Original Research Article

Effect of Trainer Pedagogical Competenceson Students' Academic Performance in Diploma SET Courses: A case ofNational Polytechnicsin Western Kenya

Abstract.

Trainers are most importantin National Polytechnics, in thetechnical vocational education and training (TVET)systemas they arefulcrumsuponwhich wheels of theeducationrotate indelivering competence needed to convert global labour-oriented economy to a knowledge and innovation-based economy.This paper was guided by four trainer pedagogical competence objectives, which included assessing training techniques, training tools, instructional media, and communication skills as they affected the diploma courses of the Science, engineering and technological (SET) courses of students' academic performance in the National Polytechnics in western Kenya.Adescriptivesurvey designwas used tocollectbothquantitativeand qualitative data from the three national polytechnics in western Kenya.A finite sample of 112 trainers' fraternity respondents were chosen using stratified selection and simple random sampling methods from a population of 650 trainers. Utilizing questionnaires and interview schedules, data was gathered. Data collecting tools were tested for reliability and were subjected to test-retestprocedures, which gave 0.782, and was within the acceptable range as suggested by Mugenda&Mugenda (1999). The primary questionnaire's items were arranged in accordance with the specific goals of the study. Descriptive statistics and Pearson correlations were used to analyse the data.The study found that the trainer's pedagogical competencies of instructional media had the strongest statistically significant relationship with students' academic performance in national Polytechnics (r=.780, p.05), followed by communication skills (r=.618, p.05), and training methods and use of training tools (r=.599, p.05) respectively.

Keywords: Key points: *Trainer, Pedagogy, Competences,Academic Performance,*

Background

Workforce in the 21st century has been marked by the acceleration of jobs that require human resources with new competencies different from the tradition ones. As a result, the globe requires vocational education to help future human resources develop the skills they'll need to adapt to changing markets (Satria, Muhammad Rizal, 2017). According to Shippmann& Mulder (2000), competence measures whether an employee's work performance in an organization is outstanding or meets performance standards for the growth of professionalism. A competent employee is one who exhibits great work performance and has the specialized knowledge and skills needed to carry out the duties allocated to them successfully and efficiently (Schultheiss, 2005).

Trainers are now under pressure to develop new skills that can be applied to academic approaches and improve the development of human capital, especially in the area of technical and vocational education, which is essential for creating and sustaining economic growth, particularly in the production of skilled workers (Paryono, 2015). A current emphasis is the development of human capital that is aware, talented, and has a positive outlook in order to advance the global economy and support the transformation of the labor-oriented economy (Paivi&Hakkinen, 2017). One of the questions posed about training employees for the 21st century is whether instructors in various educational settings have the abilities required to assure instillation of the competencies required to encourage national progress.

A successful worker possesses a variety of abilities, including psychomotor intelligence, cognitive intelligence, behavior, personality, and social skills, according to a research by Ellström (1997). Competence thus serves as a measure of one's ability to do the task at hand (Mulcahy, 2000). On the other hand, competences were described by Sultan &Shafi (2014) as specific, obvious traits that trainers ought to have. The significance of education in all human cultures has been underlined by academics. Idowu (2011), for instance, describes education as the process through which kids or young people acquire the skills, perspectives, and other facets of behavior that are beneficial to the society in which they live.Education is viewed as a tool for social mobility, a powerful contributor to national development, and in social engineering, as a key that unleashes a people's potential. It also empowers and equips people to be active members of and beneficiaries of society, acting as both a mechanism for development and a foundation for societal transformation (Isiyaku, 2011). Education should result in people who are not just informed but also capable of putting that knowledge to use for both their personal benefit and the benefit of society as a whole. So, a person with education needs to have learned self-assurance, wealth creation, employment generating, social mobility, and value re-educational skills.
A skilled researcher conducts research for self-development, plans and conducts lessons well with adequate knowledge of the curriculum and proficiency in the training and learning process, including the subject content. A competent trainer also applies knowledge to provide hands-on guidance (Fjellström, 2014). The range of pedagogical skills that trainers possess includes, among other things, the use of instructional media, the preparation and usage of various training materials. The abilities of professional training must thus be relevant to a trainer who is pedagogically competent. Trainers for technical vocational education and training are required to be proficient in their primary technological fields of expertise.

