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Teachers' Professional Development and Job Performance in Public Secondary Schools of Kicukiro District, Rwanda

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ABSTRACT

The professional development and performance of teachers in Kicukiro District are very important to ensuring quality education. Despite the responsibilities outlined in the Teachers' Act, including attendance at classes, lesson planning, and student assessment, the report found that there are gaps, particularly in relation to absenteeism and planning. These problems are a threat to student achievement and school performance and show a great need for research and strategies to improve teacher performance. The aim of this study is to examine previous implementations of professional development programs, assess their impact on teaching skills, teaching methods, and subject knowledge, and identify potential barriers to their effective implementation. Through a descriptive correlational research design, primary data were collected through questionnaires, and secondary data were collected through document analysis by selecting 15 principals and 435 teachers. Data analysis included descriptive statistics, correlation, and analysis using SPSS version 22.0. The correlation analysis of the variables showed a significant relationship between the different factors. For example, there is a significant positive relationship between teacher training and effective teaching practices ($r = 0.611$, $p < 0.01$), students' performance ($r = 0.940$, $p < 0.01$), and teacher professional growth ($r = 0.890$, $p < 0.01$). Likewise, undergraduate and short courses are positively correlated with effective teaching ($r = 0.598$, $p < 0.01$), student performance ($r = 0.552$, $p < 0.01$), and teacher professional growth ($r = 0.550$, $p < 0.01$). Continuing professional development (CPD) has a significant positive relationship with effective teaching practices ($r = 0.732$, $p < 0.01$), student engagement ($r = 0.431$, $p < 0.01$), and teacher professional growth ($r = 0.469$, $p < 0.01$). In addition, seminars were positively correlated with effective teaching methods ($r = 0.255$, $p < 0.01$), student performance ($r = 0.496$, $p < 0.01$), and teacher professional growth ($r = 0.521$, $p < 0.01$). These results indicate that these training and development activities are associated with improved teaching practices, student outcomes, and teacher professional growth. Finally, the research highlighted the importance of CPD for teachers and their job satisfaction. The research recommended that the government should invest in supporting teachers and schools in providing the training and resources that are needed for teacher development, hence the performance.

Keywords: Job Performance, Professional Development, Public Secondary Schools, Teachers

I. INTRODUCTION

In the early 20th century, there has been a growing conviction about the relationship between teachers' professional development (Oshagbemi, 2017) and teaching quality (Asiyah et al., 2021). The imperative for teachers' professional development is brought up by the ever-changing demands for new knowledge and skills (Davis & Moody, 2014), teachers poor job performance (Rogers & Vegas, 2009), as well as the shortcomings of preservice teacher training. In view of Tournier (2015), to respond to the shortage and quality of human resources in education, teachers' professional development is a must to ensure that teachers are given the chance to develop themselves, which may bring about a quality education and hence higher academic achievement of the students.

In Rwanda, research on teachers' professional development and job performance in public secondary schools indicates several key points. Nizeyimana et al. (2021) highlight the importance of professional development, stating that it plays a crucial role in improving teachers' knowledge, skills, and effectiveness in the classroom, which is essential for enhancing teaching quality and student learning outcomes. In addition, the Ministry of Education of Rwanda (2017) has implemented a number of programs to support the professional development of teachers, including training programs, workshops, and mentoring programs. These programs aim to improve teachers' teaching skills, subject knowledge, and classroom management skills. Despite these efforts, professional development programs are still difficult to implement. Resources such as funding and infrastructure are said to be limited, and teachers do not have the time and support to fully engage in training (Simpeze et al., 2023). However, research shows that professional development has a positive effect on teacher performance. This will improve student confidence, motivation, and ability to make students productive, improving student outcomes and all school activities. To sustain these improvements, teachers need ongoing support and opportunities for professional growth. This includes access to

relevant, high-quality education as well as a supportive school environment that encourages collaboration and creativity. Given the importance of having teachers involved in the overall goals of education (Omebe, 2014), what is the effectiveness of teacher professional development in the context of Rwanda to help with issues related to the work of teachers?

1.1 Statement of the Problem

Professional development and performance of teachers in public secondary schools in Kikukiro District, Rwanda, are important to ensure quality education. The teacher rule necessitates that teachers perform a number of important tasks, including attending classes, properly preparing lessons, providing up-to-date and relevant material, assessing student progress, and participating in extracurricular activities (Ministry of Education [MINEDUC], 2017). However, field reports and research show that there are gaps in teachers' work, especially in terms of lack of planning (Nizeyimana et al., 2021). These areas have not been fully explored in the context of their impact on teacher attendance, lesson planning, content delivery, and participation in supplementary activities in secondary schools of the Kicukiro tribe of Rwanda. Failure to address these issues will have a negative impact on the quality of education in the area. This leads to lower student achievement, lower teacher effectiveness, and poorer school performance. Therefore, more research is needed to understand the specific inferences in this area and identify strategies to advance the professional development and performance of teachers in public secondary schools in Kikukiro District.

1.2 Research Objectives

i. Assess the extent to which professional development programs are currently implemented in schools of Kicukiro District.
ii. Evaluate the impact of continuous professional development on the pedagogical skills, instructional methods, and subject knowledge of teachers in Kicukiro District.
iii. Identify and analyze the teachers potential hindrances to effective implementation of knowledge and skills acquired through professional development into their daily teaching practices.

II. LITERATURE REVIEW

2.1 Theoretical Review

Professional development refers to the comprehensive growth of teachers in understanding their roles and improving their teaching practices over time. Richards (2005) defines development as the general growth of teachers, not focused on specific job skills but aimed at facilitating a long-term understanding of teaching and self-awareness. Professional development includes all formal and informal learning experiences that help school staff enhance their knowledge, skills, and methods to improve pupil learning and wellbeing (Stoll, Harris, & Handscomb, 2012). Darling-Hammond et al. (2017) emphasise the necessity of continuous professional development to adapt to changing educational dynamics. This is crucial, as untrained teachers, despite good intentions, can harm students and the educational system. Professional development is about teachers learning how to learn and transforming their knowledge into practice for the benefit of student growth (Tantawy, 2020).

