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Student Teachers Attitude toward Computer in Education Influence on Integration of Computer Technology into Future Teaching Practices

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ABSTRACT

The study sought to establish student teachers' attitude toward computer in education influence on integration of computer technology into future teaching practices. The study was carried out in five public TTCs in the Rift Valley Province. The TTCs are five out of the 21 public and 41 private teacher colleges in Kenya. This study employed pragmatist theoretical perspective. The study established there was statistically significant influence of trainee teacher's computer attitudes on integration of ICT. Trainee teachers who scored high on attitude towards computer use in education scored highly on intention to integrate ICT. Trainee teachers, who had a positive attitude towards ICT and its uses, had high intentions to integrate it in their teaching.

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Introduction

Educational computer use has been categorized as "computers as information resource tools", "computers as authoring tools" and "computers as knowledge construction tools" (Ainley, Banks, & Fleming, 2002). On the base of an empirical study, involving a large number of teachers, Tondeur, Van Braak, and Valcke (2007) have delineated two main categories of ICT use by teachers: supportive ICT use and classroom ICT use; these categories replicate in an empirical way typologies developed by e.g., Hogarty, Lang, & Kromrey (2003), and van Braak et al., (2004). The first category, supportive ICT use, refers to the use of ICT for proactive and administrative teaching tasks, such as student administration, preparing worksheets, developing evaluation activities, keeping track of pupils' learning progress, etc. The second, classroom ICT use, aims to support and enhance the actual teaching and learning process, such as the use of computers for demonstration purposes, drill and practice activities, modeling, representation of complex knowledge elements, discussions, collaboration, project work, etc. (Hogarty et al., 2003). To study the relationship between both categories, it is interesting to build on the study of Wozney, Venkatesh and Abrami (2006). They found that supportive use of ICT was the most significant predictor of classroom use of ICT.teachers serve a pivotal role in determining just how much advantage can be gained from using computers, it is critical that we understand their perspective. This study will also examine issues facing student teachers as they consider integrating technology in their curriculum in line with government policy of one laptop per child. The introduction of computer technology for very young learners in western countries has met with both support (Shade & Watson, 1990) and concern (Elkind, 1996). Initially, there were fears that using computers with preschoolers would result in poorer social skills, less active learning opportunities, and fewer ageappropriate play activities (Zajonc, 1994). More recent research suggests that computers can facilitate social, cognitive, and play development among very young learners

when handled appropriately (Sandberg, 2002). However, debates about the value and desirability of computers for young learners continue (Plowman& Stephen, 2003). This researcher found it important to investigate the perceptions of the primary school student teachers who will experience the effects of computers directly.

Research with elementary and secondary school educators points to a number of potential variables that can affect the integration of computers in the higher grades, and some of these variables may be important in class one education environments as well (Wood, Specht & Willoughby, 2008). Both barriers and supports for integrating computer technology in the classroom have been identified. For example, barriers include equipment-related issues such as limited access, technical problems, and malfunctions (Rocheleau, 1995); skill-related concerns such as lack of educator training and limited knowledge (Becker & Ravitz, 2001); and attitudinal issues such as educator anxiety and concerns about the change to the social structure in classrooms (Rosen & Weil, 1995; Schofield, 1995). Supports include access to in-house specialists, technical support, administrative support, and opportunities for training (Tsitouridour &Vryzas, 2003).

The relevance and the relative importance of each of these factors in early primary education in Kenya, will be established by this study through focus group interviews. In addition, the early primary education environment has features that make it distinct from higher-grade contexts (e.g., level of independence and basic skills in young children), and these unique elements may require supports and produce barriers that are not found in higher-grade environments. This study is expected to fill this gap.

Methodology

This study was carried out in five public TTCs in the Rift Valley Province. The TTCs are five out of the 21 public and 41 private teacher colleges in Kenya that have been offering candidates for Kenya National Examination Councils summative evaluation after a two-year study (Softkenya.com, 2015). The study aimed at establishing student teacher attitudes towards computer education influence on integration of computer technology into future teaching practices. The five TTCs had a total population of about 5,075 student teachers.

