K.E.E.A. the study also indicated that the gender of JHS teachers in K.E.E.A was not a differentiator for assessing teachers pedagogical content knowledge in RME. It is recommended that the Ministry of Education provide teacher educators with state-of-the-art resources such as computers, projectors, interactive boards, internet connectivity, and books to enhance effective teaching of moral and religious concepts in class. It is also recommended that RME teachers pursue further education and learn about emerging issues in the teaching of RME for effective teaching and learning in the 21st century RME classroom.

### **Keywords:**

Evaluation, Pedagogical Content Knowledge (PCK) Religious and Moral Education

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## **1. Introduction**

Teaching is the process of imparting knowledge to students or guiding them through a series of experiences designed to alter their behaviour. Teaching is a difficult profession. In some ways, a page or two cannot adequately convey the sophistication of what good teachers do. Nonetheless, nothing is more critical to ensuring each student's success than high-quality instruction. Thus, effective teaching is the type of instruction that focuses on the holistic development of pupils or students. In other words, holistic development is a critical component of effective instruction [1]. On this issue, a researcher identified 10 well-defined and research-based qualities of successful or excellent teaching. A commitment to student performance, pedagogical practises that foster caring, supportive, and collaborative community of learners, effective links between the school and its social context, interactive teaching that is accessible to student learning progresses, effective and sufficient learning opportunities, multiple tasks and contexts that support learning cycles, and empathetic curriculum goals, a myriad of variables influence effective teaching [2]. Shulman categorised professional knowledge for teaching as follows:

- General pedagogical knowledge emphasises that general classroom management and organisation concepts and practises appear to supersede subject matter.
- Knowledge of learners and their characteristics
- Knowledge of educational contexts, ranging from group or classroom dynamics to school district administration and financing, as well as community and cultural factors.
- Understanding of educational goals, objectives, and ideals, as well as its philosophical and historical foundations
- Content knowledge
- Curriculum knowledge, with a special understanding of the resources and programmes that act as teachers' tools of the trade.
- Pedagogical content knowledge is a unique synthesis of content and pedagogy exclusive to teachers and their distinctive mode of professional understanding [3].

These themes were generated to emphasise the critical importance of subject knowledge and to locate it within the greater landscape of professional knowledge for teaching. PCK is the distinctive body of knowledge that is of particular interest because it constitutes a "special synthesis of content and pedagogy that is distinctively

the jurisdiction of teachers, their unique mode of deep knowledge” [3]. This knowledge enables a teacher to take stuff and “transform it to learnable by another. Teachers then take on the role of a gatekeeper, intervening between content specialists and discipline students. Additionally, Shulman contends that a well-developed PCK enables teachers to closely match curriculum and pedagogy while simply identifying when students are deviating. Pedagogical content knowledge (PCK) as consisting of two dimensions: a teacher’s broad comprehension of the subject and knowledge of how to build particular comprehension of the subject. More precisely, this is everything a teacher does or is aware of to facilitate his or her students learning and comprehension [4]. All teachers employ both dimensions of PCK in their professional activity; however, some teachers PCK is more developed than others, resulting in varying applications of teaching specific knowledge, which has a varying impact on children’s development [5,6].

Moreover, PCK occurs when teachers supply pupils with a fresh representation of the concept/idea. Given that they believe PCK is mostly dependant on “practical wisdom,” it is unsurprising that research on PCK in early career instructors generally believes that PCK exists in such a formative stage to be negligible. On this point, one may argue that PCK implementation begins long before teachers meet students. It begins with determining what information to teach and how to organise it consistent with how subject specialists approach their specialities [7,8]. In this regard, a study emphasises teaching as “simply originates with the teacher’s understanding of what has to be learned and how it should be delivered.” In essence, no teacher can perform his or her PCK and convert anything for learners without first possessing the appropriate topic knowledge [3].

