

GREAT JOURNS



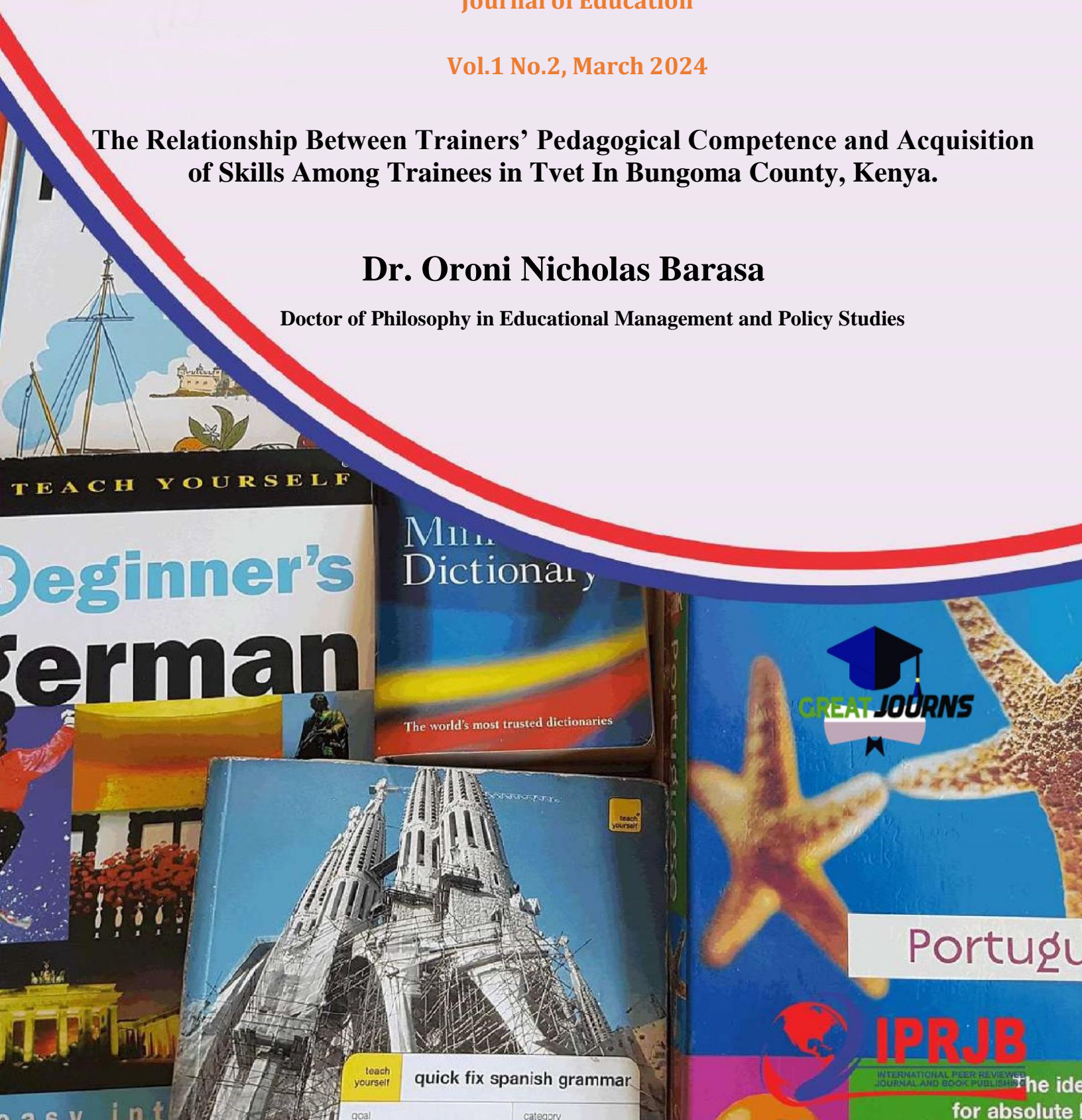
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The Relationship Between Trainers' Pedagogical Competence and Acquisition of Skills Among Trainees in Tvet In Bungoma County, Kenya.

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ABSTRACT

This study set out to explore the Relationship Between Trainers' Pedagogical Competence and Acquisition of Skills Among Trainees in TVET In Bungoma County, Kenya. The study was guided by the Signaling Theory of Learning. The study employed descriptive survey design. The study targeted all the 800 Trainees enrolled for TVET courses and 400 Trainers of TVET in Bungoma County. Simple random sampling technique was used to arrive at the participants. A sample of 200 Trainees and 80 Trainers participated in the study. The study used questionnaires and Focused Group Discussion guides and interview to collect data. Test- retest technique was employed to ascertain reliability of the questionnaires at alpha 0.70. Quantitative data was analyzed using descriptive namely; percentages, frequencies, means and standard deviation and inferential statistics namely; correlation and Pearson coefficient. Statistical Package for Social Scientists (SPSS Version 25.0) was used to analyze data. Qualitative data was recorded, transcribed and reported thematically. The findings were presented using figures and tables. The results for the multiple linear regression model with all the eleven Trainers' pedagogical competence variables that were statistical correlated with the outcome variable produced an adjusted R-Square of 0.481, $F(11,177) = 1.862, p < 0.05$. There a statistically significant relationship between Trainers' pedagogical competence and acquisition of skills among Trainees. The researcher recommended that Training of TVET Trainers should have more focus on pedagogical competences. Otherwise, the government may retrain in post Trainers with a view to enhancing their pedagogical competences.

Key words: *Trainers, Pedagogical Competence, Acquisition, Skills & Trainees*

1.0 INTRODUCTION

The Kenyan Government is currently keen to handle the trainers availability and their competence which improves the quality of teaching and learning since the short fall in the number of Trainers is addressed through hiring part-time Trainers, multi-grade teaching, and the Trainees Trainers which play a very important role in the implementation of curriculum in any learning Institution, hence they require that trainers be well prepared, motivated and supported in order to ensure that they execute their duties effectively. The Kenya Vision 2030 has placed great stock in the improvement and provision of TVET as an important objective in achieving economic progress. To ensure quality TVET programs the quality of the Trainer is critical among other important considerations such as training equipment and learning and teaching materials. (Dasmani, 2019) reveals that in Ghana, the TVET Trainers do not undergo regular industrial attachment hence lagging behind in new knowledge on technological advancement in industries. This challenge leads to low quality of training which hinders Trainees from acquiring the employable skills. In this study there is no findings on the required level of academic qualification of technical Trainer and how it influences acquisition of skills.

