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## Perception of Religious and Moral Education Tutors towards Technology Integration

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### **Abstract:**

*This study sets out to investigate the perception of RME tutors in the Colleges of Education in the Volta and Eastern Regions of Ghana towards technology integration. The research design employed for the study was a descriptive survey. Twenty-four (24) RME tutors were involved in the study. The census method was used to involve all the 24 RME tutors in the Colleges of Education in the two regions for the study. The main instrument used for data collection was questionnaires. Statistical Product and Service Solution (SPSS version 16.0) was used to process the data. Descriptive statistics such as percentages, means, and standard deviations were used to analyse and discuss the data. The study revealed that RME tutors have positive perception (in terms of perceived usefulness and perceived ease of use) towards technology integration. It is recommended that RME tutors be encouraged and motivated to use technology frequently in teaching-learning activities. Again, tutors should do well to provide a conducive and technology-enabled classroom in order to give pre-service teachers the opportunity to learn how to integrate technology into their lessons. Further research should also be conducted on a nationwide basis to provide a more in-depth study into issues relating to technology integration in the Colleges of Education.*

**Keywords:** *Integration, technology, religious and moral education, teaching*

### **1. Introduction**

Technology has become part and parcel of our society today. As a result, governments and institutions all over the world are investing huge amounts of time and resources into technology. According to Minor, Losike-Sedimo, Reglin & Royster (2013), public and political support for technology use has generated billions of dollars toward increasing its availability to universities and corporate organisations. For instance, in 2009 spending for technology across all levels of education in the United States of America was over 63 billion dollars (Brant, 2010). In 2018, the government of Ghana promised to spend one percent of the country's Gross Domestic Product on Science and Technology research.

Prensky (2001) claims that, a vast difference in technology perception exists between generational groups. This, according to Prensky (2001) results in a diminished usefulness of technology in instruction. Technology is a major focus for funding and effort in higher education. This awareness, according to (Cuban, 2003), is driven by the popular perception that the investment of time and financial resources in technology will result in a more effective learning environment. Moreover, it will help to keep up with the technology requirements of a changing workplace and a global information-driven economy (Friedman, 2005; Pink, 2006).

In recent times, institutions have risen to meet this challenge by integrating technology into the curriculum and creating a connected learning environment, and for the most part, students like and appreciate the appearance of technology in their learning environment (Moseley, 2010). Technology use in higher education has become very common, and students walk into the classroom expecting their instructors to be technologically-proficient, if not technologically-savvy (Prensky, 2001; Kvavik & Caruso, 2005; Miller, Pope & Steinman, 2005). However, there are many reports that claimed that the ways technology is being used on these campuses does not represent a change in teaching style, and thus it did not meet the needs of today's learner (Prensky, 2001; Miller, Pope & Steinman, 2005; Quayson & Halm, 2020).

It is relevant to note that the decisions made by instructors and institutions regarding the implementation and use of technology are guided by perceptions of usefulness held by those who are in control (Moseley, 2010). Thus, this study seeks to examine the perceptions of Religious and Moral Education in the Colleges of Education in the Volta and Eastern Regions of Ghana towards technology integration.

### **1.2. Statement of the Problem**

Educational institutions of all levels invest large amounts of time and resources into instructional technology, with the goal of enhancing the educational effectiveness of the learning environment. This has triggered many researchers (e.g., Voogt & Knezek, 2008; Almekhlafi & Almeqdadi, 2010; Agyei & Voogt, 2012; Acquah-Dugan, 2015; Quayson & Halm, 2020) to investigate different aspects of technology integration. Most of the studies (e.g., Agyei & Voogt, 2012; Amidu, 2013; Acquah-Dugan, 2015; Quayson & Halm, 2020) which have been conducted in the Ghanaian classrooms focused on technology

availability, frequency of use, types of technology and attitudes towards the use of technology. It appears that studies have not been conducted on the perception of RME tutors in the Colleges of Education. This study therefore sets out to fill this gap.

### 1.3. Purpose of the Study

The purpose of this descriptive study was to investigate the perception of RME tutors in the Colleges of Education in the Eastern and Volta Regions of Ghana towards technology integration. The specific objectives of the study were to:

- Identify RME tutors' perception of technology integration, in terms of perceived usefulness
- Identify RME tutors' perception of technology integration, in terms of perceived ease of use.