Teachers with a strong PCK are regarded to be motivated and feel that almost all children can learn. In summary, teachers with good PCK are self-assured, enthusiastic, thoughtful, and absorbed in their work. Nonetheless, teachers with extensive PCK in one subject may lack it at times. Moreover, this explains why continuous professional development should form a critical element of teacher education [9]. However, certain problems are connected with Pedagogical Content Knowledge (PCK), such as the inability to comprehend activity progressions (e.g., from skills to gameplay). Teachers face this difficulty when they progress from stage 1 (individual skill development) to stage 4 (modified or complete games) without providing appropriate practice in stages 2 and 3 (combining skills and the fundamental offensive and defensive strategies) (combining skills and basic offence and defence strategies). Additionally, early developing PCK consider activities but not their relationship to the program’s objectives (missing the big picture). There have been instances where teachers believe that providing information to students who appear to be paying attention constitutes teaching. On the other hand, enable the students to demonstrate their abilities to assist them in acquiring additional practises and utilise a game-question-practice-game cycle to engage students in making judgements about how to apply skills and actions effectively [9].

Instructional delivery effectiveness is crucial in all areas of teaching and learning. A good teacher is knowledgeable about all facets of the teaching and learning process, including the content, methodology, and understanding of appropriate language usage at all levels of education and the learner’s uniqueness and interests [10]. This is significant because it takes into account the various learning demands of learners.

Several scholars have highlighted the nature and evolution of PCK. However, one issue that comes out strongly is the view that pedagogical content knowledge is a personal construct and individual teachers develop their brand of PCK over a long period as they journey on their professional path. The question that arises is whether this argument can stand critical scrutiny [11]. It was argued that some aspects of PCK develop during teachers pre-service and professional practice. This is significant because acquiring in-depth content knowledge and relevant pedagogy develops and becomes more robust through years of practice. Proficient teaching and learning within spiritual and moral education are influenced by the experiences teachers gain in their past practice. The more experienced a teacher is, the more efficient the teacher is likely to become, and this explains why continuous teachers' professional development is a recipe for effective teaching. Also, it is more likely that PCK would engender useful teaching and give teachers insights regarding the uniqueness individual children bring to the learning context in terms of spiritual and moral values, which informs effective curriculum planning [12]. The extent to which this assertion holds is at the heart of this study.

For an accelerated development of the moral fabric of young people, society demands quality teaching from spiritual (religious) and moral educators. Teachers are envisaged to have comprehensive knowledge, understanding, and insights regarding pedagogical content knowledge [3]. Even though the teachers are taken through in-service training regularly to enlighten their knowledge regarding content and pedagogy closely linked to spiritual (religious) and moral education, from the literature available, it appears there is a dearth of research to inform teachers pedagogical content knowledge. More precisely, research on spiritual (religious) and moral teachers pedagogical content knowledge provides effective classroom teaching and learning [13]. Therefore, creating awareness about the state teachers pedagogical content knowledge would likely aid effective classroom teaching and learning.

Several researchers had explored the pedagogical content knowledge phenomenon and used a qualitative research approach and a sample size of five teachers to explore science teachers content and pedagogical knowledge [13,14,15]. a qualitative research approach and a sample size of six experienced teachers and two novice teachers were used to explore mathematics teachers pedagogical content [14]. In the same context, a qualitative research approach and a sample of four teachers were used to explore the pedagogical content knowledge of two experienced and two beginning social studies teachers. The study's findings showed differences among the four teachers in expertise and curriculum style in curriculum story-making. These researchers explored the phenomenon within an Asian and American context with a different socio-cultural background [15]. There is the need for a similar study to be conducted within the Ghanaian context. Findings from the various studies indicated that participant teachers did not fully comprehend basic concepts and had limited knowledge of teaching strategies. Also, the researchers used a qualitative research approach; therefore, quantitative research is needed to explore the phenomenon in a larger sample size context.

Similarly, a study conducted with two Grade 12 mathematic teachers from Mpumalanga province (South Africa) and investigated the PCK of quadratic equations revealed that their questioning techniques were not effective. He further interpreted that the two teachers had limited knowledge of identifying learner misconceptions regarding the quadratic equation [16]. Again, in Botswana, a study conducted employed a qualitative research approach to investigate the content and

pedagogical knowledge of Religious Education (R.E) teachers. The study concluded that one major problem is teachers' failure to broaden the scope of their approaches and the shortage of teaching and learning resources [17].

