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RESEARCH ARTICLE

IN-SERVICE TRAINING PRACTICES AND TRAINERS' PERFORMANCE IN TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING SCHOOLS IN RWANDA, A CASE OF KICUKIRO DISTRICT - RWANDA

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Abstract

The primary aim of this study was to investigate the effect of in-service training practices on the performance of trainers in Technical and Vocational Education and Training (TVET) schools in Kicukiro District, Rwanda. The participants included personnel from the Rwanda TVET Trainer Institute (RTTI), trainers, and school managers, totalling 398 respondents. This number comprises 12 school managers, 26 RTTI staff members, and 360 trainers from TVET schools in the Kicukiro district. The data analysis process utilized SPSS 22.0 software. The results indicated a strong relationship between in-service training practices and trainers' performance in TVET schools in Kicukiro, Rwanda. This relationship was supported by a Pearson correlation coefficient (r) of 0.958, with a statistically significant p-value of 0.000 for a two-tailed test. This suggests that there was a statistically significant relationship between in-service training practices and trainers' Performance in TVET Schools in Kicukiro District, Rwanda and confirmed by the R Square=.918 which means that in-services trainings are highly appreciated to enhance trainers' performance in TVET Schools in Rwanda. The study reveals the positive impact of industry partnerships on trainers' performance. Industrial exposure allows trainers to gain firsthand experience of current industry practices and technological innovations. This study recommended that the government should allocate more financial resources to support in-service training programs in TVET schools.

Introduction:-

It is imperative for teachers and trainers in vocational education and training (VET) institutions to continuously update their knowledge and skills. To illustrate this point, an Australian, only 28% of full-time and 55% of part-time trainers considered their technical knowledge to be current (Harris et al.,2001). Given the paramount significance of workplace integration within the objectives of VET, it is essential to promote the idea that all VET trainers should dedicate time to gain experience in real workplace settings, and if possible, engage in occasional work there. Regarding the training process for teachers and trainers in vocational and training centers (VTCs), a training program was made available through the former Federal, as outlined in UNESCO's report from 2013(UNESCO,2013).

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In Germany, the decision to suspend mandatory training for workplace instructors appears to have hurt the overall standard of apprenticeship training, as noted in a report by BIBB in 2008.Italy and South Korea, with the backing of the United Nations vocational training initiative managed by the International Labor Organization (ILO) training center in Turin, have made significant strides in vocational education. Conversely, Sudan only established a vocational teacher/trainer training institute in 1995, where seasoned educators provide courses on effective teaching techniques for newly hired vocational teachers/trainers, as detailed in Washi's work in 2014.

In Bangladesh, (TVET) systems exhibited an inadequate connection between training and the demands of the job market. Furthermore, it was observed that due to the absence of a cohesive approach, practical skills training failed to impart the necessary skills required by the job market. Additionally, trainees were found to lack sufficient training exposure, initiative, and motivation to effectively fulfill their responsibilities(Islam & Mia, 2017).

In Africa, there is a growing demand for the integration of vocational education into higher education and the broader educational system as a whole. Unfortunately, the limited availability of advanced educational and training prospects has dampened the enthusiasm of talented and motivated young individuals towards Technical and Vocational Education and Training (TVET), as noted by Kerre in 2017. Africa's educational infrastructure faces significant challenges and poses a significant barrier to political, social, and economic progress, as highlighted by Olaniyan in 2021. Sub-Saharan African (SSA) nations have reported high levels of illiteracy within their school systems by Mulkeen (2015) and UWEZO (2017).

Adedeji and Bomidele (2020) and Suleman Sumra (2015) have pointed out that absenteeism among both teachers and students can be viewed as an indicator of teachers' professionalism, which encompasses factors like their level of training and their motivation to teach. Research has further indicated that teachers' competence in pedagogical content knowledge has been a concern in specific subjects, such as mathematics(Miheso,2015).

According to UNESCO's 2013 report titled "Status of TVET in the SADC region" which assesses and reviews Technical and Vocational Education and Training (TVET) in the Southern African Development Community (SADC) region, it was found that general school

In Rwanda, the TVET Sector Support Programme has implemented a reform process, which has promoted the In-Service Teacher Training for TVET staff through Rwanda's TVET training institutions. This initiative aims to address the shortage of skilled trainers. However, an evaluation of the effectiveness of this in-service training on teachers' performance has not yet been conducted. The current study seeks to investigate several aspects related to teacher training, including Teachers' perceptions before and after participating in training sessions(World Bank ,2017).

Within the TVET landscape in Rwanda, there is a pressing demand for an increased number of highly skilled TVET trainers. The Caliber of trainers employed within TVET institutions significantly influences the quality of TVET graduates. The presence of capable and qualified trainers is essential for the production of TVET graduates equipped with the relevant competencies demanded by today's dynamic labor market. As a result, all trainers employed within the TVET system must possess a comprehensive skill set. This includes a solid technical grasp of their respective subject areas, proficiency in pedagogical techniques, practical experience in the industry, as well as proficiency in language, ICT (Information and Communication Technology), and entrepreneurial skills.

Implementing Training of Trainers (ToT) practices becomes crucial for comprehending and enhancing the educational procedures in place(Béteille& Hooper,2013). These factors are intimately connected to how trainers navigate and overcome challenges in their day-to-day professional responsibilities, as well as to their overall job satisfaction and personal well-being.

Furthermore, these factors are likely to serve as intermediaries, affecting how changes in job-related policies, such as modifications in curricula for trainer's initial education or professional development, ultimately impact student learning outcomes. Analyzing the impact training of trainers' package, variations and interrelationships of these aspects could be relevant to the improvement and effectiveness quality teaching delivery.as they shape trainer's performance in teaching and learning working environment.

Objectives of the Study:-

The main purpose of this study was to investigate the influence of in-service training practices and trainer`s performance in TVET schools of Kicukiro district, Rwanda.

Review of Related Literature: -

Theoretical literature refers to the concepts, and ideas rather than focusing on practical applications or empirical evidence. This study managed all ideas related to the in service trainer training practices, trainers performance , pedagogical upgrade , continuous professional developments training aiming to enhance the trainers performance in Rwanda specifically TVET schools trainers located in Kicukiro district, Rwanda.

In service trainers training practices

1. In service trainer training common training practices that TVET institutions often offer for in-service trainers.
2. pedagogical training, subject matter uupgrading, competency-based training, practical workshops and demonstrations, teaching practice and peer observation, coaching and mentoring, online training and e-learning, assessment and evaluation training, Professional Development Seminars (Park,2014).
3. In-service trainers are provided with pedagogical training to enhance their teaching methods and strategies. This training may focus on learner-cantered approaches, effective classroom management, lesson planning, assessment techniques, and fostering student engagement.
4. Trainers might receive training to update their knowledge and skills in their respective fields(Zikmund, G. (2010).
5. As TVET institutions typically focus on competency-based education, in-service trainers are trained to develop and assess competencies required in specific industries. This involves designing training programs aligned with industry needs and standards. Trainers might participate in practical workshops and demonstrations to learn new teaching techniques, use ofICT in teaching, and hands-on practice of knowledge and skills they are teaching.