### 1.4. Research Questions

The following questions were formulated to guide the study:

- What is the perception of RME tutors in the Colleges of Education in the Eastern and Volta Regions of Ghana, in terms of perceived usefulness, towards technology integration?
- What is the perception of RME tutors in the Colleges of Education in the Eastern and Volta Regions of Ghana, in terms of perceived ease of use, towards technology integration?

## 2. Literature Review

### 2.1. Theoretical Framework

This study sought to investigate RME tutors' perception (in terms of perceived usefulness and perceived ease of use) towards technology integration. Accordingly, the Technology Acceptance Model by Davis (1989) was considered appropriate for the study. According to Davis (1989), an individual's intention to adopt or use a system or technology is determined by two beliefs: perceived usefulness and perceived ease of use. These two constructs were theorized to be the indispensable determinants of technology use. Perceived usefulness, according to Davis (1989), refers to the degree to which an individual believes that using a particular system will improve his or her work performance. The implication, therefore, is that a teacher or student is likely to use a particular technology if he or she perceives that the technology will increase his or her performance. The perceived usefulness captures issues such as how a particular technology can help a person to work more quickly; how the technology helps in job performance; how it helps to increase productivity; how it makes a job easier; and the technology's effectiveness within an organisational context. Davis (1989) defined perceived ease of use as the degree to which an individual believes that using a particular system would be free of physical and mental effort. The perceived ease of use has to do with whether the technology is easy to learn, clear and understandable, easy to become skilful, easy to use, controllable, and easy to remember. Teachers and students alike are likely to use a particular technology if they find out that they would not face many difficulties in using such a technology.

Between these two constructs, perceived ease of use has a direct effect on both perceived usefulness and technology usage (Davis, 1989; Adams et al., 1992). Again, there is a relationship between users' beliefs about a technology's usefulness and the attitude and the intention to use the technology (Davis, 1989). It therefore follows that the attitude of a user toward a technology is a major determinant of whether the user will actually use the technology or not. However, perceived usefulness exhibits stronger and more consistent relationship with usage than did other variables reported in the literature. Moreover, an individual may possibly adopt or use a technology if he or she perceives it as convenient, useful and socially desirable even though they do not enjoy using the technology (Saga & Zmud, 1994). Thus, there might be a possibility of a direct relationship between beliefs and intentions.

### 2.2. Empirical Review

A review of 311 research studies on the effectiveness of technology on student achievement by Sivin-Kachala and Bialo (2000) indicated positive and consistent patterns when students were engaged in technology-rich environments. They include considerable gains and accomplishment in all subject areas, increased achievement in preschool through high school for both regular and special needs students, and improved attitudes toward learning and increased self-esteem. Cope and Ward (2002) used a phenomenological research approach to examine the importance of high school teacher perceptions on the integration of learning technology in the classroom. They noted that successful integration is more likely to occur when 'teachers perceive learning technologies as part of a student-centred/conceptual change teaching approach' (p. 72). Based on the findings, they concluded that 'teacher perceptions of learning technologies are likely to be key factors in the successful integration of learning technologies' (p. 72).

In a study of writing, Wong (2004) investigated whether the utilization of technology would improve student writing performance in a low to advanced writing class. Two Internet-based instructional software tools, 'Calibrated Peer Review' and 'ProBoards', were used to help students learn about writing on important topics. The students reported that they found both tools to be meaningful and effective when learning to write academic text. About 80% of the students who used these tools reported greater comfort with technology and greater understanding of key writing skills. Thus, Wong's (2004) study found technology to increase job performance.

Ismail, Almekhlafi, and Al-Mekhlafy (2010) also carried out a study on teachers' perceptions of the use of technology in teaching languages in United Arab Emirates' schools. Six hundred and twenty-one (621) participants were selected from 5 emirates through the stratified sampling technique to participate in the study. The study used the questionnaire as the main data collection instrument and supported it with interview guide. The results indicated that

teachers have positive perception towards technology integration. The teachers 'appreciated the role of technology in promoting teaching and learning' (p. 50). It was found that the use of technology assists students in improving their academic achievement and grades. Again, the study indicated that students' motivation increases as a result of using technology in teaching. Thus, the teachers view technology as an essential requirement for their classes.

