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TEACHER PREPAREDNESS AND INTEGRATION OF DIGITAL TECHNOLOGIES: EVIDENCE FROM FOUNDATION PHASE TEACHERS IN KENYA

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ABSTRACT

The study investigated teacher preparedness and integration of digital technologies among foundation phase teachers in Kenya. The Ex post facto research design was adopted. The target population for the study was 345 teachers consisting of 225 grade 1-3 teachers and 90 foundation phase teachers. The sample size for the study consisted of 263 foundation phase teachers. Reliability of the questionnaires was ascertained by Cronbach's alpha method and α of 0.7 to 0.8 were reported. Pearson correlation and linear regression were used to analyze data. The findings indicated a significant highly positive correlation (n=202; r =.711; p < 0.05)between status of digital literacy and integration of digital technologies; a low positive correlation (n=202; r =.292; p <.05) between relevancy and adequacy of teachers training and integration of digital technologies; a weak (n=202; r =.332; p<.05), positive correlation between teachers' ICT advancement and integration of digital technologies; and, a statistically significant (n=202; r =.384; p < 0.05) positive correlation between teachers' perception and integration of digital technologies. The teacher's status of digital literacy had the highest impact on enhancing Integration of Digital Technology. The study recommends that the Ministry of Education Science and Technology should enhance more structured training on literacy for teachers.

Keywords: digital technologies; foundation phase; integration; Kenya; teacher preparedness

1.0 INTRODUCTION

Rosnaini Mahmud and Mohd Arif (2008) define Information Communication and Technology (ICT) integration as the process of determining where and how technology fits in the teaching and learning scenario. The need for development of ICTis a global resolution and has been a subject of great significance to all mankind (Olaofe, 2005). Technology is regarded as a channel for helping teachers communicate better with students and it can make good teaching better

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(Roblyer, 2006). Jones and Preece (2006) reported that both students and teachers need to learn to trust the technology for technological performance as well as enhance the uptake and reduce resistance to technology. Communication and Technology is viewed as a major tool for building knowledge societies (UNESCO, 2003). Kozma and Anderson (2002) claim that ICTs are transforming schools and classrooms by bringing in new curricula based on real world problems, providing scaffolds and tools to enhance learning, giving students and teachers more opportunities for feedback and reflection, and building local and global communities. Heppet al. (2004) reiterate that the roles ICTs play in the educational system can be pedagogical, cultural, social, professional and administrative. In engaging students for deep learning in classrooms, Oblinger (2003) argue that teaching must be supported by the technology to which students are accustomed. Early childhood education credentials, certificates and degree programs prepare aspiring foundation phase teachers to create engaging and age appropriate learning environment. In USA many early childhood development teachers earn child development associate degree which was initiated in 1971 by the US office of child development (Angus, 2008).

Ramorola (2011) in South Africa supported the view that a computer can provide equal opportunities and required context to children from all types of socio-economic and cultural backgrounds to achieve basic levels of literacy and education. Odera (2011) established that the ministry of education policy on the use of computers was being implemented by public secondary schools however study further suggested that all teachers, students and school community should be informed about the policy and the importance of its implementation. But Okeyo (2013) revealed that training level of head teachers in the use of computer is low. According to Levy (2018), the must have digital literacy skills to help teachers prioritize teacher digital literacy professional development include, functional skills, search skills, evaluating sources, critical thinking, creativity and communication among others. Reder (2015) in United States of America established that systematic digital inequities were tied to gender, race and digital equity. In Nigeria, Odu and Nsikan (2017) indicate that digital literacy is needed skills for both librarians and library users, without which can lead to detrimental results. The digital literacy programme was a programme borne out of government of Kenya's vision to make sure every pupil is prepared for today's digital world and to transform learning in Kenya into a 21st century education system (Thou, 2016).

