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Teachers' Technological, Pedagogical and Content Knowledge and Its Practices in Religious and Moral Education (RME) Curriculum in Ghana

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Abstract

The study was conducted to find out teachers' technological, pedagogical and content knowledge in the teaching of RME in the Aowin District of the Western Region. The descriptive survey was the design. The population included all RME students and teachers in the Aowin District. However, a sample population of 33 RME teachers and 98 students were used for the study through simple random sampling technique. Data was analysed using both descriptive. The data was organized into tables, frequencies, percentages and means in line with the research questions which guided the study. The study revealed concluded that, though teachers have adequate skills in blending technology, pedagogy and content, they seldom put to practice these skills in the classroom. The implication is that, as a nation we are not getting the best out of our teachers. From the conclusion, it is recommended that since teachers seldom put into practice what they have, teacher preparation programmes should provide opportunities for potential teachers to learn more skills in integrating technology, content and pedagogy. It is further recommended that, supervisors in basic schools including head teachers and circuit supervisors should strengthen their supervisory activities on what teachers do in the classroom rather than concentrating on what teachers say they can do or are doing.

Keywords

Teachers', Technological, Pedagogical, Content, Knowledge, Practices, Religious and Moral Education, Curriculum, Junior High Schools, Aowin, Municipality, Ghana

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1. Introduction and Background

The article has the following arrangement: firstly, an introduction shows the background of themes important to the study; secondly, it presents a review of literature on Technological, Pedagogical, Content Knowledge (TPACK); thirdly, a methodology of the research is presented; results and its discussions are presented in the fourth part and finally the conclusion with recommendations of the work are shown in the last section.

Rationale for the teaching of RME in Ghanaian basic schools, it is quite undisputable that, the teaching of RME in current Ghanaian basic schools has a memorable and traceable history. The beginning of the teaching of Religious and Moral Education in Ghana could be traced to the pre-colonial era when religion became an integral part of Traditional African Education. The study of Religion in traditional African societies was done by acquiring knowledge of the Supreme Being, ancestors and deities through proverbs, folktales, songs, and myths, just to mention but few. Then came the era of the colonial period where the castles that were serving as trading post were used for the establishment

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of the castle schools [1]. Religious Instruction (RI) became an integral part of the castle school curriculum. The missionaries followed with the establishment of mission schools and Religion was part of the mission school curriculum. The Basel mission for example, established their first school at the Christiansburg castle Osu in 1828 [1, 2]. Religion became a core curriculum in the mission schools.

However, the mission attempt to provide religious, moral, technical and vocational education in the country as a remarkable one. One major aim of the mission schools was to enable their congregation to read the Bible and to use the hymn book. It was also the aim of the mission to train Africans to become teachers, catechists and pastors. The missionaries built schools of different kinds, provided their own text books (including the Bible) and curriculum materials and these formed the basis for the content of curriculum in the schools for the teaching of the subject then [3].

The 2007 Education Reform under Anamuah-Mensah once again removed Religious and Moral Education from the basic school curriculum. This meant that, Religious Studies was no longer taught as a subject in the basic schools. Historically, it was reinstated in the following academic year in 2008 following the objections raised by the Ghanaian public and civil society groups [4]. Religious bodies like the Christian Council of Ghana, the Catholic Bishop Conference and Ghana Pentecostal Council as well as other stakeholders raised objection and petitioned the government to reconsider the issue. Following the concerns raised by the public, a National Education Reform Review Committee (NERRC) was set up in 1994. Based on its recommendation, Religious and Moral Education (RME) was re-introduced [5].

The present Religious and Moral Education (RME) curriculum in Ghana consists of the three major religions in the country and many other contemporary and social issues. This coupled with the modern advancement in technology in teaching therefore, calls for teachers' in-depth knowledge in technological, pedagogical and content knowledge of the area to be able to deliver accordingly. However, researchers' personal observation as a teaching practice co-coordinators seems suggests that teachers do not have adequate technological, pedagogical and content knowledge to teach the subject as expected hence, resulting in problems in delivering their lessons. Teachers' technological, pedagogical and content knowledge in the teaching of the subject tends to be limited because they do not know which technologies and Pedagogies to use when dealing with various topics in RME. This implies that, a great store of the knowledge of the teacher remains dormant [6]. Lessons were mostly characterised by the teacher giving out information and lengthy time spent on copying notes. T-TEL Report (2014) confirms our observation. Indeed, technology in RME instruction can be likened to a sleeping giant [7].