According to the statistics available from the research region, the performance of SET courses in the Kenya National Examinations of the Polytechnics between 2016 and 2020 had been appalling, with 74.3% of students graduating with a pass or below. Only 25.7% of students received credit-worthy marks. The purpose of the current study was to determine the extent to which the trainers' pedagogical skills had an impact on the students' academic performance in the diploma-level Science, Engineering, and Technology courses at the three national polytechnics in Western Kenya.

In order to accomplish Vision 2030, the Kenyan government has placed a strong focus on TVET as one of the primary engines for socioeconomic and technical advancement (Kerre, 2010). However, there is a troubling skills gap trend in student performance that is raising public concern. As a result, the public has doubts about the student grandaunts from National Polytechnics, who are expected to perform well in positions of the working world or pursue further education. The National Polytechnics' students have consistently performed poorly academically in the Science, Engineering, and Technology courses for the diploma in KNEC examinations over the past five years, despite the fact that the Polytechnics are adequately staffed with highly qualified instructors who demonstrate all the various training pedagogical competencies. The extent to which trainer instructional abilities affect institutional characteristics that most affect students' academic success is not well supported by empirical research. The study had to evaluate and compare the amount of influence of trainer pedagogical competences that affected the acquisition of such academic performance at the National Polytechnics in Western Kenya in order to close this gap.

Literature Review

The Capital Theory of School Effectiveness and Improvement served as the foundation for this study. David (2001) developed the theory, which was based on four key ideas: intellectual capital (human capital), social capital, leverage, and results. In order for young people to make wise intellectual and moral judgements and choices, Hargreaves contends that education should result in intellectual and moral consequences in them. According to the idea, intellectual capital increases as a result of two crucial processes: the production of new information and the ability to apply knowledge to various contexts and individuals. In addition, the idea contends that institutions with high levels of social capital would show robust networks, cooperative relationships among its constituents, and a reinforced intellectual capital. According to Hargreaves, high leverage could only be attained by combining trainer classroom methods in effective ways and increasing the trainers' involvement in professional development groups held at the schools. He argues that school-based professional development calls for the mentorship of trainers and gives them the chance to create and experiment with new training methods.

He promotes the idea that successful teaching leads to knowledge development, creativity, and transfer, resulting in excellent cognitive outcomes. According to studies, social capital affects students' performance as well as the professionalism, efficacy, and continual professional growth of trainers. Leverage, intellectual capital, and social capital were combined to form the independent variables in this study.

Professional abilities include pedagogical and intellectual components. Teaching from the known to the unknown, concrete to abstract, and from simple to complex by earlier planning and preparing teaching tools, student motivation, teaching methodologies, communication skills, and finally assessing the learners are all parts of pedagogical competence (Akpan, 2002). According to Klieme&Hartig (2014), Seweje&Jegede (2005), a teacher's capacity to instruct students is dependent on their exceptional pedagogical talent rather than only their academic background. The quality of TVET instructors' professional qualifications, which continue to be its most important component, is a factor that influences the quality of TVET education, notably in producing employees with qualified knowledge and skills. Their professional abilities affect the calibre of TVET instructors (Grollmann, 2008).

According to Goldhaber and Brewer's (1999) study on teacher pedagogy conducted in Florida, instructors who possessed a standard pedagogical certification in the topic they taught significantly improved their students' test results compared to uncertified teachers. Husen, Saha, & Noonan (1978) added that skilled instructors make a significant impact and that, in particular, a teacher's pedagogical background and the breadth of their education and expertise directly affect students' academic achievement. According to Comber and Keeves (1973), student test results have an impact on how well students do, as Abe (2014) has ascertained.