1.1 Digital technologies in Kenyan context

Teacher training remains a critical component of integrating ICT in education and the Kenyan Ministry of Education Science and Technology (MOEST) has been mandated to develop a skilled and innovative manpower and works towards the integration of ICT at all levels of learning. Kenya has prioritized ICT through strategic plan namely 'vision 2030'. ICT is a fundamental component of the education reforms and thus ICT's integration in Kenyan education system has been largely supported by the Ministry of Education Science and Technology (MOEST 2012). The Kenyan Basic Education Act 2013 defines ICT Integration in education as a seamless incorporation of information communication technologies to support and enhance the attainment of curriculum objectives, to enhance the appropriate competencies including skills, knowledge, attitudes and values and to manage education effectively and efficiently at all levels. The National ICT Policy (2006) recognizes the fact that there is need to strengthen and streamline the training through promoting ICT in basic education by

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developing ICT curricula and ensuring that teachers/trainers possess the requisite skills. The policy farther stipulates that ICT should promote the growth and implementation of e-learning and integrate e-learning resources with other existing resources. Kenya government has invested a lot of funds in ICT infrastructure including digitization of educational materials through Kenya institute of education for achievement of vision 2030 (Andiema, 2015).

A task Force in Kenya on the realignment of the education sector to the new constitution of (2010) and Kenyan vision 2030 mandated Kenya Institute of Education to develop a comprehensive curriculum for early childhood education to include computer games in-order to introduce and enhance computing skills in young children. Young children today are growing up at ease with digital devices that are rapidly becoming tools of the culture at home, school and in the community. These digital devices when built upon solid developmentally appropriate foundations can improve education quality at this early stage of learning. Kenyan Basic Education Act 2013 guiding principle on ICT integration in teaching and learning states that; ICT should promote innovativeness, inventiveness creativity, technology transfer and an entrepreneurial culture among learners. The Kenyan National ICT Policy (2006) recognizes the fact that there is need to strengthen and streamline the training through promoting ICT in education at all levels by developing ICT curricula and ensuring that teachers/trainers possess the requisite skills. The policy further stipulates that ICT should promote the growth and implementation of e-learning and integrate e-learning resources with other existing resources. According to Kenyan Ministry of Education report (2016) over 66000 teachers have already been trained on how to use the early digital literacy devices for teaching and learning. However, another report from Teacher Performance Appraisal and Development (TPAD) from the Ministry of Education (Kisumu Central Sub-County) showed a relatively low level of integration of digital technologies in early years of education. With more and more children encountering digital technologies before going to school, research on influence of teachers' preparedness for the integration of these digital technologies into classroom teaching remains crucial. This study therefore addressed this gap in literature by focusing on the teachers' preparedness and integration of digital technologies in early years' of education in Kenya.

2.0 LITERATURE REVIEW

Literature on teacher preparedness and integration of digital technologies exists. A study conducted by Son and Robb (2012) revealed that computer literacy is significantly related to teachers' competency in teaching English language as a foreign language. Konan (2012) in Turkey reported that computer literacy level and use of computers by teachers were found to be statistically significant with high teaching experience and also teachers with high level of education. Similarly, Salvati, (2016) indicated that the complexities of teachers' everyday practice as well as additional issues are different in regard to how the complexity is understood. In Canada, Wood and Mueller (2015) established that familiarity with computers predicted greater comfort with technology and greater comfort was related integration in the classroom. In Germany, Kretschmann (2015) contend that subjective theories are significantly related to computer literacy and profession experience of the teacher. Quicoe and Kai (2015) in Ghana showed that despite training for digital literacy, many schools still lack other digital cultures components. Akinnubi, et al (2012) in Nigeria showed that there was a significant relationship between computer literacy and teacher job effectively.