Theoretical perspective and Methodology

Theoretical perspective is the philosophical stance behind the chosen methodology (Crotty 1998). This study employed pragmatist theoretical perspective. Pragmatism is derived from the Greek word pragma, which means action, from which the words 'practice' and 'practical' come (James, 2000). Pragmatism was first introduced into philosophy by Peirce in 1878 (Sudin & Johannisson, 2006). The pragmatist epistemology stands in contrast to prevailing positivist (objectivist) and anti-positivist (constructionist and subjectivism) views of scientific discovery (Freeman, 1998; Martin, 1990). As such, the pragmatist proposes to reorient the assessment of theories around a third criterion: the theory's capacity to solve human problems (Rallis & Rossman, 2003). Important strengths of this approach were the ability to maximize the information provided by a single study, for example, when interest is in cross-validation, and a shorter data collection period compared to the sequential data

data collection period compared to the sequential data collection approaches which was the case in this study (Cohen et al, 2007). The design was used to examine the effect of trainee teachers gender, attitude, teacher philosophy about teaching and learning, teacher perceived competence about computer and teaching and subjective norms on their intention to integrate computer technology into future teaching practices in Mosoriot, Kericho, Baringo, Narok and Tambach Teachers Training College, in former Rift Valley Province. The study also assessed trainee teachers' perceived potential advantages and disadvantages of introducing computer technology in primary school education. Further, the study assessed the extent, nature and use of computer resources in the four teacher training Colleges.

Research Design

This study employed case study and correlation research designs. The case(s) are bounded by individuality (T.T.C s in Rift Valley Province), time and activity and researchers collect detailed information using a variety of data collection procedures over a sustained period of time (Stake, 1994). This design was used because the researcher wished to gain a rich understanding of the context of the research and the processes being enacted (Saunders, Lewis & Thornhill 2003). The Pearson Product Moment Correlation Coefficient was used to establish the relationship between independent and dependent variables.

The Target Population

This study was done in public Teacher Training Colleges in former Rift Valley Province of Kenya. The research population for the study was all teacher trainees in pubic teacher training colleges in Rift Valley. The colleges have a total population of 5,075 student teachers. Out of the total population 2,458 were female while 2,617 were male. Student teachers were divided into two major categories: those in first year of study and those in the second year of study. The distribution of students in these categories is as shown in Table 3.1.

Sample size and sampling procedure

The study purposely selected all the five public TTCs in Rift Valley province, Kenya. These are Kericho, Mosoriot, Baringo, Narok and Tambach.

Table 1. Shows the Study population	Table	1. Shows	the Study	population
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Institution	Year of Study	Male	Female	Total
Kericho	1	334	320	654
	2	360	280	640
Tambach	1	263	270	533
	2	253	243	496
Mosoriot	1	325	325	650
	2	302	298	600
Baringo	1	200	200	400
-	2	140	180	320
Narok	1	200	232	432
	2	300	290	590
Total		2,617	2,458	5,075

The choice of the colleges took into account the fact that admission into public teacher colleges in Kenya is done jointly through a computerized system therefore likely to have trainee teachers from all counties in Kenya.Former Rift valley was considered as a case for the study. Robson (2002) defines case study as a strategy for doing research which involves an empirical investigation of a particular contemporary phenomenon within its real life context using multiple sources of evidence. The case(s) are bounded by individuality (T.T.Cs in former Rift Valley Province), time and activity and researchers collect detailed information using a variety of data collection procedures over a sustained period of time (Stake, 1994). This design was used because the researcher wished to gain a rich understanding of the context of the research and the processes being enacted (Saunders, Lewis & Thornhill 2003).