Trainers performance in TVET schools

Trainer performance in TVET schools is crucial performance of the educational programs and the overall quality of training provided to students. Evaluating and ensuring high trainer performance is essential to maintain a skilled and competent teaching workforce. Pedagogical Skills, Subject Matter Expertise, Communication and Interpersonal Skills, Classroom Management, Student Engagement and Motivation, Assessment and Feedback, Professional Development, Industry Engagement, Ethical Conduct and Professionalism, Continuous Improvement. Planning, Training Delivery/session facilitation, Assessment, Training manuals uses, Instructional technology, Language proficiency, Inclusiveness, Career guidance, Classroom Management,Trainers should possess a an expertise in subject matters.They could have relevant qualifications, industry experience, and up-to-date knowledge of the field to effectively deliver technical and vocational training. Trainers should have strong pedagogical skills and be proficient in instructional strategies, lesson planning, and classroom management. They should be able to engage students, promote active learning, and adapt their teaching methods to cater to different learning styles (Takele,2014).

Effective communication is essential for trainers to convey information clearly, engage students, and foster a positive learning environment. Trainers should have good listening skills, be approachable, and able to establish rapport with students. Trainers should be skilled in managing classroom dynamics, maintaining discipline, and creating a conducive learning environment. They should be able to handle diverse student groups, address behavioural issues, and ensure a safe and respectful atmosphere. Trainers should employ strategies to engage and motivate students, encouraging their active participation in the learning process. This can include using interactive teaching methods, incorporating real-life examples and case studies, and providing hands-on practical experiences.

Trainers should have sound knowledge of assessment techniques and be able to design fair and effective assessments to evaluate student learning. They should provide timely and constructive feedback to guide students' progress and promote their continuous improvement. VET trainers should be committed to their own professional development and continuously update their knowledge and skills. Engaging in professional development activities, attending workshops and conferences, and staying informed about industry advancements contribute to trainer performance. Trainers should establish connections with relevant industries and stay updated with industry trends and requirements. This helps ensure that the training provided aligns with the needs of the job market and enhances the employability of graduates (Spöttl& Seitz, 2018).

Trainers should engage in reflective practice, seeking feedback from peers, colleagues, and students to identify areas for improvement (Singh,2018).

Empirical literature

Technical and vocational training education in Rwanda

Technical and Vocational Education and Training (TVET) concentrates on providing individuals with the essential skills and competencies required for the workforce. Throughout its development, diverse terminologies have been employed to delineate different facets of this domain, which are now amalgamated and acknowledged as integral components of TVET.

Enhancing the effectiveness of vocational education and training (VET) is crucial for fostering economic growth, increasing employment opportunities, and promoting social cohesion, especially in developing countries. Facilitating stakeholder engagement to enhance achievement in TVET can contribute to sustainable economic development, job creation, and the well-being of citizens, and these principles can be applied globally in all countries and regions. Practical experience has demonstrated a strong connection between accountable school governance and leadership and the overall success of TVET programs. Effective leadership and government have significant role in shaping the outcomes of TVET initiatives. Governance plays a pivotal role in shaping the development and execution of policies, providing the foundation upon which policies are continuously assessed and revised (ETF, 2013). Many countries are emphasizing the principles of good governance, accountability, and effective management in the organization and administration of schools. These principles are central to how educational institutions are structured and operated in numerous nations, reflecting a growing awareness of their significance in achieving positive educational outcomes.The evidence examined by several studies indicates that effective school leadership is important and raises attainment (EDT, 2014).

In Rwanda, TVET has emerged as a crucial element of the government's poverty reduction strategy. A significant reform of the TVET sector was officially sanctioned in 2008(WDA, 2019). According to MINEDUC (2008), different providers at various qualification levels have delivered TVET in Rwanda. Technical education is offered at the upper secondary school level; both by public schools under the Ministry in charge of education and by private schools and those belonging to faith-based organizations. VET is among the targeted areas of improvement in the Government programme. Investment in TVET (Technical and Vocational Education and Training) is paving the way to Rwanda’s socio-economic development as a diversified economy with a high skills level in the workforce. TVET is vital for technological progress, rapid industrialization as well as wealth creation, and poverty reduction. TVET plays an important role to catalyze Rwanda’s socio-economic development more effectively by developing a responsive and increasingly vibrant labor market (GIZ, 2020). To achieve rising employability among its youth, a country should allocate adequate resources for modernizing teaching and learning facilities in TVET schools and for continuous professional capacity development for their teachers (British Council, 2017).

Technical and Vocational Education and Training (TVET) has often been unfairly labeled as a "second chance" or "inferior" form of education. In many countries, students who are perceived as "academic underachievers" have been directed towards TVET programs and institutions, reinforcing negative stereotypes and undervaluing the potential of TVET (MINEDUC, 2015). To change these perceptions, it is essential to demonstrate the positive outcomes that can result from TVET and to shift students' attitudes towards recognizing the advantages of pursuing TVET qualifications over purely academic ones (ILO, 2020).

Boosting the prestige and appeal of TVET requires a transformation in the way the public views TVET Education. According to the OECD (2016), there is a growing global interest in decentralizing the governance of TVET. This shift is motivated by the desire of countries to enhance the TVET systemsin response to increasing economic and social demands.

Rwanda is strongly committed to accelerating comprehensive economic and social development. This commitment is outlined in the National Strategy for Transformation (NST 1), which serves as Rwanda's mid-term development strategy. A pivotal component of NST 1 is the "Social Transformation" pillar, which aims to cultivate a capable and skilled Rwandan populace enjoying a high standard of living within a stable and secure society. This overarching goal and its associated objectives are to be realized primarily through the priority focus on enhancing the demographic dividend via improved access to quality education. To translate this vision into reality, the Ministry of Education (MINEDUC) takes the lead in prioritizing and advancing Technical Vocational Education and Training

(TVET) as a critical element of the strategy.The Education Sector Strategic Plan (ESSP) states its clear TVET strategy that utilizes competency-based training and assessment (CBT/CBA) into TVET. To do so, ESSP emphasizes on CBT/CBA quality management system by Workforce Development Authority (WDA, 2019). In the past, TVET had a bad reputation in Rwanda and was considered as the second choice where higher learning institutions attracted more students. Today TVET has been taken as government priority as one of the sectors which played a demonstrated role in Rwandan economic growth.

Impact of in-Service Training on trainers Performance

In-Service Training and Teacher's Performance are closely interlinked, as indicated by Samupwa (2008), who assessed the influence of teacher training on teacher performance and found that teacher training can result in positive changes in teachers' behavior and classroom performance.This positive transformation is attributed to various training programs, particularly in-service training initiatives, which enable teachers to gain a clearer understanding of their roles, broaden their perspective, and become more inclusive practitioners, as argued by Kazmi, Pervez, and Mumtaz (2021).Sim (2021) suggests that in-service teacher training programs yield several significant outcomes, including the expansion of teachers' knowledge, This involves fostering positive attitudes and beliefs, as well as refining teaching methodologies.Sim (2021) emphasizes that the principal aim of in-service teacher training programs is to create a conducive environment for effective teaching in the classroom. Essel, Badu, Owusu-Boateng, and Saah (2019) further explore the beneficial effects of in-service teacher training, asserting that such programs provide teachers with the requisite skills, knowledge, abilities, and confidence for enhanced performance. They argue that teachers need opportunities for professional growth to effectively address the learning needs of students.If teachers are to grow, it is crucial to focus on their cognitive processes, ethical motivations, and abilities as agents of change, along with their teaching and management skills, as well as the leadership and cultural environments in which they operate, states one perspective. Conversely, Jacob and Lefgren (2014) discovered that "small improvements in in-service training do not have a statistically or educationally significant impact on either reading or math performance, indicating that moderate investments in professional development may not be adequate to enhance the academic achievement of elementary school students in economically disadvantaged schools."

Theoretical framework

This study was supported by underpinned by two management theories; Human Capital theory and Henry Fayol's management theory.