Studies highlight the critical role of professional development in enhancing teacher competence, student learning outcomes, and educational reform. Çetin and Bayrakcı (2019) note that it helps teachers refine their skills, knowledge, attitudes, and understanding; contributing to personal and professional growth. Teacher development includes a variety of activities such as teaching experience, interaction with colleagues, and reflective practice (Kharbirymbai, 2024). It involves both intellectual and personal engagement, requiring teachers to explore new ideas and develop classroom practices while challenging personal beliefs (Asiyah et al., 2021).

Historically, professional development has been supported by various organisations through in-service training, workshops, conferences, and graduate courses (Ganser, 1997). Effective professional development should be ongoing, collaborative, and situated in classroom practice, addressing the needs of adult learners (Alex et al., 2007).

Different models support teachers' professional development, tailored to various stages of their careers (Martín, 2015). For instance, the Individually Guided Development model allows teachers to set their own learning goals and choose activities to achieve these goals, promoting self-directed growth (Puruwita et al., 2022). The observation and assessment model involves receiving feedback from peer observations, which can enhance classroom behaviour and teaching practices (Sparks & Loucks-Horsley, 1989; Rauf, Ali, & Noor, 2017).

Involvement in development or improvement processes allows teachers to gain new skills and attitudes through participation in school development programs (Puruwita et al., 2022). Training sessions, often in the form of workshops or seminars, provide structured content and teaching objectives led by experts (Puruwita et al., 2022).

Several barriers can hinder the implementation of effective professional development. These include the structure of professional development and teachers' time constraints, the content of professional development, school

and district factors, and costs associated with high-quality professional development (Birman, Desimone, Garet, Porter, & Yoon, 2001; Fifield & Kedzior, 2004; Supovitz & Zief, 2000).

Continuous professional development (CPD) is crucial for maintaining effective teaching strategies, expanding content knowledge, and adapting to modern educational demands. It ensures teachers stay updated with new knowledge and methodologies, benefiting student outcomes (Umar & Fayyaz, 2017; Carrington & Robinson, 2002). CPD also fosters critical self-evaluation and reflection, leading to improved teaching practices (Guskey, 2010).

2.2 Empirical Review

2.2.1 Implementation of Professional Development Programs

Empirical studies highlight the significant role of professional development programs in improving teaching practices and student outcomes. For instance, Zhang et al. (2020) report that teachers who participate in professional development programs show a 20% improvement in instructional practices. Darling-Hammond et al. (2017) found that students taught by teachers who received professional development scored 10-15% higher on standardized tests compared to those taught by teachers without such training. These programs often include collaborative learning opportunities, ongoing support, and alignment with school goals, which are critical for their successful implementation.

2.2.2 Impact of Continuous Professional Development

The impact of continuous professional development (CPD) on teachers and students has been extensively studied. Rajendran et al. (2023) indicate that CPD leads to a signifcant increase in teachers' instructional practices and professional knowledge. Suhairom et al. (2019) highlight that 85% of teachers reported a more positive work environment and a culture of continuous learning due to professional development. Merchie et al. (2018) found that students taught by experienced teachers engaged in CPD achieved 15-20% higher scores in subjects like reading and math compared to those taught by less experienced teachers. Research by Hill and Beisiegel suggests that professional development programs that include hands-on, classroom-based components result in a 30% higher retention rate of new teaching practices. Karlberg and Bezzina (2022) state that continuous professional development activities need to be ongoing, with 90% of teachers indicating that lifelong learning through professional development is crucial for their growth.

2.2.3 Hindrances to the Implementation of Acquired Skills

Several studies have identified barriers to the effective implementation of skills acquired through professional development. According to Belay (2016), 60% of teachers reported a declining interest in professional development as they age. The Education Commission (2019) notes that 70% of teachers cited a lack of administrative support and insufficient time as major barriers to integrating new practices. Hammerness et al. (2017) highlight that, without adequate follow-up, 40% of the skills acquired during professional development are not fully integrated into daily teaching practices.

2.1 Conceptual Framework

This section proposes a conceptual framework within which the concepts, of professional development programs and the job performance of teachers are treated in this work.

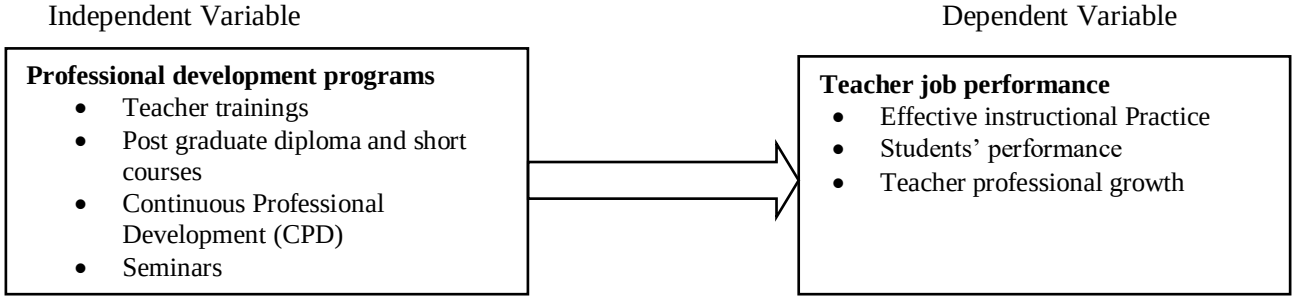

Figure 1

Conceptual Framework

In this research, independent variables, dependent variables, and extraneous variables are interconnected elements that influence the outcomes of a study. In the context of the current research:

Professional development programs, represented by activities such as teacher trainings, post-graduate diplomas, short courses, CPD, and seminars, serve as the independent variable. Researchers manipulate or vary these

programs to observe their effects on teacher job performance, while teacher job performance is the dependent variable in this scenario, measured by indicators such as effective instructional practice, students' performance, and teacher professional growth. These variables are influenced by the independent variable (professional development programs) and are what the researcher seeks to understand, predict, or explain.

