

TEACHER TRAINING AND PROFESSIONAL DEVELOPMENT IN IMPLEMENTING COMPETENCY-BASED CURRICULUM FOR EARLY CHILDHOOD

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ABSTRACT

The implementation of Competency-Based Curriculum has received considerable intensity of criticisms ranging from limited information on the same among parents and students, insufficient facilities for teaching and learning as well as limited trained teachers to implement it. Although success of such reforms like Competency-Based Curriculum have been documented in other jurisdictions like Zambia, the same has not been without unsuccessful experiences in countries like South Africa. Competency-Based Curriculum for early childhood being at an infant stage in Kenya means that care should be exercised with a comprehensive review on how its successful implementation can be enhanced. This study therefore sought to establish the effect of teacher training need analysis, in-service training, mentorship programs and professional development on implementation of CBC for early childhood. The human capital theory was used. The study adopted positivist paradigm guided by correlational descriptive survey design. A total of 93 officials from government charged with responsibility of implementing

Competency-Based Curriculum in Kenya. Stratified random sampling helped in selecting 75 participants. First hand data was obtained from participants through questionnaire and analysis was done descriptively and inferentially. The findings were that the p-values of teacher training need analysis were 0.013, that for teacher in-service training was $p=0.030$, teacher mentorship has p value of 0.032 while teacher professional development had p-value as 0.000 which was less than 0.05 hence all were significant predictors of implementation of competency-based curriculum for early childhood. It was recommended that government officials should provide regular training to teachers through seminars and field workshops to deliberate on CBC issues for its successful implementation.

Keywords: Competency-Based Curriculum, training need analysis, professional development, teacher training, early childhood, mentorship programs.

INTRODUCTION

In the current 21st Century economy, curriculum reform is undisputed endeavour in developing and developed countries around the world. This has heightened the need and motivation for implementation of Competency-Based Curriculum (CBC) whose origin was in the United States (US) before spreading to other countries in the rest of the world (Kimario & Otieno, 2022). In Africa, there has been success and failure stories in as much as the implementation of CBC is concerned. One of the cases representing failure of the same is South Africa. In Kenya, CBC is

still at an infant stage and efforts are still being made to ensure the same has been successfully implemented (Akala, 2020). Although a lot has been done on CBC in Kenyan context, little is available linking the same its key factors that can lead to successful implementation factors like the need to train tutors and provide development opportunities to them.

Teacher training and professional development is critical in creating knowledge and skills needed to provide relevant information to enhance teaching and learning among learners (Bando & Li, 2014). Teacher training can be conducted through a number of ways including and not limited to in-service training that may cover the use of seminars and workshops. In particular, in-service training of teachers can be the best way of allowing teachers to realize their potentials and abilities while improving on their classroom skills. The starting point of any teacher training program is the involvement in carrying out a training need analysis (Sudhesh & Baby, 2020). Teacher professional development can be realized through peer coaching and team teaching. According to Asiyah, Wiyono, Hidayah & Supriyanto, 2021), teacher professional development helps in sharpening the skills and knowledge of teachers besides improving classroom teaching for learners to improve on their academic performance. One way which teacher professional development can be enhanced is through mentorship programs (Crespi & López González, 2023) that may make them knowledgeable and skilled to enhance classroom teaching and learning under the CBC reform.

Early childhood education is the foundation for further learning of students in order to establish their destinies in future. Promoting early childhood learning is an important goal and responsibility of any government and is the foundation of economic prosperity (Guru & Al-Hilal, 2022). In effort to improve learning during early childhood, Kenya among other countries has put in place a number of reforms key one being the implementation of CBC (Akala, 2020). Different actors for striving to ensure successful implementation of this noble reform in the early childhood education in Kenya include the Ministry of Education (MoEd), Teachers Service Commission (TSC) and the Kenya Institute of Curriculum Development (KICD) among other players.