Modern thinking about instruction requires that teachers integrate technology into their instructional activities [8]. In a developing country like Ghana, it could be said without any hesitation that research on teachers technological, pedagogical and content knowledge of RME teaching in diverse class has not been given the needed attention it deserves, hence, little is known about what is going on in the classroom and the challenges that RME teachers are facing in terms of imparting knowledge to different students with different intellectual abilities, socio-economic background and cultures. Teachers' preparation programmes should provide opportunities for potential teachers to use pedagogy effectively in their teaching [9]. The issues being investigated into in this study is Teachers' Technological, Pedagogical and Content Knowledge in the teaching of Religious and Moral Education (RME) in the Junior High Schools in the Aowin municipality in the Western Region. The researchers sought to examine teachers' technological, pedagogical and content knowledge in the teaching of Religious and Moral Education in Ghanaian Junior High Schools (JHS). The study sought answer the research question- How does teachers' technological, pedagogical and content knowledge in RME affect the teaching of the subject at the JHS level?

2. Review of the Literature on Technological, Pedagogical, Content Knowledge (TPACK)

Underlying truly effective and highly skilled teaching with technology, it is worth argued that it is technological pedagogical content knowledge [10]. TPACK is different from knowledge of its individual components concepts and their intersections. Contents that arises from multiple interactions among content, pedagogical, technological, and contextual knowledge encompasses understanding and communicating representation of concept using technologies; pedagogical techniques that apply technologies appropriately to teach content in different ways according to students learning needs; knowledge of what makes concept difficult or easy to learn and how technology can help redress conceptual challenges; knowledge of students prior content related understanding and a epistemological assumptions, along with related technological expertise or lack thereof; and knowledge of how technologies can be used to build on existing understanding to help student develop new epistemologies or strengthen old ones. TPACK is a form of professional knowledge that technologically and pedagogically adept, curriculum-orientated teachers use when they teach [10].

Many aspects of these ideas are not new. A paper published on "*Those who understand: Knowledge growth in teaching*" noted that teachers' knowledge for effective practice requires the transformation of content into pedagogical forms [11]. What have been overlooked in most cases, it is suggested, are the critical roles that technology can play. For example, Shulman writes that developing PCK requires teachers to find 'the most useful forms of representation of [the subject areas] ideas, the most powerful analogies, illustrations, examples, explanations, and demonstration-in a word the ways of representing and formulating the subject that makes it comprehensible to others.' (p. 9). It is therefore interesting to note here that each of the components representations and analogies, examples, explanations, and demonstrations-are constrained, constructed and defined in critical ways. Affordances and constraints of the digital and non-digital technologies used to formulate and represent curriculum-based content [11]. In one sense, there is no such thing as pure content, pure pedagogy, or pure technology. It is therefore imperative for teachers to understand the complex manner in which all three of these domains- and the context in which they are continually formed-co-exist, co-constrain and co-create each other.

Each instructional situation in which teachers find themselves is unique; it is the result of an interweaving of these interdependent factors. Accordingly, there is no single technological solution that will function equally well for every teacher, every course, or every pedagogical approach. Rather, a solution success lies in a teacher's ability to flexibly navigate the spaces delimited by content, pedagogy, and technology and the complex interactions among these elements as they play out in specific instructional situations and context. Ignoring the complexity inherent in each knowledge component or the complexities of the relationship among the components-can lead to oversimplified solutions or even failure. Teachers need to develop fluency and cognitive flexibility not just in each of these key domains – content, technology, and pedagogy – but also in the manner in which these domains interrelate, so that they affect maximally successful differentiated contextually sensitive learning [12].

