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ATTITUDE AND PERCEPTION OF TUTORS (APT) IN COLLEGES OF EDUCATION TOWARDS THE USE OF ICT IN TEACHING AND LEARNING

Issah Bala Abdulai[1] and Prince Edem Dzakpasu[2]
[1]Kibi Presbyterian College of Education, Mathematics & ICT Department
[2]St. Francis College of Education, Mathematics and ICT Department

ABSTRACT
The aim of the study is to find out the attitude and perception of tutors (APT) in college of education tutors towards the use of ICT in teaching and learning process. The research method employed was a cross-sectional survey. In all 198 tutors were randomly selected from a stratified 5 zones of the colleges of education in Ghana. The collected data were analyzed using IBM version 23 of the statistical social science package (SPSS). T-test and descriptive statistics were use analyse the data. The results of the study indicate that generally college of education tutors have high attitude and perception towards the use of ICT in teaching and learning process. The findings further shows that no significant difference between the attitude of male and female tutors towards the use of ICT in teaching and learning process. Again, the research reveals that there was no significant difference between the attitude if ICT tutors and non-ICT tutors.

Keywords*:* Perception and Attitude of Tutors, ICT Tutors. Non ICT Tutors

1. INTRODUCTION
Background to the study
The use of technology today as brought transformation all aspect of life. Technology is used in health, governance, security, business, education and many more. The usage of Information and Communication Technology (ICT) in education can transform teaching and learning, which could transform students into knowledgeable and productive workers (Pelgrum, 2001 Kazu and Yavulzalp, 2008, Kaur (2011)). This means that when teachers in Ghana use ICT to teach in the classroom it would likely transform student to become knowledgeable and productive in future. For schools to effectively use ICT in their teaching and learning, major factors like the teacher, the students, availability of resources, funds among others must be considered.

The Ghanaian government has been making conscious effort for technology to be integrated in education in both informal and formal education. In Ghana formal education start at the KG, primary, JHS, SHS through to the university. At the basic level of education (KG, Primary and JHS) the teachers who teach there mostly trained in the colleges of education in the country. For teachers to effectively use ICT in their teaching they need to acquire that knowledge from their training. It is on this backdrop that the researcher finds it necessary to find out the attitude and perception of tutors teaching in the colleges of education towards the use ICT in teaching and learning processes in the colleges.

Ghana in the past years have tried to implement ICT in education policy into the schools. The recent ICT in education policy was in 2015. The policy document has three major pillars which

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are a) ICT as a learning and operating tool, b) ICT as integrated into the teaching and learning and
c) ICT as a career option for students.
The researcher's interest is in the second pillar. This pillar is to allow for ICT to be integrated into all subjects within the national curriculum. Subsequently it is to create the opportunity for teachers and educational policy overseers to make it possible to utilise ICT in the teaching and learning of all subject areas. Likewise, the policy direction focused on creating the right environment for the learners (students) to be able to appreciate and adapt to the use of the ICT in the teaching of the subjects on their syllabi. For this policy to be successful tutors in the teacher training institutions should be in forefront of implementing the ICT as integrated into the teaching and learning pillar among the three pillars.
According to some studies, one internal factors which can enhance the fruitful implementation and the use ICT in school is teachers' beliefs and attitudes (Badia et al., 2013; Oye et al., 2014; Petko, 2012). According to Schulz (2015) the use of ICT tools is dependent on how well the tools fit into the classroom process and the ease of use of such tools. It is obvious from this studies that if the teacher attitude towards ICT use is low it will affect its implementation.
A study by Ajzen & Fishbein, (1977) suggest fusing ICT plans with attitudes so that one can appreciate and interprets people conducts towards an object. Zhao et al. (2001) also asserts that attitudes and beliefs of the main players are key to the effective use of ICT in schools. In this regard the attitude of tutors in the college of education towards the use ICT cannot be overlooked.
Perceptions on the other hand can be described as attitudes, behaviors, self-beliefs teachers have about the relevance of how something can enhance teaching and learning, (Boulton 1997; Hutchison & Reinking, 2011). Wang (2002), on his part describes the perception of teachers on ICT use as the way in which teachers' appreciate and understand ICT use in the classroom. Perception of tutors towards the use of ICT in colleges can also be a major factor that can affect the use of ICT in the classroom.
For educational systems across the world to frequently improve so as to become significant in the information era, through the embracing of technological innovation, teacher educators must lead the expected change in the way teachers are trained. (Loughran, 2014; Thomas, Herring, Redmond, & Smaldino, 2013). In the Ghanaian context, this can be achieved when tutors adopt the use of ICT in teaching.
Fraillon et al. (2014) cited a study by IEA's International Computer and Information Literacy Study and other studies which show that teachers are irregular users of ICT in many countries. In addition, Teo, (2009) suggests that many studies have shown majority of schools do not often use computers in the classroom.
Some other researchers sort to find out the differences in the attitude among gender usage of ICT in many countries. While some research suggest minimal difference between the attitudes of gender in the use of ICT (Gressard & Loyd 1986; Woodrow 1992; Tezci 2010; Yusuf& Balogun 2011; Yuan and Lee 2012; Gupta 2015). According to a study conducted in Ghana by Natia & Al-hassan, (2015) female teachers in primary schools use ICT more than their male counterparts. But another study by Ghavifekr, Kunjappan, Ramasamy and Anthony (2016) contradicts this assertion. It posits that the usage of ICT tools is higher in male than female.