In Nigeria, (Udofia et al., 2024) revealed that there is significant relationship between Trainer quality with the acquisition of employable skills by Trainees in TVET Institutions. However, the findings do not articulate the academic level of qualification that the TVET Trainer should have in order to impart employable skills to Trainees. But since there is a significant relationship, then the Trainer must be well trained and qualified in order to impart the employable skills to his/her

learners. (Ferej et al., 2023) revealed that majority of TVET Trainers are diploma holders it raises question on the kind of training offered to Trainees since the same Trainers were trained in the same Institutions with the same level of academic qualifications. This poses a challenge on the Trainees since most of the Trainers who are their role models have limited industrial attachment hence have limited knowledge on labour markets needs making it difficult for the Trainers to transfer the employable skills. This also agrees with (Kigwilu & Githinji, 2015), who revealed that Trainer qualifications, teaching experience and Trainer motivation have a high influence on the implementation of Artisan and Craft curriculum. Therefore, this implies that the TVET Institutions should employ more qualified Trainers in order to enhance Trainer competence in order to spur and sustain Trainees' interest in technical courses. (J. Anindo, 2016) affirms that the TVET Institutions were poorly staffed with qualified Trainers especially in technical subjects which force the Institutions to hire part-time Trainers. However, the study does not show how this influences the acquisition of employable skills.

This is a critical condition for the training process since the academic qualification of the hired Trainers is not highly considered since there is weak monitoring and evaluation procedures carried out in TVETs and hence low quality of training leading to poor acquisition of employable skills. (Karemu & Gongera, 2023) affirms that Trainers in Kiambu County lack exposure to newest technology and therefore Trainers need more learning (retraining) because they lack the necessary skills. Both the Trainers and Trainees have poor technology awareness and the graduating Trainees lack marketable skills. As TVET programs are industry-based and industry-competence oriented, it is necessary for TVET Trainers to have the right set of competencies and right work environment when delivering technical and vocationally-oriented programs so that the Trainees are provided with the right set of skills and knowledge required by industries. In addition to have regular in-service capacity building 18 courses on new technological advancement in the industries. It is also important to have national standards for TVET Trainers since they can only impart employable skills that they have acquired in their training.

II: RESEARCH METHODOLOGY

2.1 Introduction

Methodology can be defined as the way of thinking about and studying social phenomena (Corbin & Strauss, 2008). Elaborating on this definition, Henning *et al.*, (2018) emphasize that research methodology is about the various ways of bringing meaning to our world so as to improve our understanding of it. This chapter covers the research methodology. It captures the research design, study location, the target population, sampling procedures, sampling techniques and sample size. Data collection instruments, data collection procedures, validity and reliability of the research instruments, data analysis procedures and ethical issues are also considered under this chapter.

2.2 Research Design

The research design refers to the overall strategy that one chooses to integrate the different components of the study in a coherent and logical way, thereby, ensuring how you would effectively address the research problem; it constitutes the blueprint for the collection, measurement, and analysis of data Creswell *et al.*, (2007). Following the same line of thought is

(Coll & Chapman, 2000), who refers to research design as a plan or strategy for conducting research; as such it includes various aspects ranging from the selection of participants to the analysis of the data obtained.

The study adopted descriptive survey research design. According to Nwagu, (2005) a descriptive survey research design is used to collect data from well-defined population or systematically selected segment of the population for the purpose of determining and identifying the attributes and characteristics of the population of the study. The design has been considered suitable because the study would determine the Technical Trainers' competence and skills acquisition among Technical Trainees in Bungoma County, Kenya. The researcher also used the design to determine the prevailing conditions or needs of the Technology Education program and provide insight on which the desired decisions were based, in aiming to help improve the training.

2.3 The Study area

This study was conducted in Technical Training Colleges in Bungoma County, Kenya. The study area comprises of nine (9) sub-counties. Findings from a study by county innovation challenge fund (G.O.K 2016) show that Bungoma County covers an area of 3,032.2 sq. km, it has a population of 1,847,063 people, Bungoma County is located in Western Kenya and runs along the Kenya –Uganda border. The county borders Busia, Kakamega and Trans Nzoia Counties. Agriculture is the main economic activity in the county with sugar cane and maize farming being major crops. According to the national geospatial-intelligence agency (2012), Bungoma has latitude in degrees, minutes, and seconds of $00^{\circ} 45' 00''$ N and longitude in degrees, minutes and seconds of $34^{\circ} 35' 00''$. According to department of youth training, Bungoma County has 79 Youth Polytechnics, 3 Technical Training colleges and 1 college of Science and Technology. Figure 3.1 shows the map of Bungoma County.