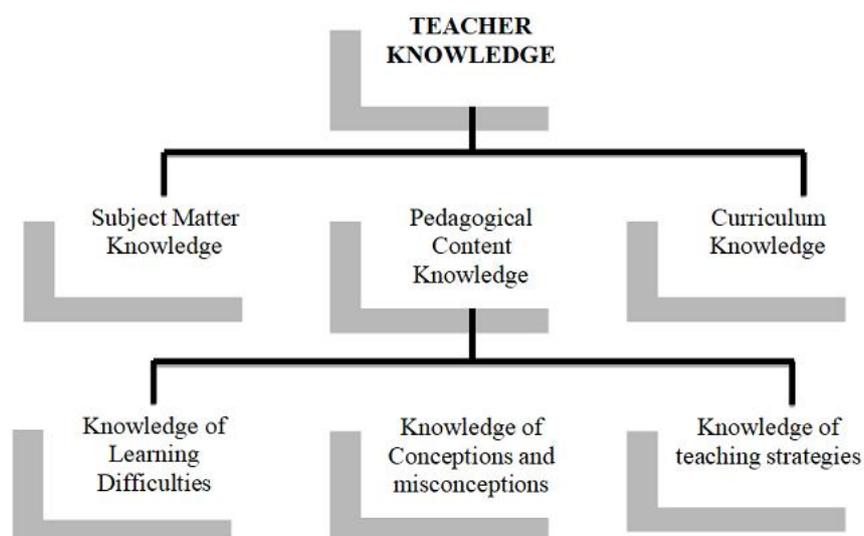
A descriptive study conducted in Ghana was to ascertain secondary school accounting teachers' understanding of pedagogical concepts in the Central Region. The study indicated that accounting teachers pleaded with students to abstain from strict adherence to accounting standards and principles. Teachers engaged students actively in teaching and learning and simplified complex activities [18]. Additionally, a study discovered that tutors of RME in Ghana's educational institutes possessed efficient pedagogy and subject expertise. As a result of the majority of research being undertaken in other subject areas, limited information is available about the pedagogical content knowledge of RME teachers at the JHS level, notably in the KEEA Municipality [19]. Additionally, the majority of studies used a qualitative research methodology in a different socio-cultural environment. In this regard, a quantitative study is required to investigate the phenomena utilising a bigger sample size to cover the literature gap.

This investigation was centred on Shulman's teacher knowledge model [6]. Shulman classified teacher knowledge into three main categories: subject content knowledge, pedagogical content knowledge, and curricular knowledge [6]. Shulman's model of teacher knowledge was chosen because effective teaching is heavily influenced by teachers' capacity to synergistically blend material and pedagogy, enhancing and promoting children's conceptual understanding. The model fully demonstrates how the concepts under discussion can be utilised to achieve the ultimate goal of high academic performance. Teachers may need to display these types of knowledge as they teach and interact with their learners in the classroom. Shulman then divided PCK into three sub-categories: knowledge of learning difficulties, knowledge of teaching strategies, and knowledge of conceptions and misconceptions [6]. Shulman's model of Teacher Knowledge is shown in Figure 1 below.

Figure 1 highlights the teacher knowledge which is needed in the teaching of Religious and Moral Education. It can be discerned from the figure that teacher knowledge comprises three main sub-areas, namely, knowledge of the subject matter, pedagogical content knowledge, and curriculum knowledge. In context, the Religious and Moral Education teacher at the basic school should possess in-depth knowledge in these three sub-areas. In essence, the teacher's pedagogical subject knowledge must understand learning challenges, common misconceptions, and teaching tactics. This indicates that in the classroom, the Religious and Moral Education teacher can only teach the topic effectively if he or she has a thorough understanding of the unique learning issues that each student brings to the teaching and learning environment. In effect, the Religious and Moral Education teacher should be proficient in both subject and instructional methodologies to satisfy the students' requirements and accomplish the lesson's instructional purpose.

The study was guided by a research question - what is Pedagogical Content Knowledge (PCK) of RME teachers in the Komenda-Edina-Eguafo-Abirem Municipality? and Two research hypotheses were also formulated to guide the study and were tested at 0.05 level of significance. Hypothesis 1  $H_0$ : Years of teaching experience do not account for significant differences among JHS RME teachers pedagogical content knowledge in the Komenda-Edina-Eguafo-Abirem Municipality.  $H_1$ : Years of teaching experience account for significant differences among JHS RME teachers pedagogical content knowledge in the Komenda-Edina-Eguafo-Abirem Municipality. Hypothesis 2  $H_0$ : There is no statistically significant difference between pedagogical content knowledge of male and female RME teachers.  $H_1$ : There is a

statistically significant difference between pedagogical content knowledge of male and female RME teachers.