Research Problem

Developed and developing countries in the world have increasingly found it necessary to implement CBC for improving teaching and learning experiences. Since 2017, Kenya has made efforts to ensure there is successful implementation of CBC starting with early childhood. Although reasons for implementing this CBC are diverse, the most evident one concern the need to promote employability of students in future (Maina, 2023). The implementation of CBC has received considerable intensity of criticisms ranging from limited information on the same among parents and students, insufficient facilities for teaching and learning as well as limited trained teachers to implement it. Although success of such reforms like CBC have been documented in other jurisdictions like Zambia, the same has not been without unsuccessful experiences in

countries like South Africa. CBC for early childhood being at an infant stage in Kenya means that care should be exercised with a comprehensive review on how its successful implementation can be enhanced. (Mogere & Mbataru, 2023).

The available studies like Asiyah (2021) although focused on professional development of teachers, it was done in Indonesia away from Kenya. Yangambi (2021) conducted a study linking teacher professional development and achievement of students in Congo and thus failed to incorporate concerns about CBC implementation. Wagikondi (2019) also failed to address concerns about implementation of CBC. All these studies therefore created gaps that were bridged by the present study.

Research Objectives

The study was guided by the following objectives:

- i. To determine the effect of teacher training need analysis on implementation of CBC for early childhood
- ii. To establish the effect of teacher in-service training on implementation of CBC for early childhood
- iii. To assess the effect of teacher mentorship programs on implementation of CBC for early childhood
- iv. To analyse the effect of teacher professional development on implementation of CBC for early childhood

Research Hypotheses

Ho1: teacher training need analysis has no statistically significant effect on implementation of CBC for early childhood

Ho2: teacher in-service training has no statistically significant effect on implementation of CBC for early childhood

Ho3: teacher mentorship programs have no statistically significant effect on implementation of CBC for early childhood

Ho4: teacher professional development has no statistically significant effect on the implementation of CBC for early childhood

Theoretical Review

This study was guided by the human capital theory whose proponents included Schultz (1961) and Becker (1993). This theory argues that teachers possess some given skills and abilities that can best be improved through provision of continuous training and professional development. The theory regards training as the best way through which workers including teachers can gain greater knowledge and experience for them to improve on teaching and learning in classrooms. The theory argues that training and education are the most critical investments as they provide more

knowledge, skills and experiences to teachers (Strober, 1990). Teachers who make significant investment in advancement of their skills and knowledge base are end up being so productive compared to the less trained ones (Almendarez, 2011). The limitation of this theory is that it places more emphasis on formal as compared to informal learning whose key focus is on experiences or observation as the basis of learning (Nafukho, Hairston & Brooks, 2004). The other limitation of this theory is its tendency to ignore the role that cognitive abilities play which cover the mindsets, strategies of learning and the attitudes as well as various social skills possessed by people (Holden & Biddle, 2017). The present study aimed at determining the implication of teacher training and professional development on implementation of CBC reform.

Empirical Review

The subsequent sections provide overview of the past relevant empirical studies.

Teacher Training Need Analysis and the Implementation of Competency-Based Curriculum

Sowell and McCaughey (2023) did an analysis of teacher training leveraging the training need analysis in United States. The study established various objectives of conducting training needs analysis especially for these. These include the fact that it helped to determine the skills and knowledge possessed by teachers, determine the prevailing culture and practices, determine gaps in the profession of teaching and provide recommendations in the areas identified that require teachers to be trained. Vatanartiran and Karadeniz (2015) conducted a study with focus on need analysis for integration of technology in teaching and learning with specific focus on the needs and challenges encountered by teachers. The adopted design of this study was a mixed one that entailed online survey. The study noted three issues for teachers to ensure they have integrated technology in teaching instruction: instructional, infrastructural and executive in nature.