The ever increasing need for a representative statistical sample in empirical research has called for an effective method of determining sample size. To determine sample size in the study Krejie and Morgans' table (1970) of determining sample size was used. Accordingly, a sample size for a population of 5000 was 375. To obtain a representative sample from the five TTCs the researcher used stratified simple random sampling. This is a process in which certain subgroups or strata are selected from the sample in the same proportion as they exist in the population (Fraenkel & Wallen, 2000). The target population was identified as all student teachers enrolled in public Teacher Training Colleges in former Rift Valley Province. To ensure that all subgroups of student teachers were represented in the sample, the researcher identified the number of student teachers in every subgroup. Using a table of random numbers, the researcher then selected proportional sample from each strata in every TTC to ensure that there was uniform representation of the different groups. From Kericho TTC 25 males and 20 females in first year of study and 24 males and 20 females in the second year of study were selected. The total sample from Kericho was therefore 89 trainee teachers. From Mosoriot TTC, 22 males and 22 females in first year of study and 21 males and 20 females in the second year of study was selected giving a total sample of 85 trainee teachers. From Tambach TTC, 16 males and 20 females in first year of study and 22 males and 10 females in the second year of study was selected giving a total sample of 68 trainee teachers. From Narok TTC, 10 males and 19 females in the first year of study and 18 males and 20 females in the second year of study were selected giving a total of 67 trainee teachers. From Baringo TTC, 13 males and 14 females in the first year of study and 10 males and 11 females in the second year of study were selected giving a total of 48 trainee teachers. The total sample from the four TTCs was 357 trainee teachers as shown in table 3.2.

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Institution	Year of Study	Female	Male	Total
Kericho	1	20	25	89
	2	20	24	
Tambach	1	20	16	68
	2	10	22	
Mosoriot	1	22	22	85
	2	20	21	
Baringo	1	14	13	48
Total		176	181	357

Table	e 2. Shows the Sa	mple pop	ulation.	
stitution	Voor of Study	Formala	Mala	Total

Research Instruments

This section describes instrumentation and the administration of the instruments. In this study the researcher used questionnaire, focus group interviews and observation for in-depth data collection and triangulation. The use of a variety of data collection techniques enabled the researcher to have a rich data base to tell the story (Simons, 2009). The primary data was collected using a questionnaire consisting of six scales. Six existing scales were utilized in this study. Each scale was studied in detail to ensure their reliability and validity.

The Questionnaire

The selection of the questionnaire as a tool for data collection was guided by the nature of data to be collected and objectives of the study. The questionnaire was used since the proposed study was concerned with variables that cannot be directly observed. The questionnaire was a convenient tool because it facilitated easy and quick derivation of information within a short time (Kombo & Trump, 2006; Borg & Gall, 2003). A self-administered questionnaire was used by the researcher as it is less expensive in terms of time.

Observation Schedule

The observation schedule designed by the researcher was used to assess the extent, use and nature of ICT resources in the four teachers Colleges. The observation schedule was used during institutional visits to verify the information collected through interview on the number of computer laboratories, Personal computers (PCs), connectivity to the internet, and how students and tutors in the college are using technology in learning (Marby, 2008). Observation promoted holistic appreciation and understanding of extent, use and nature of ICT resources in teacher training colleges. Kombo (2006) and Maruti (2010) observes that Observation schedule is used as a checklist to record what the researcher observes during data collection. Observation is the systematic observation, recording, description and analysis of peoples' behavior (Saunders, Lewis & Thornhill, 2003). It has the advantage of taking account of events which are not verbalized but are important in understanding the extent, use and nature of ICT resources in the teacher training colleges (Cohen, Manion & Morrison, 2007).

Piloting

When piloting, the researcher sought to verify the reliability and validity of the research instruments. Orodho (2005) observes that, piloting helps to detect deficiencies in research instruments. Piloting was done in Eregi Teachers Training College which is found in Kakamega County and the responses were checked against the research objectives (Hull, 2009). According to Polit, Beck and Hungler (2001) a pilot study is a small scale version in preparation for a major study with its main purpose being to check the validity and reliability of the research instruments (Baker, 1994).

Validity of Research Instruments

Validity is the most critical criterion and indicates the degree to which an instrument measures what it is supposed to measure. Validity is the extent to which differences found with a measuring instrument reflect true differences among those being tested(Kothari, 2004). Golafshani (2003) describes validity as the accuracy and meaningfulness of inferences based on the research results. The test must produce information that is not only relevant but free from systematic errors. According to Alvesson and Skoldberg (2000), validity means that we are measuring what we want to measure.