The quality of any educational system in Nigeria depends on the pedagogical abilities of the teachers, according to research on teacher pedagogy by Adeogun (2001). Additionally, a research conducted in Nigeria by Adaramola&Obomanu (2011) revealed that students continuously performed poorly in technical topics under the instruction of professors who lacked any degree of pedagogy. Ong'uti (1987) came to the conclusion that throughout teacher education, instructors learn pedagogical methods for addressing the disparities between individual pupils in the classroom. As the demand, expectations, and needs of teacher education come under closer inspection, there is increased interest in the creation of pedagogy for teachers (Louhran, 2014).

Bukit (2012) said that in order to give students the most recent skills necessary to compete in the job market, TVET teacher pedagogical improvement must be a continuous process. Additionally, TVET instructors have

been recognized by academics as successful change agents for TVET instruction (Christensen 2002). Maguswi (2012) asserts that a teacher shortage is a major factor in the subpar academic achievement of students. According to Gilbert (2013), teaching and learning is a difficult process that requires planning lessons, organizing teaching and learning activities, evaluating students' progress, and providing feedback. For kids to succeed in the classroom, effective classroom instruction and good teacher training are essential. Planning should be the first thing a teacher does before beginning to teach and meeting a group to teach for the first time, according to Rosenshine et al. (1995), which is also a sign that educational goals are being met. To create and use instructional materials in instruction, teachers need certain materials (Klieme&Hartig, 2014). These materials are required by the teacher. Gilbert (2013) states that it's the syllabus book that shows what a teacher should plan for effective classroom instruction. It is one of the necessary documents to accomplish this. A teacher should use it to identify the objectives, write the scheme of work, lesson plans, and lesson notes, and be prepared to assess the students. Suleman, Aslam&Hussain (2014) mandated that all teachers read the official syllabus description of the subject, choose the major content areas they will cover that are planned to fit the subject's content description, and determine whether they can cover the required amount of material in the time allotted.According to Kimani, Kara, &Njagi (2013), both students and teachers should be aware of the material they are expected to acquire under the direction of the available syllabus book. For usage during the stages of instructional development, planning for teaching necessitates accompanying papers and records.

According to Khatete's (2010) research in Kenya, teachers' qualities may be improved after pre-service training through in-service programs whose goal is to help working teachers advance their knowledge, interests, and abilities in teaching and pedagogy.Since teachers are at the centre of the teaching and learning process, he believes that improving teacher competency through pedagogy will improve the quality of learning. In addition, he believes that the quality of Technical Vocational Education and Training greatly depends on the trainer's pedagogical competence. Raju (1973) observed that because of mastered pedagogy, student performance improved with more professional training in the relevant field. He also noted that teacher preparation programs clearly affected how well pupils performed academically in assessments.Raju (1973) remarked that because most Kenyan schools lacked adequately educated instructors, they were forced to hire unqualified individuals who were unaware of current teaching techniques and curriculum interpretation. Teachers who have received training are better equipped to communicate knowledge to pupils in an efficient manner.

In the Kenyan context, a research study found that the majority of TVET instructors in Kenya held a diploma (37% and 33%, respectively), with a certificate and a master's degree, respectively, coming in at 20% and 10% of the total. This result demonstrated that TVET instructors have the minimal credentials needed to instruct in TVET courses.The effectiveness of the teaching processes is significantly influenced by the pedagogical skill capabilities of TVET instructors (Falsario H.N., Muyong, R.F., Nuevaespaa, 2014). There may be instructors who lack the knowledge and methodology, or who have never had any in-service training, to deal with the demands of the dynamic TVET curriculum covering (Murunga, 2013). One of the lacking levers to boost the calibre of the required credentials and the educational performance at the national Polytechnics in western Kenya may be teacher pedagogy achievement.
Many of these studies on the effects of teachers' pedagogical skills on students' performance were conducted in locations remote from Western Kenya. Although several of these locations are in industrialized nations outside of Kenya, western Kenyan national polytechnics were not used for the

research conducted there. The practice of teacher pedagogy was examined in earlier research, particularly in elementary and secondary schools. There have been very few studies conducted in tertiary institutions. Additionally, technical and training institutions have just become more significant in Kenya, which suggests that earlier research on the subject was not possible. Furthermore, technical training institutions differ from others, like secondary and primary schools, in their institutional qualities. In order to determine the impact of teachers' pedagogical skills on students' academic performance in Science, Engineering, and Technology courses at the diploma level in the Kenya national examination results at the National Polytechnics in Western Kenya, it was essential to conduct research.