Moreover, a study conducted by Amengor (2011) on history teachers' perception of ICT showed that the use of technology promotes teaching and learning in that it makes teaching more effective (95.6%); it helps to meet the varying needs of learners (80.6%); and increases productivity (85.1%). The study was a census survey and was conducted among 78 history teachers in both Cape Coast and Kumasi Metropolises. The questionnaire was used to collect data from the respondents. The results of the study showed that respondents had fairly good perception towards technology.

Sim and Lau (2014) researched into teachers' perceptions of the use of information technology as an instructional tool in Mathematics and Science in Malaysia. The study made use of survey method to collect basic data on the current practice of ICT in the teaching of Mathematics and Science in secondary schools, and to investigate teachers' needs for training and support in relation to the effective use of ICT. In all, 250 Mathematics and Science teachers from 18 public schools in Kuching, Sarawak participated in the study. The findings revealed that the use of technology has a positive impact on teaching and learning, in that it makes teaching and learning more effective. It was also found that the use of technology makes teachers more organised in their work, and better able to meet the varying needs of learners. The findings further indicated that 85% of teachers were willing to integrate more ICT applications into their teaching. Use of technologies such as interactive whiteboard, projectors, videos, digital cameras, computers, and the Internet is intended to enable teachers to facilitate learning more effectively and enhance students' understanding of concepts which are expected to translate into expansion of knowledge and improved examination outcomes.

In the same vein, a recent study carried out by Acquah-Dugan (2015) indicated that the majority of Social Studies teachers have positive perception towards the use of ICT facilities in the teaching of Social Studies. Acquah-Dugan conducted the study in the Sekondi-Takoradi Metropolis. The main purpose of the study was to evaluate the availability and utilization of ICT in teaching Social Studies in public senior high schools. Data was collected from 72 Social Studies teachers in public SHS in the Sekondi-Takoradi Metropolis through the use of a questionnaire. It was found that ICT facilities not only make lessons more interesting and diverse but also make learners attentive. The findings also indicated that technology improves the presentation of materials for lessons and helps to meet different needs of learners.

Kaleli-Yilmaz (2015) carried out a qualitative case study in Turkey to determine the views of mathematics teacher on the factors that affect the integration of technology in mathematics courses. The sample size of the study was 10 teachers who were receiving post-graduate education at a university in Turkey. The interview was used to gather data from the 10 participants. Prior to the study, teachers were made to go through technology integration training for three weeks. The results indicated that the use of technology, especially software technologies, create some anxiety in some teachers. Some teachers indicated that they worry about using software technology to teach because if students forget the software, teachers had to teach everything again. This, according to them will waste much time.

Most of the above studies on teachers' perception of technology integration, in terms of perceived usefulness and perceived ease of use, were carried out in outside Ghana. Only two of the above studies were conducted in Ghana, namely Amengor (2011) and Acquah-Dugan (2015). The two studies which were carried out in Ghana were conducted in the senior high schools. They covered the Western, Central and Ashanti Regions of Ghana. With regards to perceived ease of use, no study has been carried out in Ghana. There is, therefore, the need to conduct a study on teachers' perception towards technology integration in a different geographical area. The current study was conducted in the Volta and Eastern Regions of Ghana.

### 3. Methods

#### 3.1. Research Design

The researchers employed descriptive survey for the study. RME tutors were given questionnaires to complete and the data were collected at a point in time. Taking into consideration the objectives of the study and the research questions, the descriptive research design was found to be appropriate for the study. Fink (2001) puts forward that the design enables the researcher to describe, observe and document aspects of a situation as it naturally occurs rather than explaining it. It enables the researcher to produce a good amount of responses from a wide range of people. According to Rao (2006), descriptive studies specifically reveal the characteristics of a particular situation or groups or individuals.

This design has its own weaknesses. Fraenkel and Wallen (2000) point out that a problem common in a particular human environment may not be exactly the same in another environment and hence the generalization of this study may not be valid in the different human environment. Again, getting a significant number of questionnaires completed and returned so that meaningful analysis could be made is one difficulty with the use of the descriptive survey design. In spite of these weaknesses, the design was considered to be appropriate for the study because its advantages outweigh the weaknesses.