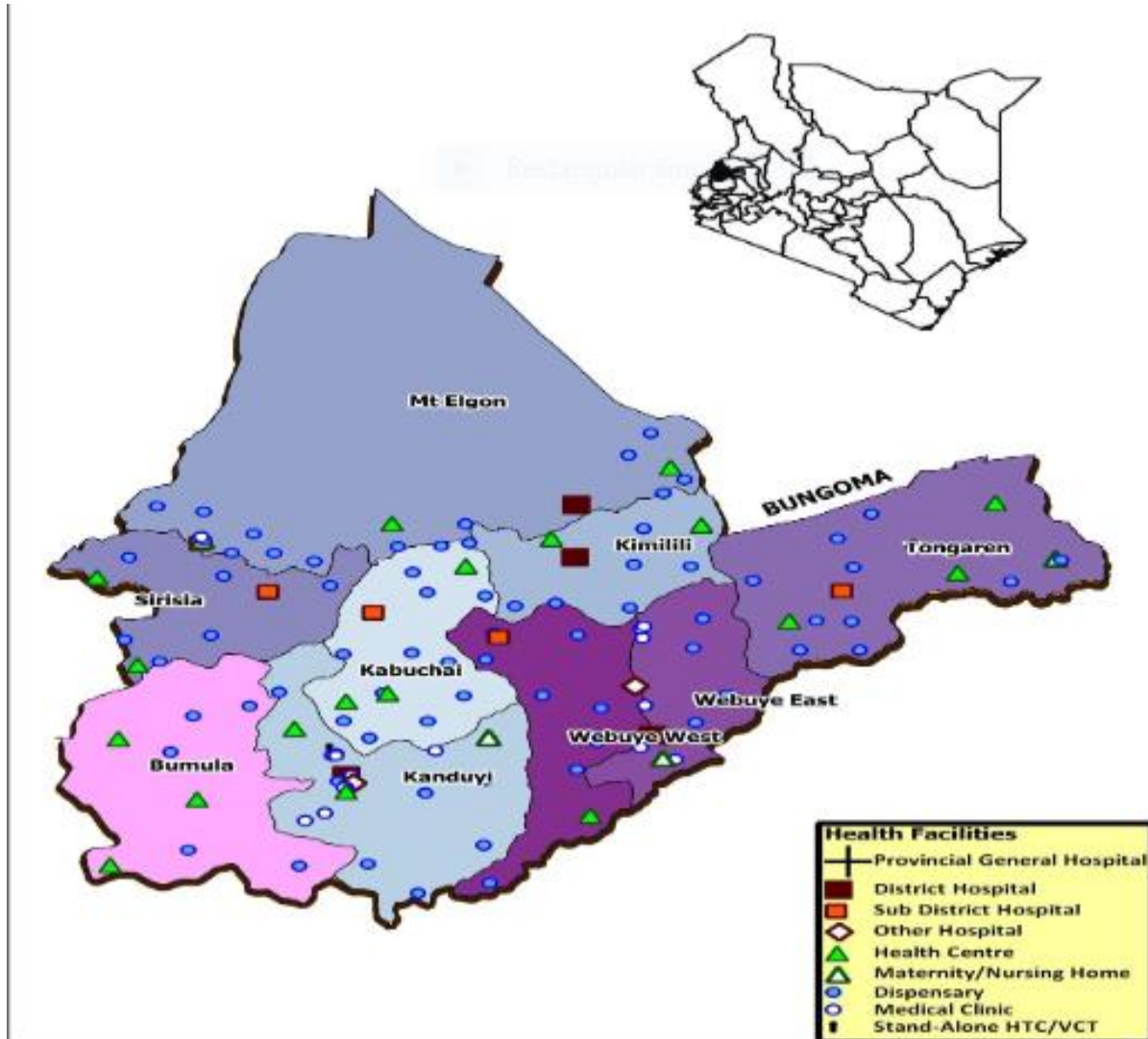


Figure 3.1 Map of Bungoma County.

2.4 Target Population

Target population is defined as all the members of a real or hypothetical set of people, events or objects to which a researcher wishes to generalize the results of the research study (Gall & Borg, 1989). Population is a group of individuals that display one or more characteristics in common and that are of interest to the researcher (Shahzadi et al., 2018). The target population in the current study comprised of 400 TVET Trainers and 800 Trainees.

This is shown in table 3.1 below.

Table 3.1: Target Population

S/no.	Strata	Target Population
1.	TVET Trainers	400
2.	TVET Trainees	800
4.	TVET college Principals	85
Total		1285

2.5 Sampling Techniques

According to Amin *et al.*, (2007), a Sampling Technique is a plan specifying how the sample was drawn from the target population. This study adopted stratified, simple random and purposive sampling techniques. Technical and Vocational Colleges were selected using stratified random sampling to ensure representation from each cadre of the strata. The strata were composed of Technical and Vocational Colleges, Institutes of Science and Technology, Vocational Training Centers (Former Youth Polytechnics). Principals, Heads of department and Trainees were selected using purposive sampling technique, so as to cater for the different categories of Institution as stated above. Purposive sampling requires access to key informants in the field who can help in identifying information rich cases (Suri, 2011). For Institutes of Science and Technology, Technical Training Institutes purposive sampling was done because Bungoma County had only one known Institute of Science and Technology and six Technical and Vocational Colleges (TVC) at the time of the study. One principal and one head of department were picked per Institute. The principal was picked because the Institute Principal is the central factor determining skills acquisition in the Institutions (Lydia & Nasongo, 2009), and the head of department was in charge of the practical sessions and the department in the colleges. The Trainers and the Trainees in Technical and Vocational Colleges were obtained using stratified Sampling Techniques to ensure equal representation of Males and Females.

2.6 Sample size

Sampling means selecting a given number of subjects from a defined population as representative of that population. According Mugenda & Mugenda, (2003), a sample size of 10%-30% of the target population is sufficient to form a study. Therefore, the sample in this study was made up of four hundred (400) Trainers and eight hundred (800) Trainees. Table 3.2 shows the summary of the participants who took part in the study.

Table 3.2: Sample size of Respondents

S/NO.	Respondents	Target Population	Sample size	%
1.	Trainers	400	80	20
2.	Trainees	800	200	25
Total		1200	280	

Source: Field Data (2024)

Information in Table 3.2 shows varied percentages in the sampling. This was according to Mugenda and Mugenda (2003), who discussed that a sample size of 10%- 30% of the target population is sufficient to form a study. Therefore, 25% of the total number of Trainees was 200, while 20% of Trainers were 80. This is within a sample size range of 10%-30%. (Ahmed et al., 2022), noted that the trainers to trainee's ratio is always low, as a result of the small nature of the population of the heads of department and principals, the entire population of 85(100%) was used respectively. The principals were picked because they are involved in the recruitment and management of Trainers. The head of department was picked because they are the central factor determining skills acquisition among Trainees' and the trainer is in charge of practical session's implementation. The Trainees were picked because they are literate and able to interrogate the items.

2.7 Data Collection Instruments

Research tool is a specific mechanism or strategy the researcher uses to collect, manipulate, or interpret data, Leedy & Ormrod (2015). They were constructed based on the nature of the data to be collected as well as the objectives of the study.

The study used questionnaires, Focused Group Discussions (FGDs) and Interview schedules to collect data. The instruments that were used to collect data are described in the sections that follow.

2.7.1 Questionnaire

The questionnaire is a carefully designed instrument for collecting data in accordance with the specifications of the research questions and hypothesis, Amin *et al.*, (2007). According to Ashbaugh *et al.*, (2004), questionnaire is used to collect basic descriptive information from a broad sample. Questionnaire method was preferred to other instruments because it deemed advantageous to both the researcher and the respondent.

Two sets of questionnaires were used for data collection. The questionnaires used were Trainee Skill Acquisition Questionnaire (TSAQ) and Trainers Competence Questionnaire (TCQ). The TSAQ was used to collect data from Trainees. The questionnaire was divided into four sections. Section A asked the respondents to provide their demographic information such as gender and age. Section B asked the respondent to give their opinion on the trainer's pedagogical competence.