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Luwangula (2011) agreed that there is no statistically significant relationship between teachers ICT skills and pedagogical integration of ICT. Abu, et al (2012) in Malaysia also showed that teachers ICT skills were at moderate levels and that a vast majority of teachers who participated in the study were moderate users of ICT in classroom teaching. Orit and Irit (2014) revealed a positive relationship between basic level, the focused level and the creative level of ICT integration and implementation which can serve as an infrastructure for the effective adoption and integration of this innovative pedagogy. In Kenya, Chao (2015) established that that there was a negative relationship between teacher training and ICT integration. Ndiritu, Mburu and Kimani (2013) revealed a positive relationship between ICT integration and classroom use. Makuna (2013) showed that without effective and supportive leadership, changes in teaching and learning process and widespread effective uses of technology in learning are not likely to occur.

Musyoka (2016) established that inadequate ICT infrastructure, limited ICT skills and training and limited access to technical support hinder integration of digital technologies in teaching and geography in secondary schools. Hennessy, et al (2015) revealed that there is a statistical significant positive relationship between teachers' perspectives and integration of ICT into subject teaching. Kodai, et al (2013) in Japan revealed that when teachers have greater access to technological resources in the classroom, attitudes of teachers are more positive towards the use of technology. Coleen, (2014) in Canada established that there is no statistically significant difference between pre-service and in-service teachers' perceptions regarding their preparedness to integrate technology into their teaching. Ames (2017) in USA established that letting teachers show each other how to use the technology to make life easier and improve learning for students may results in higher levels of technology integration. In Turkey by Kinik (2014) indicated a significant positive perception on technology use and integration. Almekhlafi & Ameqdadi (2010) study in the United Arab Emirates showed that there is a significant negative relationship between methods of integration by male teachers compared to their female counterparts. Pang, Reinking, Hutchison and Ramey's (2015) study in South Korea indicated that there is a significant negative relationship between teachers' perception and integration of information communication technologies. In Spain, Badia, et al (2014) showed a strong positive relationship between teachers' perceptions and technologies profile. In Yemen, Arwa and Viswanathappa (2016) showed that there was a significant difference in teacher perception towards integrating ICT especially in the group who were trained through the blended learning approach. In Libya, Emhamed and Krishman (2011) suggested that most of the teachers had positive attitudes towards integrating technology in teaching students. Mewcha & Ayele (2015) in Ethiopia revealed that there was a statistically significant relationship between teachers' perception and integration of ICT in teaching and learning. Ang'gondi, (2013) study in Kenya indicated that there is a significant negative relationship between teachers' perception and use of ICT in teaching and learning.

From the reviewed studies, there are varied research findings from the reviewed studies. Most of the studies were conducted in secondary schools where students unlike the current study where learners are on foundation phase level. Some of the reviewed studies were only descriptive in nature and the findings were thus not conclusive, unlike the present study which used inferential statistics hence the findings are more generalizable.

2.1 The present study

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Therefore, the present study investigated teacher preparedness and integration of digital technologies among foundation phase teachers in Kenya. The study was guided by a hypothesis stated as follows:

H01: There is no statistically significant relationship between teacher preparedness and integration of digital technologies in among foundation phase teachers

3.0 METHODS

3.1 Research design

The Ex-post facto research design was adopted. This is a design in which the investigation starts after the fact has occurred without interference from the researcher (Salkind, 2010). Ex post facto research design has strengths that make it the most appropriate research plan in numerous circumstances; for instance, when it is not possible to apply a more robust and rigorous research design because the phenomenon occurred naturally; or it is not practical to manipulate the independent variables; or the control of independent variables is unrealistic; or when such manipulation of human participants is ethically unacceptable (Salkind, 2010).

3.2 Study participants

The target population was345 teachers consisting of 225 grade 1-3 teachers and 90 foundation phase teachers in Kisumu Central Sub-County (Kisumu County Education office, 2016).The sample size for the study consisted of 263 foundation phase teachers in Kisumu Central Sub-County of Kenya. The stratified and simple random sampling techniques were used to obtain the 30% of the teachers.

