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**TEACHER PROFESSIONAL DEVELOPMENT AND
IMPLEMENTATION OF COMPETENCY-BASED EDUCATION IN
JUNIOR SCHOOLS IN TURBO SUB-COUNTY, KENYA**

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Abstract.

The implementation of Competency-Based Education (CBE) in Kenya has introduced a shift from knowledge-based learning to a learner-centered approach that emphasizes skills, competencies, and practical application. However, despite its policy rollout, effective implementation in junior schools continues to face challenges related to school management practices. This study focused on between teacher professional development and the implementation of Competency-Based Education in junior schools? The study was anchored on Transformational Leadership Theory. The study adopted a mixed-methods convergent parallel mixed methods design, involving both quantitative and qualitative approaches. The target population included 900 teachers, 55 heads of institutions, and one Sub-County Education Officer. Data was collected using questionnaires and interview schedules. Quantitative data was analyzed using descriptive and inferential statistics, while qualitative data was analyzed thematically. The Pearson Chi-square results which were $\chi^2(16) = 362.488$ and Cramer's V value of 0.572 indicated a statistically significant relationship between teacher professional development and the implementation of Competency-Based Education in junior schools.

Key Words: Teacher Professional Development; Implementation of Competency-Based Education

1.0 Introduction

Teachers are responsible for implementing the curriculum and therefore play a significant role in shaping and transforming students' learning experiences. Consequently, the quality of education depends largely on the quality and competence of teachers. Teachers must, therefore, possess adequate knowledge and skills in applying appropriate teaching strategies that facilitate effective student learning. For competency-based education (CBE) to succeed, teachers must be sufficiently knowledgeable and competent to engage learners actively in the learning process, given their central role in curriculum implementation (Sitienei, 2020). Since teachers are directly responsible for translating curriculum objectives into classroom practice, they require adequate expertise and competencies to implement the curriculum effectively. Continuous professional development is therefore essential for equipping teachers with the knowledge, skills, and competencies required to effectively implement a new curriculum.

Teacher professional development can significantly influence the successful implementation of CBE. Molapo and Pillay (2018) established that when teachers lack the necessary knowledge and skills, and when they receive inadequate or no training, effective curriculum implementation is significantly hindered. Similarly, Waweru and Muasya (2019) identified inadequate teacher training as one of the major challenges affecting the effective implementation of CBE. Their findings further indicated that many teachers perceived the implementation of CBE as having been hurriedly undertaken without adequate consultation and preparation of teachers. Consequently, some teachers were barely equipped with the core competencies required for effective implementation of the curriculum.

Despite efforts by the Ministry of Education and the Teachers Service Commission (TSC) to provide opportunities for teacher professional development, the extent to which teachers have acquired the competencies required for effective implementation of CBE remains unclear. It is therefore important to establish the level of teachers' competence and determine whether professional development opportunities have adequately prepared them for CBE implementation. Examining the influence of teacher professional development on the implementation of competency-based education in junior schools will provide valuable evidence to the Ministry of Education, the Teachers Service Commission, school administrators, and other education stakeholders. The findings may contribute to strengthening teacher capacity-building programs and informing policies and strategies aimed at improving the effective implementation of the competency-based curriculum.

2.0 Research Design and Methodology

The study adopted a convergent parallel mixed methods design, where quantitative and qualitative data was collected simultaneously, analyzed separately, and then integrated during interpretation to enhance validity through comparison and triangulation of findings (Creswell & Plano Clark, 2018). The quantitative strand adopted a descriptive and correlational survey design, using structured questionnaires to collect data from teachers and school leaders. The data was analyzed using descriptive statistics (frequencies, percentages, means, and standard deviation) and inferential statistics, specifically Pearson correlation and multiple regression analysis, to determine relationships and predictive effects of school management intervention strategies on Competency-Based Education (CBE) implementation. The qualitative strand adopted was phenomenology design to explore participants lived experiences. Data was collected using semi-structured interviews and focus group discussions and was analyzed thematically to generate patterns and meanings related to visionary leadership, teacher

professional development, resource allocation strategies, and monitoring and feedback systems.

2.1 Target Population

In this study, the target population included junior school teachers (900), head of institutions (55), PA members (110), and the Sub-County Director of Education (CSO) in Turbo Sub-County, Kenya. These categories were selected because they were directly involved in the implementation, coordination, and oversight of Competency-Based Education (CBE). Teachers were responsible for classroom instruction, head of institutions provided leadership and managed school-based implementation processes, PA members supported governance and stakeholder engagement, while the CSO offered administrative supervision and policy implementation oversight within the sub-county education system.

2.2 Sampling Methods

Stratified simple random and purposive sampling methods were used.

2.3 Research Instruments

To collect comprehensive and reliable data the following instruments were used questionnaire and interview guides.