Statement of the problem

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Competency is one of the main pillars that will enhance ICT usage in by teachers. A UNDP (2001) statistics, suggest that 80% of the teachers in developing countries are not ready to use ICT. A report by Farrell et al. (2007) indicate that in the Ghana, many educators and teachers are opposed to the use of ICT due to low capacity to deliver policy or insufficient skills. A survey carried out by Mereku, Yidana, Hordzi, Tete-Mensah, Tete Mensah, and Williams (2009) also reveals that teachers are not trained to use ICT for teaching and learning at all level. This will definitely affect their attitude towards the use of the technology in teaching and learning.

This study seeks to examine the attitude and perception of college of education tutors in Ghana towards ICT usage in teaching and learning. The attitude of college tutors towards the use of ICT will have direct effect on their adoption of the technology as well as influence the student-teachers they teach positively or negatively. Tutors with high attitude and perception have higher chance of adopting ICT in their teaching and vice versa.

Purpose of the Study

While a lot of work has concentrated on the barriers limiting or stopping teachers from successfully implementing ICT in their teaching as Borthwick and Pierson, (2008) suggests, Hew and Brush, 2007), there has been little research that includes the perspectives of teachers themselves on how best to resolve this problem (Al-Zaidiyeen et al., 2010; Kay, 2006). Our study is to find out the perception of the college tutors in the use of ICT for teaching and learning. Also, the study assessed the attitude of tutors regarding the use of ICT in teaching and learning processes. More so, the study examined the attitude and perception of ICT tutors and non-ICT tutors towards the use of ICT in the classroom. Furthermore, the study looked at ICT resources used by college tutors for teaching and learning.

Objectives of the Study

1. To assess the attitude and perception of college tutors towards the use of ICT in the teaching and learning processes.
2. To compare the attitude of college tutors with regards to gender on the use of ICT in teaching and learning processes.
3. To compare the attitude of college ICT tutors and non-ICT tutors towards the use of ICT in the teaching and learning processes.
4. To determine the ICT resources used by college tutors in teaching and learning process.

Research Questions

Research question for the study are as follows;

1. What is the attitude and perception of college of education tutors towards the use of ICT in teaching and learning?
2. Which ICT tools do the tutors use in the teaching and learning process?

Hypothesis

$H_{1.}$ There is no significant difference between the attitude of male and female tutors in the college of education towards the use ICT in teaching and learning.

$H_{2.}$ There is significant difference between the attitudes of ICT and non-ICT tutors in the Ghanaian college of education towards the use of ICT in teaching and learning.

2.METHODOLOGY

The research employed was a cross-sectional survey.The random sampling technique was used to select tutors throughout the 46 colleges of education. Data were collected from 198 tutors

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across the colleges of education in Ghana.A close-ended questionnaire was the instrument used to collect the data. The questionnaire had two parts. The first part of the questionnaire was made up of 21 items based on 5point scale on the attitude and perception of tutors in colleges of education in Ghana. The second part of the questionnaire consisted of a list of ICT tools for the tutors to tick the most ICT tools they use in teaching and learning.

The data were analyzed using descriptive statistics and t-test.The statistical technique like percentage, standard deviation means and t-test and were used to analyze and interpret the data with the help of the Statistical Package of Social Science (SPSS) software from IBM version 23.

The research used three mean benchmarks to establish whether the tutors had high, low or moderate perception and attitude based on Hue and Ab Jalil (2013). The mean from 2.8 and below demonstrates low attitude and perception. The mean from 2.8 and 3.2 demonstrates moderate attitude and perception and the mean from 3.2 and 5.0 demonstrates high attitude and perception.

3.RESULTS AND DISCUSSIONS

The analysis and discussions of the major findings of the study is presented in this session. The analysis and discussion is based on the data collected through questionnaire.