#### 3.2. Population

The population of the study was 24 RME tutors in the Colleges of Education in the Volta and Eastern Regions of Ghana. There were seven (7) Colleges of Education in the Volta Region of Ghana as of the time of the study. These were: Evangelical Presbyterian College of Education, St. Francis College of Education, St. Teresa's College of Education, Jasikan College of Education, Peki College of Education, Akatsi College of Education, and Dambai College of Education.

There were six (6) Colleges of Education in the Eastern Region of Ghana as of the time of the study. These were Abetifi College of Education, Presbyterian College of Education, S. D. A. College of Education, Presbyterian Women's College of Education, Mount Mary College of Education, and Kibi College of Education. In all, the study covered 13 Colleges of Education. As of the time of the study, there were 24 RME tutors in all the 13 Colleges of Education selected for the study. There were twenty (20) male RME tutors and four (4) female RME tutors.

### 3.3. Sample and Sampling Procedures

Due to the small number of RME tutors, the study employed census method to involve all the 24 RME tutors in the study. This made it possible to collect data from and about each of the tutors in the population. One advantage of the census method is that there is no need to worry about sampling error (Ogah, 2013).

### 3.4. Data Collection Instruments

The research instrument which was used for data collection was questionnaire. The questionnaire was used to elicit information from the RME tutors. The questionnaire was used due to the reason that it has a high response rate. Again, it helps to retrieve information easier and quicker rather than to interview every respondent. Its limitations may be perceived in the areas of the fact that respondents may not give appropriate answers to the items since the method usually involves the use of structured items.

The self-administered questionnaire had three (3) sections. Section A dealt with demographic data of respondents. This section had both open and closed-ended questions. There were seven (7) items under this section. Section B focused on RME tutors' perception of technology integration. To be precise, it looked at the perceived usefulness of technology. The total number of items under this section was nine (9). Section C also looked at RME tutors' perception of technology integration in RME lessons. However, this section focused on perceived ease of use. There were five (5) items under Section C. The items under Section C were adapted from Davis's (1989) study. Davis's (1989) study focused on two technologies, Chart-Master and Pen-draw. In this study, however, the researcher was not interested in these two technologies. Thus, there was the need to modify the items.

All the items, except those under Section A were designed on a five-point Likert-type scale. In both Sections B and C, respondents were made to rate on a five-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

### 3.5. Validity and Reliability of Instrument

To settle on the content validity of the instrument, the questionnaire was presented to two professors, at the University of Cape Coast. These two professors who are experts helped to ascertain the validity of the instrument. The suggestions, as given by the professors were used to effect the necessary changes to improve upon the validity of the instruments. Thereafter, a pilot test of the instrument was conducted whereby the questionnaire was administered in three Colleges of Education in the Central Region of Ghana, namely Komenda College of Education, Our Lady of Apostle (OLA) College of Education and Fosu College of Education. These Colleges of Education were chosen for the pilot test because of proximity and some identifiable characteristics of interest and similarities. Apart from using the same curriculum (in terms of content and pedagogy) as used by the population chosen for the study, students from Komenda College of Education, Our Lady of Apostle (OLA) College of Education, and Fosu College of Education write the same examination with the students from the Colleges of Education selected for the study. This examination is conducted by the University of Cape Coast. Besides, distribution of facilities to the Colleges of Education in these Central, Eastern and Volta regions by the government is done evenly. The teachers from these colleges also had similar characteristics in terms of qualifications. Seven (7) RME tutors were involved in the pilot test.

The data gathered from the pilot test were analysed and the Cronbach's alpha was established for the items that fall under the two research questions. Cronbach's alpha of 0.94 and 0.97 were obtained for the items under Sections B and C respectively. The pilot test helped to establish the reliability of the instrument and gave the researchers an idea of the expected responses. The alpha coefficient of 0.7 or higher is reliable (Fraenkel & Wallen, 2000).

### 3.6. Data Collection Procedures

A discussion was held with the RME to agree on a convenient time to administer the instrument. Data collection took place between 30<sup>th</sup> May, 2016 and 11<sup>th</sup> July, 2016. All data were collected by the researchers. The questionnaires were given to respondents to complete them after which they were collected the following week.