Twenty (20) items were used to measure the trainer's pedagogical competence. Each item was scored on a five-point Likert scale where;

1= very little extent,

2= Little extent,

3= Somewhat extent,

4 = Large extent

5= Very large extent.

Section C of the trainee's questionnaire requested the respondent to rate the trainer's competence in subject knowledge competence. This section contained eleven items each scored on a five-point Likert scale where;

1= very little extent,

2= Little extent,

3= Somewhat extent,

4 = Large extent

5= Very large extent.

Section D of the trainee's questionnaire sought to gain information of the trainee's skills acquisition. The section contained five items that were used to measure the extent to which Trainees have gained specific skills. Each of the five items were also scored on a five-point Likert scale where; **1= very little extent, 2= Little extent, 3= Somewhat extent, 4 = Large extent and 5= Very large extent.**

The TCQ had four sections. Section A was used to collect demographic information of the trainer. Section B asked the trainer to give own assessment of pedagogical competence. Twenty (20) items were used to measure the trainer's pedagogical competence. Each item was scored on a five-point Likert scale where; **1= very little extent, 2= Little extent, 3= Somewhat extent, 4 = Large extent and 5= Very large extent.**

Section C of the TCAQ requested the respondent to rate her or his own competence in subject knowledge competence. The section contained eleven items each scored on a five-point Likert scale where; **1= very little extent, 2= Little extent, 3= Somewhat extent, 4 = Large extent and 5= Very large extent.** Section D of the trainee's questionnaire sought to gain information of the trainee's skills acquisition. The section contained five items that were used to measure the extent to which Trainees have gained specific skills. Each of the five items were also scored on a five point Likert scale where; **1= very little extent, 2= Little extent, 3= Somewhat extent, 4 = Large extent and 5= Very large extent**

2.7.2 Focused Group Discussion Form

Focused group discussion (FGD) was used to collect qualitative data from both the Trainees and the Trainers. The membership of the FGD consisted of participants representing gender. In addition, the FGD allowed the study to gather information on a wide range of issues and concerns

facing the Trainees and Trainers in Technical and Vocational Education and Training in Bungoma County.

2.8 Pilot Study

According to Chatzitheochari *et al.*, (2018), the most common error in doing research is not to conduct a pilot study. In reality, a pilot study can be regarded as a small-scale trial run of all the aspects planned for use in the main enquiry. According to UNESCO, (2005), the purpose of piloting is to assess whether a questionnaire has been designed and in a manner that would elicit the required information from targeted respondents, enabling weakness in the questionnaire such as ambiguities in the phrasing of questions, excessive complexity in the language used, inappropriate responses on categories for some questions and redundant questions are discarded. It also involves assessing whether items can be understood by the respondents, that the items are pitched at the appropriate level of complexity and provide a stable measure of respondents' ability.

To check for the validity and reliability of the study instruments, a pilot study was conducted out involving Principals', Trainers and Trainees' drawn from Technical Training Institutions outside the study area. Pre-testing the measurement instrument is a critical component of minimizing measurement errors in a survey research, Boateng *et al.*, (2018). This process helps to determine internal consistency as well as to get feedback on issues such as language clarity in the interview schedules and questionnaires, the time it would take to fill the questionnaires and adequacy of the provided space.

2.9 Validity of the Research Instruments

In order to reduce the risk of obtaining incorrect answers to research questions, emphasis on two particular research aspects was considered namely, validity and reliability, Saunders *et al.*, (2009).

Validity is the ability of a chosen instrument to measure what it is supposed to measure. (Mugenda & Mugenda, 2003) explain validity as the degree to which results obtained from analysis of data, represent the phenomenon under the study. For content and concurrent variables validity the researcher involved the supervisors' and experienced researchers in the department of educational planning and management to ensure the instruments bring out valid data.

For construct validity, the Validators thus the experts and colleagues, were requested to check the items for clarity and to ensure that each item of the instrument elicited the right responses from the respondents which are based on the study objective. The inputs of the experts and colleagues was used to adjust and update the instruments before they are administered to the respondents.

2.10 Reliability of the Instruments

Reliability of an instrument can be thought of as consistency. It shows whether the instrument consistently measures what it is intended to measure. It is recommended that before an instrument is used in the actual study, one has to determine its reliability. The study used test-retest method to ascertain the reliability of certain sections of the Trainers' questionnaire and trainee's questionnaires.

Section B of the trainee's questionnaire had twenty (20) items which were used to measure trainer's pedagogical competence. On a scale of 1-5, where 1; = very little extent, 2= little extent, 3= somewhat extent, 4= large extent and 5 = very large extent, respondents were asked to give their opinion on trainer's pedagogical competence. The Cronbach Reliability Coefficient for this section of the Trainee's Questionnaire was 0.678. This was considered good enough.

Section C of the trainee's questionnaire had eleven items that were used to measure trainer's competence in subject content. On a scale of 1-5, where 1; = very little extent, 2= little extent, 3= somewhat extent, 4= large extent and 5 = very large extent, respondents were asked to give their opinion on trainer's competence in subject content. The reliability of this section of the Trainee's Questionnaire yielded a Cronbach Reliability Coefficient of 0.816. This was considered quite good.

Section D of the trainee's questionnaire yielded a reliability coefficient of 0.766. This section sought to determine the trainee's skills acquisition. The reliability of the items in section D of the Trainee's Questionnaire yielded a Cronbach Reliability Coefficient of 0.767. Apparently, this section reflected the highest reliability of all.

The overall reliability of the trainee's questionnaire was then computed by getting the mean of the coefficients obtained under each section. This yielded an overall reliability coefficient of 0.783. With this result, the study considered the instrument appropriate for use in the actual study.

Sections B, C and D of the trainer's questionnaire was also subjected to test re-test to ascertain its reliability. The three sections had similar questions items as those asked under the Trainee's Questionnaire. Section B, C and D yielded reliability coefficients of 0.693, 0.773 and 0.815 respectively. The overall reliability coefficient for the Trainer's Questionnaire was 0.760. With these results, the study considered the instrument good enough to use in the actual study.

2.11 Ethical Consideration

(Swazey et al., 1993) refers to several crucial issues pertaining to ethical standards that a researcher should consider. Some of these issues essential in this study included informed consent, honesty, voluntary participation, confidentiality, right to privacy, and respecting the participant's time. This study put into consideration at each stage of its implementation ethical issues involved in research as follows:

First, the study obtained an approval letter from the school of Graduate Studies of Kibabii University. The letter was used to seek for a research permit from National Commission for Science, Technology and Innovation (NACOSTI) to conduct the research. The research permit from NACOSTI was then used to get authorization from Bungoma County Commissioner, Bungoma County Director of Technical and Vocational Education (TVET) and Ministry of Education.