METHODOLOGY

In determining the population, it is necessary to present the sample as well and present it briefly

For this study's descriptive survey, both quantitative and qualitative data were gathered. According to Mugenda&Mugenda (2008), a descriptive study is a technique that helps the researcher to effectively and meaningfully synthesize and arrange data. The capacity to describe the condition of circumstances as they were at the time of the investigation was the second primary motivation for using a descriptive research methodology (Kothari, 2004).

Target Population

Target populations are all the individuals that make up the actual or fictitious group of individuals, events, and objects to which a researcher seeks to extrapolate the findings of their study, according to Borg and Gall (1996). 150 instructors, including 3 principals from the three national polytechnics in western Kenya, were the study's target population.

Table 1 on target population

	Sigalagala	Kisii	Kisumu	Total
Teachers	39	44	67	150
Total	39	44	67	150

***Source**:County DirectorTechnical Education: Kakamega, Kisii&Kisumu (2021)*

Sampling Techniques

Using the statistical formula supplied by Role (2013), the sample size of the participants was calculated. Because they were the only institutions in the study region, the three national polytechnics were chosen on purpose. Purposive sampling, according to Kerlinger (1973), was defined by the application of judgment to generate a representative sample. Purposive, stratified, and random sampling approaches can be used to choose respondents in a way that assures they have common characteristic features indicative of the entire group, according to Orodho&Kombo (2002). Trainers from all academic disciplines made up the responder group thanks to stratified and straightforward random sampling. Based on the following formula, the sample size for the trainers was chosen to serve as a representation of the entire population:

Sample (n) = $\frac{N}{1+(Nk^2)}$ Hence $n = \frac{150}{1+(150\times 0.05^2)}$ Where n = sample size, N= populationsize, k = marginof error (k $\leq$0.05) Trainers' sample size calculation number was: n = **109**

Data collection

To gather information on the trainers' competencies and their distribution around the departments for the year under review, the principals were put through a program of interviews. Interviews, according to

Maryudi & Fisher (2020), are appropriate for gathering detailed, qualitative data because they provide respondents the chance to provide an explanation. Trainers' competencies were the subject of questionnaires that were used to gather data. The research instruments were pre-tested at the Eldoret National Polytechnic since it is an institution with characteristics comparable to those of the other National Polytechnics. They were also retested to determine their validity and reliability before being used to gather data.Before being used, the instruments were moderated by peer reviewers to increase accuracy, reliability, and validity.

A questionnaire was used to collect quantitative data, which was then analysed using descriptive statistics and displayed as tables, percentages, means, standard deviations, and frequencies. The data was collected, presented using bar charts, and Pearson's coefficients and basic linear regression calculations were made.

FINDINGS

Effectoftraining methods on Students'Academic Performance

The goal of this study was to determine how students' academic performance in Diploma of the SET courses at the National Polytechnics in Western Kenya was impacted by their training techniquesthat included; lecture, demonstration, project, experiment, out of class, trainer centred and student centred. The results, which were based on the opinions of 99 out of 109 trainers, are shown in Table 2.