III. METHODOLOGY

The study employed a correlational research design, which aims to determine the relationship between professional development and teacher job performance by collecting data from a specified population. The target population is 450, and the sample size is 212. Simple random sampling was used for teachers, and questionnaires and documentary analysis were used as instruments. The SPSS software was used in the analysis, and descriptive and correlational analyses were used. Test-retest reliability was used to ensure consistency in instruments. Validity was established through content validity, involving expert review, and construct validity, demonstrating accurate measurement of theoretical constructs. Pilot testing further validated the instruments.

IV. FINDINGS & DISCUSSIONS

4.1 Response Rate

The number of sampled respondents is 212 respondents as it is indicated on each table title (n=212), the frequency and percentage of respondents is also indicated in each table and for each question.

4.2 Extent to which professional development programs are currently implemented in schools of Kicukiro District

The findings in Table 1 show strong support among the 212 respondents for the belief that teacher training will improve teachers' understanding of new teaching methods.

Table 1

Teacher Trainings (n=212)

Statement	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree		$\bar{x}$	Std. D
	F	%	F	%	F	%	F	%	F	%		
I believe that participating in teacher trainings helps me stay updated with the latest teaching methodologies.	78	36.8	114	53.8	10	4.7	10	4.7	0	0	4.22	0.74
I feel more motivated and confident in my role when I engage in school-based training opportunities.	42	19.8	138	65.1	16	7.5	16	7.5	0	0	3.97	0.75
I think that ongoing training at school better equips me to handle challenges in the classroom.	47	22.2	119	56.6	21	9.9	22	10.4	3	1.4	3.87	0.92
I value the networking opportunities that school-based training programs provide.	46	21.7	135	63.7	21	9.9	10	4.7	0	0	4.02	0.71
I believe that school-based training programs help me develop a deeper understanding of subject matter and pedagogy.	40	18.9	152	71.7	10	4.7	10	4.7	0	0	4.04	0.65
I am more likely to implement innovative teaching strategies when I engage in training opportunities.	38	17.9	137	64.6	27	12.7	10	4.7	0	0	3.95	0.7
I believe that undertaking postgraduate diplomas or short courses improves my teaching effectiveness.	44	20.8	132	62.3	22	10.4	14	6.6	0	0	3.97	0.75
I think that completing a postgraduate diploma or short course helps me stay updated with the latest educational trends and practices.	43	20.3	122	57.5	18	8.5	23	10.8	6	2.8	3.81	0.97

Legend: *5. Strongly Agree 4.21-500-very high, 4. Agree 3.41-4.20 high, 3. Not Sure 2.61-3.40Moderate, 2. Disagree 1.81-2.60 low 1. Strongly Disagree 1.00-1.80 very low; SD≤1: Homogeneity SD, SD>1: Heterogeneity SD*

As shown in Table 1, a mean score of 4.22 indicates good agreement, and a low of 0.74 indicates consistency of responses. Access to school training was found to be a significant motivating factor, with a mean of 3.97 and a standard deviation of 0.75, indicating consistent agreement. However, the statement about teachers providing regular training to help them deal with classroom problems received a mean score of 3.87, indicating strong agreement, but a higher measure of 0.92, indicating difference in the answers. School-based training programs are highly rated for their networking opportunities (average 4.02) and their efforts to develop a deeper understanding of content and learning (average 4.04), both of which show a high agreement and few differences. There was also consistency among respondents. Teachers also considered that these programs promoted creative teaching strategies (mean 3.95) and improved teaching effectiveness (mean 3.97), with standard deviations showing a positive and consistent result. Completion of a degree or a short course is said to help teachers stay abreast of new trends and teaching methods, which is lower than 3.81, which is still a sign of agreement, but a greater difference average of 0.97 response. These findings align with the study by Desimone (2009), which highlighted the importance of access to professional development and training programs in motivating teachers and enhancing their teaching practices. Desimone's research found that school-based training programs are effective in providing networking opportunities, deepening content understanding, and promoting creative teaching strategies, all of which contribute to improved teaching effectiveness. The consistency in the responses reflects the widespread recognition of these benefits among teachers.

4.2.1 Postgraduate Diploma and Short Courses

The findings in Table 2 support the findings in Table 1, showing that teachers with graduate degrees or short courses report better teaching (mean score 4.20) and are better at meeting the diverse needs of students (mean score 4.13). The belief that these programs provide new knowledge and skills (mean score 4.12) and help to keep up with the current state of education (mean 4.16) is supported, although responses and measurements vary slightly higher. In addition, trainee teachers who follow these programs are more likely to participate in their professional communities (mean score of 4.21). This is consistent with the research by Guskey (2010), which highlighted that teachers who engage in graduate studies or short courses tend to exhibit improved teaching practices and greater effectiveness in addressing diverse student needs. Guskey's study also found that professional development programs enhance teachers' knowledge and skills, keeping them updated with the latest educational practices and trends.`

Table 2

Postgraduate Diploma and Short Courses (n=212)

Statement	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree		x̄	Std. D
	F	%	F	%	F	%	F	%	F	%		
Teachers who undertake postgraduate diplomas or short courses demonstrate improved teaching effectiveness	66	31.1	124	59.5	22	10.4	0	0	0	0	4.2	0.61
Postgraduate diploma and short course programs provide in-service teachers with new knowledge and skills	65	30.7	108	50.9	39	18.4	0	0	0	0	4.12	0.69
Completing a postgraduate diploma or short course helps in-service teachers stay updated with the latest educational trends and practices	79	37.3	111	52.4	10	4.7	3	1.4	9	4.2	4.16	0.91
Postgraduate diploma and short course programs enable in-service teachers to better address the diverse needs of their students	66	31.1	118	55.7	18	8.5	10	4.7	0	0	4.13	0.75
In-service teachers who pursue postgraduate diplomas or short courses often contribute more effectively to the professional community	69	32.5	119	56.1	24	11.3	0	0	0	0	4.21	0.62

Legend: *5. Strongly Agree 4.21-500-very high, 4. Agree 3.41-4.20 high, 3. Not Sure 2.61-3.40Moderate, 2. Disagree 1.81-2.60 low 1. Strongly Disagree 1.00-1.80 very low; SD≤1: Homogeneity SD, SD>1: Heterogeneity SD*