Secondly, the study ensured that there was informed consent during data collection. The study ensured that the involvement of participants was voluntary. Prior to their involvement, the potential participants were informed about the purpose of the study, potential risks and benefits. Further to

this, all participants were asked to sign an Informed Consent Form. Informed Consent Forms were available both in English and in the relevant local language as appropriate.

Thirdly, the study guaranteed the privacy and confidentiality of the participants' information. The participants were assured that the information provided for the study would be confidential. Thus, anonymity would be carefully observed in reporting the research findings by not disclosing the participants' names and/or identities.

Fourthly, the study ensured that other people's/researcher's ideas such as theories, models and any other information in this study was acknowledged through citations/references. The study also ensured that there was no fabrication and falsification of the information when reporting the study findings.

Lastly, the study ensured that the data collected was precisely recorded through voice recorders and notebooks, after obtaining the consent of the participants. The recorded information was safely kept and processed until the production of the generation of the final study report, and later archived.

2.12 Data Analysis procedure

Quantitative data that was collected for the purpose of the study was first coded, sorted and cleaned for completeness and accuracy of information. After coding the data was then transferred into an excel work sheet for preliminary analysis. Thereafter, the data was exported into SPSS version 25 for further analysis. Using SPSS version 25 software, the data was analyzed in two stages. The first stage involved descriptive analysis which included; frequencies and percentages, mean, standard deviations and standard error of the mean. The purpose of the descriptive analysis was to assist the study to gain the general trends of the data sets and prepare the data for advanced analysis. The second stage of analysis was carried out using inferential statistics. The purpose of the inferential analysis was to assist the study to address the objectives of the study and to test the hypothesis. At this stage, the study used various inferential techniques for analysis. The analysis involved the use of independent sample t-test, Pearson correlation coefficient, ANOVA and Chi-Square tests.

III: DATA PRESENTATION, INTERPRETATION AND DISCUSSION OF FINDINGS

3.1 Extent of TVET Trainers' Pedagogical Competence.

The study sought to establish the extent of the Trainers' pedagogical competence. The Trainees were asked to rate the extent to which Trainers were competent in twenty aspects. These aspects were; Trainers could communicate effectively (varb1), Trainers utilize assessment for the benefit of learners (varb2), Trainers provide a wide range of learning activities (varb3), Trainers use variety of teaching styles to enhance learning (varb4), Trainers make learning more inclusive (varb5), Trainers allow Trainees to design learning activities (varb6), Trainers vary teaching strategies to match Trainees needs (varb7), Trainers can develop Trainees critical thinking skills (varb8), Trainers can easily integrate Information Communication Technology (ICT) into teaching and learning processes (varb9) and Trainers can guide learners to understand technical concepts (varb10).

The other variables were; Trainers enhance collaboration among learners (varb11), Trainers use practical examples to explain technical concepts (varb12), Trainers often use varied teaching approaches (varb13), Trainers inform Trainees of the competences required in the job markets (varb14), Trainers provide adequate information that allow Trainees to gain better understanding of content (varb15), Trainers often motivate Trainees (varb16), Trainers are readily accessible to Trainees outside class (varb17), Trainers are aware of Trainees level of understanding (varb18), Trainers allow Trainees to ask questions (varb19) and Trainers use relevant examples during teaching (varb20).

The responses of the Trainees were collected and analyzed in form of percentages and frequencies. The findings are portrayed in Figure 4.4 and 4.5.