The attitude of some respondents was bothersome to the researchers. Some of the tutors felt that the researchers were assessing them, with regards to technology integration. Consequently, some of them did not want to participate in the study. Some of them also felt the researchers would waste their time and were therefore reluctant. However, these problems were overcome with the help of the college principals.

### 3.7. Data Processing and Analysis

The data which were collected were edited and coded. The researchers checked for the inaccuracy of the questionnaires after they had been retrieved in order to find out whether all the items had been responded to. Afterward, the Statistical Package for Service Solutions (SPSS) version 16.0 was used to process the data. Descriptive statistics was employed in the analysis of the data since the design for the study was descriptive. The biographic data of respondents were analysed using frequencies and percentages. The research questions were analysed and discussed using mean and standard deviation.

#### 4. Results and Discussion

This chapter is divided into two. The first section deals with the analysis of biographic data of respondents. This includes items like gender, age, and years of experience in teaching RME. Data on the biography of respondent were analysed through the computation of frequencies and percentages. The second section deals with the discussion of the results. Data gathered for the purpose of addressing the research questions were analysed through computation of means of means distribution and standard deviation.

##### 4.1. Presentation of Demographic Results

This section describes the demography of respondents. Data were gathered from both tutors and students. The return rate for the tutors' questionnaire was 100%. Data was collected from all the 24 RME Tutors. Out of the 314 student questionnaires administered, 218 were retrieved. Thus, the return rate for the students' questionnaire was 69.4%. On the part of the tutors, issues such as respondents' gender, age, and years of experience in teaching RME among others were captured. On the part of the students, data were collected on their gender, age, how long they have been using technology in their learning, the kind of technologies they use in their learning, and whether or not they are receiving training on preparation, selection, and utilization of technology. Table 1 presents the demographic data of tutors.

Variable	Subscale	N	%
Gender	Male	20	83.3
	Female	4	16.7
Age(in years)	31-40	3	12.5
	41-50	18	75.0
	Above 50	3	12.5
Teaching experience (in years)	Less than 1	1	4.2
	1-5	4	16.7
	6-10	9	37.5
	11-15	6	25.0
	Above 15	4	16.7
Use of technology in teaching (in years)	Less than 1	2	8.3
	1-5	11	45.8
	More than 5	10	41.7
Training in preparing, selecting and utilizing technology during professional training	Never	1	4.2
	Yes	20	83.3
Training on technology in current institution	No	4	16.7
	Yes	16	66.7
	No	8	33.3

Table 1: Demographic Data of Tutors

Source: Field Data, 2016

As indicated in Table 1, 20 (83.3%) of the RME tutors who participated in the study were males whilst 4 (16.7%) were females. This is an indication that the majority of the RME tutors in the study were males emphasizing the male dominating nature of tutors with regard to the teaching of the subject.

The results from Table 1 shows that 3 (12.5%) of the tutors in the study were aged between 31 and 40 years, 18 (75.0%) were aged between 41 and 50 years, and 3 (12.5%) were above 50 years. This indicates that the majority of the tutors were between 31 and 50 years. This will be an advantage to the Colleges of Education if management is able to provide the necessary technologies and develop training programmes that will endow this age group with the requisite skills and knowledge needed to integrate technology into teaching.

With respect to how long RME tutors have been teaching the subject, 1 (4.2%) has taught for less than 1 year, 4 (16.7%) have taught for between 1 and 5 years, 9 (37.5%) have taught for between 6 and 10 years, 6 (25.0%) have taught for between 11 and 15 years, and 4 (16.7%) have taught for over 15 years. This shows that a significant majority of the tutors have handled the subject for quite a long time and therefore have enough experiences.

With regard to how long RME tutors have been using technology in their teaching, the results from Table 1 show that 2 (8.3%) have been using technology in teaching for less than 1 year, 11 (45.8%) have been using technology in teaching for between 1 and 5 years, 10 (41.7%) have been using technology in teaching for over 5 years, whilst 1 (4.2%) has never used technology in teaching. This shows that a greater number of tutors have been using technology in teaching for some time so they have some level of experience in integrating technology into their lessons.