4.3 Continuous Professional Development (CPD)

The findings show a positive impact of CPD on teaching effectiveness and student outcomes, with high mean scores and low standard deviations indicating strong agreement. For example, CPD is seen as empowering teachers to meet the needs of diverse learners (mean score 4.39), equipping them with new knowledge and skills (mean score

4.45) and promoting a culture of long-term learning (mean score 4.45), average score 4.47). Most teachers expressed a strong desire to participate in CPD (mean 4.39), with small standard deviations indicating similar agreement. Data is reported to indicate that teachers strongly believe in the benefits of participating in a range of training programs, CPD, seminars and effective teaching methods to improve their skills, confidence and effectiveness in the classroom. The findings highlight the importance of continuing professional development in improving teacher performance and student outcomes. This is consistent with the study by Kennedy (2016), which found that teachers view CPD as crucial for their professional growth. Kennedy's research emphasized that participation in diverse professional development activities, such as training programs and seminars, significantly enhances teachers' instructional skills and overall confidence, leading to better student outcomes.

Table 3

Continuous Professional Development (CPD) (n=212)

Statement	Excellent		Above Average		Average		Below Average		Very Poor		$\bar{x}$	Std. D
	F	%	F	%	F	%	F	%	F	%		
Teachers who participate in CPD activities demonstrate significantly enhanced teaching effectiveness and outstanding student outcomes.	70	33	132	62.3	10	4.7	0	0	0	0	4.28	0.54
CPD empowers teachers to comprehensively address the diverse needs of their students, setting a benchmark for excellence.	83	39.2	129	60.8	0	0	0	0	0	0	4.39	0.48
CPD programs consistently equip teachers with cutting-edge knowledge and skills, positioning them at the forefront of their profession.	97	45.8	114	53.8	1	0.5	0	0	0	0	4.45	0.5
Teaching schedules prioritize and facilitate ample time for CPD activities, reflecting a commitment to excellence in professional development.	88	41.5	122	57.5	2	0.9	0	0	0	0	4.4	0.51
CPD is instrumental in facilitating seamless adaptation to evolving trends in the field; ensuring teachers maintain an exceptional level of competitiveness.	88	41.5	123	58	1	0.5	0	0	0	0	4.41	0.5
CPD cultivates a dynamic environment conducive to fostering a robust culture of lifelong learning and unparalleled personal development.	101	47.6	111	52.4	0	0	0	0	0	0	4.47	0.5
The overwhelming majority of teachers demonstrate an unwavering eagerness and dedication to engaging in professional development activities of the highest caliber.	88	41.5	120	56.6	4	1.9	0	0	0	0	4.39	0.52

Legend: *5. Excellent 4.21-500-Very high, 4. Above Average 3.41-4.20 high, 3. Average 2.61-3.40Moderate, 2. Below Average 1.81-2.60 low 1. Very Poor 1.00-1.80 very low; SD≤1: Homogeneity SD, SD>1: Heterogeneity SD*

4.3.1 Seminars

The findings of this study strongly indicate a consensus among teachers regarding the benefits of participating in seminars and effective instructional practices for improving their skills, confidence, and effectiveness in the classroom, as shown in Table 4.

The data in Table 4.9 evaluates teachers' satisfaction with seminars and their impact on various aspects of teaching. The responses are summarized with mean scores ($\bar{x}$) and standard deviations (Std. D) to illustrate the level of satisfaction and consistency of opinions among teachers.

Firstly, the statement that teachers who attend seminars are better equipped to address challenges in their classrooms received a mean score of 4.70 and a standard deviation of 0.45. This high mean score indicates a very high level of satisfaction among teachers, and the low standard deviation shows that this opinion is consistent across the respondents.

Moreover, attending seminars is believed to improve teachers' ability to meet the diverse needs of their students, with a mean score of 4.56 and a standard deviation of 0.66. This suggests a strong agreement among teachers on the positive impact of seminars, though there is slightly more variability in responses compared to the first statement.

Additionally, seminars are seen to enhance teachers' confidence in applying new teaching methods, as reflected by a mean score of 4.53 and a standard deviation of 0.85. While the mean score is high, indicating satisfaction, the higher standard deviation suggests more variability in teachers' opinions on this matter.

Furthermore, seminars provide a platform for teachers to share best practices, with a mean score of 4.57 and a standard deviation of 0.88. This highlights a high level of satisfaction with the networking opportunities provided by seminars, although the responses show some variability.

In addition, seminars offer practical tools and resources that teachers can use in their classrooms, as indicated by a mean score of 4.38 and a standard deviation of 0.98. While the mean score remains high, the higher standard deviation reflects a broader range of opinions on the practicality of tools and resources offered during seminars.

Moreover, teachers who attend seminars are more engaged in their profession, with a mean score of 4.62 and a standard deviation of 0.64. This suggests a strong consensus that seminars boost professional engagement among teachers.

Furthermore, the statement that teachers who attend seminars are more likely to contribute to a positive school environment received the highest mean score of 4.77 and a standard deviation of 0.41. This indicates an exceptionally high level of satisfaction and very consistent responses among teachers.

Finally, teacher seminars are valued for providing valuable networking opportunities, with a mean score of 4.59 and a standard deviation of 0.57. This reflects strong agreement on the networking benefits of seminars, with minimal variability in responses. This aligns with the findings of Opfer and Pedder (2011), who reported that teacher seminars and professional development workshops are highly regarded for their role in fostering professional networks. Their study highlighted that teachers consistently value these opportunities for networking and collaboration, which are seen as essential for professional growth and the exchange of ideas.