*Figure 1. Model of Teacher Knowledge [6].*

## 2. Materials and Methods

The study adopted the descriptive survey design using quantitative and qualitative methods. Methods were combined both for triangulation and complementarity. Triangulation was used to test the consistency of findings obtained through different instruments used, whilst complementarity clarifies and illustrates results from one method with the use of another method. The study's target population was all teachers at RME Junior High Schools in Ghana's Central Region. The region is divided into 22 districts and employs approximately 1496 teachers at RME Junior High School. On the other hand, the accessible population includes all RME Junior High School teachers in the Central Region municipality of Komenda-Edina-Eguafo Abirem. The total number of circuits in the Municipality was eight (8), and they were labelled from 1-8; it included the Agona (1), Ayensudo (2), Elmina (3), Kissi (4), Komenda (5), Dominase (6), Essama (7) and Ntranoa (8) circuits. The total number of public Junior High Schools in the municipality was sixty-eight (68), and the total number of teachers who teach at the public junior high schools in the Municipality was five-hundred and ninety-five (595). In these schools, there were 130 RME teachers in all. Therefore, the total number of the teachers who constituted the accessible population for the study was 130 JHS Religious and Moral Education teachers in the Komenda-Edina-Eguafo-Abirem Municipality. The researchers were interested in focusing exclusively on public JHS since most teachers in public schools are professional, spiritual (religious), and moral educators compared to private institutions. While these non-professional teachers may possess subject-matter expertise, it is considered that they lacked basic pedagogical skills for teaching the subject.

Purposive and census sampling techniques were used to select municipality, circuits and RME teachers respectively. Purposive sampling was used to identify all circuits within the study region, and the same sampling technique was used to identify all public junior high schools inside the Municipality's various circuits. The census technique was used to choose RME instructors at the KEEA Municipality's several public JHS. The study enrolled 130 RME teachers. The total number of teachers in each of the six circuits is presented in Table 1 below:

**Table 1.** Sample frame of teachers sampled from each sampled circuits.

Circuit	Sample of JHS	Number of Teachers
Circuit 1	12	23
Circuit 2	9	17
Circuit 3	6	11
Circuit 4	9	18
Circuit 5	7	13
Circuit 6	10	19
Circuit 7	8	15
Circuit 8	7	14
<b>Total</b>	<b>68</b>	<b>130</b>

The data presented in Table 1 indicate eight circuits in the Municipality with 68 Junior High Schools and 130 RME teachers. Out of the 130 RME teachers, 67 were males representing (55.8%), and 53 were females representing (44.2%)

The main instruments for data collection of study were questionnaire and an observation checklist. The self-developed questionnaire was named Pedagogical Content Knowledge Inventory (PCK Inventory) and consisted of eight (8) items were anchored on a five-point Likert scale ranging from “Strongly Disagree to Agree Strongly”. The observation guide was self-designed and named Pedagogical Content Knowledge Observation Guide (PCKOG). The PCKOG boarded on how RME teachers were implementing their pedagogical content knowledge in the classroom.

The quantitative data entry and analysis was done by using the Statistical Package for the Social Sciences (SPSS) version 22, software for data analysis. The data analysis was informed by the research question which guided the study. Descriptive statistics were used to analyse the research question (frequencies, percentages, means, and standard deviation). At the same time, the data for the hypotheses were analysed through ANOVA and an independent-sampled t-test. The qualitative data was analysed by the use of the interpretative method based on the themes arrived at during

the data collection. The themes were related to the research question and interpreted on the number of issues raised by respondents. These were based on question on the structured observation checklist.

### 3. Results and Discussion

This section presents results and discussion of the study. The Research question of the study explored the Pedagogical Content Knowledge (PCK) of Religious and Moral Education teachers in the Komenda-Edina-Eguafo-Abirem Municipality in the central region of Ghana. The results are presented in Table 2.