This validity is a function of how well the dimensions and elements of a concept have been delineated (Brewer, 2000; Ross, 2005). There are four main types of measurement validity: face validity, which considers how well the measurement of an indicator "makes sense" as a measure of the construct in the judgment of others. Face validity will be done by ascertaining whether at face value, the questions appear to be measuring the construct as per the research objectives. Face validity indicates that the items that are intended to measure a concept on the face of it look like they measure the concept. When the measures in the instruments provide adequate coverage of the concept, a measure of face validity is achieved. The researcher observed this to ensure that the instruments provided adequate coverage of the study concepts. This was largely a common sense assessment, but also relied on knowledge of the way people respond to survey questions (Brewer, 2000; Ross, 2005).

Content validity is the extent to which a measuring instrument provides adequate coverage of the topic under study. If the instrument contains a representative sample of the universe, then content validity is good (Kothari, 2004). The content validity of a measuring instrument is the extent to which it provides adequate coverage of the investigative questions guiding the study. If the instrument contains a representative sample of the universe of subject matter of interest, then the content validity is good. In order to evaluate the content validity of the instruments, the researcher came up with dimensions and elements that constituted adequate coverage as per the study objectives. Further with regard to face validity and content validity, this study selected variables based on their importance in previous studies. Definitions of the variables from previous studies were used and existing measuring instruments was adopted that have been shown to produce measures that have satisfactory face and content validity. Also, a focus group during piloting was used to examine the variables included in the model, their definitions, their proposed relationships, and especially the questionnaire items designed to measure the variables.

According to Borg and Gall (1989) and Robson (2002) content validity of an instrument is improved through expert judgment. As such, the researcher sought assistance from her supervisors, who are experts in research, to improve content validity of the instrument. To establish the validity of the research instrument for this study, the researcher gave copies of the questionnaire to the supervisors of the department of Education Psychology at University of Eldoret to check if it represents all the objectives of the study. Several typographical errors and omissions detected were corrected in the instrument.

Reliability of Research Instruments

Reliability refers to the dependability or consistency of the measurement of a variable.

It is a measure of the degree to which a research instrument yields similar results after repeated trials (Ross, 2005). Reliability was used to measure precision and accuracy. An attitude scale is considered reliable, for example, to the degree to which the same respondents, or very similar respondents, receive the same or very similar score upon repeated testing (Ross, 2005).

There are 3 types of measurement reliability: stability reliability, which examines the reliability of measures across time; representative reliability, which examines the reliability of measures across different groups of subjects; and equivalence reliability, which examines the internal consistency with which a set of indicators measure a latent variable (Neuman, 2006). For stability and representative reliability in this study, existing measurement instruments reported in the literature was used to measure the variables, and these instruments have demonstrated both of these forms of reliability across studies conducted at different times, in different contexts, and with different subjects. The purpose of this measure was to determine if the scales which were employed provided consistent results across repeated measure hence it showed how well the instruments measure each of the constructs of this study.

The researcher used test-retest method to check the reliability of the student teacher questionnaire. The researcher piloted the instruments in Eregi TTC which is not part of the study sample. Questionnaires were given out to sixty student teachers in the pilot college. The answered questionnaires were scored. The same questionnaires were administered to the same group after a period of two weeks. For the assessment of equivalence (internal consistency) Cronbach Alpha coefficient was employed.

Cronbach Alpha is a coefficient of reliability commonly used as a measure of internal consistency. Higher values of Alpha are more desirable. Some scholars as a rule of thumb require a reliability of 0.70 or higher before they use an instrument (Nunnally, 1978). Cronbach Alpha generally increase as the inter-correlation among test items increase, and is thus known as an internal consistency estimate of reliability of test scores. Because inter correlations among test items are maximized when all items measure the same construct, Cronbach Alpha is widely believed to indirectly indicate the degree to which a set of items measures a single onedimensional latent construct (Joppe, 2000) as quoted by Golafshani (2003). The results from the piloting assisted in the instruments' revisions and improvement for its content validity as well as questions, format and scales reliability (Ross, 2005). Cronbach's Coefficient Alpha was used to establish the reliability of the research instrument. A reliability coefficient of 0.7 and above was assumed to reflect the internal reliability of the instruments (Fraenkel & Wallen, 2000). The Cronbach's Alpha coefficient for Computer integration in education was 0.889, with teaching philosophy scale having 0.665, perceived competence about teaching was 0.880, teacher perceived competence about computer was 0.882, attitude towards the use of computer in education was 0.844, social norms of computer as a tool of instruction was 0.884 and teacher's perceptions on the introduction of computer technology 0.676. This indicates a high overall internal consistency among the 58 statements used in the questionnaire was reliable. The reliability was calculated and result of Cronbach's coefficient for the whole items was .901 and since the value obtained for all values were above 0.7, the questionnaires were deemed reliable after several

typographical errors and omissions detected were corrected in the instrument confirming that it was sufficient to be used in the main study.