The cognitive flexibility theory

The current study is based on the cognitive flexibility theory that was proposed by Spiro et al, (2020). The theory emphasizes the Kirkpatrick's four levels of evaluation named; reaction, learning transfer, and result (Kirkpatrick,2014). The cognitive flexibility theory can be defined as the ability to construct an individual's knowledge in line with the changing situational demands. The theory, according to its proposers looks into supporting the use of interactive methods and approaches in teaching. Here's how cognitive flexibility theory support trainers' effectiveness. In TVET schools, trainers often encounter learners with varying backgrounds, learning styles, and skill levels. Trainers who receive training based on this theory can better understand and accommodate the individual differences among their students, leading to more effective and personalized instruction. Cognitive flexibility theory encourages trainers to develop problem-solving skills that allow them to address challenges and obstacles in the teaching-learning process. Through in-service training focused on cognitive flexibility, trainers can learn to identify and employ alternative approaches to instruction when faced with difficulties in the classroom or workshop. This theory emphasizes creativity and innovation in teaching. Trainers can use creative instructional methods, such as project-based learning, simulations, and real-world problem-solving tasks, to engage students and enhance their learning experience. In-service trainers training can provide trainers with the tools and techniques to design and implement such creative approaches effectively. TVET programs need to align with the rapidly changing demands of the job market and industries. Cognitive flexibility theory supports trainers in staying updated with industry trends and new technologies. Trainers can apply this knowledge to update their curriculum and training content, ensuring that students are equipped with relevant and job-ready skills. Cognitive flexibility theory also encourages trainers to adopt flexible and varied assessment methods. In-service training equip trainers with the knowledge and skills to use diverse assessment strategies that assess students' learning outcomes effectively.

Motivation theory

Maslow's Hierarchy of Needs is indeed a well-known psychological theory that describes how human needs can be organized into a hierarchical structure, with basic physiological needs at the bottom and higher-level needs like self-actualization at the top. The hierarchy typically consists of five levels, often depicted as a pyramid: physiological needs and other biological necessities, once physiological needs are met, individuals seek safety and security, both physical and emotional. This can include a stable environment, employment, health, and protection from harm. With safety secured, people look for social connections, love, and a sense of belonging. This involves relationships, friendships, and family. These represent the fulfillment of personal potential, self-growth, and the pursuit of individual goals and creativity. Maslow, 2014).Here's how In-service training can enhance a teacher's sense of self-esteem and self-worth. By acquiring new knowledge and skills, teachers may feel more confident and capable in their roles. Recognition for completing training or for their expertise can further boost their self-esteem.

One criticism concern to the prioritization of needs in a specific order. When individuals experience hunger and fear for their safety, they may establish strong connections with others, suggesting an alternative hierarchy of needs. TVET schools should implement measures to ensure trainers' physical safety, such as providing necessary safety equipment and maintaining a safe learning environment. Belongingness and Love Needs involve social interactions, relationships, and a sense of belonging. In-service trainers should have opportunities for collaboration, teamwork, and networking with colleagues and peers. TVET schools can facilitate a supportive and collaborative culture that fosters positive relationships among trainers, which can contribute to their motivation and performance. Esteem Needs include the need for recognition, respect, and self-esteem. In-service trainers should receive acknowledgment and appreciation for their efforts and contributions. TVET schools can implement recognition programs, provide regular feedback, and celebrate trainers' achievements to fulfill their esteem needs and boost their motivation and performance. Self-actualization refers to the fulfillment of one's full potential and personal growth. In-service trainers should be provided with training practices that promote continuous professional development, learning opportunities, and career advancement. TVET schools can offer relevant and meaningful training programs, mentorship, and coaching to support trainers' self-actualization needs, thereby enhancing their motivation and performance. (Maslow,1943).

Performance theory

Turner and Schechner (1985) introduced the concept of Performance theory, which views performance as an ongoing process rather than a final destination. According to this theory, the stage of this continuous journey is referred to as the "level of performance," and each level reflects the effectiveness and quality of a performance. Performance development is likened to a journey, with your current performance level indicating your position on this journey. Six factors are identified as influential in determining one's current performance: context, knowledge level, skill level, identity level, personal factors, and fixed factors. Within the framework of Performance theory, three fundamental principles are proposed to enhance performance effectively. These principles encompass the performer's mindset, immersion in a nurturing environment, and the practice of reflective analysis. Therefore, considering performance as an ongoing journey, it becomes imperative to provide regular in-service training for teachers, accompanied by the continuous evaluation of their performance levels. This evaluation process aided in identifying the specific in-service training activities needed to elevate their level of performance along this

Conceptual framework

The conceptual framework depicted a graphical representation of the connections between the variables examined in the study. Figure 2.1 illustrated the conceptualization, offering a schematic depiction of the relationship between the two variables.

In this context, the independent variable, in-service trainer training practices, pertains to the various training programs, methods, and activities aimed at enhancing the competencies and knowledge of trainers in TVET schools. The dependent variable, trainers' performance, gauges how effectively trainers fulfill their instructional and training responsibilities within TVET schools (Mulder ,2017).The independent variable, in-service trainer training practices, encompasses dimensions such as the duration, content, delivery methods, and evaluation mechanisms of the training provided to trainers in TVET schools. Trainers' performance, as the dependent variable, encompasses the acquisition and enhancement of trainers' knowledge, skills, and abilities through in-service training.