It is also clear from Table 1 that an overwhelming majority 20 (83.3%) of tutors, indicated that they received training in the preparation, selection and utilization of technology during their professional training whilst 4 (16.7%) indicated that they did not receive training. The results from Table 1 also show that 16 (66.7%) of the tutors received some form of education and training on technology in the institutions they are working with but 8 (33.3%) of the tutors did not receive any form of education and training in the institutions in which they are teaching. Thus, a significant majority of the tutors have the requisite skills to integrate technology into their lessons. This, however, does not mean that tutors do not need training regarding the preparation, selection, and utilization of technology any longer. New

technologies are coming so tutors need to abreast themselves so that they can keep with the time. Besides, whether tutors integrate technology into their lessons or not is also established in the study.

#### 4.2. Presentation of Main Results

This section presents the results of data collected to answer the two research questions formulated to guide the study.

- Research Question 1: What is the perception of RME tutors in the Colleges of Education in the Eastern and Volta Regions of Ghana, in terms of perceived usefulness, towards technology integration?

Research Question 1 sought to gather information on the degree to which RME tutors believe that using instructional technologies will improve their work performance. The statistical tools used to analyse the data were means and standard deviations. Table 2 presents the responses given by the tutors concerning their perception, in terms of perceived usefulness.

Perceived Usefulness	Mean	SD
Using technology in my lessons increases my teaching performance	4.00	0.78
Using technology in my lessons promotes teaching and learning	4.13	0.54
Using technology in my lessons improves students' academic achievement and grades	3.79	0.72
Using technology in my lessons increases students' motivation	3.88	0.68
Using technology in my lessons makes teaching effective	3.96	0.81
Using technology in my lessons helps to meet varying needs of learners	3.75	1.15
Using technology in my lessons makes me more organised in my teaching	3.38	1.06
Using technology in my lessons makes learners attentive	3.67	1.01
Using technology in my lessons makes lessons interesting	3.79	0.98
Mean of Means/ASD	3.81	0.85

Table 2: RME Tutors' Perception towards Technology Integration (In Terms of Perceived Usefulness)

Source: Field Data, 2016

Scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

From Table 2, RME tutors agreed that the use of technology in lessons increased teaching performance ( $M = 4.00$ ;  $SD = 0.78$ ). There is, therefore, the possibility that any RME tutor who wants to excel in his or her teaching career would integrate technology into his or her lessons. According to the RME tutors ( $M = 3.75$ ), the use of technology in lessons makes it possible to meet the varying needs of learners. Consequently, tutors are expected to use an array of technologies in the classroom. This might even help the RME tutor to be organised in his or teaching. It is worth noting, however, that a high standard deviation (1.15) was obtained which indicate that RME tutors had divided opinions. RME tutors ( $M = 3.38$ ) were not sure whether the use of technology in lessons makes them more organised. It could be that the RME tutors were not using technology in their lessons and as a result, they had not realized this. A high standard deviation (1.06) was recorded which brings to the fore the fact that the responses were polarized.

Again, the tutors agreed that the use of technology in lessons promotes teaching and learning ( $M = 4.13$ ;  $SD = 0.54$ ). This is probably due to the reason given by the RME tutors that the use of technology in lessons increases students' motivation ( $M = 3.88$ ;  $SD = 0.68$ ). The use of technologies such as computer, television, LCD/DLP projector, among others in lessons is likely to encourage learners to attend classes. It is even possible that students would be happier when they get the opportunity to interact with the technologies. This has the tendency to make them ready to learn. It was, therefore, no surprising when the RME tutors ( $M = 3.67$ ) affirmed that the use of technology in lessons makes learners attentive. Apart from learning the content of the subject, most learners would also like to learn how to operate such technologies so they could incorporate them in their personal studies. A high standard deviation of 1.01 was however achieved which points out that the responses were polarized. It can be concluded that opinions of RME tutors on the assertion that the use of technology makes students attentive, were divided.

It is also evident from Table 2 that RME tutors agreed that the use of technology in lessons improves students' achievements and grades ( $M = 3.79$ ;  $SD = 0.72$ ). It is relevant to note that RME tutors ( $M = 3.79$ ;  $SD = 0.98$ ) indicated that the use of technology in lessons makes lessons interesting. It is natural for students not to miss classes which are interesting. Students are likely to be fond of the tutor and even be ready to take extra classes from him or her. Students are thus willing to learn and the result is inevitable.