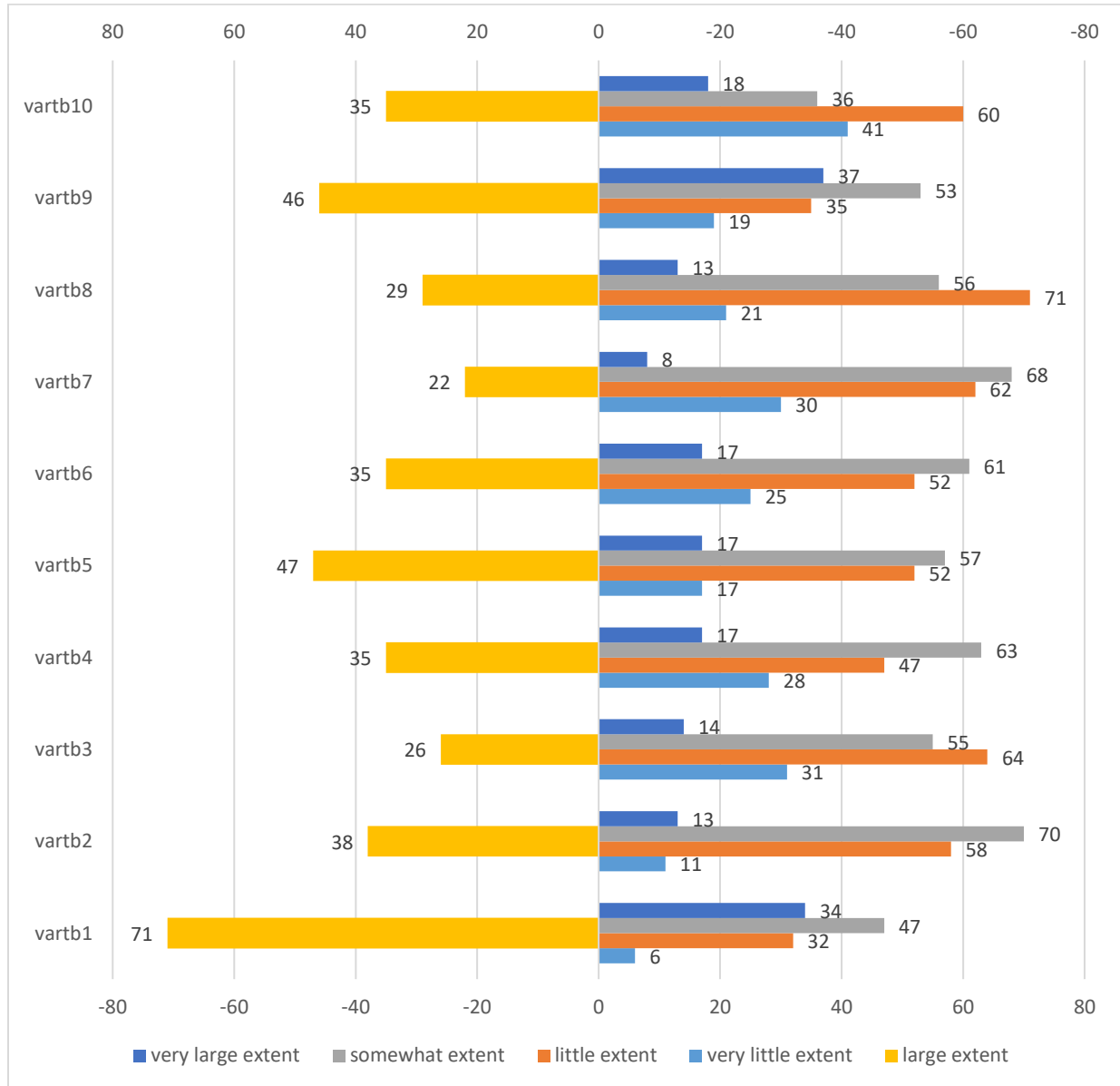


Figure 3.1 Trainees responses on extent of TVET Trainers’ Pedagogical Competence

The findings presented in Figure 4.4 show that 71 (37.4%) of the Trainees reported that to a large extent, TVET Trainers could effectively communicate with Trainees (vartb1). Another 70 (36.8%) Trainees said that somewhat extent, Trainers utilized assessment for the benefit of the Trainees (vartb2). 71(37.4%) of the Trainees were of the opinion that Trainers could to a little extent develop Trainees critical thinking skills (vartb8).

In addition, the findings presented in Figure 4.4 reveal that 41(21.6%) of the Trainees reported that TVET Trainers were capable of guiding Trainees to understand technical concepts (vartb10) to a very large extent. Otherwise, Trainers could vary teaching strategies to match Trainees needs (vartb7) somewhat extent as supported by 68 (35.8%) of the Trainees.

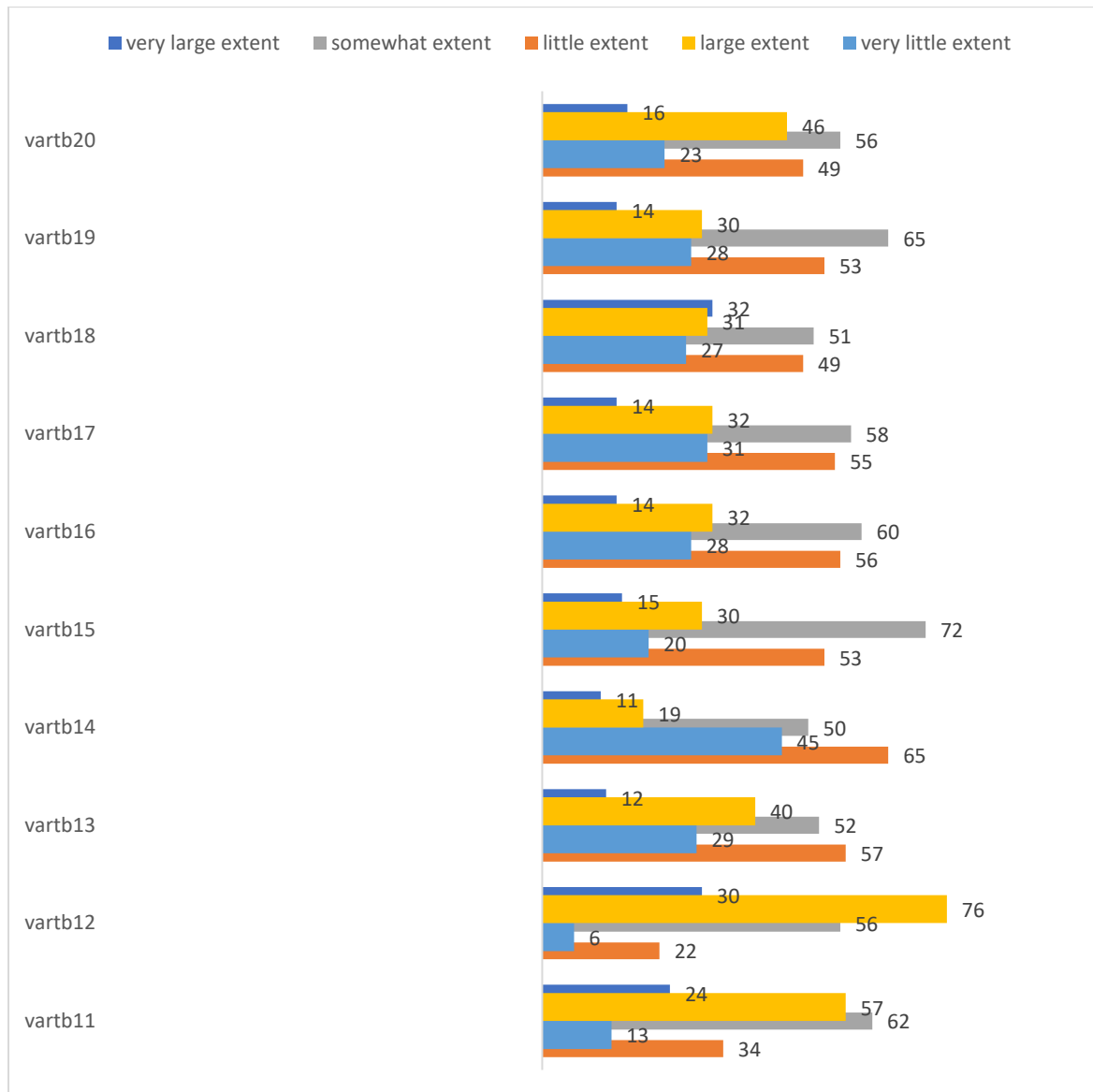


Figure 3.2 Trainees responses on extent of TVET Trainers' Pedagogical Competence (cont.)

The findings shown in Figure 4.5 indicate that 76 (40%) of the Trainees felt that Trainers could to a large extent use practical examples to explain technical concepts (vartb12). 72(37.9%) of the Trainees reported that TVET Trainers somewhat extent provided adequate information to allow Trainees gain better understanding of concepts (vartb15). As to whether Trainers encouraged collaboration among Trainees (vartb11), 57 (30%) and 62 (32.6% reported large extent and somewhat extent respectively.