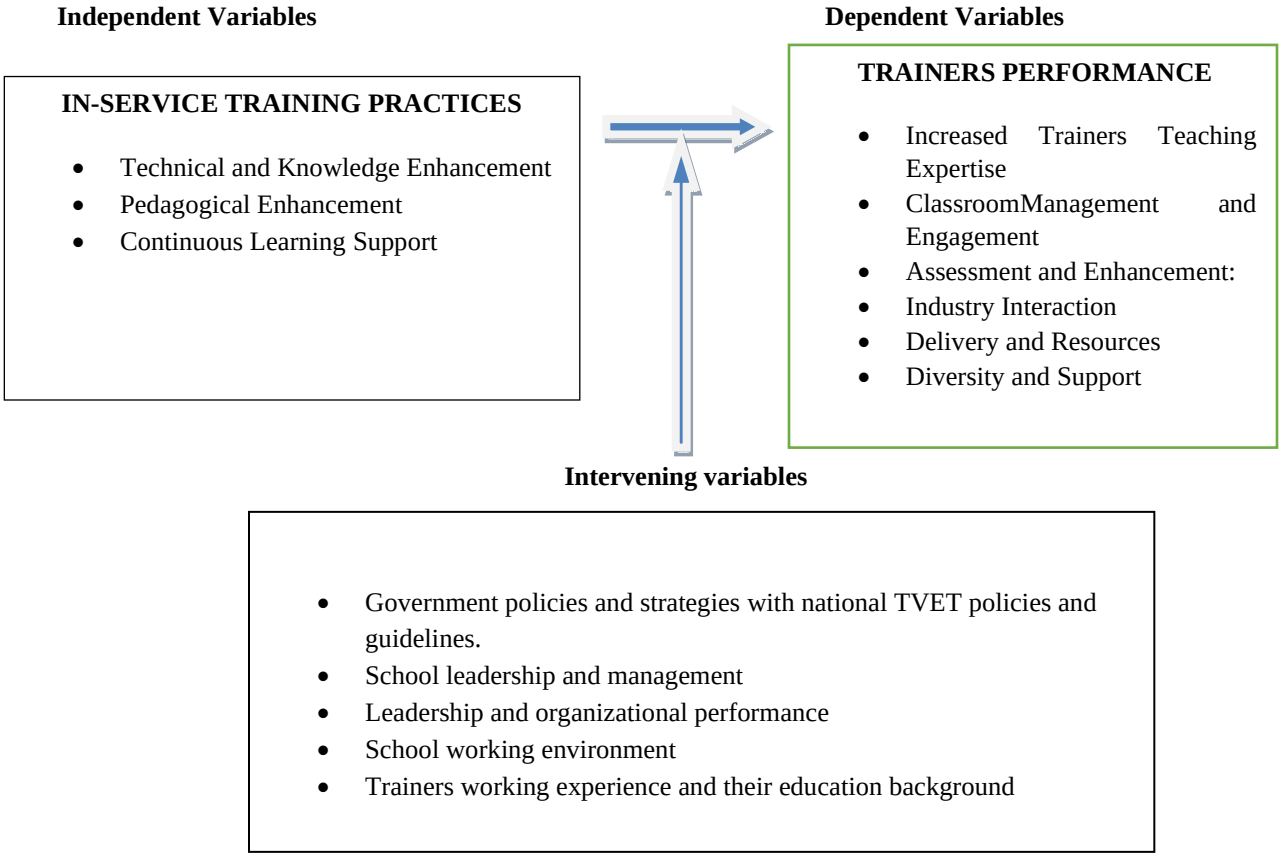


Figure 2.1:- Conceptual framework.
Researcher, 2024

Methodology:-

Research Design

Kambo and Tromp (2016) defined research design as the structured plan or framework used to uncover solutions to the problems being investigated. It serves as the roadmap for obtaining answers to research questions and addressing various problems faced throughout the research (Polit & Beck, 2015). This research design involved the utilization of both descriptive and correlational designs. A descriptive research design encompasses a wide array of research methods employed to evaluate one or more variables. Therefore, this study utilized a correlational method as one of its research approaches.

Target population

To achieve the primary objectives of this study, the researcher employed questionnaires and interviews as data collection tools. Participants who are requested to provide relevant information for the research are referred to as the targeted population (Ogula ,2015). The Respondents were RTTI staff, trainers, school managers. All respondents were 398 including 12 schools' managers, 26 RTTI staff and 360 trainers from TVET schools of Kicukiro district, Rwanda.

Sample design

The researcher used a simple random sampling to get information from the RTTI staffresearcher utilized a purposive sampling technique to select respondents from among school managers in TVET schools within the Kicukiro district. Additionally, for the selection of trainers from TVET schools in the same district, a stratified sampling technique was employed.

The researcher in this study determined the sample size using the Yamane formula (Yamane, 1990), which yielded a sample size of 199 from a population of 398. The simplified formula for sample size calculation, known as the Taro Yamane formula, is as follows:

$$\mathbf{n = \frac{N}{1 + N(e^2)}}$$

n was$\mathbf{n = \frac{398}{1+398(0.05^2)} = 199}$

Table 3.1:- Targeted population and sampled size.

Respondents	Population	%	Simple size
School managers	12	5.80	6
Trainers	360	88.40	180
RTTI staff	26	5.80	13
TOTAL	**398**	**100**	**199**

Source: Researcher (2023)

The methods of collecting data in this research was two including quantitative and qualitative data collection, they allow research to collect all information related the research objectives.

Findings and Discussion:-

Characteristics of the respondents

The participants in this study consisted of RTTI staff, trainers, school managers. This section provides background information on the respondents categorized by age, work experience, gender, and educational levels. The participants were RTTI staff, trainers, school managers. All respondents will be 398 including 12 schools' managers, 26 RTTI staff and 360 trainers from TVET schools of Kicukiro district, Rwanda and sample size was 199 from the population of 398 means the researcher sampled 13 RTTI staff , 6 school managers and 180 trainers from different TVET schools of Kicukiro District, Rwanda.

Table 4.1:- Characteristics of the respondents.

Statement		Frequency	Percent	Valid Percent
Valid	School managers	6	3.1	3.1
	Trainers	180	90.4	90.4
	RTTI staff	13	6.5	6.5
	Total	**199**	**100**	**100.0**

Primary data,2024

In Table 4.1, a summary of all study participants is provided, including 6school managers from TVET schools of Kicukiro district, 180 trainers from selected TVET schools of Kicukiro district, Rwanda, and 13 RTTI staff. The primary objective of the study was to investigate influence of in-service training practices and trainer`s performance in TVET schools of Kicukiro district, Rwanda.

Gender of respondents

In this research, the investigation included an examination of how the gender of respondents influences the research objectives. Therefore, Table 4.2, Table 4.3, and Table 4.4 present the gender distribution of respondents.

Table 4.2:- Gender oftrainers.

Statement		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	34	18.9	18.9	18.9
	Male	146	81.1	81.1	100.0
	Total	**180**	**100.0**	**100.0**	

Primary data,2024

The findings presented in Table 4.2 summarize the gender distribution of trainers who participated in the study. The table indicates that 18.9% of all participating trainers were female, while 81.1% were males. This distribution suggests that both genders were included in the study, indicating no bias based on the gender of respondents for students.

Table 4.3:- Gender ofschool managers.

Statement		Frequency	Percent	Valid Percent
Valid	Female	2	33.3	33.3
	Male	4	66.7	66.7
	Total	**6**	**100.0**	**100.0**

Primary data,2024

The findings presented in Table 4.3 summarize the gender distribution of school managers who participated in the study. The table indicates that 33.3% of all participating school managers were female, while 67.7% were male.

Table 4.4:- Gender ofRTTI staff.

Statement		**Frequency**	**Percent**	**Valid Percent**
Valid	Female	4	30.8	30.8
	Male	9	69.2	69.2
	Total	**13**	**100.0**	**100.0**

Primary data,2024

The findings presented in Table 4.4 provide a summary of the gender distribution among RTTI staff who took part in the study. It reveals that 30.8% of the participating RTTI staff were female, whereas 69.2% were male. Overall, the research involved 199 respondents, with 20.1% being female and 79.9% male. This distribution underscores the commitment to ensuring gender balance and equity in the research, offering equal opportunities to all respondents and enhancing the research's quality by avoiding any form of discrimination or gender bias.

TVET schools who participated in the study

The research aimed to provide equal opportunities to all TVET schools while respecting the trainers. The findings regarding this effort were presented in Table 4.5.The findings revealed that there are 12 TVET schools from Kicukiro district participated in the study by providing trainers to evil all information related to the study and the table 4.5 indicated the numbers of trainers provided by each TVET school. The fist schools particapted were Umushumbamwiza VTC with 7 trainers, ERM hope TSS provided 11 trainers , CEFORM VTC participated with 15trainers,ESSA Nyarugunga TSS participated with 17trainers,Don Bosco Gatenga provided with 21 trainers, Samuduha Integrated college participated with 24 trainers, Lycee de Kicukiro APADE TVET participated with 19 trainers, St Emmanuel Complex TSS Masaka provided 14 trainers , IHUMURE VTC participated with 14 trainers,Kicukiro Women Vocation center participated with 16 trainers. Ecole secondaire saint Patrick also participated with 9trainers while G.S Ayabaraya TSS participated with 13trainers. All trainers participated in the study were with different specialisation.

Table 4.5:- Trainers and their respective working schools.