Table 3.	Cronbach's	alpha a	coefficient	Reliability	Statistics

Variable	Cronbach's Alpha	Cronbach's Alpha Based on	N of Items
	_	Standardized	
		Items	
Computer	.885	.889	11
Integration in			
Education			
Attitude towards the	.838	.844	8
use of computer in			
Education			
Teacher's	.652	.676	6
perceptions on the			
introduction of			
computer			
technology			
Overall Reliability	.890	.901	58

Data Analysis and Presentation

After data collection, the data obtained from student teacher sample was cross-examined to facilitate coding and entry into the computer in preparation for analysis. Data processing exercise commenced with the coding of all the responses obtained to facilitate easy analysis using computer Statistical Programme for Social Sciences (SPSS 12.5) package. A master codebook was designed to ensure that all the questionnaires were coded uniformly. The second stage involved tabulating the obtained scores. This assisted the researcher to determine the level of significance of differences of effects of the independent variables on dependent variable (prospective computer integration in primary school).

To determine this correlation coefficient, r<0.05 level of significance was used. All data was analyzed at a level of 95% or r = 0.05 and degree of freedom depending on the particular case as was determined. Bivariate correlation analysis procedures were applied to explore the interrelations between the different research variables.

Quantitative analysis

Saunders et al. (2009) stated that quantitative method for conducting research includes steps like designing sampling techniques and analyzing the data by using various quantitative and statistical techniques. Also it involves presenting the research result in quantitative manner and making inferences on the basis of data analyses. Generally, the researcher used descriptive statistics for analyzing the distribution of observations while inferential statistics were used for understanding the relationship between variables. The quantitative data was analyzed using various statistics including measures of central tendency and dispersion. Simple descriptive statistics was employed to analyze quantitative data. The descriptive statistics involved the use of frequency, means and standard deviation, while the inferential statistics was Pearson Product Moment Correlation Coefficient and Multiple Regression. The use of descriptive statistics described the demographic characteristics and perceptions of respondents towards the ICT integration.

Pearson Product-Moment Correlation

The Pearson product-moment correlation was used to determine whether there is a significant relationship between two variables. The Pearson Product Moment Correlation Coefficient was used to establish the relationship between independent and dependent variables and multiple regressions were used to test the study hypothesis. A Pearson correlation coefficient was used since the study involved the use of continuous data, therefore, data was of interval level of measurement. The Pearson correlation coefficient was used since the data in this study adheres to the following assumptions or parameters (Field, 2009):

a) Data must be on Interval level

b)A linear relationship must exist (can be indicated by means of a scatter plot)

c) The distributions must be similar (Thus, if they are skewed, they must be skewed in the same direction), but preferably normal.

d)Outliers must be identified and omitted from the computation.

e) There is homoscedasticity of the data.

The study also used Pearson product –moment correlations to determine the extent of correlation between independent and dependent variables.

Qualitative data

Qualitative data was analyzed qualitatively using content analysis based on analysis of meanings and implications emanating from respondents' information and documented data. The thematic analysis was used where the responses were arranged according to the various themes. As observed by Gray (2004) qualitative data provides rich descriptions and explanations that demonstrate the chronological flow of events as well as often leading to chance findings.

4. Findings

Relationship between student teachers' attitude toward computer in education and integration of computer technology

The objective of the study was to identify the influence of student teachers' attitude toward computer in education on integration of computer technology. This was achieved through the use of descriptive statistics (frequencies, percentages, mean and standard deviation) as well as Pearson product moment correlation to establish the influence of student teachers' attitude on integration of computer technology.