This framework focuses on designing and evaluating teachers' knowledge that is concentrated on the effective student learning in various content areas with special reference to RME at the basic school level [13]. Thus, TPACK is a useful frame for thinking about what knowledge teachers must have to integrate technology into teaching and how they might develop this knowledge. Using TPACK as a framework for measuring teaching knowledge could potentially have an impact on the professional development experiences that are designed for both pre-service and in-service teachers hence, there is a continual need to rethink our preparation practices in teacher education field and propose new strategies that better prepare teachers to effectively integrate technology into their teaching. Although educators have expressed enthusiasm for the TPACK model for teacher knowledge on special interest group for teacher education [SIGTA] in assessing teachers understanding of TPACK [14, 15]. Researchers have noted the need to develop reliable assessments approaches for measuring TPACK and its components to better understand which professional development approaches do (or do not) change teachers' knowledge as well as deepening the collective sensitivity to the context in which these approaches work (or do not work) [16, 17]. Building on a history of using survey method to assess teachers' level of technology integration, researchers have started work on creating survey instruments that assess pre-service teachers and on the job teachers' levels of TPACK. Existing surveys turn to focus on teachers' self-assessment of their level of technology use on both pre-service and job service can effectively use the TPACK model to improve teaching skills [18, 19].

Previous attempt to measure TPACK include who used to track changes in teachers' perception of their understanding of content, pedagogy, and technology over the course of an instructional sequence emphasizing design of educational technology [16]. Although they were able to establish and document changes in teachers' perception about their understanding, this approach relied on a survey specific to those unique cause experiences, and thus, is not generalizable to other context, content areas, or approaches to professional development. An approach base should be used on discourse analysis to track the development of TPACK [20]. Analyzing the conversations of teachers working in design themes, they have tracked the development of each of the seven components of TPACK over the course of a semester. This approach, however, is especially time consuming and is methodologically specific to the unique context in which it was used (i.e., semester-long design experiences).

A study on "Pre-service elementary teachers as information and communication technology designers: An instruction system design model based on an expanded view of pedagogical content knowledge" posits that the use of design-based performance assessment should be embedded into course sequence [14]. The researchers used self-assessment, peer assessment and expert assessment of these design-based performances as formative and summative assessment of teachers understanding. Specifically, the expert assessment has raters judge the extent to which teachers do each of the following during their design activity: (a) identify suitable topics to be taught with technology, (b) identify appropriate representations to transform content, (c) identify

teaching strategies that difficult to implement by traditional means, (d) select appropriate tools and pedagogical uses, and (e) identify appropriate integration strategies. These ratings were combined to produce an overall rating of each teacher's 'ICT/TPACK' competencies. Again, this approach is seen to be time consuming and context specific to the extent that the design activities fit a particular content area and course content [14].

However, in a survey-based approach to measure TPACK model, a sample of five hundred and ninety-six (596) K-12 online teachers were made to answer twenty-four (24) survey questions, to rate their own understanding of various instructional and conceptual issues. Using prior research, definitions of the conceptual terms, and correlational analysis, the authors grouped questions to measure each of the seven components of TPACK [21]. The present study precedes in the same vain to develop a fast, reliable, teacher-ratted survey that measures teachers understanding of each component of the TPACK framework [16, 21]. It extends the work by developing robust survey to general context, multiple content areas, and multiple approaches of professional development [16]. It extends the findings by offering triangulation of survey approaches that work, based upon a different methodological approach (factor-analysis), developed with a different population (pre-service teachers) and premised upon an approach that measures teachers understanding within several different content areas [21].

The belief that effective technology integration depends on content and pedagogy suggest that teachers' experiences with technology must be specific to different content areas. Using the TPACK framework to guide a research design, scholars have conducted a study to develop an instrument with the purpose of measuring teachers' self-assessment of the seen knowledge domain included within TPACK. This clearly suggests that, the TPACK model is equally the best theoretical framework for this study. It is important to review the objectives of the TPACK model in education so far as teaching and learning in the classroom is concerned and with special reference to basic schools. The work on the TPACK model posited the objectives of the TPACK model into five broad areas as follows:

i. The model is to enhance and foster confidence building in teachers in lieu with their teaching in the classroom.
ii. To ensure effective integration of pedagogy with technology in teaching.
iii. To practice teaching and learning by applying technology.
iv. To integrate the three basic components in the teaching learning process to enhance teaching i.e. pedagogy, content knowledge and technological knowledge.
v. To reinforce the already propounded learner-centered methods of teaching in schools.