Table 1: Demography of tutors

Variables		**Frequency**	**%**
Age	25-34	9	4.5
	35-44	72	36.4
	45-54	87	43.9
	55-60	30	15.2
Gender	Male	72	36.4
	Female	126	63.6
Course taught	ICT and ICT related	33	16.7
	Non-ICT	165	83.3
Distribution of tutors	EAGA	39	20
	VOLTA	30	15
	ASHBA	57	29
	NORTHERN	30	15
	CENTWEST	42	21
Educational level	Master's degree	198	100
Total		**198**	**100**

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Table 1 shows the demography of tutors sampled for the study. The table indicates that 36.4 % of the tutors are female while 63.6.3% represent male. The table also gives indication that majority of the teachers sampled are between the ages of 25-34 years which represent 4.5%. This is followed by the age group between 35-44 representing 36.4 %while 43.9% and 15.2% represents age groups between 45-54 and 55-60 respectively. Again, the table shows that all the tutors hold Master's Degree. When it came to the zonal representation of the tutors, shows that majority of the respondents were from the ASHBA zone with a percentage of 29%. EAGA had 20%, Volta had 15%, northern is 15% and CENTWEST is 21%.

Question 1: What is the attitude and perception of the college of education tutors towards the use of ICT in teaching and learning?

This question is very fundamental to the aspects of teaching and learning that boarder on: technical knowledge (personal style); attitudes and self-confidence in using ICT; professional development and technology integration; and teachers being at ease with the use of digital technology in teaching and learning. Table 2 speaks to this question. Teachers were asked series of questions and data collected was analyzed and represented in table 2.

Table 2: The Mean and Standard Deviation APT

Attitude/perception	Mean	Standard deviation
1. I think it is convenient to use the technology for teaching and learning	4.6667	.59052
2.Technology usage for educational purposes requires good planning and preparation.	4.6970	.46309
3.I want to use the technologies for teaching and learning.	4.4394	.70446
4. I encourage my colleagues to use the technology for teaching and learning	4.3333	.70892
5. I have the pre-requisite knowledge and skills in using technology for teaching and learning.	4.1515	.63833
6- I would like to receive more knowledge, experience and training on technology usage for teaching and learning	4.6515	.48014
7- I consider that the availability of modern technology for the students to use for educational purposes is a must.	4.5152	.56138
8- I think that technology will play an important role in e-learning	4.8788	.32887

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in the future.		
9- In terms of visuality , it is important to use technology tools in teaching and learning activities	4.3788	.69648
10- I need more convincing reasons to use technology in teaching and learning	4.8636	1.39103
11- Many materials will be replaced by technologies in the future	4.1061	.89664
12- It is difficult to develop effective teaching methods by using technology	4.6970	1.35839
13- The technology will increase my instructional qualifications and my scientific achievement.	4.4394	.55826
14- I plan to develop my skills and my abilities in technologies usage for educational purposes.	4.2879	.69648
15- I think that constant professional development in the use of technology in teaching and learning is important	4.5455	.58656
16- Technology tools are suitable for teaching methods used in teaching and learning.	4.3788	.73934
17- Technology usage consumes a lot of time.	4.4848	1.24335
18- I believe the use of technology for educational purposes influence values and belief negatively.	4.1364	1.16205
19.The use of technology in teaching and learning is costly	3.8182	1.14903
20. Is easier using technology for assessing student performance in class	4.3485	.64432
21. I have access to technology tools for teaching and learning.	3.4545	1.08389
Total	**4.3940**	**0.33687**

From table 2, the total mean of the attitude and perception of tutors is 4.3940. This fallswithin the benchmark of 3.2 and 5.0. This suggest that the tutors in the colleges of education have high

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attitude and perception towards the use of ICT in teaching and learning. The result is in consonant with V. Mehra, (2007); N. Hussain (2010).

Question 2: Which ICT tools do the tutors use in the teaching and learning process?
In research question 02 we sought to examine the various ICT tools in use in the teaching and learning process. Table 3 depicts the percentage representation of the tutors use of ICT tools and resources: Tutors were asked the ICT tools they relied on in the course of teaching and learning in their colleges, bearing in mind that use of these tools in the learning experience can have an effect on student performance Dzakpasu and Adom (2017).