2.4 Validity and Reliability of Research Instruments

Expert judgment was sought by consulting education specialists, researchers and supervisors who were familiar with Competency-Based Education (CBE) and school management practices. Their feedback helped refine the instruments to ensure clarity, relevance, and appropriateness of the questions for the target respondents. Additionally, a pilot test helped identify ambiguous items and ensured the instruments capture the intended constructs accurately. The reliability of the instruments was tested using Cronbach's Alpha coefficient to assess internal consistency of the scales measuring visionary leadership, teacher professional development, resource allocation, and monitoring and feedback systems. A Cronbach's Alpha coefficient of 0.7 or higher was considered acceptable, indicating that the instrument items reliably measure the same construct.

2.5 Data Analysis

The data collected was analyzed by use of percentages, frequencies, and means. Chi-square test of independence was used to test hypothesis.

3.0 Findings

Teacher professional development was examined through three key constructs: in-service training, teacher mentorship, and collaborative teaching. The respondents rated statements related to these dimensions using a five-point Likert scale of Strongly Agree (5), Agree (4), Neutral (3), Disagree (2), and Strongly Disagree (1). The scale measured the extent to which school management initiatives promoted continuous teacher learning, professional support, and collaboration in enhancing the implementation of Competency-Based Education in junior schools. Tables 1 presents the findings on teacher professional development practices.

Table 1*Heads of Institutions' Responses on Teacher Professional Development*

Statement	(1) F (%)	(2) F (%)	(3) F (%)	(4) F (%)	(5) F (%)
The school organizes regular professional development programs for teachers.	1 (1.9%)	3 (5.8%)	6 (11.5%)	24 (46.2%)	18 (34.6%)
Professional development activities are aligned with CBE implementation needs.	1 (1.9%)	2 (3.8%)	5 (9.6%)	25 (48.1%)	19 (36.5%)
The school provides mentorship and coaching for teachers.	2 (3.8%)	3 (5.8%)	7 (13.5%)	23 (44.2%)	17 (32.7%)
Teachers are supported to attend external training related to CBE.	3 (5.8%)	5 (9.6%)	8 (15.4%)	22 (42.3%)	14 (26.9%)
Professional development programs improve teachers' instructional practices.	1 (1.9%)	2 (3.8%)	5 (9.6%)	24 (46.2%)	20 (38.5%)
The school allocates budget for teacher training and development.	3 (5.8%)	4 (7.7%)	8 (15.4%)	22 (42.3%)	15 (28.8%)
Peer learning and collaboration among teachers are encouraged.	1 (1.9%)	2 (3.8%)	4 (7.7%)	24 (46.2%)	21 (40.4%)
Professional development is evaluated for effectiveness in improving CBE implementation.	2 (3.8%)	3 (5.8%)	6 (11.5%)	24 (46.2%)	17 (32.7%)

The study sought to establish if the Heads of Institutions organized regular professional development programs for teachers; 46.2% of them agreed, 34.6% strongly agreed, 7.7% expressed disagreement, while 11.5% remained neutral. From the findings, school management had recognized continuous teacher capacity building as an important strategy for facilitating curriculum reform. Regular professional development provides teachers with opportunities to enhance their understanding of CBE principles, improve pedagogical approaches, and address emerging instructional challenges. The findings were supported by Tran and Nguyen (2022) who reiterated that schools were actively creating opportunities for teachers to improve their competence in implementing competency-based teaching practices. Teachers who participated in subject-specific professional development programs and received peer mentoring were more likely to adopt formative assessment strategies and interactive, learner-centered pedagogies associated with competency-based instruction. However, absence of consistent administrative follow-up and weak institutional support reduced the sustainability of these instructional improvements. The results further showed that professional development activities were aligned with CBE implementation needs. A majority of Heads of Institutions (48.1% agreed and 36.5% strongly agreed) gave a combined positive response of 84.6%, while only 5.7% disagreed and 9.6% were neutral. This meant that school leaders perceived teacher training initiatives as being relevant to the demands of the Competency-Based Education framework. As explained by CSO, alignment of professional development with curriculum requirements

ensures that teachers acquire skills necessary for learner-centered instruction, competency assessment, and practical learning approaches.

The CSO quoted:

I have noticed that schools with strong instructional leadership regularly integrate Competency-Based Education priorities into their professional development plans. Teachers participate in workshops, peer learning sessions, and subject-based discussions that address emerging implementation challenges, making the training relevant to their day-to-day instructional responsibilities (CSO, 23rd June 2026).