3.3 Measures

The questionnaires were used to collect data. The questionnaire contained the elements of Teachers' preparedness (Teachers' status of digital literacy, relevancy and adequacy of their training, teachers' ICT advancement and teacher's perception). Integration of digital literacy was measured by a questionnaire. The response scale was based on Likert scale, Strongly Agree, Agree, Disagree, Strongly Disagree or undecided. Content validity of questionnaires was ensured by expert judgement by experts in Early Childhood Education. Reliability of the questionnaires was ascertained by the Cronbach's alpha method and α of 0.7 to 0.8 were reported. This was considered to be appropriate aaccording Oso and Onen, (2014).

3.4 Procedure

The ethical clearance to carry out the study was obtained from the National Council for Science Technology and Innovation of Kenya. Thereafter, permission to conduct research in schools was obtained from the County Director of Education. Data collection was through questionnaires which were administered to grade one, two, three and foundation phase teachers. The participants took between 30-45 minutes to fill in the questionnaires after which they were collected by the researchers.

3.5 Data analysis

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Data from questionnaires was analyzed using both descriptive and inferential statistics by the help of SPSS version 20.0.Given that the study used simple correlation and multiple regression analysis, the assumption of normality was investigated. First, just to make sure that the scales of measurement for the data were suitable for multiple regression analysis, the measurements were converted into continuous scale. The assumption of normality of the data was tested through the use of formal test using Kolmogorov-Smirnov and Shapiro-Wilk tests, as shown in Table 1:

Table 1: Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Integration of Digital Technology	.052	202	.200*	.990	202	.191
Status of Digital Literacy	.103	202	.071	.966	202	.068
Relevance and Adequacy of Teacher Training	.096	202	.057	.984	202	.051
Teacher ICT Advancement	.115	202	.058	.939	202	.101
Perception of Teachers on Digital Technology	.074	202	.060	.971	202	.082

*. This is a lower bound of the true significance.
a. Lilliefors Significance Correction

The results in Table 1 show both Kolmogorov-Smirnov (K-S) and Shapiro-Wilk test results, this study used the latter to interpret the normality of the variables because Shapiro-Wilk's (W) is recommended for small and medium samples up to n ≈ 200, as suggested by Garson (2012). W is analogous to the correlation between a given data and its corresponding normal scores, with W = 1 when their correlation is perfectly normal. This implies that a significantly ($p<.05$) smaller W than 1 means that the normality is not met. Hence, the data is normal when Shapiro-Wilk (W) >.05. It is evident from Table 1 that all the variables met the normality condition ($P>.05$); there were no statistical significant differences noted in any of the variables with their corresponding normal scores.

4.0 RESULTS

4.1 Background Information

The study sought to investigate the demographic characteristics of the teacher respondents. The demographic information investigated includes gender and qualification of the teachers.

4.2 Gender of teachers

The results presented in Figure 1 are on gender distribution of the respondents.

Figure 1: Gender Distribution of Teachers

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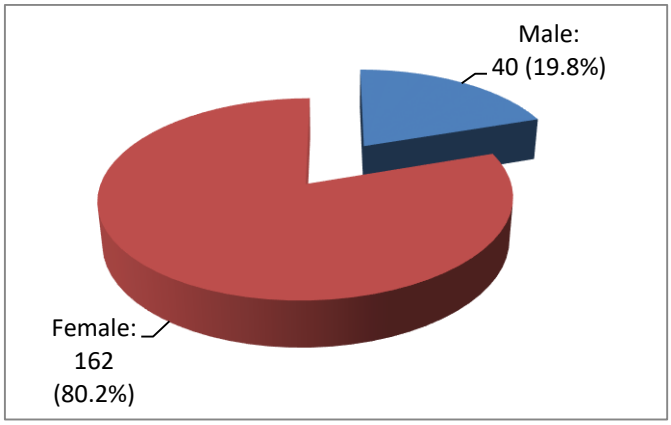

Source: Survey data (2019)

From Figure 1, it is evident that a significant majority 162 (80.2%) of the lower teachers were females, with male teachers being only less than a fifth the teacher respondents. This may not be surprising because it is generally believed that teaching of pupils in their early years is inherently dominated by female teachers. Therefore, in most primary schools majority of the foundation phase teachers are females. However, it is noted that both gender of foundation phase teachers was adequately represented in the study.