Training is an integral part of teacher education program in the country. In-service education programs are undoubtedly a significant aspect of the continuous development of teachers in the desired direction. Educational system nowadays followed in our state is undergoing many changes for the past decade. As per the training received in the past, the teachers are not sufficient to meet the present needs of the students. So Sarva Siksha Abhiyan (SSA) is continuously providing training for the teachers which are designed according to the different objectives. It stresses the activity oriented teaching, student friendly classroom etc. The training going on is intended to eliminate the deficiencies in teacher preparation and to refine accordingly. The present study is an exploration of the training needs of primary school teachers so as to analyze and put forward suggestions for the designing of their training courses; so that teachers can work more effectively. The study had conducted among 30 primary school teachers of Malappuram district using semi-structured interview schedule and the data collected was content analyzed.

Teacher In-service Training and Implementation of CBC

Obiekwe and Obiekwe (2021) did an analysis of the ability to train tutors and students' performance academically in Nigerian context. Borrowing evidence from primary data, participants were purposively selected and the analysis was done aided by correlation analysis. It was noted that there existed some link between training of teachers and performance of students in extracurricular activities. Thus, training of teachers was found to have positive implication on productivity of teachers as a way of enhancing academic performance of students in classrooms. It was also evident that training of teachers allowed them to update their teaching skills and acquire information on new strategies for teaching. The key methods that teachers can be trained identified included the use of conferences and seminars as well as field workshops. Hervie and Winful (2018) were of opinion that teachers were performing poorly because of limited in-service training, limited materials for learning and teaching as well as poor supervision. Ngeno (2023) utilized descriptive survey design, the study noted that training of teachers was a significant enabler of successful execution of CBC reforms. Jepkoge, Waswa and Kipkoech (2022) noted that before having efforts to launch new reforms like for the case of CBC, efforts should be made to provide training to teachers. It was shown that training of teachers was an enabler of successful implementation of CBC reform. Mwita, Yambo, Onyango and Obuba (2022) gathered information from primary sources where it was clear that the number in-service training sessions on CBC were critical predictors of its successful implementation in schools. It was clear from Wamuyu (2020) that role modelling and programmed instruction were key enablers of the implementation of CBC.

Teacher Mentorship Programs and Implementation of Competency-Based Curriculum

Li (2018) did a study with focus on mentorship and its implication on development of professional competencies of teachers. The study established that mentoring of teachers can be done through apprenticeship and reflection. It emerged that these aspects of mentorship are critical for professional competency development of teachers. Echaune and Maiyo (2023) adopted a desk review approach and exclusively dwelled on mentorship of teachers in Kenya. The study noted that although there existed a number of in-service teachers' mentorship and support programs in Kenyan context, funding and implementation of most of these programs was by non-governmental bodies in the country. Muraya and Wairimu (2020) examined the effects arising from teacher mentoring on practices in the classrooms in Kwale County in Kenya. Collection of information in this study was supported by a classroom observation tool and the analysis indicated that mentoring of teachers played a key role in improving classroom practices. Bowman (2014) placed emphasis on teacher mentoring as a mechanism of creating change in schools. It was shown that implementation of mentorship programs in schools help teachers to share knowledge between them which in term improves academic performance of learners.

Teacher Professional Development and Implementation of Competency-Based Curriculum

Asiyah, Wiyono, Hidayah and Supriyanto (2021) determined the implication of professional development on teaching quality by teachers in Indonesia. In total, 100 teachers were involved in the study where Slovin formula guided their selection in the sample. The analysis was aided by Structural Equation Modelling. The processed data indicated existence of significant connection between professional development and quality of teaching and learning by teachers. Yangambi (2021) determined the link between teacher professional development and academic achievement of students in Congo. In total, 108 students were covered in the study. The analysis indicated existence of relationship between development of teachers professionally and achievement of learners in their academics. Wagikondi (2019) indicated existence of significant relationship between professional development and academic performance of students. The study noted that most of the teachers took part in professional development activities like team teaching, lesson observation and job sharing with each other to attain promotion and salary increment.