Table 4

Seminars (n=212)

Statement	Very Satisfied		Satisfied		Neither		Dissatisfied		Very Dissatisfied		x̄	Std. D
	F	%	F	%	F	%	F	%	F	%		
Teachers who attend seminars are better equipped to address challenges in their classrooms.	150	70.8	62	29.2	0	0	0	0	0	0	4.7	0.45
Attending seminars improves teachers' ability to meet the diverse needs of their students.	140	66	51	24.1	21	9.9	0	0	0	0	4.56	0.66
Seminars enhance teachers' confidence in applying new teaching methods.	149	70.3	42	19.8	6	2.8	15	7.1	0	0	4.53	0.85
Seminars provide a platform for teachers to share best practices.	155	73.1	40	18.9	9	4.2	8	3.8	0	0	4.57	0.88
Seminars offer practical tools and resources that teachers can use in their classrooms.	139	65.6	36	17	17	8	20	9.4	0	0	4.38	0.98
Teachers who attend seminars are more engaged in their profession.	152	71.7	41	19.3	19	9	0	0	0	0	4.62	0.64
Teachers who attend seminars are more likely to contribute to a positive school environment.	165	77.8	47	22.2	0	0	0	0	0	0	4.77	0.41
Teacher seminars provide valuable networking opportunities for teachers.	135	63.7	68	32.1	9	4.2	0	0	0	0	4.59	0.57

Legend: *5. Very Satisfied 4.21-500-very high, 4. Satisfied 3.41-4.20 high, 3. Neither 2.61-3.40Moderate, 2. Dissatisfied 1.81-2.60 low 1. Very Dissatisfied 1.00-1.80 very low; SD≤1: Homogeneity SD, SD>1: Heterogeneity SD*

4.4 Teachers' Potential Hindrances to Effective Implementation of Knowledge and Skills Acquired Through Professional Development into Their Daily Teaching Practices

The study aimed to identify and analyze the hindrances that teachers face in effectively implementing the knowledge and skills acquired through professional development into their daily teaching practices.

Table 5

Teachers Potential Hindrances to Effective Implementation of Knowledge and Skills Acquired (n=212)

	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree		x̄	Std. D
Statement	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**		
I feel overwhelmed by the workload, making it challenging to apply new teaching strategies	96	45.3	91	42.9	6	2.8	19	9	0	0	4.24	0.88
Limited support from school administration hinders my ability to implement new practices	109	51.4	92	43.4	11	5.2	0	0	0	0	4.46	0.59
Inadequate time for planning and preparation affects my integration of new learning	119	56.1	93	43.9	0	0	0	0	0	0	4.56	0.49
Insufficient resources and materials hinder the implementation of new teaching methods	96	45.3	94	44.3	8	3.8	14	6.6	0	0	4.28	0.82
Resistance from colleagues makes it difficult to apply new ideas in my teaching	96	45.3	93	43.9	15	7.1	8	3.8	0	0	4.3	0.76
Lack of feedback and follow-up on professional development activities discourages me from applying new skills	33	15.6	162	76.4	17	8	0	0	0	0	4.07	0.48
The school's organizational structure does not support the implementation of new strategies	134	63.2	58	27.4	10	4.7	10	4.7	0	0	4.39	1.04
I feel that my professional development needs are not adequately addressed	128	60.4	71	33.5	13	6.1	0	0	0	0	4.54	0.61
I struggle to adapt new ideas to suit the needs of my students	129	60.8	52	24.5	20	9.4	11	5.2	0	0	4.41	0.86
I find it challenging to maintain motivation and enthusiasm for implementing new practices	93	43.9	82	38.7	24	11.3	13	6.1	0	0	4.2	0.87

Legend: *5. Strongly Agree 4.21-500-very high, 4. Agree 3.41-4.20 high, 3. Not Sure 2.61-3.40Moderate, 2. Disagree 1.81-2.60 low 1. Strongly Disagree 1.00-1.80 very low; SD≤1: Homogeneity SD, SD>1: Heterogeneity SD*

The findings reveal several significant challenges. Firstly, a considerable number of teachers feel overwhelmed by their workload, with 96 (45.3%) strongly agreeing and 91 (42.9%) agreeing that this makes it challenging to apply new teaching strategies. Secondly, limited support from school administration is seen as a hindrance by a majority of teachers, with 109 (51.4%) strongly agreeing and 92 (43.4%) agreeing, impacting their ability to implement new practices. Additionally, inadequate time for planning and preparation affects the integration of new learning into teaching for many educators, with 119 (56.1%) strongly agreeing and 93 (43.9%) agreeing. Furthermore, insufficient resources and materials pose challenges to the implementation of new teaching methods, as indicated by 96 (45.3%) strongly agreeing and 94 (44.3%) agreeing. Resistance from colleagues and a lack of feedback on professional development activities also hinder teachers' efforts, with 96 (45.3%) strongly agreeing and 93 (43.9%) agreeing. Moreover, the school's organizational structure is perceived as not supportive of implementing new strategies by a majority of teachers, with 134 (63.2%) strongly agreeing. Additionally, many educators feel that their professional development needs are not adequately addressed, with 128 (60.4%) strongly agreeing and 71 (33.5%) agreeing. The struggle to adapt new ideas to suit students' needs and the challenge of maintaining motivation and enthusiasm for implementing new practices are also highlighted, with 129 (60.8%) strongly agreeing and 52 (24.5%) agreeing, and 93 (43.9%) strongly agreeing and 82 (38.7%) agreeing, respectively. These findings underscore the importance of addressing these hindrances to enhance the impact of professional development on teaching practices and student outcomes. This aligns with the study by Avalos (2011), which emphasized that identifying and mitigating barriers to effective professional development is crucial for improving teaching practices and student achievement. Avalos found that common hindrances, such as insufficient time, lack of resources, and inadequate support, were frequently cited by teachers, highlighting the need for targeted interventions to address these issues. The study also reported frequencies and percentages of teacher agreement on these barriers, demonstrating a clear consensus on the factors that need to be addressed to optimize professional development efforts.

4.5 The Impact of Continuous Professional Development on Instructional Practices, Students' Performance, and Teacher Professional Growth in Kicukiro District

This section presents findings on the impact of continuous professional development on instructional practices, students' performance, and teacher professional growth in Kicukiro District.