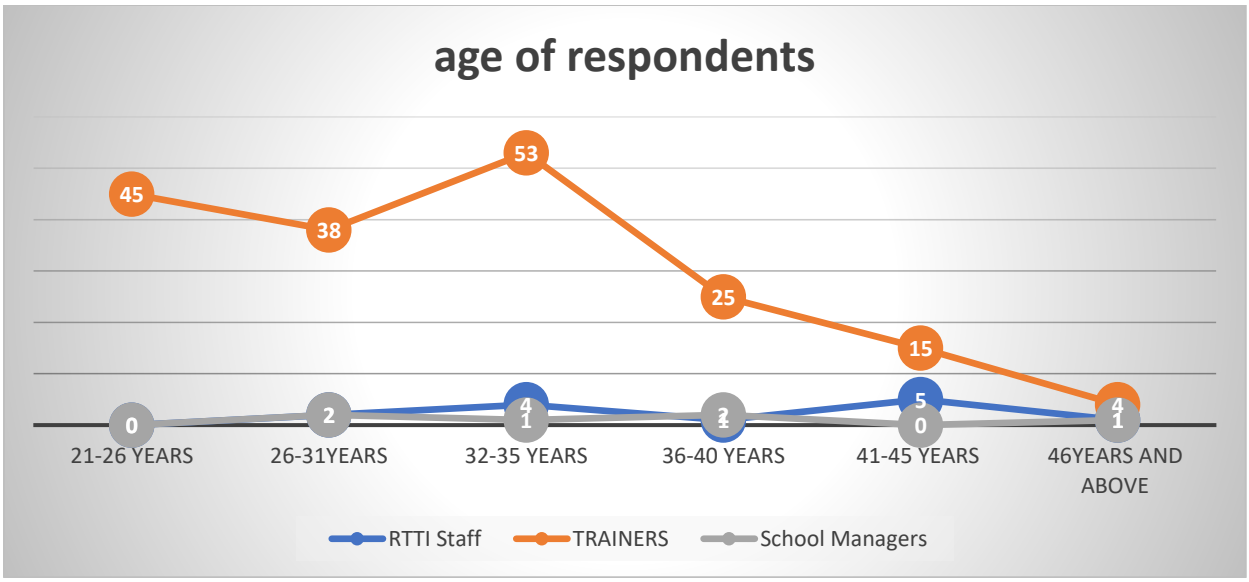
TVET Schools		**Frequency**	**Percent**
Valid	Umushumbamwiza VTC	7	3.9
	ERM HOPE TSS	11	6.1
	CEFORM VTC	15	8.3
	ESSA Nyarugunga TSS	17	9.4
	Don Bosco Gatenga	21	11.7
	Samuduha Integrated college	24	13.3
	Lycee de Kicukiro APADE TVET	19	10.6
	St Emmanuel Complex TSS Masaka	14	7.8
	IHUMURE VTC	14	7.8
	Kicukiro Women vocational Center	16	8.9
	Ecole Secondairest Patrick	9	5.0
	G.S Ayabaraya TSS	13	7.2
	Total	**180**	**100.0**

Researcher,2024

Age of Respondents

The researcher sought to understand the ages of respondents to ensure their maturity for participating in the study. The findings regarding the ages of respondents were summarized in Figure 4.1.

Figure 4.1:- Age of Respondents.



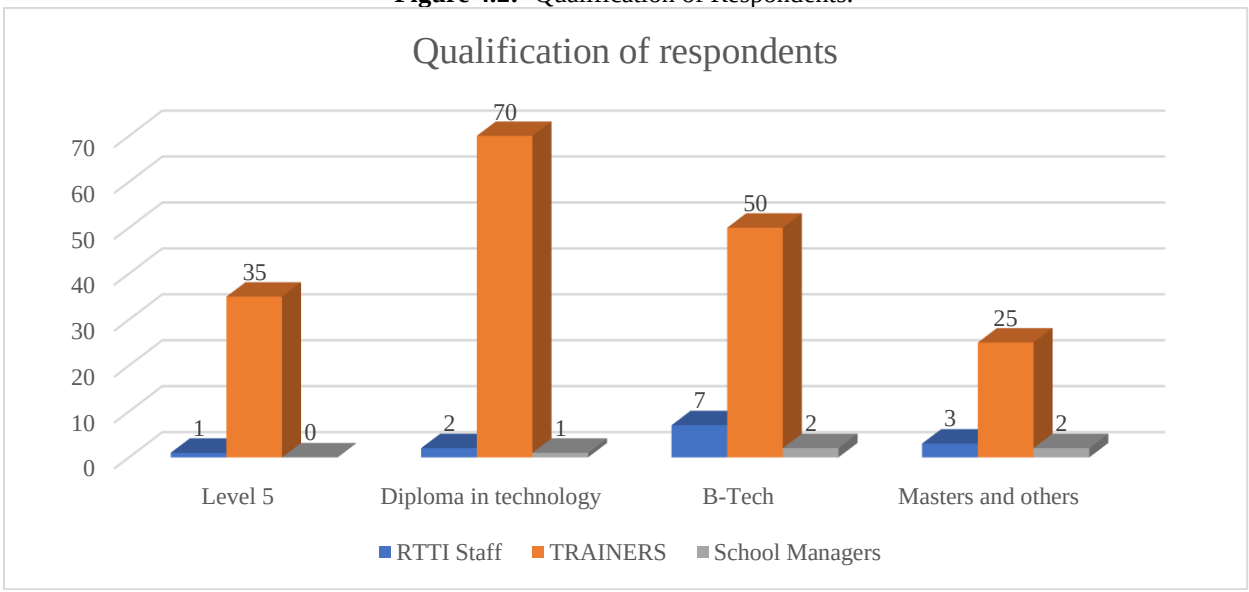
Research,2024

The findings presented in Figure 4.1 illustrate the ages of respondents categorized as school managers, trainers, and RTTI staff, with age ranges provided. Among trainers, there were 45 individuals aged 21-26 years, 38 aged 26-31 years, 53 aged 32-35 years, 25 aged 36-40 years, 15 aged 41-45 years, and 4 aged 46 years and above. For school managers, 2 individuals were aged 26-31 years, 1 was aged 32-35 years, and 2 were aged 36-40 years. Regarding RTTI staff, 2 were aged 26-32 years, 4 were aged 32-35 years, 1 was aged 36-40 years, 5 were aged 41-45 years, and 1 was aged 46 years and above.

Qualification of respondents

The researcher aimed to understand the qualifications of the respondents, and the findings were summarized in Figure 4.2.

Figure 4.2:- Qualification of Respondents.