RESEARCH METHODOLOGY

Positivist paradigm was embraced guided by correlational descriptive survey design. A total of 93 officials drawn from TSC, KICD and the Ministry of Education in Kenya who were charged with responsibility of implementing CBC in Kenya as below:

Table 1: Target Population

Institution	Target population
TSC	29
KICD	33
Ministry of Education	31
Total	93

The sample size was computed as under:

$$n = \frac{N}{1 + Ne^2}$$

Where, n = Sample Size

N= the size of the population

e = the probability error of 10%

$$= \frac{93}{1 + 93 \cdot 0.05^2}$$

= 75 respondents

Thus, from 93 officials from TSC, KICD and the ministry of education targeted, 75 were selected through stratified random sampling method as shown in Table 2 below:

Table 2: Sample Size

Institution	Target population	Sample proportion	Sample size
TSC	29	29/93*100%=31.2%	31.2%*75=23
KICD	33	33/93*100%=35.5%	35.5%*75=27
Ministry of Education	31	31/93*100%=33.3%	33.3%*75=25
Total	93		75

Information in its primary form was accessed through structured and validated questionnaire. The analysis was done descriptively and inferentially guided by SPSS and below is the specified regression model:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Where Y is implementation of competency-based curriculum for early childhood

B_0 = Constant

$\beta_1, \beta_2,$ are Coefficients

ε = error term

X_1 = Teacher training need analysis

X_2 =Teacher in-service training

X_3 = Teacher mentorship programs

X_4 =Teacher professional development

ε = error term

RESEARCH FINDINGS AND DISCUSSION

Descriptive Statistics

Means and standard deviations were computed as descriptive statistics on the objectives variables as below:

Teacher Training Need Analysis

Table 3 gives the findings of descriptive statistics on teacher training need analysis.

Table 3: Teacher Training Need Analysis

Statement	Mean	Std. Dev
Skills gaps among teachers are identified after a training need analysis	3.63	.794
Training need analysis has helped in identification of knowledge gaps among teachers	3.65	.990

Competence gaps among teachers are identified in a training need analysis	3.69	.725
In general, the training need analysis is used as a basis of further competencies, skills and knowledge of teachers	3.58	.969
Average	3.64	.870

The findings in Table 3 above indicate that training need analysis was conducted for teachers (M=3.64) with the aim of identifying competence gaps (M=3.69), knowledge gaps (M=3.65) as well as skills gaps (M=3.63). In general, respondents were in agreement that in general, the training need analysis was used as a basis of further competencies, skills and knowledge of teachers (M=3.58). The finding agrees with Sowell and McCaughey (2023) who established various objectives of conducting training needs analysis that include the fact that it helped to determine the skills and knowledge possessed by teachers, determine the prevailing culture and practices, determine gaps in the profession of teaching and provide recommendations in the areas identified that require teachers to be trained.

Teacher In-service Training

Consider Table 4.

Table 4: Teacher In-service Training

Statement	Mean	Std. Dev
Workshops are organized for teachers	3.65	.986
We organize conferences to teachers	3.63	.764
There are seminars in place for teachers	3.59	.887
I belief in-service training has equipped relevant skills to teachers	3.57	.862
Average	3.61	.875

The findings in Table 4 indicate that teacher training was conducted (M=3.61) and this was largely through workshops (M=3.65), conferences (M=3.63) as well as organized seminars (M=3.59). These were the ins-service training opportunities that respondents reported as having been effective in equipping teachers with the required skills (M=3.57). The finding agrees with Obiekwe and Obiekwe (2021) who did an analysis of training of teachers on academic performance of students in Nigeria. It was noted that training of teachers allowed them to update their teaching skills and acquire information on new strategies for teaching.

Teacher Mentorship Programs

Table 5 is a summary.