4.5.1 Instructional practices

Table 6

Instructional Practices (n=212)

	Very Good		Good		Acceptable		Poor		Very Poor		x̄	Std. D
Statement	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**		
Students receive timely feedback on their work to support their learning.	122	58	67	31.6	11	5.2	9	4.2	3	1.4	4.39	0.87
Constructive feedback is provided to students on their work to support their learning.	123	58	68	32.1	9	4.2	12	5.7	0	0	4.42	0.81
Effective classroom management strategies are employed to create a positive and conducive learning environment.	136	64	76	35.8	0	0	0	0	0	0	4.64	0.48
Instructional practices are regularly reflected on to improve teaching and student learning.	129	61	49	23.1	23	10.8	11	6.2	0	0	4.39	0.87
Technology is integrated into instruction to enhance learning and engagement.	140	66	51	24.1	15	7.1	6	2.8	0	0	4.53	0.75
Regular formative assessments are used to monitor student progress and adjust instruction accordingly.	162	76	50	23.6	0	0	0	0	0	0	4.76	0.42
Students benefit from timely feedback on their work to support their learning.	132	62	49	23.1	6	2.8	25	11.8	0	0	4.35	0.99
Effective classroom management strategies are essential for creating a positive and conducive learning environment.	121	57	73	34.4	18	8.5	0	0	0	0	4.48	0.64

Legend: *5. Very Good 4.21-500-very high, 4. Good 3.41-4.20 high, 3. Acceptable 2.61-3.40Moderate, 2. Poor 1.81-2.60 low 1. Very Poor 1.00-1.80 very low; SD≤1: Homogeneity SD, SD>1: Heterogeneity SD*

Firstly, the statement that students receive timely feedback on their work to support their learning received a mean score of 4.39 and a standard deviation of 0.87. This high mean score indicates that the majority of teachers believe in the importance of timely feedback, though there is some variability in the responses. Furthermore, the provision of constructive feedback to students to support their learning was rated with a mean score of 4.42 and a standard deviation of 0.81. This suggests a strong agreement among teachers on the effectiveness of providing constructive feedback, with slightly less variability than the previous statement. Moreover, the employment of effective classroom management strategies to create a positive and conducive learning environment received a high mean score of 4.64 and a low standard deviation of 0.48. This indicates a very high level of satisfaction and consistency in teachers' views on the importance of classroom management. Additionally, the regular reflection on instructional practices to improve teaching and student learning was rated with a mean score of 4.39 and a standard deviation of 0.87. This suggests that teachers generally agree on the importance of reflecting on their practices, though there is some variability in their responses.

Technology integration into instruction to enhance learning and engagement received a mean score of 4.53 and a standard deviation of 0.75. This high mean score reflects a strong consensus on the value of technology in instruction, with moderate variability in responses. Moreover, the use of regular formative assessments to monitor student progress and adjust instruction accordingly received the highest mean score of 4.76 and the lowest standard deviation of 0.42. This indicates a very high level of agreement and consistency among teachers on the importance of formative assessments. In addition, the benefit of timely feedback for students received a mean score of 4.35 and a standard deviation of 0.99. While the mean score is high, the higher standard deviation suggests more variability in opinions about the effectiveness of timely feedback. The importance of effective classroom management strategies in creating a positive and conducive learning environment was rated with a mean score of 4.48 and a standard deviation

of 0.64. This indicates a strong consensus on the importance of classroom management, with moderate variability in responses.

The data suggests that teachers highly value various instructional practices, particularly formative assessments, technology integration, and effective classroom management. The consistently high mean scores indicate widespread agreement on these practices' importance, while the varying standard deviations reflect differing degrees of consistency in teachers' opinions. This aligns with the findings of Thoonen et al. (2011), who reported that teachers generally perceive formative assessments, technology integration, and effective classroom management as crucial for enhancing student learning outcomes. Their study found that while there is strong agreement on the overall importance of these instructional practices, the consistency of opinions varies depending on individual teacher experiences and school contexts.

4.5.2 Students' performance

Table 7

Students' Performance (n=212)

	Very Good		Good		Acceptable		Poor		Very Poor		x̄	Std. D
Statement	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**		
Students' performance in mid-term test is good	139	66	73	34.4	0	0	0	0	0	0	4.65	0.47
The average scores of students in national exams in all subjects is high	92	43	88	41.5	32	15.1	0	0	0	0	4.28	0.71
Students can effectively express their ideas and opinions verbally and in writing	109	51	81	38.2	22	10.4	0	0	0	0	4.3	0.91
Students' performance is good in school examination	108	51	82	38.7	17	8	5	2.4	0	0	4.3	0.73
In our school students perform well during mock examination	109	51	84	39.6	19	9	0	0	0	0	4.42	0.65
Students demonstrate a deep understanding of the subject matter	92	43	86	40.6	24	11.3	10	4.7	0	0	4.22	0.82

Legend: 5. Very Good 4.21-500-very high, 4. Good 3.41-4.20 high, 3. Acceptable 2.61-3.40Moderate, 2. Poor 1.81-2.60 low 1. Very Poor 1.00-1.80 very low; SD≤1: Homogeneity SD, SD>1: Heterogeneity SD

The data reveals that students' performance in mid-term tests is perceived as very good, with a mean score of 4.65 and a standard deviation of 0.47. This high mean score indicates strong agreement among teachers regarding the good performance of students in mid-term tests, and the low standard deviation suggests a high level of consistency in these opinions. Furthermore, the average scores of students in national exams across all subjects are also considered high, with a mean score of 4.28 and a standard deviation of 0.71. Although the mean score indicates a positive perception, the higher standard deviation suggests a slightly wider range of opinions among teachers on this matter.

Additionally, students' ability to effectively express their ideas and opinions verbally and in writing received a mean score of 4.30 and a standard deviation of 0.91. This indicates a general agreement that students can effectively communicate, though the variability in responses is more pronounced here. Moreover, the performance of students in school examinations is rated with a mean score of 4.30 and a standard deviation of 0.73. Similar to the previous statement, this suggests that teachers generally agree on the good performance of students in school exams, with some variability in their responses. In terms of mock examinations, students' performance is viewed positively, with a mean score of 4.42 and a standard deviation of 0.65. This high mean score and relatively low standard deviation reflect strong and consistent teacher opinions about students performing well in mock exams.