Primary data,2024

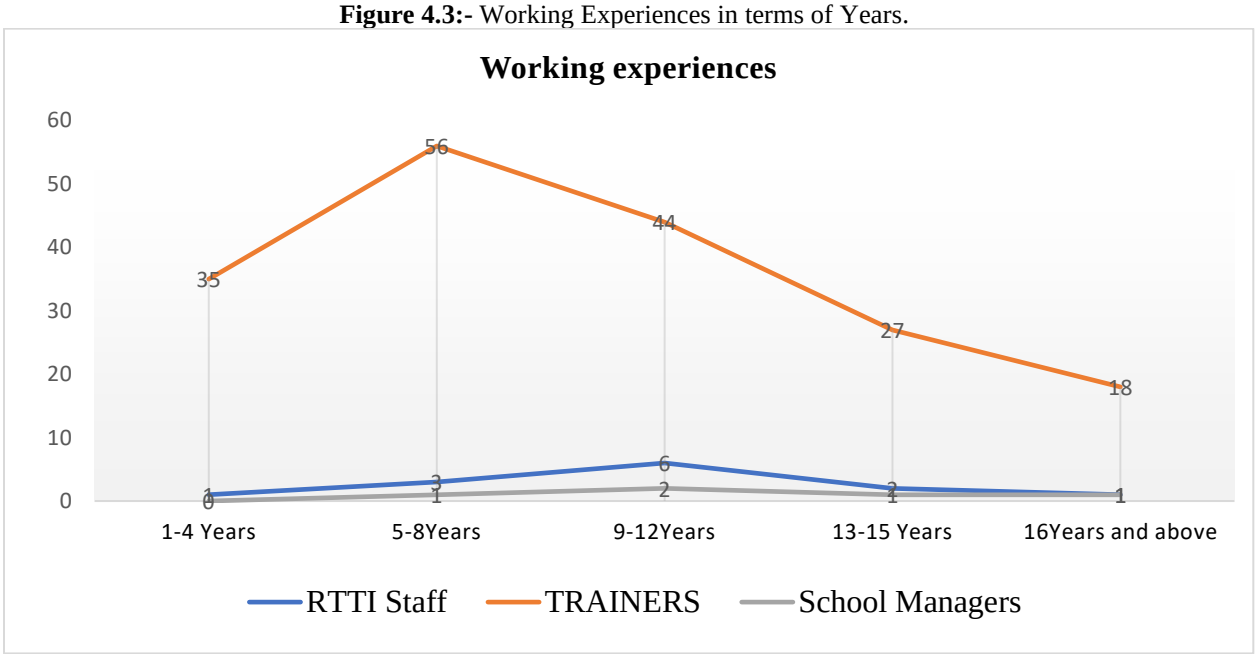
The Finding indicated in the figure 4.2 are discussing the level of qualification of respondents where 35 trainers were qualified with level 5 of Rwanda qualification framework,70trainers were qualified with diploma,50- trainers were qualified with bachelor of technology while 25 trainers were qualified with masters of technology and other specializations. For the side of School managers, on school manager were with diploma in technology,2 school

managers were with bachelor of Technology and 2 school managers were with masters of technology and others certificates. For the side of RTTI Staff, one of RTTI staff participated in the study was with Level 5 of Rwanda qualification framework, 2 RTTI staff were with diploma in technology, 7RTTI staff were with Bachelor of Technology and other 3 RTTI staff were with masters of Technology and other certificates.

Working Experiences in terms of Years

The researcher aimed to understand the working experience of respondents to ascertain their expertise in promoting and delivering technical skills in their schools and communities. The findings regarding this aspect are depicted in Figure 4.3.

Figure 4.3:- Working Experiences in terms of Years.



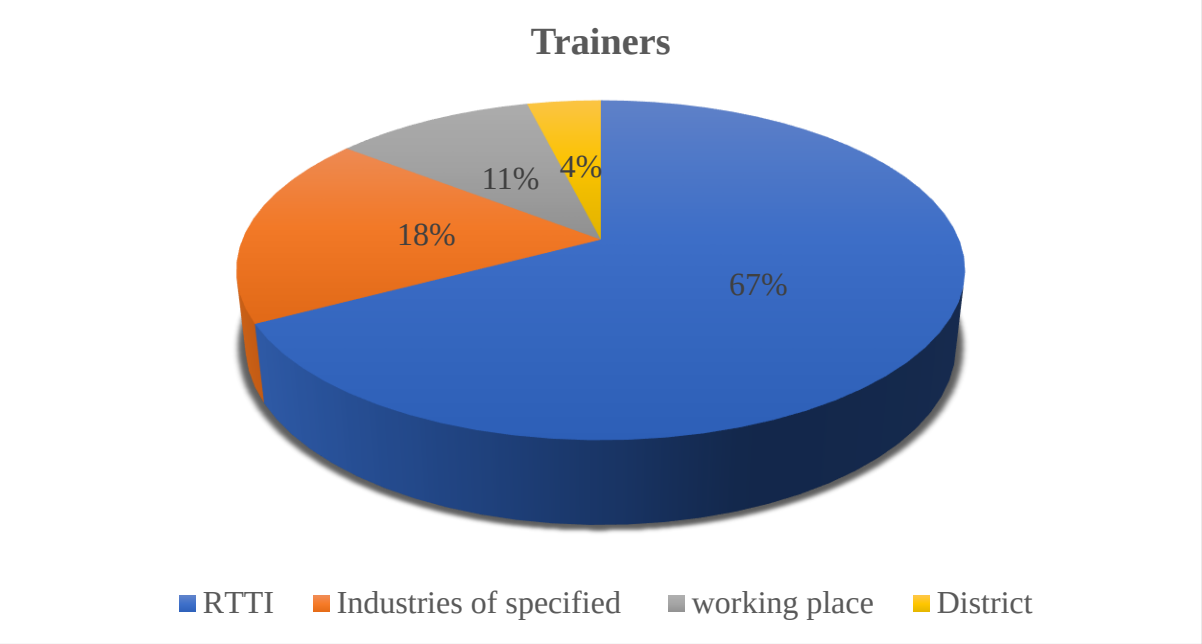
Researcher,2024

The Findings indicated in the figure 4.3 were based on the working experiences of all participants, working experiences were classified based on the range of the years. The 35trainers were experienced in the range of 1-4 years of working experiences, 56trainers were classified in the range of 5- 8 years of working experience,44 trainers were in the range of 9-12years of working experiences,27trainers were classified in the range of 13-15 years of working experiences and 18 trainers were in the range of 16 years of working experiences and above. For the side of School managers, one school manager were in the range 5-8 years of working experiences,2 school managers were in the range of 9-12 years of working experiences, one school managers were in the range of 13-15 years of working experiences and other one were in range 16 years of working experiences and above. For the side of RTTI Staff, one RTTI staff were in the range of 1-4 years of working experiences, 3RTTI staff were in the range 5-8 years of working experiences ,6RTTI staff were in the range of 9-12 years of working experiences ,2 RTTI staff were in the range of 13-15 years of working experiences and other one was in range of 16 years of working experiences and above.

Category of training Provider

Researcher tended to know all training providers in Kicukiro district, Rwanda and the findings were shown in the figure 4.4

Figure 4.4:- Category of training Provider.



Researcher,2024

Findings indicated in the figure 4.4 highlight the training providers. The study revealed that the training providers were namely District, RTTI, industries and working place(schools) where 67% of all trainers participated in the study were trained by RTTI, 18% of all trainers participated in the study stated that they were trained by industries of their areas of specializations, 11% of participated trainers were trained by their respective and 4% of all trainers participated in the study were trained by district.

Presentation of the Findings

The study had three specific objectives: to identify in-service training practices in TVET schools of Kicukiro, Rwanda, to determine the level of trainers' performance in TVET schools in Kicukiro District, Rwanda, to evaluate the relationship between in-service training practices and trainers' performance in TVET schools in Kicukiro, Rwanda. The data collection process was guided by these specific objectives, and the findings were presented accordingly, addressing each objective individually.

In service training practices provided in Kicukiro TVET school

The first objectives were based on identification of in services training practices provided in Kicukiro TVET schools and all trainers expressed their motions about in service training practices provided in their respective.The researcher sought to understand all types of training provided to trainers and their impact on their daily work performance

Table 4.6:- In service training practices provided in Kicukiro TVET school.