Table 5: Teacher Mentorship Programs

Statement	Mean	Std. Dev
In-service mentorship is promoted among schools	3.45	.816
Mentorship can facilitate knowledge sharing among teachers	3.50	.965
There are apprenticeship programs for teachers	3.38	.899
Mentorship programs can strengthen knowledge of teachers	3.52	.965
Average	3.46	.911

Table 5 show that teacher mentorship programs were moderately practiced in Kenyan schools (M=46) and they had potential to strengthen knowledge of teachers (M=3.52) as well as facilitate knowledge sharing in schools (M=3.50). The finding agrees with Muraya and Wairimu (2020) who indicated that mentoring of teachers played a key role in improving classroom practices. Bowman (2014) established that implementation of mentorship programs in schools help teachers to share knowledge between them which in term improves academic performance of learners.

Teacher Professional Development

Consider Table 6 below:

Table 6: Teacher Professional Development

Statement	Mean	Std. Dev
Team teaching is highly encouraged among teachers	3.53	.802
Lesson observation is encouraged for teachers	3.57	.753
Teachers have opportunities to advance their education	3.89	.633
I am confident that teacher professional development has provided them the required teaching skills	3.63	.947
Average	3.66	.784

Table 6 above indicate that generally, professional development was encouraged among teachers in Kenya (M=3.63) through provision of opportunities for them to advance their education (M=3.89), lesson observation (M=3.57) as well as by encouraging team teaching (M=3.53). Through this professional development, respondents noted that teachers had opportunities to acquire the requited teaching skills (M=3.66). The finding agrees with Wagikondi (2019) who noted that most of the teachers took part in professional development activities like team teaching, lesson observation and job sharing with each other to attain promotion and salary increment.

Correlation Analysis Results

Correlation analysis was conducted to establish relationship between variables and Table 7 below:

Table 7: Correlation Analysis Results

		Implementati on of CBC	Teacher Training need analysis	Teacher in- service training	Teacher mentorsh ip programs	Teacher profession al developme nt
Implementatio n of CBC	Pearson Correlation	1				
Teacher Training need analysis	Pearson Correlation	.122	1			
Teacher in- service training	Pearson Correlation	.353	.161	1		
Teacher mentorship programs	Pearson Correlation	.401	.171	.251	1	
Teacher professional development	Pearson Correlation	.496	.114	.180	.082	1

The findings in Table 7 above indicate that teacher professional development ($r=0.496$), teacher mentorship programs ($r=0.401$), teacher in-service training ($r=0.353$) and teacher Training need analysis ($r=0.122$) all had positive relationship with implementation of CBC. This means that teacher training and professional develop is a positive correlate of the implementation of CBC. This finding agrees with Bando and Li (2014) who observed that teacher training and professional development is critical in creating knowledge and skills needed to provide relevant information to enhance teaching and learning among learners.

Multiple Regression Results Hypotheses Testing

The formulated hypotheses were tested and Table 8 below gives a summary of the findings.

Table 8: Summary of Regression Results

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	4.891	.958		5.103	.000
Teacher Training need analysis	.167	.053	.165	3.151	.013
Teacher in-service training	.164	.075	.173	2.195	.030
Teacher mentorship programs	.124	.057	.282	2.175	.032

Teacher Professional development	.226	.027	.651	8.234	.000
R=.772^a	R²=.596		Adj. R²=.589		

From Table 8, the following equation is predicted:

$$Y = 4.891 + 0.167X_1 + 0.164X_2 + 0.124X_3 + 0.226X_4 + \varepsilon$$

Where Y is implementation of competency-based curriculum for early childhood

ε = error term

X₁= Teacher training need analysis

X₂=Teacher in-service training

X₃= Teacher mentorship programs

X₄=Teacher professional development

ε = error term

The study has hypothesized that **Ho1**: teacher training need analysis has no statistically significant effect on implementation of competency-based curriculum for early childhood. From the findings, teacher training need analysis had p-value as 0.013 which is less than 0.05 hence it was significant. Thus, the study rejected hypothesis **Ho1** and deduced that teacher training need analysis played a significant role in the implementation of CBC. This finding agree with Sowell and McCaughey (2023) who did an analysis of teacher training leveraging the training need analysis in United States and established various objectives of conducting training needs analysis that include the fact that it helped to determine the skills and knowledge possessed by teachers, determine the prevailing culture and practices, determine gaps in the profession of teaching and provide recommendations in the areas identified that require teachers to be trained.