Table 2 Trainer Response on Training Methods

Variety of training ***methods***	**1**	**2**	**3**	**4**	**5**	**M**	**SD**
I use Lecture method when training	12(12.1)	18(18.2)	21(21.2)	33(33.3)	15(15.2)	3.2	1.27
I use Demonstration method when training	6(6.1)	0(0.0)	9(9.1)	30(30.3)	54(54.5)	4.3	1.07
I use Project method when training	12(12.1)	9(9.1)	36(36.4)	24(24.2)	18(18.2)	3.3	1.23
I use Experiment method when training	12(12.1)	3(3.0)	9(9.1)	36(36.4)	39(39.4)	3.9	1.32
I Use out of class training method	9(9.1)	6(6.1)	42(42.4)	18(18.2)	24(24.2)	3.4	1.20
I use trainer centred training approach	39(39.4)	18(18.2)	30(30.3)	6(6.1)	6(6.1)	2.2	1.22
I use student centred training approach	9(9.1)	6(6.1)	6(6.1)	30(30.3)	48(48.5)	4.0	1.29

A high mean (M=3.2, SD=1.27) and a majority of the trainers, 33 (33.3%), indicated that they employed lecture approaches during training. According to the majority of 54 (54.5%) along with a high rating (M=4.3, SD=1.07), they also employed the demonstration approach. The utilization of the project technique received a good evaluation (M=3.3), although the majority of the trainers—12, or 36.4%—were also neutral. The majority, 39 (39.5%) of trainers who strongly agreed, gave the experiment technique a high evaluation (M=3.9, SD=1.32), which was consistent with the students' good rating. Although the majority of the trainers were impartial and this practice had a poor rating from students, it obtained a high rating (M=3.4, SD=1.20).Finally, the research indicates that trainers utilized student-centred training techniques (M=4.0, SD=1.29) as opposed to trainer-centred training methods (M=2.2, SD=1.22), which is consistent with how students perceived their engagement in training. According to trainer ratings,

although they have not completely embraced the methodologies and training approaches, trainers use a range of training methods.

Table 3 Pearson's correlation coefficient on **Training Methods**

		Variety of training methods	Trainers' Academic Competence
Variety of training methods	Pearson Correlation	1	.599**
	Sig. (2-tailed)		.000
	N	99	99
Trainer Academic Competence	Pearson Correlation	.599**	1
	Sig. (2-tailed)	.000	
	N	99	99

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

According to the results, there is a substantial and positive association between students' academic performance and a range of training approaches (r=.599, p.05). This indicates that a range of training approaches contribute favourably to students' academic performance, and that when these ways are effective and interesting, students' academic abilities rise.

Table 4 Effectof Trainer preparation and use of training tools based on 99 trainers.

The study determined how students' academic performance in Diploma of the SET courses at the National Polytechnics in Western Kenya was impacted by their trainer preparation and use of training tools that included; useof schemes of work, use of lesson plans, use of record of work covered, use of record of continuous tests, use of group presentations. The results, which were based on the opinions of 99 out of 109 trainers, are shown in Table 4.

Preparation and use of training ***tools***	**1**	**2**	**3**	**4**	**5**	**M**	**SD**
I prepare and use schemes of work.	9(9.1)	0(0.0)	3(3)	21(21.2)	66(66.7)	4.4	1.19
I prepare and use lesson plans.	9(9.1)	6(6.1)	9(9.1)	33(33.3)	42(42.4)	3.9	1.27
I prepare and use lesson notes.	6(6.1)	0(0.0)	0(0.0)	18(18.2)	75(75.8)	4.6	1.00
I prepare and use Record of work covered.	6(6.1)	0(0.0)	3(3)	21(21.2)	69(69.7)	4.5	1.03
I prepare and use students' CAT mark records.	6(6.1)	0(0.0)	0(0.0)	21(21.2)	72(72.7)	4.6	1.00
I use group presentations for evaluations.	3(3)	15(15.2)	18(18.2)	36(36.4)	27(27.3)	3.7	1.13