Attitudes toward computers in education

The study sought to establish the attitudes of teachers toward computers in education and the findings varied as summarized in table 4. From the study (n = 263, 84.5%) agreed that computer provides opportunity for improving the learning performance, (n=43, 13.9%) disagreed and while (n=5, 1.6%) were undecided as supported by a mean score of 4.03. Majority of the respondents (n= 259, 83.3%) agreed that the efficiency of the learning process is increased through the use of computers, (n=40, 12.8%) disagreed, while (n=12, 3.9%) were undecided as shown with a mean of 4.08. On whether the computer was used as a learning tool to increase student motivation, most of the respondents (n=265, 85.3%) agreed, (n=21, 9.9%) disagreed while (n=15, 4.8%) were undecided as shown by a mean of 4.14. Most of the respondents (n=182, 58.5%) agreed that pupils with learning difficulties strongly benefit from the didactic possibilities which the use of computers entails, (n= 99, 31.9%) disagreed, while (n= 30, 9.6%) were undecided as shown by a mean of 3.41.

Majority of the respondents (n= 227, 73%) agreed that computer use increases the level of creativity of pupils, (n= 68, 21.9%) disagreed, while (= 16, 5.1%) were undecided as shown with a mean of 3.8. On whether the use of computer helps pupils to achieve better text writing, (n=138, 44.4%) agreed, (n= 156, 50.1%) disagreed, while (n= 17, 5.5%) were undecided as shown by a mean of 2.84. Most of the respondents (n=239, 76.8%) agreed that computer knowledge and practical experience should be more integrated in the curriculum, with (n= 54, 17.4%) disagreeing while (n= 18, 5.8%) were undecided as shown by a mean of 3.92. Finally, (n=196, 63%) agreed that computers can help pupil-teacher interaction, (n= 101, 32.4%) disagreed, while (n= 14, 4.5%) were undecided as shown by a mean of 3.43.

From descriptive statistics, majority of trainee teachers had positive attitude towards computer as it provided opportunity for improving the learning performance, efficiency of the learning process was increased through the use of computers and as a learning tool to increase student motivation. Pupils with learning difficulties strongly benefit from the didactic possibilities which the computer entails. It increases the level of creativity of pupils as the use of computer helps pupils to achieve better text writing. Computers help enhance pupil-teacher interaction. Most trainee teachers agreed with the statement that computer knowledge together with practical experience should be more integrated in the curriculum. The implication is that most trainee teachers had a positive attitude towards computer as a tool of instruction therefore will support integration of ICT in primary schools in Kenya as suggested by San, Van Braak, Tondeur & Valcke (2009).

Correlation between the student teachers' attitude toward computer in education and integration of computer technology

There was a strong positive relationship between student teachers' attitude toward computer in education and integration of computer technology (r=.635, n=311, p<.05) as shown in Table 4.21. This implies that as the student teachers' attitude toward computer in education improved, trainee teachers' intention to integrate computer technology increased. This agrees with Keengwe and Onchwari (2008) who stated that "if teachers' attitudes are positive toward the use of educational technology then they can easily provide useful insight about the adoption and integration of ICT into teaching and learning processes". The TTCs should enhance student teachers' attitude toward computer in education by promoting teacher experience with the computer. According to Van Braak, Tondeur & Valcke (2004) positive computer attitudes promote computer integration.

 Table 5. Correlation on the student teachers' attitude

 toward computer in education influence integration of

computer technology

		Integration	Teacher attitude
Integration	Pearson Correlation	1	.635**
	Sig. (2-tailed)		.000
Teacher	Pearson Correlation	.635**	1
Attitude	Sig. (2-tailed)	.000	

**. Correlation is significant at the 0.01 level (2-tailed).

b. Listwise N=311

Hypothesis testing

In order to test the relationship above, the following null hypothesis was formulated;

HO. The trainee teachers' attitude toward computer in education does not significantly influence their integration of computer technology into future teaching practices.

From the results, the p value of trainee teachers' computer attitude is (p=0.000 < 0.05) which implies that we reject the null hypothesis stating that The student teachers' attitude toward computer in education does not significantly influence their integration of computer technology into future teaching practices. Therefore, there is a statistically significant influence of trainee teachers' attitude toward computer in education of computer.