4.3 Teacher qualifications

Information was also sought from the respondents about their qualifications. The results are presented in Figure 2.

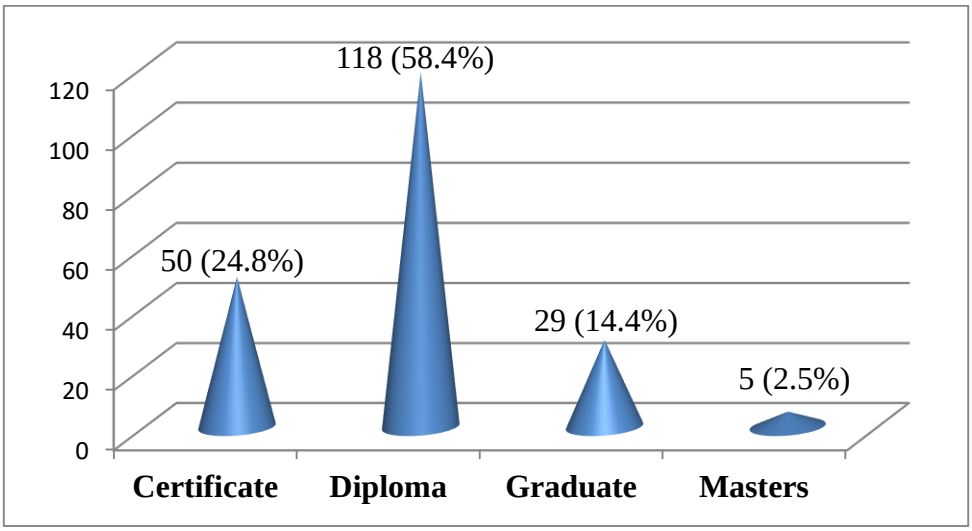

Figure 2: Teacher Respondents' Professional Qualification

Source: Survey data (2019)

On the teacher qualifications, the finding of the study established that most of the teachers had adequate professional qualification to teaching lower primary or foundation phase levels. This was reflected by the fact that, out of the 202 teachers who participated in the study, a significant

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majority 152 (75.2%) of them had at least diploma in education with diploma holders being 118 (58.4%) of the teachers who took part in the survey, and 29 (14.4%) and 5 (2.5%) were graduate and master degrees holders, respectively. Only 50 (24.8%) of the teachers were holders of certificate in education. This implies that the teachers had adequate understanding on teachers' preparedness for integration of digital technologies in early years' education and were able to appropriately respond to the items in the study questionnaires.

4.4 Relationship between teacher preparedness and integration of digital technologies

The study established whether there were any statistical significant relationship between the predicator variables-teacher preparednessand integration of digital technology in early years' education. Pearson Product Moment Correlation Coefficient was used. The predicator variables were converted into continuous scale, where high scale ratings implied high perceived level of the predicator variable. The null hypothesis was stated as follows;

H01: There is no statistically significant relationship between teacher preparedness and integration of digital technologies in among foundation phase teachers

To establish whether there was any statistical significant relationship between teacher preparedness and integration of digital technologies in among foundation phase teachers, a bivariate Pearson's Product-Moment Coefficient of Correlation between the scores of the independent variables and dependent variable was computed. The SPSS output Table 2 shows the correlation results.