The majority of trainers, 66 (66.7%), strongly agreed that they created and employed work-related schedules, which were likewise highly valued (M=4.4, SD=1.19). 75 (75.8%) strongly agreed that the majority of the trainers, 42 (42.4%) also developed and utilised lesson plans and lesson notes to a high extent (M=4.6). The results show that the majority of the trainers—69 (69.7%)—prepared and utilised records of the work they had covered, and 72 (72.7%) of the students' CAT mark records reflected their

strong agreement with a high mean (M=4.6, SD=1.00).There were also stated other opinions on trainers' evaluations of the students. The majority of the instructors, 36 (36.4%), agreed or strongly agreed that they utilized practical work for student evaluation, and 36 (36.4%) agreed that they employed assessment exams, both with high ratings (M=3.9) while having large standard deviations of 1.18 and 1.11, respectively. The majority, 72 (72.7%) with a high grade (M=4.4), clearly shows that instructors employed end-of-term tests for pupils. 36 (36.4%) strongly agreed that they utilized group presentations for assessments, whereas 48 (48.5%) strongly agreed that they used assignments for student evaluations. Although pedagogy is not entirely utilized by trainers, it can be inferred that it is highly valued and hence near to being utilized among the western Kenyan National Polytechnics under study.

Table 5 Pearson's coefficient on Effectof Trainer preparation and use of training tools

		Students' academic performance	preparation and use of training tools
Students' academic performance	Pearson Correlation	1	.588**
	Sig. (2-tailed)		.000
	N	99	99
preparation and use of training tools	Pearson Correlation	.588**	1
	Sig. (2-tailed)	.000	
	N	99	99

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

The results demonstrate a moderately significant connection (r=.588, p.05) between students' academic proficiency and their preparation for and usage of training materials. This suggests that preparation for and usage of training tools is positively related to students' academic achievement, such that when training tools are utilized, more and more of the students' performance are enhanced.

Table 6Effectof Trainer use of instructional media on performance

The study investigated how students' academic performance in Diploma of the SET courses at the National Polytechnics in Western Kenya was impacted by their trainer use of media which included; text books, charts and maps, audio-visual, projectors, computers, exercise books, pencil, and use of technical drawing instruments. The results, which were based on the opinions of 99 trainers, are shown in Table 6.

Use of instructional media	**1**	**2**	**3**	**4**	**5**	**M**	**SD**
I use text books	39(45.5)	18(18.2)	30(30.3)	6(6.1)	6(6.1)	3.9	1.26
I use chart and maps	9(9.1)	6(6.1)	6(6.1)	30(30.3)	48(48.5)	3.2	1.29
I use audio-visual	6(6.1)	9(9.1)	18(18.2)	21(21.2)	45(45.5)	3.1	1.28
I use projectors	12(12.1)	18(18.2)	27(27.3)	24(24.2)	18(18.2)	3.1	1.50
I use computers	12(12.1)	24(24.2)	21(21.2)	27(27.3)	15(15.2)	3.5	1.42
I use exercise books and paper	24(24.2)	12(12.1)	18(18.2)	24(24.2)	21(21.2)	3.5	1.15
I use pencil and ruler	12(12.1)	15(15.2)	15(15.2)	24(24.2)	33(33.3)	3.3	1.51

I use Technical Drawing instruments	9(9.1)	6(6.1)	27(27.3)	39(39.4)	18(18.2)	3.0	1.65

In the study, 39 (45.5%) of the trainers reported using textbooks, and they likewise obtained a good evaluation (M=3.9). Following this was the use of computers as textbooks, as evidenced by high ratings (M=3.5), although having large standard deviations of 1.42 and 1.15, respectively. This result was in line with what the students had said. Additionally, the results showed that the use of pencil had a high grade (M=3.3, SD=1.51) as well as the usage of charts and maps (M=3.2, SD=1.29), however the latter varies from the students' assessment, which reported that charts and maps were not frequently used.Trainers gave the usage of projectors and audio visual equipment higher ratings than students did (M=3.1, SD=1.28) and M=3.1, SD=1.50 respectively. Technical drawing tools also obtained a high rating from instructors (M=3.0, SD=1.65) as opposed to students who gave it a bad grade.

Table 7 Pearson's correlation Coefficient on Trainers use of instructional media on performance

		Instructional media	Students' academic performance
Instructional media	Pearson Correlation	1	.780**
	Sig. (2-tailed)		.000
	N	99	99
Students' academic performance	Pearson Correlation	.780**	1
	Sig. (2-tailed)	.000	
	N	99	99
**. Correlation is significant at the 0.01 level (2-tailed).			