Table 4. At	ttitudes towar	d computers	in	education.
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Statement	Strongly		Strongly A		Strongly		Strongly A		Strongly Agree		Strongly Agree		Strongly		Strongly		Agree		Agree		ngly Agree		Undecided		Undecided		Disag	ree	Stron	gly	Mean	Std
	agree								Disagree			dev																				
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%																						
The computer provides opportunity for improving the learning performance.	123	39.5	140	45.0	5	1.6	21	6.8	22	7.1	4.03	1.15																				
The efficiency of the learning process is increased through the use of computers.	129	41.5	130	41.8	12	3.9	29	9.3	11	3.5	4.08	1.07																				
The computer used as a learning tool, increases student motivation.	137	44.1	128	41.2	15	4.8	16	5.1	15	4.8	4.14	1.05																				
Pupils' with learning difficulties can strongly benefit from the didactic possibilities which the use of	79	25.4	103	33.1	30	9.6	64	20.6	35	11.3	3.41	1.36																				
computers entail.																																
The computer increases the level of creativity of pupils'.	116	37.3	111	35.7	16	5.1	41	13.2	27	8.7	3.80	1.30																				
The use of computer helps pupils' to achieve better text writing.	59	19.0	79	25.4	17	5.5	66	21.2	90	28.9	2.84	1.54																				
Computer knowledge and practical experience should be more integrated in the curriculum.	121	38.9	118	37.9	18	5.8	33	10.6	21	6.8	3.92	1.22																				
Computers can help pupil-teacher interaction.	88	28.3	108	34.7	14	4.5	53	17.0	48	15.4	3.43	1.44																				

5.0 Discussions

Influence of student teachers' attitude toward computer in education on integration of computer technology

The study findings indicated that, trainee teachers had a positive attitude towards computer use in education (mean= 3.7). Descriptive results indicate that most trainee teachers agreed with statements that the computer provided an opportunity for improving the learning performance, efficiency of the learning process was increased through the use of computers and that use of computer as a learning tool increased student motivation. Teacher trainees also agreed that pupils with learning difficulties strongly benefit from the didactic possibilities which using of computers entails. It increases the level of creativity of pupils as the use of computer helped pupils' to achieve better text writing. They also concurred that Computers help enhance pupil-teacher interaction and that computer knowledge together with practical experience should be more integrated in the curriculum.

These results of the study (that trainee teachers have a positive attitude towards computer assisted education) should raise hopes among education stakeholders in Kenya because this is a strong indicator that trainee teachers will readily embrace ICT integration in primary schools in Kenya. Hew and Brush (2007) suggested that to successfully initiate and implement educational technology in schools, depends strongly on the teachers support and attitudes because if teachers perceived technology programs as neither fulfilling their needs and those of learners, it is likely that they will not integrate the technology. It should be noted however that results indicate that a small number of trainee teachers 23.8% had a negative attitude towards computer use in education. There is need for education stakeholders to change this attitude through TTCs by enabling longer trainee teacher experiences with computers as suggested by Rozell and Gardner (1999).

Correlation analysis results indicated that there was strong positive relationship between teachers' attitude toward computer in education and integration of computer technology (r=.635, n=311, p<.05). This implies that as the student teachers' attitude toward computer in education improved, the intention to integrate computer technology increased. Moreover, regression analysis results indicated that the p value of trainee teachers' computer attitude was (p=0.000 < 0.05) which implies that the student teachers' attitude toward computer in education does strongly influence their integration of computer technology into future teaching practices.

The findings agree with Sang, Valcke, Van Braak, Tondeur & Zhu (2011) that attitude is a major predictor of future classroom computer use. According to Baek, Jung and Kim (2008) and Hsu, Wu and Hwang (2007) a positive attitude on the part of the teacher encourages use of computer for various purposes. The findings agree with Sang, van Braak, Tondeur, &Valcke (2009) that class use of computers by teachers was strongly affected by attitudes toward computers in education. Teacher's attitude toward computers will influence the way computer-based technology is used in instruction. The results of the study also agree with suggestions by Hsu, wu & Hwang, (2007) that teachers' positive feelings about computers will help generate or reinforce positive feelings in the students. **Conclusions**

The study established there was statistically significant influence of trainee teacher's computer attitudes on integration of ICT.

Trainee teachers who scored high on attitude towards computer use in education scored highly on intention to integrate ICT. Trainee teachers, who had a positive attitude towards ICT and its uses, had high intentions to integrate it in their teaching.

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