Table 2: Correlational results between teacher preparedness and integration of digital technologies

Teacher preparedness	Integration of digital technologies	
Teachers' Status of digital literacy	Pearson Correlation	.711**
	Sig (2 tailed)	.000
	N	202
Relevancy and Adequacy of Teachers training	Pearson Correlation	.292**
	Sig (2 tailed)	.000
	N	202
Teachers' ICT Advancement	Pearson Correlation	.332**
	Sig (2 tailed)	.000
	N	202
Teachers Perception	Pearson Correlation	.384**
	Sig (2 tailed)	.000
	N	202

** Correlation is significant at the 0.05 level (2 tailed)

The correlational results output presented in Table 2indicated a significant (n=202; r =.711; p < 0.05) highly positive correlation between status of digital literacy and integration of digital technologies; a low positive correlation (n=202; r =.292; p <.05) between relevancy and

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adequacy of teachers training and integration of digital technologies; a weak (n=202; r =.332; p<.05), positive correlation between teachers' ICT advancement and integration of digital technologies; and finally, a statistically significant (n=202; r =.384; p < 0.05) positive correlation between teachers' perception and integration of digital technologies among teachers in foundation phase. Therefore, given that all the p-values were less than 0.05, the null hypothesis which stated that "There is no statistically significant relationship between teacher preparedness and integration of digital technologies in among foundation phase teachers" was rejected. Hence, it was concluded that there is significant relationship between teacher preparedness and integration of digital technologies among teachers in foundation phase.

4.5 Linear regression analysis results on Preparedness and Integration of Digital Technologies

To estimate the level of influence of teacher Preparedness and Integration of Digital Technologies, a coefficient of determination was computed. This was done using of regression analysis and the result was as shown in Table 3.

Table 3: Model Summary on Linear Regression Analysis on Preparedness and Integration of Digital Technologies

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
Status of Digital Literacy	.711[a]	.505	.503	.53548
Relevance and Adequacy of Teacher Training	.292[a]	.085	.081	.72788
Teacher ICT Advancement	.332[a]	.110	.105	.71804
Perception of Teachers on Digital Technology	.384[a]	.148	.143	.70267

a. **Predictors:** (Constant), Status of Digital Literacy, Relevance and Adequacy of Teacher Training, Teacher ICT Advancement, Perception of Teachers on Digital Technology
b. **Dependent Variable:** Integration of Digital Technology

The model in Table 3 shows that on the elements of teacher preparedness, the status of Digital Literacy accounted for 50.5% (R2=.505) of the variation in Integration of Digital Technologies in early years of education. This was a respectable amount of effect by only one predictor on the dependent variable. Only 8.5% of the variation in Integration of Digital Technologies in early years of education was explained by relevancy and adequacy of teachers training, as signified by R Square of .085. This was fairly small amount of effect a predictor on the dependent variable. It is evident that 11% (R2=.110) of the variation in Integration of Digital Technologies in early years of education was explained by teachers' ICT advancement. This was a significant amount of effect by a predictor on the dependent variable. The model shows that teachers' perception towards digital technology accounted for 14.8%, as signified by R2=.148, of the variation in Integration of Digital Technologies in early years of education. This was a significant amount of effect of a predictor on a dependent variable.

4.6 Multiple Regression model on Preparedness and Integration of Digital Technologies among Foundation Phase Teachers

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The study sought to develop a Regression model that could be used to describe the optimal level of Integration of Digital Technology in teaching foundation phase. This was done by use of multiple regression analysis, where all the four independent variables were factored in the model at once. The analysis provided information about the relative contribution of each of the variables that make up the model. Each independent variable was evaluated in terms of its predictive power, over and above that offered by all the other independent variables. It enabled the researcher to understand how much unique variance, in the dependent variable, each of the predictor explained. Table 4 shows the regression analysis model summary output.

Table 4: Multiple Regression Analysis Model summary output: Teachers' preparedness and Integration of Digital Technologies in Early Years' Education.