**Table 2.** Results on Pedagogical Content Knowledge of RME Teachers.

Statement	Mean	SD	MR
	Test Value=3.0		
1. I can combine content and pedagogy effectively in the teaching and learning process	4.77	1.70	1 <sup>st</sup>
2. I can present the subject matter to diverse interests and abilities of students	4.74	1.71	2 <sup>nd</sup>
3. I can effectively integrate subject matter and instructional strategies to meet the learning needs of individual learners	4.06	1.07	3 <sup>rd</sup>
4. I have techniques in assessing students understanding and diagnosing the level of understanding of concepts during teaching	4.01	1.13	4 <sup>th</sup>

5. I possess the essential characteristics required for teaching and addressing complex issues	3.93	1.15	5 <sup>th</sup>
6. I can establish a purposeful learning environment	3.81	1.18	6 <sup>th</sup>
7. I can select appropriate teaching methods to teach a specific content	3.61	1.17	7 <sup>th</sup>
8. I can foster critical thinking in students by relating content to students lived experience	3.57	1.32	8 <sup>th</sup>
Mean of means/Standard Deviation	4.10	1.10	

Source: Field Survey, Amuah (2019) (N=120)

Key-SD =Standard Deviation, MR=Means Ranking, N=Sample Size

Table 2 presents the Pedagogical Content Knowledge of RME teachers in the Komenda-Edina-Eguafo-Abirem Municipality. It can be observed from the table that they have the knowledge and how to effectively combine content and pedagogy within the teaching and learning process (M=4.77, SD= 1.70). Again, the study finding revealed that RME teachers could present content that met the learning needs of students (M=4.74, SD= 1.71). The teachers further revealed that they could effectively integrate subject matter and instructional strategies to meet the learning needs of individual learners (M=4.06, SD=1.07).

On assessing students learning outcomes, the study's finding revealed that the teachers had several assessment strategies to determine learner's level of achievement in any teaching and learning context (M=4.01, SD=1.13). Whether teachers could address complex issues in class (M=3.93, SD=1.15) suggests that they could address such issues because they could effectively blend content and pedagogy to deal with complicated issues whenever they are confronted. On the issue of whether the teachers could establish a purposeful learning environment (M=3.81, SD=1.17). In effect, the study's findings suggest that the learning needs were effectively dealt with in class, finally, on the issue of whether the content was directly linked to children's lived experiences (M=3.57, SD= 1.32). In essence, the concepts thought in the class had a bearing on the children's everyday experiences within and outside the home setting.

Overall, the study's findings suggest that the teachers had a piece of in-depth knowledge and understanding about pedagogical knowledge because they had insight regarding how to use effective pedagogy to enable children's understand complex concepts taught in class. This is not surprising because every child can understand concepts that appear difficult to explain. Because if a teacher has insights into the nature of children and how they learn, the teacher can use developmentally appropriate strategies to enhance and promote children understanding of concepts taught within and outside the classroom setting. The overall mean of means and standard deviation (Mm= 4.10, SD= 2.10) implies that RME teachers in the Komenda-Edina-Eguafo-Abirem Municipality possessed pedagogical Content knowledge.

The result from the observation checklist shows a mean value of (M =4.89; SD = 0.62), attesting that RME teachers in the Komenda-Edina-Eguafo-Abirem municipality were very competent because they were able to effectively combine content and pedagogy in every teaching and learning context. The study's findings were supported by previous study that teachers can integrate content and pedagogical knowledge [17]. But the mean value (M = 2.69; SD = 1.05), (M = 2.63; SD = 1.09) and (M = 2.58; SD = 1.07) suggest RME teachers in the study context were somehow

competent in blending teaching strategies with the subject matter to enhance students understanding of concepts. Overall, the study’s findings revealed that the RME teachers possessed the essential characteristics required for teaching and addressing complex issues (M=2.52; SD=1.20). An overall mean score of (M= 3.13; SD=1.00) was found for the observation checklist. These findings agree with the earlier findings that the PCK level of RME teachers in the Komenda-Edina-Eguafo-Abirem Municipality was high.