The results demonstrate that instructional media and students' academic performance are positively and significantly correlated (r=.780, p.05). This indicates that students' academic performance in national polytechnics in western Kenya improves when instructors enhance their teaching materials.

Table 8 Effectof communication on Students'Academic Performance

The study investigated how students' academic performance in Diploma of the SET courses at the National Polytechnics in Western Kenya was affected by their trainer use of communication competencies which included; simplicity of language, oratory in speech, sign language, stammer, mother tongue interference, clarity of instruction command, and audible talking. The results, which were based on the opinions of 99 trainers, are shown in Table 8.

Communication competence	**1**	**2**	**3**	**4**	**5**	**M**	**SD**
I use simple English language when training	6(6.1)	11(11.1)	21(21.2)	33(33.3)	28(28.3)	3.3	0.91
I sound oratory in speech when training	6(6.1)	0(0.0)	9(9.1)	30(30.3)	54(54.5)	3.9	1.14
I use some sign language when training	5(5.1)	9(9.1)	36(36.4)	24(24.2)	25(25.3)	3.2	1.00
I stammer a lot when training	2(2.0)	3(3.0)	9(9.1)	41(41.4)	44(44.5)	3.9	1.20

My pronunciation is devoid of mother tongue when training	10(10.1)	5(5.1)	42(42.4)	18(18.2)	24(24.2)	3.6	1.10
I my instruction command is clear when training	3(3.0)	15(15.2)	30(30.3)	25(25.3)	26(26.3)	2.4	1.32
I talk audibly when training	9(9.1)	6(6.1)	6(6.1)	30(30.3)	48(48.5)	4.1	1.31

A substantial percentage of trainers, 33 (33.3%), stated that they employed plain English when instructing, as seen by the mean (M=3.3, SD=0.91). According to the majority 54 (54.5%) and high rating (M=3.9, SD=1.14), they also employed oratory in their speaking activities. The employment of some sign language during training received a favourable evaluation (M=3.2, SD=1.0), despite the fact that 36 (36.4%) of the trainers were also neutral. The majority, 44 (39.5%) of trainers who strongly agreed, gave the use of stammering speech a high rating (M=3.9, SD=1.20), which was consistent with the students' high assessment.Although the majority of the trainers were impartial and this practice had a poor rating from students, it obtained a high rating (M=3.6, SD=1.10).

Table 9 Pearson's correlation Coefficient on Effectof trainer communication on Students'Academic Performance

		Students' academic performance	Communication competence
Students' academic performance	Pearson Correlation	1	.618**
	Sig. (2-tailed)		.000
	N	99	99
Communication competence	Pearson Correlation	.618**	1
	Sig. (2-tailed)	.000	
	N	99	99
**. Correlation is significant at the 0.01 level (2-tailed).			

The results demonstrate a substantial and favorable link between trainer communication skills and student academic achievement (r=.618, p.05). This implies that trainers' communication skills are strongly correlated with students' academic success. Therefore, students' academic performance in national polytechnics in western Kenya improves when instructors increase their communication skills.

Further findings using a simple linear regression model was presented in Table 10.

Table 10 Effect of Pedagogical Competence represented by a simple linear regression model on students' academic Performance

Model	R	R	Adjusted R	Std. Error	Change Statistics

		Square	Square	of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.749[a]	.562	.547	.719	.562	39.710	1	31	.000

a. Predictors: (Constant), pedagogical competence

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.541	.605		.894	.378
	Teacher pedagogy	.888	.141	.749	6.302	.000

a. Dependent Variable: performance

The findings show that teacher pedagogy had a positive and significant effect on performance (β=.749, p<.05) and accounted for 56.2% variance in students' academic performance. This implies that for every improvement in pedagogical competencies among teachers, students' academic performance improved by a magnitude of 0.749 units. It can thus be concluded that teacher pedagogy has a positive and significant effect on student's performance.