Suffice it to say (Mean of Means = 3.81; ASD = 0.85), RME tutors had positive perception (in terms of perceived usefulness) towards technology integration.

- Research Question 2: What is the perception of RME tutors in the Colleges of Education in the Eastern and Volta Regions of Ghana, in terms of perceived ease of use, towards technology integration?

Research Question 2 was meant to gather information on the degree to which RME tutors believe that their use of instructional technologies would be free of physical and mental effort. The data was analysed with the use of means and

standard deviations. Table 3 presents the responses given by the tutors concerning their perception, in terms of perceived ease of use.

Perceived Ease of Use	Mean	SD
Learning to use technology in teaching is easy for me	3.92	0.72
Interacting with technology does not require a lot of mental effort	2.88	1.36
I find educational technologies easy to use	3.38	1.09
I find technology to be flexible to interact with	3.71	0.86
I do not become anxious whenever I use technology in my lessons	3.50	1.02
I find educational technologies to be controllable	3.67	0.82
Mean of Means/ASD	3.51	0.98

Table 3: RME Tutors' Perception towards Technology Integration (In Terms of Perceived Ease of Use)

Source: Field Data, 2016

Scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

RME tutors ( $M = 3.9$ ;  $SD = 0.72$ ) were of the view that learning to use technology in teaching was easy for them. This is a good sign. It indicates that tutors would willingly learn to integrate emerging technologies into their lessons if they get the opportunity. Management can take advantage of this and provide RME tutors with the necessary technologies in order to allow tutors to learn how to implement such technologies into their lessons. Again, RME ( $M = 3.67$ ;  $SD = 0.82$ ) affirmed that they found instructional technologies to be controllable. Tutors are likely to disuse technology in their teaching activities if they find the technology difficult to control. The fact that RME tutors seemed to find instructional technology to be controllable implies that they used technology in their teaching activities. It also follows that they were able to control such technologies. Meanwhile, tutors ( $M = 3.38$ ) had indicated that they were not certain as to whether instructional technologies were easy to use. It could be that the RME tutors did not understand this statement. However, respondents' level of congruence in their responses was very low ( $SD = 1.09$ ).

From Table 3, RME tutors ( $M = 3.50$ ) in the Colleges of Education affirmed that they did not feel nervous whenever they used technology in their lessons. Teachers are likely to feel anxious when they are using technology in their lessons, especially, when they are not familiar with and/or do not have enough training on such technology. Anxiety may cause lower confidence in the use of technology. This may not contribute to effective technology integration in the classroom. It can be said, based on the finding of this study, that RME tutors were confident in using technology in their lessons. However, respondents' level of congruence in their responses was very low ( $SD = 1.02$ ).

RME tutors ( $M = 3.71$ ;  $SD = 0.86$ ) in the Colleges of Education asserted that they did find technology flexible to interact with. It is natural for people to use equipment or technologies which do not require much physical and mental effort. Since RME tutors found instructional technology to be manageable, one can conclude that tutors are likely to find instructional technologies easy to use. Startlingly, RME tutors ( $M = 2.88$ ) were not certain whether interacting with technology requires mental effort or not. Anything which requires more mental efforts requires much time to be mastered. Consequently, teachers are likely to shun interacting with instructional technologies if they find out that it requires a lot of mental effort. It can be seen, however, that respondents were heterogeneous in their responses ( $SD = 1.36$ ). It might be possible that whereas some believed that interacting with technology requires a lot of mental effort, others had their reservations. On the whole, RME tutors (Mean of Means = 3.51;  $ASD = 0.98$ ) had positive perception (in terms of ease of use).

The current study has shown that on the whole, RME tutors had positive perception (in terms of perceived usefulness and perceived ease of use) towards technology integration. The implication is that tutors are not likely to resist any decision which will compel them to integrate technology into their lessons. This is good news for management in the Colleges of Education. It is expected that RME tutors' perception would reflect their actions in the classroom.