Table 3: ICT Tools/resources tutors used in teaching and learning

ICT Tools/Resources	Frequency	Percentage
E-mail	35	18
Spreadsheet	18	9
Presentation software	31	16
Word processing	30	15
Smartphone	41	21
Laptop	50	25
Decsktop computer	30	15
Tablet	26	13
Internet	47	24
Google classroom	9	5
Skype	2	1
Whatsapp	53	27
Total mean		**15.7**

From the table, the mean percentage use of ICT tools and resources is 15.7% which suggest a low usage level of the individual ICT tools and resources list. This suggests that not many tutors are relying on the use of these ICT tools in their teaching and learning. For instance, from table 6, only 1 percent of tutors used skype to communicate with students in the course of their lesson delivery. In addition, out of the 53 tutors who responded, only 27 percent indicated that that they used WhatsApp in the delivery of their teaching and learning. Furthermore, out of the 41 respondents, only 21 percent relied on the use of smartphones in any way for teaching and learning. Finally, it can be seen that only 16 percent of the 31 respondents inculcated the use of

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any presentation software. The overall percentage score of 15.7 implied that there is a very low use of ICT Tools and Resources in the course of teaching. Job O. Sani, et al (2020) supports this view.

H_1. There is no significant difference between the attitude of male and female tutors in the college of education towards the use ICT in teaching and learning.

In order to address the issue of gender, respondents were asked to answer questions from a questioner and the data collected was analyzed and the result showing the T-test score of attitude of female and male college of education tutors toward the use of ICT in teaching and learning is shown below in table 4

Table 4:APT score of Male and Female

Gender	Number	Mean	SD	t-value
Female	72	4.291664	0.430999	0.769450096
Male	126	4.3593	0.619932	

*Significant at P<0.05

Table 4 indicates that there is no significant difference between the attitude of female tutors and male tutors towards the use of ICT in teaching and learning. This finding is consistence with findings of E. Tezci, (2010)

H_2. There is significant difference between the attitudes of ICT and non-ICT tutors in the Ghanaian college of education towards the use of ICT in teaching and learning.

In other to look at the difference between the attitude of ICT and non-ICT tutors a T-test analysis was made and the result is presented in table 5.

Table 5: APT score of ICT course tutors and Non ICT tutors

Courses taught	Number	Mean	SD	t-value
ICT and ICT related	33	4.75	0.648983717	0.146864054
Non ICT	126	4.27	0.531861535	

*Significant at P<0.05

Table 5 also suggest that there is no statistically significant difference between the mean attitude of ICT and ICT related subject tutors and non-ICT tutors.($t = 0.15$, $p<.05$), so the hypothesis, "There is significant difference between the attitudes of ICT and non-ICT tutors in the Ghanaian college of education towards the use of ICT in teaching and learning." has been accepted. In

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addition, the obtained difference can also be interpreted on the basis of mean values of both the groups as the mean value (4.75) of ICT tutors is not that different from the mean value of (4.27) of non ICT tutors. Thus, it can be concluded that ICT tutors and non ICT tutors use of ICT in teaching is slightly higher than that of non-ICT tutors.

4. CONCLUSION

This study conducted to ascertain the attitude and perception of college of education tutors towards the use of ICT in teaching and learning process. Two questions and two hypotheses were relied on to gather data and analyze. Following this, some observations were made: It was observed that a large proportion of the tutors in the Ghanaian colleges of education, were aware of the benefits of use of ICT tools in the course of teaching and learning. However, not many were using these tools in the teaching. Many students were also not adapting to the frequent use of ICT tools in the conduct of learning. This speaks to the observed perception that using ICT tools in teaching and learning is novel but not that easy to apply in all situations. This perception is fueled by the fact that many students of Colleges across the country live in remote areas where there exist severe network challenges. In addition, many lack the devices that have the capacity to run the commonly run tools. These conditions will eventually lead to low integration of ICT tools in teaching and learning in Ghanaian COEs. As a result, graduate teachers have little exposure to the practical use of ICT at the pre-service level. This matches Albirini (2006). Teachers-trainees have a significant role to play in the continued use of ICT in schools.

Therefore, access to successful ICT usage in their preparation is imperative (Steketee, 2006). By incorporating ICT as a learning tool during daily classes, tutors introduce students to new forms of learning, and teacher-trainees to creative ways of teaching through technology. Teacher training curriculum should make room for the integration of ICT tools in the teaching and learning at the CoE. This will allow potential teachers to be effectively trained using different ICT resources for lessons, as well as to guide and encourage students to benefit effectively from these materials (Osborne & Hennessy, 2003).

Recommendations

It is proper that ICT is perceived as an important aspect of the school community in the 21st century. Therefore, the availability of ICT services by stake holders is a fundamental requirement. Consequently, as plans are drawn for developing education, priority should be given to incorporating ICT into teaching and learning. Colleges and other partners should take the problem of in-service training seriously. Tutors should be given the opportunities to grow their skills of ICT application in teaching and learning. Once that occurs and adequate technology is in place, the efficiency and usage of these resources can be improved ("Welcome to Glasgow", 2013). The ubiquity of ICT services such as the Internet penetration lets people get to know and take advantage of technologies in education such as e-learning and blended learning (Lee &Im, 2006; p. 282).

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