3.2 Relationship between TVET Trainers' Pedagogical Competence and acquisition of skills.

The third objective of the study sought to establish the relationship between the Trainers' pedagogical competence and acquisition of skills among Trainees. To address this objective, two phase analysis strategy was adopted. The first phase involved assessing if there was a possible linear association between the independent and dependent variables. The second phase involved a regression analysis to establish the effect of the independent variable.

Table 4.5 presents the results for the correlations between Trainers' pedagogical competence and acquisition of skills among TVET Trainees. The Pearson Product moment coefficient was used to determine the strength of the correlation at $\alpha = 0.05$. Table 4.5 presents the correlation matrix for the relationship between TVET Trainers' pedagogical competence and acquisition of skills among trainees.

3.3 Correlations matrix between Trainers pedagogical competence and acquisition of skills among Trainees

The findings displayed in Table 4.5 indicate that out of the twenty independent variables, only eleven of them were statistically significant at $\alpha=0.05$. The findings show that the strongest positive correlation existed between Trainers use of practical examples to explain concepts (var**t**12) and acquisition of skills among Trainees (Var**D**) [$r= 0.788, p<0.05$]. Other variables that were positively correlated with the outcome variable were; Trainers motivated learners (var**t**16) [$r=0.758, p<0.05$], Trainers used variety of teaching approaches (var**t**13) [$r=0.783, p<0.05$], Trainers used relevant examples (var**t**20) [$r=0.748, p<0.05$] and Trainers allowed Trainees to design teaching and learning activities (var**t**6) [$r=0.755, p<0.05$].

In addition, the findings shown in Table 4.5 reveal that there was a statistically significant relationship between the ability of TVET Trainers to develop Trainees critical thinking skills (var**t**8) [$r=0.742, p<0.05$], Trainers encourage collaboration among Trainees (var**t**11) [$r=0.658, p<0.05$].

3.4 Multiple regression analysis on the relationship between TVET Trainers' pedagogical competences and acquisition of skills.

After conducting a correlation between the twenty variables that were used to measure TVET Trainers' pedagogical competences and acquisition of skills among Trainees, study carried out multiple regression analysis between the variables that were statistically significant at $\alpha= 0.05$. These variables were therefore used to build the regression model. The hypothesis being tested was;

H01: There is no statistically significant relationship between TVET Trainers' pedagogical competences and acquisition of skills among Trainees in Bungoma County.

The results for the multiple linear regression models for the relationship between Trainers' pedagogical competences and Trainees acquisition of skills are shown in Tables 4.6, 4.7 and 4.8.

4.6 Model Summary for relationship between TVET Trainers pedagogical competence and skill acquisition among Trainees

Model	R	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics		Sig. F Change
					F Change	df2	
1	.322 ^a	.504	.694	.104	1.862	11	.047

a. Predictors: (Constant), vartb1, vartb3, vartb6, vartb8, vartb9, vartb11, vartb12, vartb13, vartb14, vartb16, vartb20

b. Dependent Variable: VarD.

The results presented in Table 4.6 and 4.7 suggest that the multiple regression model with all the eleven Trainers pedagogical competence variables that were statistical correlated with the outcome variable produced an adjusted R-Square of 0.481, $F(11,177) = 1.862, p < 0.05$

Table 3.1 ANOVA for relationship between Trainers pedagogical competence and Trainees skill acquisition

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	9.855	11	.896	1.862	.047 ^b
	Residual	85.171	177	.481		
Total		95.026	188			

a. Dependent Variable: varD.

b. Predictors: (Constant), vartb1, vartb3, vartb6, vartb8, vartb9, vartb11, vartb12, vartb13, vartb14, vartb16, vartb20

Table 4.8 presents the multiple regression coefficients for the relationship between the Trainers’ pedagogical competences and acquisition of skills among Trainees. This implies that the seven trainer pedagogical competences explain the variation in level of acquisition of skills among Trainees.

The coefficient results presented in Table 4.8 suggest that seven variables namely; vartb6 (Trainers allow Trainees to design learning activities), vartb8 (Trainers can develop Trainees critical thinking skills), vartb9 (Trainers can integrate Information Communication Technology into their teaching), vartb12 (Trainers use practical examples to explain technical concepts), vartb13 (Trainers use varied teaching strategies), vartb14 (Trainers inform Trainees of the competences required in the job market) and vartb20 (Trainers use relevant examples when teaching) were statistically significant at $\alpha = 0.05$. The other four variables were no more useful when fitted into the model hence had no contribution towards acquisition of skills among Trainees.



Table 3.2 Coefficients relationship between Trainers pedagogical competence and trainee skill acquisition ns.com

Model		Unstandardized Coefficients		Standardized Coefficients		Collinearity Statistics		
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	2.921	.397		7.362	.000		
	Vartb1	.024	.050	.036	.478	.633	.900	1.111
	Vartb3	.007	.047	.012	.159	.874	.905	1.105
	Vartb6	.103	.046	.167	2.226	.027	.904	1.106
	Vartb8	.089	.050	.135	1.796	.054	.896	1.116
	Vartb9	.057	.047	.100	1.216	.026	.744	1.343
	Vartb11	.087	.048	.134	1.800	.074	.908	1.101
	Vartb12	.014	.062	.020	.227	.021	.667	1.498
	Vartb13	.117	.049	.189	2.406	.017	.823	1.215
	Vartb14	.014	.048	.022	.293	.040	.883	1.133
	Vartb16	.003	.047	.006	.073	.942	.887	1.128
	Vartb20	.011	.052	.018	.211	.033	.719	1.391

a. Dependent Variable: Trainee Acquisition of Skills

The general model to predict acquisition of skills among Trainees and trainer’s competence in knowledge of subject content can therefore be represented as;

$$\text{Predicted acquisition of skills among Trainees (VarD)} = 2.921 + 0.103(\text{vartb6}) + 0.089(\text{vartb8}) + 0.057(\text{vartb9}) + 0.014(\text{vartb12}) + 0.117(\text{vartb13}) + 0.014(\text{vartb14}) + 0.011(\text{vartb20})$$

The constant of 2.921 is the predicted acquisition of skills among TVET Trainees if all independent variables; vartb6, vartb8, vartb9, vartb12, vartb13, vartb14 and vartb20 are set at Zero (0). That means that we would expect Trainees to acquire skills at somewhat extent if all trainer competences in knowledge of subject content are Zero.