In analyzing the works of Koehler and Mishra also asserts that the objective of the TPACK model is to:

i. Expose modern teachers to the use of technology as an integral element in teaching in this technological advanced world.
ii. Perpetuate in teachers the ability to blend content knowledge with good pedagogy.
iii. Enable teachers to integrate content knowledge, pedagogy and technology to yield purposeful teaching in the classroom.
iv. Build reflective teachers and learners in the classroom with the help of the TPACK model.
v. Re-emphasis the effectiveness of the child-centered method of teaching in the classroom with the help of good technology, pedagogy and content knowledge [17. 22].

Looking critically at the works on the TPACK model, it could be deduced without any hesitation that the TPACK model could help broaden, upgrade and update teachers' knowledge in the teaching process at the basic school level [17, 22]. It is as a result of this, teachers teaching must move away from undue emphasis on just theory application in teaching to pedagogical and technological skills which helps transmit adequate skills to enable teachers deal effectively with real classroom experiences [25]. This comment clearly provides ample justification for the need to critically examine the theoretical basis of our basic school teaching and to diversify the curriculum in order to strike a balance between theory and practice.

Most modern educationists agree that good teachers are those who are capable of devising appropriate content, methods and technology for a specific lesson and situation [22, 24-25]. They equally stressed that; teachers and other educationist must make room for 'initiative' 'reflection'. Teaching methods therefore must change to 'problem-solving with help of technology' 'child-centered' approach which equally matches the constructivist learning environment which openly gives room for the application of high content knowledge blended with good pedagogy and technology than the instructivists learning approach. For this approach makes the classroom environment a major one for identifying teaching-learning problems and also provides solutions to such problems.

On this part, commenting on the objective of teaching in schools', if teaching children are one of the most important responsibility of society, then it can ask some of its members to undertake the challenges to nurture and enhance the

professional skills of each new generation of teachers [26]. This is because the world has become vastly complex in this twenty-first century, therefore, there is the need to sharpen the proficiency of others already in post (on the field teaching); it must be an equally valuable assignment to equip them with modern pedagogical, content and technological skills. This means that even though initial teacher training is important, there is the need for in-service training too, so that teachers are always kept in tune with current techniques and principles of teaching.

It is therefore, worth noting that, the ideal situation is to make sure that all teaching programmes are structured in such a way to make room for the sharpening of the skills of teachers. Also, effective teaching requires, as its baseline, teachers who are academically able, pedagogically sound and technologically fit and at the same time cares about the well-being of children and the youth. The four sets of higher-attributes of effective teaching in schools suggested as follows:

i. Control of knowledge base that guides the art and science of teaching.

ii. A repertoire of best practices and pedagogy.

iii. The attribute and skill necessary for reflection and problem solving.

iv. Considering learning and teaching to be life-long process [27].

The foregoing review establishes the need for a balance theoretical and practical frame-work when formulating objectives that governs teaching in the classroom. Even though it talks about balance, it places more emphasis on practical aspect of teaching in the educational enterprise. This also implies that, the objectives of teaching in the Ghanaian classrooms are in the right direction as they satisfy both the practical areas in teaching at all levels in school [28].

In this part, it is very prudent to discuss some advantages of TPACK which are mostly reflection from classroom teaching experiences. Emphasis will be placed on the benefits of TPACK model to both the teachers and the learner in the classroom. The use of TPACK model to teach is cost-effective in the first added value [29]. In teaching, teachers use to copy materials and students also are to do same; students hand normally in assignment in paper-based copies in which they had to print them out. It meant we had to spend money for that. But with technology, lesson materials should not always be printed due to the availability of digitals like e-book and so on. According to them, this process fast-tracks teaching and learning in the classroom [29].

Again, classroom works, assignments and materials posted online on a virtual classroom created for free gives students in the class create their own account to join the class making communication easy between the teacher and the learners; students could be asked to send their assignments via e-mail to their teachers without necessarily printing them anymore. It is also realized that having knowledge and skills on technology could save money on the side of the teacher and students also experience the same thing. Teaching and learning process becomes easy, the case of teaching would be in terms of delivery. If teachers know how to effectively disseminate information and transfer materials to student, then they find it easy to do so with technological skill. Previously, teachers always found it difficult in communicating with their students. Calling by phones or cell phones is impossible because it took time and caused teachers a lot of time and charged them a lot of money. By e-mail and other messengers, communication becomes easy and cheap hence making learning easier [29].