**Table 3.** Results from Observation Check List.

PCK	Mean	SD
1 Teachers can combine content and pedagogy effectively in the teaching and learning process	4.89	0.62
2. RME teachers apply values clarification in teaching specific subject matter.	2.69	1.05
3. RME teachers have techniques in assessing students understanding and diagnosing the level of understanding of concepts during teaching.	2.45	1.14
4. Teachers possess the essential characteristics required for teaching and addressing complex issues	2.52	1.20
Mean of Means/Average Standard Deviation	2.96	1.02

Source: Field survey, Amuah (2019). (N=120)

Scale: 1= Not at all competent, 2=Somehow competent, 3=Competent, 4=Very competent

### Hypothesis 1

**H<sub>0</sub>:** Years of teaching experience do not account for significant differences among JHS RME teachers pedagogical content knowledge in the Komenda-Edina-Eguafo-Abirem Municipality.

The purpose of hypothesis one was to find out whether a significant difference existed within teachers’ years of teaching experience in terms of their Pedagogical Content Knowledge (PCK). Table 4, Table 5, Table 6 presents the obtained results of the differences.

**Table 4.** Test of Normality.

	Years of teaching experience	Shapiro-Wilk		
		Statistic	Df	Sig.
Pedagogical Content Knowledge	Below 1 year	.894	13	.109
	2-5 years	.957	35	.188
	6-10 years	.703	39	.000
	11 years and above	.744	33	.000

Source: Field survey, Amuah (2019). (N=120)

From Table 4, the result for the “Below 1 year and “2-5 years groups on the dependent variable, “Pedagogical Content Knowledge (PCK),” was normally distributed. This is because of the Sig. value of the Shapiro-Wilk Test is greater than 0.05. However, for “6-10 years and “11 years and above groups, the dependent variable “Pedagogical Content Knowledge (PCK)’ was not normally distributed. This is because of the Sig. value of the Shapiro-Wilk Test is lesser than 0.05.

**Table 5.** Test of Homogeneity of Variances.

Levene Statistic	df1	df2	Sig.
.929	3	116	.429

Source: Field survey, Amuah (2019). (N=120)

**Table 6.** ANOVA of Years of Teaching Experience with Regards to Pedagogical Content Knowledge.

Group	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	382.664	3	127.555	1.024	.385
Within Groups	14455.302	116	124.615		
Total	14837.967	119			

Source: Field survey, Amuah (2019). (N=120)

From the one-way ANOVA,  $F(3, 116) = 1.024$ ,  $p = .385$ . The result shows no significant difference within teachers' years of teaching experience in terms of Pedagogical Content Knowledge (PCK). Hence, the researcher failed to reject the null hypothesis. The study's finding was not in sync with a study that teachers who had taught for several years tended to have robust content knowledge [17].

## Hypothesis 2

**$H_0$ :** There is no statistically significant difference between pedagogical content knowledge of male and female RME teachers.

**$H_1$ :** There is a statistically significant difference between pedagogical content knowledge of male and female RME teachers.

The essence of this hypothesis was to find out whether a statistically significant difference existed between pedagogical content knowledge of male and female JHS RME teachers. In order to identify the significant difference between the gender of teachers and their pedagogical content knowledge, the obtained data were analysed using an independent sample t-test. The independent variable was the gender of Religious and Moral Education student-teachers, and the dependent variable was pedagogical content knowledge. In order to obtain the dependent variable, items on the questionnaire which sought to measure pedagogical content knowledge of Religious and Moral Education teachers were transformed to obtain the mean value. The independent sample t-test was used to identify the difference between the dependent and independent variables at a significance level of 0.05. Table 7 presents the obtained results of the differences.

**Table 7.** T-test Results on Difference between Gender and Pedagogical Content Knowledge of Religious and Moral Education Teachers.

Gender	Mean	SD	T	Df	P
Male	3.945	0.958	0.461	118	0.650
Female	3.859	1.090	0.454		

Source: Field survey, Amuah (2019). (N=120)

Table 6 shows the difference between pedagogical content knowledge (PCK) of male and female Religious and Moral Education Teachers. Results from Table 6 indicate no statistically significant difference between Pedagogical Content Knowledge (PCK) of male and female Religious and Moral Education Teachers. This is evident as  $(M= 3.96, SD = 0.958)$  was found for RME male teachers and RME female teachers  $(M = 3.86, SD = 1.090)$ ;  $t(118) = 0.461$ ,  $p > 0.05$ ,  $(p=0.650)$ . This means that there is no statistically significant difference between gender and Pedagogical Content Knowledge (PCK) of Religious and Moral Education Teachers. Therefore, the researcher failed to reject the null hypothesis.