IV: SUMMARY

The study sought to establish the relationship between Trainers' pedagogical competence and skills acquisition among Trainees in TVET in Bungoma County, Kenya. The Pearson Product moment coefficient was used to determine the strength of the correlation at $\alpha = 0.05$. The study found that out of the twenty independent variables, only eleven of them were statistically significant at $\alpha=0.05$. The study found that the strongest positive correlation existed between Trainers use of practical examples to explain concepts (vartb12) and acquisition of skills among Trainees (VarD) [$r= 0.788$, $p<0.05$]. Other variables that were positively correlated with the outcome variable were; Trainers motivated learners (vartb16) [$r=0.758$, $p<0.05$], Trainers used variety of teaching approaches (vartb13) [$r=0.783$, $p<0.05$], Trainers used relevant examples (vartb20) [$r=0.748$, $p<0.05$] and Trainers allowed Trainees to design teaching and learning activities (vartb6) [$r=0.755$, $p<0.05$].

In addition, there was a statistically significant relationship between the ability of TVET Trainers to develop Trainees critical thinking skills (vartb8) [$r=0.742$ $p<0.05$], Trainers encourage collaboration among Trainees (vartb11) [$r=0.658$, $p<0.05$]. After conducting a correlation between the twenty variables that were used to measure TVET Trainers' pedagogical competences and acquisition of skills among Trainees, study carried out multiple regression analysis between the variables that were statistically significant at $\alpha= 0.05$. The study found that only eleven pedagogical competence variables were statistically significant. These variables were therefore used to build the regression model. The hypothesis being tested was;

H01: There is no statistically significant relationship between TVET Trainers' pedagogical competences and acquisition of skills among Technical Trainees in Bungoma County.

The results for the multiple linear regression model with all the eleven Trainers' pedagogical competence variables that were statistical correlated with the outcome variable produced an adjusted R-Square of 0.481, $F(11,177) = 1.862$, $p<0.05$. The coefficient results revealed that vartb6 (Trainers allow Trainees to design learning activities), vartb8 (Trainees can develop Trainees critical thinking skills), vartb9 (Trainees can integrate Information Communication Technology into their teaching), vartb12 (Trainers use practical examples to explain technical concepts), vartb13 (Trainers use varied teaching strategies), vartb14 (Trainers inform Trainees of the competences required in the job market) and vartb20 (Trainers use relevant examples when teaching) were statistically significant at $\alpha= 0.05$.The general model to predict acquisition of skills among Trainees and trainer's competence in knowledge of subject content can therefore be represented as;

$$\text{Predicted acquisition of skills among Trainees (VarD)} = 2.921 + 0.103(\text{vartb6}) + 0.089(\text{vartb8}) + 0.057(\text{vartb9}) + 0.014(\text{vartb12}) + 0.117(\text{vartb13}) + 0.014(\text{vartb14}) + 0.011(\text{vartb20})$$

The constant of 2.921 is the predicted acquisition of skills among TVET Trainees if all independent variables; vartb6, vartb8, vartb9, vartb12, vartb13, vartb14 and vartb20 are set at Zero (0). That means that we would expect Trainees to acquire skills at somewhat extent if all trainer competences in knowledge of subject content are Zero.

4.1 Conclusion

There is a statistically significant relationship between Trainers' pedagogical competence and acquisition of skills among Trainees

4.2 Recommendation

Training of TVET Trainers should have more focus on pedagogical competences. Otherwise, the government may retrain in post Trainers with a view to enhancing their pedagogical competences.

REFERENCES

- Ryan, Y., & Stedman, L. (2018). *The business of borderless education: 2001 update*. Evaluations and Investigations Programme, Higher Education Division
- Ryegård, Å., Apelgren, K., & Olsson, T. (2020). *A Swedish perspective on pedagogical competence*. Division for development of teaching and learning.
- Sang, A. K., Muthaa, G. M., & Mbugua, Z. K. (2023). *Challenges facing technical training in Kenya*.
- Saunders, M., L. P., & Thornhill, A. (2024). *Research Methods for Business Students*. www.pearsoned.co.uk/saunders
- Shahzadi, S., Khan, R., Toor, M., & Haq, A. ul. (2024). Impact of external and internal factors on management accounting practices: a study of Pakistan. *Asian Journal of Accounting Research*, 3(2), 211–223. <https://doi.org/10.1108/AJAR-08-2018-0023>
- Simuyaba, E. (2023). *The role of school governing bodies in the democratization of secondary school education in Zambia: a case study*.
- Song, K.-O., & Choi, J. (2023). Structural analysis of factors that influence professional learning communities in Korean elementary schools. *International Electronic Journal of Elementary Education*, 10(1), 1–9.
- Steigenberger, N., & Wilhelm, H. (2023). Extending signaling theory to rhetorical signals: Evidence from crowdfunding. *Organization Science*, 29(3), 529–546.
- Suri, H. (2019). Purposeful sampling in qualitative research synthesis. *Qualitative Research Journal*, 11(2), 63–75.
- Swazey, J. P., Anderson, M. S., Lewis, K. S., & Louis, K. S. (2018). Ethical problems in academic research. *American Scientist*, 81(6), 542–553.
- Thelen, K., & Busemeyer, M. R. (2023). Institutional change in German vocational training: from collectivism toward segmentalism. *The Political Economy of Collective Skill Formation*, 68–100.

- Tomlinson, P. (2019). Conscious reflection and implicit learning in teacher preparation. Part II: Implications for a balanced approach. *Oxford Review of Education*, 25(4), 533–544.
- Tshering, K., & Sawangmek, T. (2016). The relationship between principal's instructional leadership and school effectiveness in the urban schools of Bhutan. *Journal of Education Naresuan University*, 18(3), 226–236.
- Udofia, A. E., Ekpo, A. B., Nsa, S. O., & Akpan, E. O. (2019). Instructional variables and students' acquisition of employable skills in vocational education in Nigerian technical colleges. *Mediterranean Journal of Social Sciences*, 3(14), 118–127.
- Ukoh, E. E. (2024). determining the effect of problem-based learning instructional strategy on nce pre-service teachers' achievement in physics and acquisition of science process skills. *European Scientific Journal*, 8(17).
- Umar, I. Y., & Ma'aji, A. S. (2024). Repositioning the facilities in technical college workshops for efficiency: a case study of North Central Nigeria. *Journal of Stem Teacher Education*, 47(3), 6.