It is therefore worth saying that having good content knowledge, using effective teaching strategies and knowing what and how to integrate technology would increase students' motivation and behaviour to create a learning environment that encourages positive social interaction, active engagement in learning, and self-motivation in learning. For example, in teaching about a topic like "moral and immoral behaviour in society', RME teachers can invite students to learn in a multimedia RME laboratory instead of learning in a normal classroom. Students will be very enthusiastic; they would be happy because they are learning RME with technology.

It is also believed that, TPACK would be able to create a student-centered learning and how-structure situation where students are provided with numerous options and a great deal of autonomy. In the context of a student-centered learning, teachers just have to introduce students to how they could operate the computers and other technological materials in the classroom to learn. The applications in each computer and other materials will allow students to focus on learning activities with less interference from the teachers. Teacher's role therefore at the time learner-centered would be only to facilitate students learning and gave support when they got troubles. Learning is steered by the students. It is important to know here the added values of TPACK are not limited on the above mentioned advantages. It depends on the tools we use, the context where we use the technology, and other contributing factors. It is worth emphasizing that TPACK will enable teachers to create a powerful, productive learning environment. With content knowledge, 'teachers know how to teach'; with technological knowledge, 'teachers know what technology best suit and how to use it to support instruction'; and with TPACK, teachers understand what and how to teach effectively with technology support.

A book published titled" *Handbook of technological pedagogical content knowledge for educators"* indicated that technology can play a major role in the development of citizens who are productive members of a democratic society [30]. TPACK can help provide social civic interaction and real world application that can be seen in a democratic society through the use of technology. Furthermore, technology can also advance the democratic process of a society due to massive information and technology. The immense information provided by the World Wide Web creates and enhances critical thinkers who are productive members of a democratic society. These and many others more suggested advantages are equally same in the teaching of RME topics at the basic school level.

In the global seen, technology provides students the opportunity to communicate and collaborate with people all around the world [27]. This enables students to learn different point of views and perspectives thus enhancing critical thinking skills and knowledge. The presentation capabilities of the web can be used to motivate and encourage students. Providing students with a public forum for their work enhances motivation and encourages authenticity. Making use of technology such as digital storytelling, podcasting, news aggregation, file sharing and online writing can motivate students to develop subject matter knowledge through the presentation of their work [31]. Using TPACK can offer new ways of creating authentic experiences that are prevalent in the teaching of RME and many other subjects. RME pedagogy operates on connections to the larger social context within which students like TPCK supports and facilitates higher order thinking and depth of knowledge and further encourages human interactions to the world within the context of RME education which deals with many modern contemporary issues worldwide [30].

3. Methodology

The descriptive survey was the design for this study. The population for this study included all the teachers teaching Religious and Moral Education and Junior High School students in Aowin municipality. Simple random sampling technique was used to select thirty-three (33) teachers teaching Religious and Moral Education and ninety-eight (98) pupils in the Junior High School classes were selected as respondents for the study. Data Collection was facilitated through the administration of questionnaire, observation and semi-structured interview guide. All thirty-three (33) teachers responded to the questionnaires and were further observed twice while they teach Religious and Moral Education lessons in a classroom setting, whiles all the ninety-eight students were all interviewed as well. The quantitative data entry and analysis were done using the Statistical Package for the Social Sciences (SPSS) version 21. Data were edited, code, analyzed and results were presented in tables, frequencies and weighed means with interpretations. Generally, simple calculations of percentages were used as the main statistical method in analyzing the data. The qualitative data was analyzed by the use of interpretative method based on the themes arrived at in the data collection. The themes were related to the research question and interpreted on the number of issues raised by the respondents.

4. Findings and Discussions on Teachers' Technological, Pedagogical and Content Knowledge in the Implementations RME Curriculum at the JHS Level

This section sought to find out how the teacher is able to blend his/her knowledge in the content, pedagogy and technology to enhance effective teaching and learning. Three sources of information were used to find answers to this research question. These include the data from the questionnaire that was administered to the teachers, what the students said in relation with the interview which relates to the teachers' technological pedagogical and content knowledge and what teachers actually do in the classroom which is relevant to the question.