## 5. Discussion and Conclusions

### 5.1. Discussion

Tutors who perceive instructional technologies as part of a learner-centred or a conceptual change approach are likely to integrate technology into their lessons. Swanson (1982) has provided empirical evidence that perception, specifically perceived usefulness and perceived ease of use, were both important behavioural determinants. People tend to use or disuse technology to the extent that they believe it would help them perform their job better (perceived usefulness), and also, that the beliefs of the efforts required to use a technology can directly affect technology usage behaviour (perceived ease of use) (Davis, 1985). The current study has revealed that RME tutors in the Colleges of Education had positive perception towards technology integration. The results show that tutors believe using technology in lessons has an impact on teaching and learning. Tutors affirmed that technology increases their teaching performance and helps them meet the varying needs of learners. The findings confirm the studies of Wong (2004) who found that the use of technology increased job performance. It is also in line with the findings of Sim and Lau (2014), and Acquah-Dugan (2015) which revealed that the use of technology helps to meet the varying needs of learners. It also came up in the current study that the use of technology in lessons increased students' motivation and also improved students' academic achievement and grades. Previous research (Ismail, Almekhlafi, & Al-Mekhlafi, 2010) provides similar findings and points out that apart from increasing students' motivation, the use of technology assists students in improving their academic achievement and

grades. Furthermore, the current study supports Acquah-Dugan (2015) who found out that the use of technology in lessons makes lessons interesting and makes learners attentive. It was revealed in the current study that the use of technology in lessons makes teaching more effective. This confirms most previous studies (Wong, 2004; Amengor, 2011; Sim and Lau, 2014) which reported that the use of technology in lessons makes teaching and learning more effective. The study indicates, however, that RME tutors were not sure whether the use of technology made them more organised in their teaching activities. This contradicts the finding of Sim and Lau (2014) which indicated that the use of technology makes teachers more organised in their work. From the ongoing discussion, it is clear that the benefits of technology in the classroom cannot be overemphasized. Both teachers and students benefit greatly when technology is integrated into teaching and learning process as it promotes teaching and learning.

Regarding RME tutors' perception in terms of perceived ease of use, the study found that tutors had a fairly good perception in that tutors found instructional technology to be controllable and flexible to interact with. The current study also revealed that tutors found it easy to learn to integrate technology into their teaching. It was found that RME tutors did not become nervous whenever they used technology in their teaching. This finding disagrees with a recent study (Kaleli-Yilmaz, 2015) which indicated that the use of technology creates some anxiety in teachers. It was found in the current study that RME tutors were not certain as to whether interacting with technology requires a lot of mental effort or not. Again, it revealed that tutors were not sure whether or not they found the use of technology easy. This is probably due to the reason that each technology has its peculiar means of being used. The current study has shown that on the whole, RME tutors had positive perception (in terms of perceived usefulness and perceived ease of use) towards technology integration. The implication is that tutors are not likely to resist any decision which will compel them to integrate technology into their lessons. This is good news for management in the Colleges of Education. It is expected that RME tutors' perception would reflect their actions in the classroom.

### 5.2. Conclusions

The following conclusions could be drawn based on the findings of this study:

With regards to RME tutors' perception towards technology integration in terms of perceived usefulness and perceived ease of use, it can be said that tutors had a fairly good perception towards technology integration. The implication is that RME tutors are likely to accelerate technology integration in their lessons in order to facilitate teaching and learning if the necessary support is provided. Again, tutors are not likely to resist any decision which will compel them to integrate technology into their lessons.

### 5.3. Recommendations

In light of the findings and conclusions outlined, the following recommendations are made:

- In view of the fact that RME tutors were aware of the usefulness of instructional technology, tutors should do well to provide a conducive and technology-enabled classroom in order to give pre-service teachers the opportunity to learn how to integrate technology into their lessons. In order to achieve this, management of the Colleges of Education should do well to provide tutors with the necessary support.
- Furthermore, since it was found that tutors have good perception (in terms of perceived ease of use) towards technology integration, it is recommended that RME tutors be encouraged and motivated to use technology frequently in teaching-learning activities. Tutors who integrate technology into their lessons frequently can be selected and rewarded at the end of the academic year by the management of the Colleges of Education. It is possible that other tutors may be inspired by this to use technology in their lessons.
- A further research should be conducted on a nationwide basis to provide a more in-depth study into issues relating to technology integration in the Colleges of Education.

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