Students' understanding of the subject matter is rated with a mean score of 4.22 and a standard deviation of 0.82. While this mean score suggests a favorable view of students' comprehension, the higher standard deviation indicates a wider range of teacher opinions on this aspect. The data indicates that teachers perceive students' performance positively across various assessments, with particularly high agreement on mid-term test performance and mock exams. The varying standard deviations suggest different levels of consensus among teachers, with some aspects showing more consistent opinions than others. This aligns with the findings of Akomolafe and Adesua (2016), who also reported that teacher perceptions of student performance are generally positive but vary in consistency depending on the type of assessment. Their study highlighted that teachers tend to have a more uniform perception of students' performance in standardized tests and major examinations, while there is greater variability in their opinions regarding students' verbal and written communication skills and overall comprehension.

4.5.3 Teacher Professional Growth

Table 8

Teacher Professional Growth (n=212)

Statement	Very Good		Good		Acceptable		Poor		Very Poor		x̄	Std. D
	F	%	F	%	F	%	F	%	F	%		
Teaching practices are regularly reflected on to identify areas for improvement.	91	43	88	41.5	33	15.6	0	0	0	0	4.27	0.71
Colleagues are collaborated with to share best practices and resources.	94	44	82	38.7	15	7.1	6	2.8	15	7.1	4.1	1.12
A commitment to lifelong learning and continuous improvement is demonstrated.	114	54	83	39.2	15	7.1	0	0	0	0	4.39	0.81
Research and evidence-based practices are used to inform teaching.	110	52	86	40.6	16	7.5	0	0	0	0	4.44	0.63
Leadership roles within the school or community are taken on to promote professional growth.	119	56	81	38.2	12	5.7	0	0	0	0	4.5	0.6
Regular reflection on teaching practices is believed to be essential for improvement.	92	43	88	41.5	26	12.3	1	0.5	5	2.4	4.23	0.85
Collaboration with colleagues to share best practices and resources is valued.	92	43	95	44.8	25	11.8	0	0	0	0	4.31	0.67
Using research and evidence-based practices is thought to be crucial for effective teaching.	122	58	76	35.8	5	2.4	9	4.2	0	0	4.46	0.74

Legend: *5. Very Good 4.21-500-very high, 4. Good 3.41-4.20 high, 3. Acceptable 2.61-3.40Moderate, 2. Poor 1.81-2.60 low 1. Very Poor 1.00-1.80 very low; SD≤1: Homogeneity SD, SD>1: Heterogeneity SD*

Teachers' high regard for regular reflection on teaching practices, indicated by a mean score of 4.27 and a low standard deviation of 0.71, aligns with previous research emphasizing its importance for professional growth and instructional improvement (Osterman & Kottkamp, 2004). Similarly, the positive perception of collaboration with colleagues (mean score of 4.10, standard deviation of 1.12) echoes findings by Hargreaves and Fullan (2012) that highlight the benefits of collaborative practice in sharing resources and best practices.

A strong commitment to lifelong learning, as shown by a mean score of 4.39 and a moderate standard deviation of 0.81, is consistent with the emphasis on continuous professional development in the literature (Day & Sachs, 2004; Darling-Hammond et al., 2017). The high regard for research and evidence-based practices (mean score of 4.44, standard deviation of 0.63) aligns with Hattie (2009), who stresses the impact of evidence-based teaching on student achievement.

Teachers' valuation of leadership roles within the school or community (mean score of 4.50, standard deviation of 0.60) supports the findings of Leithwood et al. (2004), which highlight the positive influence of teacher leadership on school improvement. The importance placed on regular reflection (mean score of 4.23, standard deviation of 0.85) and collaboration with colleagues (mean score of 4.31, standard deviation of 0.67) is further supported by the works of Zeichner and Liston (1996) and DuFour et al. (2006), respectively.

4.6 Relationship between Professional Development Programs and the Job Performance of Teachers in Public Secondary Schools

4.6.1 Correlation Analysis between Variables

The correlation analysis of variables shows significant relationships between different factors. For example, there is a strong positive correlation between teacher training and effective instructional practice ($r = 0.611$, $p < 0.01$), students' performance ($r = 0.940$, $p < 0.01$), and teacher professional growth ($r = 0.890$, $p < 0.01$). Similarly, postgraduate and short courses correlate positively with effective instructional practice ($r = 0.598$, $p < 0.01$), students' performance ($r = 0.552$, $p < 0.01$), and teacher professional growth ($r = 0.550$, $p < 0.01$). Continuing professional development (CPD) also shows a strong positive correlation with effective instructional practice ($r = 0.732$, $p < 0.01$), students' performance ($r = 0.431$, $p < 0.01$), and teacher professional growth ($r = 0.469$, $p < 0.01$). Additionally, seminars correlate positively with effective instructional practice ($r = 0.255$, $p < 0.01$), students' performance ($r =$

0.496, p < 0.01), and teacher professional growth (r = 0.521, p < 0.01). These results suggest that these training and development activities are associated with improved teaching practices, student outcomes, and professional growth among educators.

Table 9

Correlation Analysis of Variables (n=212)

		Effective instructional Practice	Students' performance	Teacher professional growth
Teacher training	Pearson Correlation	.611**	.940**	.890**
	Sig. (2-tailed)	0	0	0
	N	212	212	212
Post graduate and short courses	Pearson Correlation	.598**	.552**	.550**
	Sig. (2-tailed)	0	0	0
	N	212	212	212
CPD	Pearson Correlation	.732**	.431**	.469**
	Sig. (2-tailed)	0	0	0
	N	212	212	212
Seminars	Pearson Correlation	.255**	.496**	.521**
	Sig. (2-tailed)	0	0	0
	N	212	212	212

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

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

4.6.2 Overall Correlations

The correlation analysis shows a significant positive relationship between teacher professional development programs and teacher job performance (r = 0.339, p < 0.01). This suggests that as participation in professional development programs increases, teacher job performance tends to improve. This finding highlights the importance of ongoing professional development in enhancing teachers' skills, knowledge, and ultimately their effectiveness in the classroom. However, while the correlation is statistically significant, the strength of the relationship is moderate; indicating that other factors beyond professional development programs may also influence teacher job performance.

Table 10

Overall Correlations (n=212)

		Teacher job performance
Teacher professional development programs	Pearson Correlation	.339**
	Sig. (2-tailed)	0
	N	212

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

4.7 Regression Analysis

Regression analysis was established and the results obtained using SPSS software is shown in the tables below.