Table 1. Teachers' Claim of Technological, Pedagogical and Content Knowledge.

Item	Responses				
	SD (%)	D (%)	A (%)	SA (%)	M
I use technology to search for contents and strategies for effective teaching.	6(18.2)	2(6.1)	15(45.5)	10(30.3)	2.88
I use technology as a technique to teach content areas in RME	3(9.1)	6(18.2)	17(51.5)	7(21.2)	2.85
I can choose technologies that enhance students' learning for a lesson	2(6.1)	3(9.1)	21(63.6)	7(21.2)	3.0
I can adopt a technology to suit different teaching approaches in the classroom.	2(6.1)	5(15.2)	17(51.5)	9(27.3)	3.0
I can select technologies to use in my classroom that enhance what I teach and what students learn	3(9.1)	3(9.1)	20(60.6)	7(21.2)	2.94
I can use strategies that combine content, technologies and teaching approaches.	0	3(9.1)	22(66.7)	8(24.2)	3.15
I can choose technologies that enhance the content for a lesson	4(12.1)	2(6.1)	22(66.7)	5(15.2)	2.85
Mean of means					2.95

Source: Field Data, March, 2016

Results from Table 1 reveal that 25 teachers representing 75.8% agreed that they use technology to search for contents and strategies for effective teaching whereas the remaining eight teachers disagreed. The mean score of 2.88 suggests that on the average the teachers agreed that they employed technology in search for information for effective teaching and learning. Also, 72.7% of the respondents said that they can use technology to teach content to students whereas 27.3% disagreed. Again, 24 teachers said they can use technology as a technique in teaching the content of RME. This suggests that most of them have the skills to use overhead projectors for demonstration lessons among others. Besides 84.8% of the teachers claimed that they have the competence in selecting technology that promotes effective learning of their students. Table 1 also reveals that 26 teachers representing 78.8% said they can adapt a technology to suit different teaching approaches in the classroom. This shows that, irrespective of the teaching method being used for a lesson, they can easily adapt the most appropriate technology to suit the understanding level of the students. From Table 1, a mean score of 3.15 shows that on the average, teachers claimed that they can use strategies that combine content, technologies and teaching approaches. This implies most RME teachers have the skills to correctly blend technology, pedagogy and content in their everyday lessons. In effect, the group mean 2.95 indicates that most teachers possess the technological, pedagogical and content knowledge in teaching RME. Table 2 presents the views of pupils about their teachers TPACK.

Table 2. Pupils' Views on TPACK of Teachers.

Item	Response				
	NA (%)	R (%)	O (%)	A (%)	M
How often does teacher uses technology	21(21.4)	41(41.8)	22(22.4)	14(14.3)	2.3
How often is teacher technology useful to students learning	24(24.5)	35(35.7)	21(21.4)	18(18.4)	2.30
How often does teacher encourage you to use technology to learn	22(22.4)	35(35.7)	24(24.5)	17(17.3)	2.4
How often does teacher show interest in technology	22(22.4)	35(35.7)	22(22.4)	19(19.4)	2.4
Mean of means					2.35

Source: Field Data, March 2016

From Table 2, whereas 14 students representing 14.3% opined that their teachers always use technology 21 of them representing 21.4% said their teachers never used technology in teaching. A simple majority of 41 (41.8%) of the pupils rather said their teachers rarely use technology in teaching RME. A mean score of 2.3 is indicative of the fact that teachers rarely employ technology in teaching. A mean score of 2.30% about the usefulness of the technology that teachers employ in their teaching implies that, most of the technologies that the teacher use in teaching seldom benefits the students. The need for teachers to apt their technological practices is a clarion call. On the issue of the frequency with which teachers encourage their students to use technology to learn, a simple majority of 35 students representing 35.7% said that their teachers rarely encourage them to use the available technology to learn the content of RME whereas 22 (22.4%) of the students said their teachers do encourage them occasionally. It can be seen that; the students had varied opinions on the frequency with which their teachers encouraged their pupils to use technology to learn. However, the groups mean score of 2.4 is an indication that teachers rarely encourage their students to use technology in learning RME. A similar trend of responses can be seen on what the students said was the frequency with which their teachers showed interest in technology is. A mean score of 2.4 implies that teachers rarely showed interest in the use of technology. In conclusion, groups mean score of 2.35 shows that teachers in general rarely use blend their technological, pedagogical and content knowledge in teaching RME. Meanwhile, the teachers did indicate as shown in Table 1 that they possess adequate skills to appropriately blend technology and technology in teaching content to students. In order to confirm what the teachers said they can do and what the children said teachers do, two lessons each were observed and graded. Table 3 presents the results of the observation.