Statements	Yes Freq	%	Neutral Freq	%	NO Freq	%
Pedagogical upgrade and training	173	96.1	3	1.7	4	2.2
Technical upgrade and training	159	88.3	7	3.9	14	7.8
Industrial exposure and subject matter upgrading	112	62.2	1	0.6	67	37.2
Competency-based training	153	85.0	5	2.8	22	12.2
Practical workshops and demonstrations	171	95.0	1	0.6	8	4.4
Teaching practice and peer observation	137	76.1	12	6.7	31	17.2
Coaching, mentoring and eLearning	146	81.1	10	5.6	24	13.3

Primary data, (2024)

The findings pertaining to this inquiry were presented in Table 4.6. where the majority (96.1%) of all trainers participated in the study were on the way of pedagogical approaches and documents are prepared , 2.2% of all

participated trainers indicated that they were not included in the pedagogical upgrade training while 1.7% of all trainers participated refused to show their views about Pedagogical upgrade and training.Technical upgrade and training is another type of training gained by trainers where 88.3% of all trainers were trained on technical issues to improve their teaching process and their knowledge based on their areas of specialization , 3.9% of all trainers indicated they are not aware about technical upgrade and training and 7.8% of the trainers participated in the study indicated that they were still waiting to be trained on technical upgrade and training

Also research asked the respondents to indicate if they attended training based on the industrial exposure and subject matter upgrading, 62.2% of all trainers participated highlighted that they attended training related to industrial exposure and subject matter upgrading , 37.2% all trainers participated indicated that they are still waiting to have that training related to the industry exposure and subject matters upgrading b training while 0.6% of all trainers refused to talk anything about the industrial exposure and subject matter upgrading.

Other training assessed was CBA/CBT training and the majority(85.0%) of all trainers participated in the study indicated strongly that they attended CBA/CBT training in their respective schools and specialization areas , 12.2% of all trainers indicated that they are not trained about CBA/CBT training and 2.8% indicated that they are not aware of information related to CBA/CBT training provided to trainers in different TVET schools.

Findings also shown in the table 4.6 revealed that the majority(95.0%) of all trainers accepted that they are trained to perform Practical workshops and demonstrations, 4.4% of all trainers participated in the study indicated that they are not trained on training related to the practical workshops and demonstrations while 0.6% of all trainers participated in the study refused to show their views on training related to practical workshops and demonstrations.

The research wanted to know if trainers are trained on teaching practices and peer observations and the findings revealed that majority (76.1%)of respondents accepted that they are trained on teaching practices and peer observation,17.2% of all trainers participated in the study indicated that they are not trained on teaching practice and peer observation .Lastly, the research assessed if all trainers were trained on the coaching, mentoring and eLearning and 81.1% of all respondents accepted that they were trained on the way of coaching ,mentoring and eLearning,13.3% of all respondents indicated that they are not trained on the way of coaching , mentoring and eLearning while 6.7% of all respondents refused to show their views on coaching, mentoring and eLearning.

The level of trainers' performance in TVET Schools

The second objective of this study focused on assessing the level of trainers' performance in TVET schools in Kicukiro District, Rwanda. The researcher aimed to understand the extent of trainers' performance in these schools. All findings related to the level of trainers' performance in TVET schools were summarized in Table 4.7.

Statements	SD Fr		D Fr	%	N Fr	%	A Fr	%	SA Fr	%
My school organize training based on pedagogical upgrade to enhance trainees learning outcomes.	17	9.5	13	7.2	1	0.6	81	45.0	68	37.7
I improved your Subject Matter Expertise during training.	9	5.0	37	20.6	5	2.8	26	14.4	103	57.2
My school participate in industry engagement by trainers training.	11	6.1	7	3.9	4	2.2	129	71.7	29	16.1
I am trained on ethical Conduct and behavior management, class management and engagement.	10	5.6	4	2.2	1	0.6	34	18.8	131	72.8
I am trained on session Delivery, session planning and technical resources	29	16.1	8	4.4	3	1.7	21	16.7	119	66.1
I am trained to use instructional technology, practical and demonstration in workshops	81	45.0	44	24.4	1	0.6	21	11.7	33	18.3
I am trained on Career guidance and counseling and inclusiveness to help students with their needs	75	41.7	21	11.7	8	4.4	27	15.0	49	27.2

Research,2024

The first aspect assessed was how schools organize training to enhance trainees' learning outcomes through pedagogical upgrades. The findings revealed that 37.7% of all trainers who participated in the study strongly agreed that their schools conduct such training. Additionally, 45.0% of all respondents agreed that their schools organize training for pedagogical upgrades to improve trainees' learning outcomes. Furthermore, 9.5% of all participating trainers indicated strong agreement with this statement that their schools do not organize training based on pedagogical upgrade to enhance trainees learning outcomes,7.2% of all trainers participated in the study disagreed that their school organize training based on pedagogical upgrade to enhance trainees learning outcomes while 0.6% of all trainers participated in the study refused to talk anything on how school organize training based on pedagogical upgrade to enhance trainees learning outcomes. The second point assessed were based on how trainers perform from training based on subject matter expertise and 57.2% of all trainers accepted strongly that they improved their subject matter expertise during training, 14.4% of all trainers accepted also that they improved their subject matter expertise during training,25.6% of all trainers indicated that they were not improved their subject matter expertise during training while 2.8% of all trainers participated in the study were refused to show their views on how they improved the subject matters expertise from training provided.

Researcher wanted to know also if the trainers benefited from industry exposure training and the majority(71.7%) of all trainers participated in the study accepted strongly that their school participate in industry engagement by trainers training, 16.1% of all trainers participated in the study accepted that they participated in industry engagement by trainers training,6.1% of all trainers participated in the study disagreed strongly that they participated in industry engagement by trainers training,3.9% of all trainers participated in the study disagreed too that they participated in industry engagement by trainers training and 2.2% of all trainers refused to show their views on how their school participate in industry engagement by trainers training. Trainers were asked on how they are trained to manage and engage classes. The majority(72.8%) of all trainers participated in the study accepted highly that they were trained on ethical Conduct and behavior management, class management and engagement ,18.8% of all trainers participated accepted also that they were trained on ethical Conduct and behavior management, class management and engagement ,5.6% of all respondents also indicated strongly that they were not trained on ethical Conduct and behavior management, class management and engagement ,2.2% of all trainers also indicated that they were not trained on ethical Conduct and behavior management, class management and engagement while 0.6% of all respondents refused to talk anything on how trainers are trained on ethical Conduct and behavior management, class management and engagement.

The researcher wanted to know if all trainers were trained on sessions delivery and session planning to enhance trainee performance, the majority(66.1%) of all trainers participated in The study highly acknowledged and appreciated the training provided for session delivery and session planning. Specifically, 16.7% of all trainers who participated in the study strongly agreed and appreciated the training in session delivery and session planning. However, 16.1% of all trainers who participated in the study strongly disagreed with this statement that they are trained session delivery and session planning,4.4% of all trainers participated in the study disagreed too that the study found that trainers received training in session delivery and session planning, with 1.7% of all participating trainers being neutral regarding this aspect.The researcher aimed to determine if trainers were trained in using instructional technological resources, conducting workshop practicals, and delivering demonstrations. The findings presented in Table 4.7 indicate that18.3% of all trainers strongly agreed that they received training in using instructional technology, practical's, and demonstrations in workshops,11.7% of all trainers agreed that they were trained in these areas, 45.0% of all trainers strongly disagreed that they received such training 24.4% of all trainers disagreed with this statement, 0.6% of all trainers were neutral regarding whether they received training in using instructional technology, practical, and demonstrations in workshops.

Furthermore, the study also assessed training related to career guidance, counseling, and inclusiveness to assist students with their needs.

The majority (41.7%) of all trainers participated in the study disagreed strongly that they are trained career guidance, counseling and inclusiveness to help students with their needs, 11.7% of all trainers participated in the study disagreed also that they are trained career guidance, counseling and inclusiveness to help students with their needs,27.2% of all trainers accepted strongly that they are trained career guidance, counseling and inclusiveness to help students with their needs, 15.0% of all trainers participated ion the study accepted also that they are trained

career guidance, counseling and inclusiveness to help students with their needs while 4.4% of all trainers refused to show their views on how they are trained on Career guidance and counseling and inclusiveness to help students with their needs.