The high level of agreement suggests that training programs were designed to address specific challenges associated with CBE implementation rather than focusing on general teaching practices. This implies that strategic planning of teacher development initiatives contributed positively to improving curriculum delivery in junior schools. Regarding mentorship and coaching, the findings indicated that 44.2% of Heads of Institutions agreed and 32.7% strongly agreed that their schools provided mentorship and coaching for teachers, representing 76.9% positive responses. However, 9.6% disagreed and 13.5% remained neutral. The findings suggest that many school leaders had established support systems to guide teachers during the transition to competency-based approaches. Mentorship and coaching are essential because they provide continuous assistance beyond formal training sessions, enabling teachers to reflect on their practices and improve classroom implementation. The presence of neutral and negative responses indicates that some schools may not have fully institutionalized coaching programs. This implies that strengthening school-based mentorship structures could enhance sustained teacher support and improve consistency in the implementation of Competency-Based Education. Regarding if the teachers were supported to attend external training related to CBE, 42.3% of Heads of Institutions agreed, 26.9% strongly agreed, 15.4% were neutral, while 15.4% disagreed. Compared with other professional development indicators, this statement recorded a relatively lower level of agreement, suggesting that opportunities for external training were more limited. External training exposes teachers to new ideas, national curriculum updates, and broader professional networks that can enhance classroom practice. The findings imply that although schools supported teacher participation in capacity-building activities, financial limitations, workload considerations, and limited training opportunities may have constrained wider participation. According to Gerick, Annemann, Niemann, and Drossel (2024), perceived success of professional development was strongly associated with teacher attitudes, school support systems, and opportunities for sustained professional learning. Participation in structured professional development programs, particularly those related to digital competencies, significantly influenced teachers' instructional practices, particularly in integrating technology into teaching and improving learner engagement.

When asked if professional development programs improved teachers' instructional practices, 46.2% of the Heads of Institutions agreed, 38.5% strongly agreed, 5.7% disagreed, while 9.6% remained neutral. This indicates that Heads of Institutions perceived teacher training initiatives as having a direct contribution to improved teaching approaches. Professional development enables teachers to adopt appropriate instructional strategies, design competency-based learning activities, and apply assessment methods that reflect learner abilities. The high level of agreement suggests that training activities were considered valuable in enhancing classroom effectiveness. This finding demonstrates that teacher professional development was an important management intervention that supported the successful translation of CBE policy expectations into actual classroom practices in junior schools. The findings on allocation of

budget for teacher training and development revealed that 42.3% of Heads of Institutions agreed that their schools allocated budgets for teacher training and development, 28.8% strongly agreed, 13.5% were neutral, while 13.5% disagreed. These results suggest that although many schools prioritized financing teacher development activities, budgetary constraints may have limited the extent to which professional development initiatives could be supported. Adequate financial allocation is necessary for organizing workshops, facilitating training participation, and providing learning resources that enhance teacher capacity. The CSO reiterated:

From my observations, some schools have deliberately allocated part of their budgets to support teacher training and professional development related to Competency-Based Education. These schools prioritize capacity building by funding workshops, seminars, and school-based training sessions. However, the level of financial commitment differs across schools, with some allocating sufficient resources while others face budget constraints that limit opportunities for continuous teacher development (CSO, 23RD June 2026).

The findings imply that resource availability remains an important factor influencing the effectiveness of professional development programs. Strengthening budgetary commitment towards teacher training would therefore enhance the ability of schools to sustain CBE implementation initiatives. The findings also indicated that peer learning and collaboration among teachers were strongly encouraged in schools; a total of 46.2% Heads of Institutions agreed, 40.4% strongly agreed, 5.7% disagreed, while 7.7% were neutral. This was one of the highest-rated aspects of teacher professional development, suggesting that school leaders valued collaborative approaches to improving teaching practices. Peer learning enables teachers to share experiences, exchange instructional ideas, and collectively address challenges associated with competency-based teaching. The findings were in line with Agyeman and Boateng (2024) who explained that such collaborative professional practices are particularly important in CBE implementation because teachers require continuous interaction to refine assessment approaches and learner-centered methodologies. The findings imply that creating professional learning communities within schools was an effective strategy for strengthening teachers' capacity to implement Competency-Based Education.

On whether professional development was evaluated for effectiveness in improving CBE implementation, 46.2% of Heads of Institutions agreed, 32.7% strongly agreed, 9.6% disagreed and 11.5% remained neutral. This suggests that most school leaders considered evaluation an important component of teacher development programs. Assessing the effectiveness of professional development enables schools to determine whether training activities address teachers' needs and contribute to improved classroom practices. However, the presence of neutral and negative responses indicates that evaluation mechanisms may not have been fully established in some institutions. The findings imply that schools should strengthen monitoring and evaluation of professional development activities to ensure that training investments lead to measurable improvements in Competency-Based Education implementation.