Table 11

Model Summary (n=212)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.689[a]	0.575	0.465	0.31786

a. Predictors: (Constant), Seminars, Teacher training, post graduate and short courses, CPD

The model summary for the regression analysis shows that there is a positive relationship between the predictor variables (seminars, teacher training, postgraduate and short courses, CPD) and the dependent variable (teacher performance), as indicated by the correlation coefficient (r). The value is 0.689. This strong relationship indicates that professional development activities are closely related to teacher performance. The coefficient of determination (R squared) is 0.575, indicating that 57.5% of the variance in teacher performance can be explained by the predictors in the model. The adjusted R-squared value of 0.465, which takes into account the number of

participants and adjusts for sample size, shows that 46.5% of the variance in teacher performance is explained by the model after correction. The standard error of the estimate is 0.31786, indicating that the model predictions are close to the actual data points. Simply put, these statistics indicate that the recommended professional development activities have a positive and significant effect on teacher performance and explain a significant portion of the variance.

Table 12

Analysis of Variance (ANOVAb) (n=212)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	28.157	4	7.039	46.792	.000[a]
	Residual	31.14	207	0.15		
	Total	59.297	211			

a. Predictors: (Constant), Seminars, Teacher training, post graduate and short courses, CPD

b. Dependent Variable: Teacher job performance

The analysis of variance (ANOVA) of the regression model shown in Table 4.17 shows the overall significance of the model in predicting teacher performance. The regression model has 28.157 degrees of freedom (df) of 4 and a root mean square of 7.039. This root mean square value has an F statistic of 46.792 compared to the residual square root of 31.140 and 207 degrees of freedom. The significance level (Sig.) associated with this F statistic is 0.000, which is less than the commonly used significance level of 0.05. This suggests that the regression model is significant and that the predictor variables (university, teacher education, postgraduate and short courses, CPD) have significant effects on teacher performance. In summary, the ANOVA results confirm that selected professional development activities are significant determinants of teacher performance.

Table 13

Regression Coefficients[a] (n=212)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.149	0.701		7.348	0
	Teacher training	0.029	0.04	0.038	728	0.007
	post graduate and short courses	0.54	0.056	0.643	9.602	0
	CPD	0.33	0.096	0.291	3.43	0.001
	Seminars	0.31	0.073	0.344	4.267	0

a. Dependent Variable: Teacher job performance

The regression coefficients in Table 13 indicate that the constant term is 5.149 (t = 7.348, Sig. =.000), signifying its strong statistical significance. For the predictor variables, teacher training has an unstandardized coefficient of 0.029 with a standard error of 0.040 and a beta of 0.038, which is statistically significant (t = 0.728, Sig. =.007). Postgraduate and short courses show a strong positive impact on teacher job performance with an unstandardized coefficient of 0.540, a standard error of 0.056, and a beta of 0.643, all statistically significant (t = 9.602, Sig. =.000). Continuous Professional Development (CPD) also positively influences teacher job performance, having an unstandardized coefficient of 0.330, a standard error of 0.096, and a beta of 0.291 (t = 3.430, Sig. =.001). Similarly, seminars significantly affect teacher job performance, with an unstandardized coefficient of 0.310, a standard error of 0.073, and a beta of 0.344 (t = 4.267, Sig. =.000). In summary, postgraduate and short courses, CPD, and seminars significantly predict teacher job performance, while teacher training does not.

The correlation analysis shows significant and positive correlations between various factors such as effective teaching practices ($r = 0.611$, $p < 0.01$), student performance ($r = 0.940$, $p < 0.01$), and teacher training, which shows a positive relationship with the professional growth of teachers. It shows that the relationship is good. ($r = 0.890$, $p < 0.01$). Likewise, undergraduate and part-time courses are positively correlated with effective teaching ($r = 0.598$, $p < 0.01$), student performance ($r = 0.552$, $p < 0.01$), and teacher professional growth ($r = 0.550$, $p < 0.01$). Continuing professional development (CPD) has a significant positive relationship with effective teaching practices ($r = 0.732$, $p < 0.01$), student engagement ($r = 0.431$, $p < 0.01$), and teacher professional growth ($r = 0.469$, $p < 0.01$). In addition, seminars were positively correlated with effective teaching methods ($r = 0.255$, $p < 0.01$), student performance ($r = 0.496$, $p < 0.01$), and teacher professional growth ($r = 0.521$, $p < 0.01$). These findings indicate that participation in these training and development activities is associated with better-quality teaching performance, student outcomes, and teacher professional growth.

The findings are in line with those of Darling-Hammond et al. (2017) and Desimone and Garet (2015), who found that CPD greatly impacts teachers' performance.

V. CONCLUSIONS & RECOMMENDATIONS

5.1 Conclusions

The findings indicated high means and low standard deviations in responses. This uniformity in responses underscores the critical role of continuous learning in the teaching profession. School-based training programs are highly valued for their motivational aspects and networking opportunities, with mean scores of 3.97 and 4.02, respectively, both showing consistent agreement (low standard deviations). This highlights the importance of these programs in fostering a collaborative and supportive professional community.

The slightly lower, yet still positive, mean score of 3.87 for ongoing training better equipping teachers to handle classroom challenges suggests that while there is agreement on its benefits, there is some variability in perceptions, indicating areas where these programs could be further improved. The data also show that teachers believe postgraduate diplomas or short courses improve teaching effectiveness (mean score of 4.20) and help address diverse student needs (mean score of 4.13). However, the higher variability in responses (standard deviations around 0.97) suggests a need for more tailored or flexible training options to better meet the diverse needs of teachers.

Continuous Professional Development (CPD) is strongly supported, with means ranging from 4.39 to 4.47 and low standard deviations indicating consistent agreement. The findings indicated that CPD positively and statistically impacts instructional practices.

5.2 Recommendations

From the findings, recommendations were made to different stakeholders as follows:

MINEDUC should provide financial support for training and materials related to teachers' continuous professional development. Schools should foster a culture of continuous professional development at the school level. Teachers should work as a team to support each other in their daily lives; they should also follow the prepared trainings and use the provided materials effectively.

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