## 4. Discussion

### 4.1. Pedagogical Content Knowledge (PCK) of RME Teachers

The research question intended to explore the Pedagogical Content Knowledge (PCK) of Religious and Moral Education teachers in the Komenda-Edina-Eguafo-Abirem Municipality in the central region of Ghana. The findings revealed that the Pedagogical Content Knowledge (PCK) level of Religious and Moral Education teachers in the study area was above average, and they were able to effectively blend pedagogy and content in the teaching of the RME. This was consistent with an earlier study that teachers did not prove that technology might transform material or taught, hence how students learned [1]. To this end, he determined that technological knowledge influenced teachers' self-assessment across TPACK categories compared to their pedagogical and content expertise. A study asserted that pedagogical content knowledge entails the teacher's ability to choose an educational method supported by developmental processes that contribute to children's conceptual understanding [20]. This assertion is consistent with previous study that PCK is a vital component of teacher education programmes because it provides teachers with insights about acceptable content and pedagogy teaching specific concepts [22].

### 4.2. Influence of Years of Teaching on JHS RME Teachers PCK

The purpose of this theme was to find out whether a significant difference existed within teachers' years of teaching experience in terms of their Pedagogical Content Knowledge (PCK). The study found no statistically significant difference among the years of teaching experience of JHS teachers with regard to their pedagogical content knowledge in RME. The study's finding was not in sync with another similar study that teachers who had taught for several years tended to have robust content knowledge [17].

### 4.3. Difference Between Male and Female JHS RME Teachers PCK

The purpose of this theme was to determine whether a statistically significant difference existed between male and female JHS RME teachers in the study area in terms of pedagogical content knowledge. The findings suggest no statistically significant difference in pedagogical content knowledge between male and female JHS teachers in K.E.E.A. The findings from this study and debate suggested that the gender of teachers does not affect their Pedagogical Content Knowledge (PCK) in Religious and Moral Education. In essence, gender has little bearing on Religious and Moral Education Instructors' Pedagogical Content Knowledge (PCK). The findings of this study contradicted a previous study revealed that there were significant differences in PCK between male and female teachers [22]. A study posits that, female teachers evaluated their knowledge higher than male teachers in one domain: Pedagogy Knowledge, while male teachers rated their knowledge higher in six more categories [22,23].

## 5. Conclusions and Recommendations

The study revealed that teacher's pedagogical content knowledge is critical when it comes to children's moral and spiritual development because content and pedagogy have to be presented and adopted to the learning needs, interests, and uniqueness each learner brings to the learning context. And this is where the usefulness of teachers' pedagogical content knowledge becomes a useful tool. The research hypotheses of the

study also concluded that years of teaching experience do not always guarantee the development of PCK for RME teachers in the K.E.E.A. the study also indicated that the gender of JHS teachers in K.E.E.A was not a differentiator for assessing teachers pedagogical content knowledge in RME.

It is recommended that the Ministry of Education provide teacher educators with state-of-the-art resources such as computers, projectors, interactive boards, internet connectivity, and books to enhance effective teaching of moral and religious concepts in class. It is also recommended that RME teachers pursue further education and learn about emerging issues in the teaching of RME for effective teaching and learning in the 21st century RME classroom. The study once again recommended that the teacher training institutions, should collaborate Ministry of Education, National Teaching Council, and Ghana Education Service should enhance the development and improvement of PCK for both pre-service and in-service teachers. This is because years of teaching experience have been found not always to ensure the development of PCK of RME teachers.

### **Conflicts of Interest**

The authors declare that there is no conflict of interest regarding the publication of this article.

### **Data Availability Statement**

Data is available on request from the corresponding author.