Model	R	R Square	Adjusted RSquare	Std. Error of the Estimate	Durbin-Watson
1	.713[a]	.508	.498	.53782	1.714

a. Predictors: (Constant), Perception of Teachers on Digital Technology, Relevance and Adequacy of Teacher Training, Teacher ICT Advancement, Status of Digital Literacy

b. Dependent Variable: Integration of Digital Technology

In the regression model summary (Table 4) the "R" column represents the value of R, the multiple correlation coefficients. It is a measure of the quality of the prediction of the dependent variable –Integration of Digital Technology. The value of 0.713 indicates a good level of prediction. However, the value of R Square (0.508) indicates how much of the variance in the Integration of Digital Technology was explained by teacher preparedness. This value expressed as a percentage means that the model explains 50.8% of the variance in Integration of Digital Technology in early years' education. This is the proportion of variance in the Integration of Digital Technology that is explained by the predicator variables. It is the proportion of variation accounted for by the regression model above and beyond the mean model.

4.7 Evaluating Contribution of each of the Predictors

The study sought to investigate the level of contribution of the individual predicators factored in the model in the prediction of the Integration of Digital Technology. This was shown by coefficients values in Table 5.

Table 5: Coefficient Output: Teacher Preparedness and Integration of Digital Technology

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% CI for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	.798	.311		2.567	.011	.185	1.412
	Teachers' Status of Digital Literacy	.546	.049	.699	11.138	.000	.450	.643

Relevance and Adequacy of Teacher Training	.021	.073	.016	.292	.771	.166	.123
Teacher ICT Advancement	.047	.103	.028	.459	.647	.251	.156
Perception of Teachers on Digital Technology	.100	.092	.068	1.092	.276	.081	.282

a. Dependent Variable: Integration of Digital Technology

From the model it is evident that the four aspects of teacher preparedness to digital technology contributed differently in influencing Integration of Digital Technology in teaching among the teachers in foundation phase. The teacher's status of digital literacy had the highest impact on enhancing Integration of Digital Technology in early year's education, while relevance and adequacy of teacher training made the least contribution in explaining the variability of the model. The variable "teacher's status of digital literacy" had the largest beta coefficient of .699 ($p<.05$), implying that it made the strongest unique contribution to explaining the dependent variable. This means that a one standard deviation improvement in teacher's digital literacy leads to a .699 standard deviation increase in predicted Integration of Digital Technology, with the other variables held constant.

On the contrary, the beta value for Relevance and Adequacy of Teacher Training was the lowest at .016, indicating that it made the least contribution to the model; a one standard deviation increase in Relevance and Adequacy of Teacher Training would only leads to a .016 standard deviation increase in Integration of Digital Technology, with the other variables in the model held constant, however this effect was not significant ($p=.771$). However, from the model it was revealed that only the variable Status of Digital Literacy made a statistically significant ($p<.05$) unique contribution to the equation, the other three variables (Relevance and Adequacy of Teacher Training, Teacher ICT Advancement and Perception of Teachers on Digital Technology) did not reach statistical significance. It was noted that the total R squared value for the model (.508 or 50.8 explained variance) did not equal to the sum of the R Squared for each variable. This was because the part correlation values represented only the unique contribution of each variable, with any overlap or shared variance removed. The total R squared value, however, included the unique variance explained by each variable and also that shared. The predictors were positively correlated (shown by zero-order correlations) hence there were a lot of shared variance that was statistically removed when they were all included in the model.

4.8 The Regression model

A regression model for the relationship between these independent variables and dependent variable is shown below.

In this model: $Y = \beta_o + \beta_{1x1} + \beta_{2x2} + \beta_{3x3} + \beta_{4x4} + \varepsilon$.