Discussion

Trainers demonstrated their know-how and adaptability by utilizing a range of training techniques appropriate for each student's requirements while assessing the effect of training methods as pedagogical competences on students' academic performance. The results demonstrated a substantial association between students' academic performance and a range of training approaches (r=.599, p.05). This meant that a range of training methods were used, and when these ways were effective, students' academic performance was positively correlated with these approaches.

Trainers demonstrated their skill and adaptability by creating and implementing a variety of training tools that were suitable for the requirements of all students while determining the effect of training tools on students' academic performance.The results revealed a weakly significant association (r=.588, p.05) between students' academic skills and their preparation for and usage of training materials. This indicated that the preparation and utilization of training resources by trainers had a beneficial effect on students' academic performance.

Trainers demonstrated their knowledge of technology's potential to promote learning by incorporating it into their lesson to optimize student learning while establishing the effect of trainer pedagogical competence of employing instructional media on students' academic performance. The results demonstrated that instructional media and students' academic performance were positively and significantly correlated (r=.780, p.05). This indicated that students' academic performance increased when trainers increased their usage of instructional material.

When evaluating the effect of the trainer's communication skills on students' academic performance, researchers found that the best way for trainers to connect with all of their students was by using a variety of communication techniques, as well as by consistently encouraging and supporting them as they did so. The results demonstrated that there was a substantial and positive link between trainer communication

skills and student academic achievement (r=.618, p.05). This suggested that trainers' communication skills were favourably correlated with students' academic success. As may be seen in the summary table 10 below, students' academic performance increased when trainers improved their communication skills.

David H. Hargreves argued that school-based professional development calls for the mentorship of trainers and gives them the chance to create and experiment with new training methods. He promoted the idea that successful teaching leads to knowledge development, creativity, and transfer, resulting in excellent cognitive outcomes. According to studies, social capital affects students' performance as well as the professionalism, efficacy, and continual professional growth of trainers. Leverage, intellectual capital, and social capital were combined to form the independent variables in this study.

Table 11shows summary of students' academic performance that increase when trainers improved their communication skills

Pedagogical Competencies	Pearson's Coefficient	Level of effect	Position
Training methods	r=.599, p<.05	59.9%	3
Use of training tools	r=.588, p<.05	58.8%	4
Use of instructional media	r=.780, p<.05	78.0%	1
Training communication	r=.618, p<.05	61.8%	2

According to earlier research, the professional abilities of TVET trainers were a determinant of their quality (Grollmann, 2008). This was also mentioned by Adeogun in his study on trainer pedagogy from 2001, which discovered that the effectiveness of any educational system depends on the pedagogical abilities of the trainers. Additionally, a study by Adaramola and Obomanu (2011) discovered that trainers with little pedagogical training regularly produced subpar results. These findings were supported by research by Ong'uti (1987), Louhran (2014), and Bukit (2012), among others.

Conclusion

Trainers' pedagogical skills must be better if performance is to increase. These results therefore corroborate the quantitative findings and show that the use of instructional media (r=.780, p.05), trainer communication (r=.618, p.05), training methods (r=.599, p.05), and use of training tools (r=.588) were the factors that had the strongest positive relationships with students' academic performance. These results demonstrate the importance of these different trainer pedagogical abilities for high student academic success at the National Polytechnics in western Kenya.

Consent

As per international standard or university standard, Participants' written consent has been collected and preserved by the author(s).

Ethical Approval:

As per international standard or university standard guideline participant consent and ethical approval has been collected and preserved by the authors.

Recommendations

To improve students' academic performance, the government should emphasize instructional media training for trainer pedagogical skills.

To improve students' academic performance, Principals should provide intensive learning and training pedagogical instructional media equipment.

To improve students' academic performance, additional pedagogical competences including training methodologies and usage of training tools should also be emphasized in the National polytechnics in western Kenya,

Trainers at different National Polytechnics should be retrained or allowed to attend in-service training in order to attain more instructional material and communication skills with students more effectively.

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