The second hypothesis was **Ho2**: teacher im-service training has no statistically significant effect on implementation of competency-based curriculum for early childhood. From Table 5, the p-value of teacher training is p=0.030 with beta coefficient being 0.164. Since p-value is less than 0.05, **Ho2** is rejected and the study inferred that teacher training has statistically significant effect on implementation of competency-based curriculum for early childhood. Obiekwe and Obiekwe (2021) noted that training of teachers was found to have positive implication on productivity of teachers. Hervie and Winful (2018) were of opinion that teachers were performing poorly because of limited in-service training, Limited materials for learning and teaching as well as poor supervision. Ngeno (2023) utilized descriptive survey design, the study noted that training of teachers was a significant enabler of successful execution of CBC reforms. Jepkogei, Waswa and Kipkoech (2022) noted that before having efforts to launch new reforms like for the case of CBC, efforts should be made to provide training to teachers. It was shown that training of teachers was an enabler of successful implementation of CBC reform. Mwita, Yambo, Onyango and Obuba (2022) gathered information from primary sources where it was clear that the number in-service training sessions on CBC were critical predictors of its successful implementation in schools. It was clear from Wamuyu (2020) that role modelling and programmed instruction were key enablers of the implementation of CBC

The third hypothesis of the study was that **Ho3**: teacher mentorship programs on implementation of competency-based curriculum for early childhood. From the findings, teacher mentorship programs had p-value as 0.032 which is less than 0.05 and hence it was significant. Thus, hypothesis **Ho3** was rejected where the study inferred that teacher mentorship programs had significant effect on implementation of competency-based curriculum for early childhood. This finding agreed with Li (2018) who did a study with focus on mentorship and its implication on development of professional competencies of teachers and established that these aspects of mentorship are critical for professional competency development of teachers. Echaune and Maiyo (2023) noted that although there existed a number of in-service teachers' mentorship and support programs in Kenyan context, funding and implementation of most of these programs was by non-governmental bodies in the country.

The study had the following hypothesis: **Ho4**: teacher professional development has no statistically significant effect on the implementation of competency-based curriculum for early childhood. From Table 5, teacher professional development had p-value as 0.000 which is less than 0.05 hence it was significant. Thus, the study rejected hypothesis **Ho4**. Asiyah, Wiyono, Hidayah and Supriyanto (2021) determined the implication of professional development on teaching quality by teachers in Indonesia. The processed data indicated existence of significant connection between professional development and quality of teaching and learning by teachers. Yangambi (2021) indicated existence of relationship between professional development of teachers and academic performance of students. Wagikondi (2019) indicated existence of significant relationship between professional development and academic performance of students.

Conclusion

Training need analysis is the foundation of implementation of competency-based curriculum for early childhood. Teacher in-service training is a significant driver and predictor of successful implementation of competency-based curriculum for early childhood. This is because it equips teachers with relevant skills and knowledge as well as abilities that are required for successful execution of the competency-based curriculum for early childhood. Teacher mentorship programs occupy central roles in successful implementation of competency-based curriculum for early childhood.

Recommendations

- i. The Teachers Service Commission in Kenya should provide regular training to teachers through seminars and field workshops to deliberate on CBC issues for its successful implementation.
- ii. Training of teachers should be done for successful implementation of competency-based curriculum for early childhood in Kenya

- iii. Mentorship programs should be encouraged among schools in Kenya

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