The findings were consistent with Tran and Nguyen (2022), who found that teachers who participated in subject-specific professional development and received peer mentoring were more likely to adopt formative assessment and learner-centered instructional practices associated with competency-based instruction. Their findings indicated that professional development had contributed to changes in teaching practices and supported the adoption of competency-based approaches. The present findings extended this perspective by showing that school leaders had evaluated the effectiveness of professional development programs to

determine whether the training had translated into improvements in CBE implementation. The relatively high level of agreement among Heads of Institutions suggested that evaluation had been recognized as an important mechanism for establishing whether professional development activities had achieved their intended outcomes. However, Tran and Nguyen (2022) also found that inadequate administrative follow-up and weak institutional support had limited the sustainability of professional development outcomes. This reinforced the importance of not only providing professional development but also evaluating its effectiveness and providing continued institutional support.

The findings also agreed with Gerick et al. (2024), who established that structured professional development had influenced teachers' instructional practices and that the perceived success of training had been associated with school support systems and opportunities for sustained professional learning. Their findings suggested that professional development had been more effective when schools provided supportive conditions for teachers to apply the knowledge and skills acquired through training. Similarly, the present findings showed that school leaders had evaluated professional development programs to establish their contribution to CBE implementation. The evaluation process had therefore provided an opportunity for schools to determine whether professional development had resulted in meaningful changes in classroom practice.

Table 2

Chi-square test of Independence Results on Teacher Professional Development and Implementation of CBE

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	362.488a	16	.000
Likelihood Ratio	348.756	16	.000
Linear-by-Linear Association	177.782	1	.000
N of Valid Cases	277		

The Pearson Chi-square results indicated a statistically significant relationship between teacher professional development and the implementation of Competency-Based Education in junior schools, $\chi^2(16) = 362.488$, $p < .005$. Since the p-value was less than 0.05, the null hypothesis was rejected. The Likelihood Ratio test also confirmed a significant association between the two variables, $\chi^2(16) = 348.756$, $p < .005$. The findings imply that variations in teacher professional development were associated with corresponding variations in the level of CBE implementation. Therefore, teacher professional development plays a significant role in enhancing the implementation of Competency-Based Education in junior schools. The strength of the association between teacher professional development and the implementation of Competency-Based Education was assessed using Cramer's V as presented in Table 3.

Table 3*Symmetric Measures for Teacher Professional Development*

		Value	Approximate Significance
Nominal by Nominal	Phi	1.144	.000
	Cramer's V	.572	.000
N of Valid Cases		277	

The results showed a Cramer's V value of 0.572, with an approximate significance level of $p < .005$. This indicates a strong association between teacher professional development and CBE implementation in junior schools. The magnitude of the coefficient suggests that teacher professional development has a substantial relationship with variations in the level of CBE implementation. Therefore, the findings imply that differences in the extent of teacher professional development are strongly associated with differences in the effectiveness of CBE implementation. Interview results demonstrated that teacher professional development programs have been effective in improving teachers' understanding and implementation of Competency-Based Education. The programs provide teachers with knowledge on learner-centered approaches, competency-based assessment, lesson planning, and instructional strategies. However, Primus (2024) established that the effectiveness depends on the frequency, relevance, and follow-up support provided after training. The CSO explained that even though teacher professional development opportunities existed, they were often irregular, fragmented, and weakly aligned with curriculum reform goals. Teachers reported challenges in translating workshop content into consistent classroom practice due to limited follow-up support such as coaching and mentoring.

4.0 Conclusion

Based on the findings of the study, it was concluded that teacher professional development was a critical factor in the effective implementation of Competency-Based Education (CBE) in junior schools. Teachers who had access to continuous professional learning opportunities, skills enhancement, mentoring, and professional support were better positioned to apply CBE principles and practices in classroom instruction. Continuous professional development enhanced teachers' capacity to adopt learner-centered pedagogies, implement competency-based assessment, differentiate instruction, and facilitate practical and experiential learning. The findings therefore demonstrate that strengthening and sustaining teacher professional development programs is essential for equipping teachers with the knowledge, skills, and competencies required for effective CBE implementation.

5.0 Recommendations

Based on the conclusion, the study recommends that school management should prioritize and institutionalize continuous teacher professional development programs aligned with the requirements of CBE. Heads of institutions should facilitate regular training, peer mentoring, lesson observation, professional learning communities, and collaborative lesson planning, with

emphasis on learner-centered pedagogy, competency-based assessment, differentiated instruction, and practical and experiential learning.

In addition, professional development should not be limited to attendance at training workshops. School management should establish mechanisms for follow-up, classroom support, monitoring, and constructive feedback to ensure that knowledge and skills acquired during professional development activities are effectively translated into classroom practice. Heads of institutions should also encourage teachers to share experiences, demonstrate effective CBE practices, and collaboratively address challenges encountered during curriculum implementation. These measures would contribute to sustained teacher competence and strengthen the effective implementation of CBE in junior schools.

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