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### **References**

- [1] O'Neill, A. Can you take a student this morning? Maximising effective teaching by practice nurses. *Medical Education*, 2009, 43(5), 426-433.
- [2] Alton-Lee, A. Quality teaching for diverse students in schooling: Best evidence synthesis June 2003. Wellington, New Zealand: Ministry of Education, 2003.
- [3] Shulman, L.S. Knowledge and teaching: Foundations of the new reform. *Harvard Educational Review*, 1987, 57(1), 1-22.
- [4] Ball, D.L.; Hill, H.C.; Bass, H. Knowing mathematics for teaching: Who knows mathematics well enough to teach third grade, and how can we decide? *American Educator*, 2005, 29(1), 14-17.
- [5] Loo, J. Online training of TPACK skills of higher education scholars: A cross-institutional impact study. *European Journal of Teacher Education*, 2012, 36(4), 480-495.

- [6] Shulman, L.S. Those who understand: Knowledge growth in teaching. *Educational Researcher*, 1986, 15(2), 4-14.
- [7] Gudmundsdottir, S.; Shulman, L. Pedagogical Content Knowledge in Social Studies. *Scandinavian Journal of Educational Research*, 1987, 31, 59-70.
- [8] Monte-Sano, C.; Budano, C. Developing and enacting pedagogical content knowledge for teaching history: An exploration of two novices' teachers' growth over three years. *Journal of the Learning Sciences*, 2013, 22(2), 171-211.
- [9] Griffin, L.; Dodds, P.; Rovegno, I. Pedagogical content knowledge for teachers: Integrate everything you know to help students learn. *Journal of Physical Education, Recreation and Dance*, 1996, 67(9), 58-61.
- [10] Fulman, M.J.; Nichols, S. Visualizing culturally relevant science pedagogy through photo narratives of Black middle school teachers. *Journal of Science Teacher Education*, 2010, 20(2), 179-198.
- [11] Wilson, S.M.; McDiarmid, E.R. Representations of knowledge in teaching. New York: Taylor and Francis, 1996.
- [12] Grossman, P.; Schoenfeld, A.; Lee, C. Preparing teachers for a changing world: What teachers should learn and be able to do. San Francisco, CA: Jossey-Bass, 2005.
- [13] Aydemir, M. The investigation of pedagogical content knowledge of teachers: The case of teaching genetics. Unpublished doctoral thesis, Middle East Technical University, Ankara, 2014.
- [14] Marks, R. Pedagogical content knowledge: From a mathematical case to a modified conception. *Journal of Teacher Education*, 1990, 41(3), 3-11.
- [15] Gudmundsdottir, S. Pedagogical content knowledge: Teachers' ways of knowing. Paper presented at the Annual Meeting of the American Educational Research Association. Washington, D.C., 1991.
- [16] Sibuyi, C.D. Effective teachers pedagogical content knowledge in teaching quadratic functions in mathematics. Unpublished master's dissertation, University of Pretoria, Pretoria, 2012.
- [17] Dinama, B. How Religious education teachers understand multi-faith curriculum Case studies from Botswana. PhD. Thesis, University of Pretoria, 2010.
- [18] Bosu, L. Assessing the pedagogical content knowledge of accounting teachers in senior high schools in the central region of Ghana (Unpublished Master of Philosophy thesis). University of Cape Coast, Cape Coast, Ghana, 2010.
- [19] Asare-Danso, S. Assessing Technological Pedagogical and Content Knowledge of Religious and Moral Educators of Colleges of Education in Ghana: A Survey. *International Journal of Education and Social Science*, 2017, 4(11), 29-39.
- [20] Abbitt, J. Measuring technological pedagogical content knowledge in preservice teacher education: A review of current methods and instruments. *Journal of Research on Technology in Education*, 2011, 43(4), 281-300.
- [21] Schmidt, D.A.; Baran, E.; Thompson, A.D.; Koehler, M.J.; Mishra, P.; Shin, T. Technological pedagogical content knowledge (TPACK): The development and validation of an assessment instrument for preservice teachers. *Journal of Research on Technology in Education*, 2009, 42(2), 123-149.

- [22] Jordan, K. The influence of gender on beginning teachers' perceptions of their Technological Pedagogical Content Knowledge (TPACK). *Australian Educational Computing*, 2013, 28(2).
- [23] Kankam, B.; Bordoh, A.; Eshun, I.; Bassaw, T.K.; Andoh-Mensah, C. Social Studies Teachers' Content Knowledge Impact on Students in the Senior High Schools in Ghana. *Open Science Journal of Education*, 2014, 2(6), 73-82.



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