Table 3. Teachers TPACK Practices.

Item	Responses					
	NA (%)	BA (%)	A (%)	G (%)	E (%)	M
Use technology to teach content	32(48.5)	24(36.4)	4(6.1)	0	6(9.1)	1.85
Effective blending of technology, pedagogy and content	18(27.3)	20(30.3)	22(33.3)	0	6(9.1)	2.33
Pedagogy and content blending	14(21.2)	6(9.1)	6(9.1)	12(18.2)	28(42.4)	3.52
Technology and pedagogy blending	30(45.5)	14(21.2)	10(15.2)	6(9.1)	6(9.1)	2.15
Use of low level technology	10(15.2)	4(6.1)	0	0	52(78.8)	4.32
Use of high level technology	60(90.9)	0	0	0	6(9.1)	1.36
Mean of means						2.5

Source: Field Data, March, 2016

Results from Table 3 reveal that 32 (48.5%) never used technology in teaching the content of the lesson. Six lesson representing 9.1% rather excellently blended high and low level technology to teach the content of RME. A mean score of 1.85 implies that the teachers' use of technology in teaching the content of RME is below average. This is as a results of their over reliance of low level technology including chalkboard illustrations in their lesson delivery. It was also observed as shown in Table 3 that the effectiveness in blending technology, pedagogy and content by teachers was below average (mean score of 2.33).

Interestingly, Table 3 shows that 28 lessons of the teachers representing 42.4% demonstrated an excellent blending of content and pedagogy whereas 14 lessons representing 21.2% displayed virtually inappropriate blending of content and pedagogy for effective learning. A group mean of 3.52 however indicate that teachers possess adequate knowledge to effectively blend content and pedagogy. This means that, teachers can effectively select the appropriate method and approach in teaching the content of RME. However, on the issue of effective blending of technology and content, Table 3 reveals that a mean score of 2.15 was recorded. This implies that, the performance of teachers relating to blending technology and content was below average. From these two scenarios, it can be elicited that the problem of teachers is not about the knowledge of the content or the approach to use but rather how to fuse technology in their lessons.

To find out which type of technology teachers mostly use in the lessons, Table 3 indicates that 52 lessons representing 78.8% used lower levels of technology. Consequently, 60 lessons representing 90.9% never used higher levels of technology in their lessons with only 9.1% of the lessons involved higher levels of technology. This implies that teachers mostly use lower levels of technology than the higher levels of technology in teaching RME. Groups mean score of 2.5 is indicative of the fact that, teachers displayed below average performance in blending technology, pedagogy and content in their classrooms. This agrees with what the students said that their teachers do but however do not match with what the teachers said they can do. In effect, teachers' technological, pedagogical content knowledge is below average though they claimed to have the skills. This is in line with findings that, teachers did not provide evidence that content could be transformed through technology or that it could change the way they taught and consequently, how students learn [32]. To this end, he concluded that, overall, these results show that technology knowledge influenced teachers' self-assessment across TPACK domains compared to their knowledge in the pedagogical and content domains.

5. Conclusion and Recommendations

It can be concluded that, though teachers have adequate skills in blending technology, pedagogy and content, they seldom put to practice these skills in the classroom. The implication is that, as a nation we are not getting the best out of our teachers.

From the conclusion, it is recommended that since teachers seldom put into practice what they have, teacher preparation programmes should provide opportunities for potential teachers to learn more skills in integrating technology, content and pedagogy. It is further recommended that, supervisors in basic schools including head teachers and circuit supervisors should strengthen their supervisory activities on what teachers do in the classroom rather than concentrating on what teachers say they can do or are doing.

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