Where: Y is Integration of Digital Technology

X1 Status of Digital Literacy
X2 Relevance and Adequacy of Teacher Training
X3 Teacher ICT Advancement
X4 Perception of Teachers on Digital Technology

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Optimum level of teacher preparedness on integration of digital technology was presented by:

$.798units + .546x_1 units + .021\ x_2 units + .047x_3 units + .100x_4 units$ + error term

From the equation, the coefficients indicate how much Integration of Digital Technology in early year's education varies with an independent variable when all other independent variables are held constant. For example, the unstandardized coefficient, X1, for Status of Digital Literacy is equal to .546 means that for each one unit increase in Status of digital literacy in a teacher, there is a corresponding increase in Integration of Digital Technology of.546 units. Although some predicators did have unique significant change in the model, it is concluded that the model was adequate to predict Integration of Digital Technology in lower primary and foundation phase; it was statistically statistical significant [F (4, 197) =50.882, R2=.508, sig.<.05], implying that the model was highly significant and adequate enough to predict Integration of Digital Technology. More than about half (51%) of the variability in Integration of Digital Technology is explained by aspect of teacher preparedness. However, other factors (not covered in this regression model) account for about 49% of the model.

5.0 DISCUSSION

The study reported a significant highly positive correlation between status of digital literacy and integration of digital technologies; a low positive correlation between relevancy and adequacy of teachers training and integration of digital technologies; a weak positive correlation between teachers' ICT advancement and integration of digital technologies; and finally, a statistically significant positive correlation between teachers' perception and integration of digital technologies among teachers in foundation phase. From the regression model, a good portion of the variance in the Integration of Digital Technology was explained by teacher preparedness. This means that the model explains slightly more than half of the variance in Integration of Digital Technology in early years' education. This finding concurs with Kretschmann (2015) which revealed that subjective theories are significantly related to computer literacy and profession experience of the teacher. Similarly, Son and Robb (2012) also agreed that computer literacy is significantly related to teachers' competency in teaching English language as a foreign language. On the contrary Tang Yu, (2014) showed that there was no statistically significant relationship between computer literacy and computer use among pre-service teachers. Similarly, Olssonand Edman-Stalbrant (2012) indicated that digital literacies within educational programs, has no statistically significant relation with integration of ICT in learning.

The study also reported that teacher's status of digital literacy had the highest impact on enhancing Integration of Digital Technology in early year's education, while relevance and adequacy of teacher training made the least contribution in explaining the variability of the model. It was revealed that only the variable Status of Digital Literacy made a statistically significant unique contribution to the model, the other three variables (Relevance and Adequacy of Teacher Training, Teacher ICT Advancement and Perception of Teachers on Digital Technology) did not reach statistical significance. This finding concurs with Cher (2016) which revealed that integration of ICT is fairly above average. Similarly, with Mcknight, O'malley, Ruzic and Horsley (2016) established that teachers are familiar and use ICT in their teaching and majority of the teachers are comfortable with the use of technology in teaching. The finding is contrary to Andoh (2015) which revealed that students' pedagogical

use of ICT is low. The implication of the above finding is that teachers have the ability to use digital technologies in their classroom teaching. The implication of the above finding is that teachers with high ICT competency have the ability to use digital technologies in their classroom teaching.

6.0 CONCLUSIONS

The study concludes that teacher preparedness plays a very important role in enhancing the integration of digital literacy among foundation phase teachers. Thus, teachers' status of digital literacy positively influenced integration of digital technologies in early years of education. The relevancy and adequacy of teachers training had significant, though weak influence on integration of digital technologies in early years of education. The study again concluded that even though teachers have undergone some ICT advancement towards integration of digital technologies, these advancements have not adequately prepared them to integrate digital technologies in foundation phase. The teachers' ICT advancement had weak influence on the integration of digital technologies in early years of education. Teachers' perception was also found to have significant positive influence on integration of digital technologies in foundation phase. Finally, teachers' status of digital literacy has the highest impact on enhancing integration of digital technologies hence it was the strongest predictor of integration of digital technologies in early years of education. This was followed by teachers' perceptions. The relevancy and adequacy of teachers training was the lowest predictor indicating that it made the least contribution in predicting integration of digital technologies. It is recommended that the Kenyan Ministry of Education Science and Technology should enhance more structured training on literacy for the foundation phase teachers.

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