In service training practices and trainers' Performance in TVET Schools

The third objective of the study aimed to assess the relationship between in-service training practices and trainers' performance in TVET Schools in Kicukiro, Rwanda. The study focused on two variables: independent variables, represented by in-service training practices, and dependent variables, represented by trainers' performance in TVET Schools. The primary objectives were to comprehend the correlation between these two variables and establish a regression analysis model to further explore their relationship.

Table 4.7:- Correlations of variables.

Statements		In-service training practices	Trainers' Performance in TVET Schools
In-service training practices	Pearson Correlation	1	.958**
	Sig. (2-tailed)		.000
	N	180	180
Trainers' Performance in TVET Schools	Pearson Correlation	.958**	1
	Sig. (2-tailed)	.000	
	N	180	180

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

Primary data,2024

Table 4.7 in the study indicated a robust relationship between in-service training practices and trainers' performance in TVET Schools in Kicukiro, Rwanda. Pearson coefficients measure relationships on a scale from -1 to 1, where values closer to -1 signify a strong negative relationship, values around 0 indicate little to no relationship, and values closer to 1 indicate a strong positive relationship. The Pearson correlation coefficient (r) of 0.958 found in this study suggests a highly positive and statistically significant relationship between in-service training practices and trainers' performance in TVET Schools in Kicukiro District, Rwanda. This relationship was further validated by a p-value of 0.000 for a two-tailed test, indicating strong evidence of significance.

Table 4.8:- Regression analysis Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.958[a]	.918	.918	.45718	.395

a. Predictors: (Constant), in service training practices

b. Dependent Variable: trainers' Performance in TVET Schools

Primary data,2024

Table 4.8 presents the results regarding the overall significance of the model concerning in-service training practices and trainers' performance in TVET Schools. The R-squared value, which is 0.918, indicates that approximately 91.8% of the variability in trainers' performance in TVET Schools in Kicukiro District, Rwanda, can be explained by the variables related to in-service training practices. This suggests a strong relationship between in-service training practices and trainers' performance in TVET Schools, with a significant portion of the variance in performance being attributed to the training practices implemented.

Conclusion and Recommandations:-

Conclusion:-

An investigation into how in-service training methods impact the effectiveness of trainers within Technical and Vocational Education and Training (TVET) institutions located in Kicukiro District, Rwanda.Remember, when paraphrasing, it's important to reword the content in a way that reflects your understanding of the topic while maintaining the original meaning. yields several critical insights. This research underscores the integral role that continuous professional development plays in enhancing the effectiveness of trainers, thereby positively impacting the overall quality of technical and vocational education. Firstly, the study confirms that in-service training practices

are crucial for maintaining and improving trainers' technical expertise and pedagogical skills. Regular workshops, seminars, and training sessions provide trainers with updated knowledge and innovative teaching methods, which are essential for delivering high-quality education. These training practices ensure that trainers remain well-versed in the latest industry standards and educational advancements, which is particularly important in the rapidly evolving field of technical and vocational education.

The findings highlight the importance of peer mentoring programs. These programs foster a collaborative learning environment where experienced trainers can share their insights and strategies with newer colleagues. This mentorship not only helps in the transfer of practical skills and knowledge but also supports the professional growth of trainers by providing ongoing guidance and feedback. The study shows that such peer interactions contribute significantly to improving trainers' performance and confidence. The integration of technology in training practices emerges as a pivotal factor in enhancing trainers' performance. Training sessions that focus on the use of educational technologies, digital tools, and online teaching platforms equip trainers with the skills needed to incorporate these tools into their teaching. This technological proficiency enables trainers to deliver more interactive and engaging lessons, thereby improving student learning outcomes and better preparing them for a tech-driven job market. The study reveals the positive impact of industry partnerships on trainers' performance. Industrial exposure allows trainers to gain firsthand experience of current industry practices and technological innovations. This exposure not only enriches their practical knowledge but also ensures that the training provided to students is aligned with real-world industry requirements. The feedback from industry partners corroborates the effectiveness of these attachments in enhancing trainers' competence and relevance. Performance evaluations and feedback mechanisms are also identified as vital components of effective in-service training practices. Regular assessments of trainers' performance help in identifying areas of strength and those needing improvement. The personalized professional development plans that result from these evaluations are tailored to address specific gaps, thereby ensuring targeted and efficient upskilling of trainers. The study indicates that this systematic approach leads to measurable improvements in trainers' performance over time. The study also emphasizes the importance of supporting trainers in pursuing further education and specialized training. Access to scholarships and funding opportunities for advanced studies motivates trainers to enhance their qualifications and expertise. This continued professional development not only benefits the trainers personally but also raises the overall standard of education within the TVET schools by bringing in higher levels of knowledge and competency. Moreover, the adaptability of trainers to new teaching modalities, particularly in response to the challenges posed by the COVID-19 pandemic, underscores their resilience and dedication. The ability to swiftly transition to online and hybrid teaching models while maintaining high educational standards highlights the effectiveness of the in-service training practices in preparing trainers for unforeseen challenges.

The study establishes a clear link between in-service training practices and improved trainer performance in TVET schools in Kicukiro District. The comprehensive and multifaceted approach to professional development encompassing workshops, peer mentoring, technology integration, industry partnerships, performance evaluations, and support for further education has proven effective in enhancing the skills, knowledge, and adaptability of trainers. These findings underscore the critical importance of ongoing professional development in ensuring the delivery of high-quality technical and vocational education, ultimately benefiting both trainers and trainees.

Recommendations:-

Based on the study assessing the influence of in-service training practices on trainers' performance in TVET schools in Rwanda, the following recommendations are proposed for the government, TVET schools, the Rwanda TVET Board, and the trainers themselves: The government should allocate more financial resources to support in-service training programs in TVET schools. This funding should be aimed at organizing regular workshops, seminars, and continuous professional development courses that keep trainers updated with the latest industry standards and teaching methodologies. The government should encourage and facilitate partnerships between TVET institutions and the private sector. These partnerships provide trainers with opportunities for industrial attachments and practical training, ensuring that they remain aligned with current industry practices and technological advancements. Develop a standardized national framework for in-service training that outlines the necessary competencies and skills for TVET trainers. This framework should ensure consistency in training quality and content across all TVET institutions in the country. The Rwanda TVET Board should standardize the content and delivery of in-service training programs across all TVET schools. This standardization should ensure that all trainers receive high-quality, relevant, and consistent training regardless of their institution.

The Rwanda TVET Board Should establish a robust system for monitoring and evaluating the effectiveness of in-service training programs. This should include regular assessments, feedback mechanisms, and performance evaluations to identify areas for improvement and ensure that training objectives are being met. The Rwanda TVET Board should Provide resources and support for trainers to pursue continuous professional development, including access to advanced studies, specialized courses, and international training opportunities. This will help trainers remain current in their fields and bring innovative practices to their teaching.

TVET schools should create detailed in-service training plans that address both technical expertise and pedagogical skills. These plans should include a mix of regular professional development activities such as workshops, peer mentoring, and hands-on practical training sessions. School should establish formal peer mentoring programs where experienced trainers provide guidance and support to newer or less experienced colleagues. This mentorship enhances the sharing of best practices, improve teaching techniques, and foster a collaborative learning environment among trainers. School should invest in and integrate modern educational technologies and digital tools into the training programs. This will help trainers become proficient in using these technologies, which can then be incorporated into their teaching methods to enhance student engagement and learning outcomes.

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