

# **Teacher Training On Effective Implementation of Competency-Based Curriculum in Public Primary Schools in Uasin-Gishu County**

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## **ABSTRACT**

While many African countries strive to adopt competency-based curriculum which appears to not only instill knowledge but also develop ability to apply appropriate skills to real life situations amongst learners, the stage of effectively implementing it still remains quite challenging. The purpose of this study was to assess the influence of teacher training on effective implementation of CBC in public primary schools in Uasin-Gishu County in Kenya. The study was based on Gross's (1971) curriculum implementation theory. Embedded within pragmatism as the research philosophy and descriptive survey design, the study utilized mixed methods approach to collect and analyze both qualitative and quantitative data. The study area was Uasin-Gishu County. Target population was 455 participants. Simple random sampling was employed to Grade 6 teachers with Grade 6 class teachers purposively participating in the study. Stratified random sampling was used to select public primary schools. Purposive sampling was used to select sub-county directors and head teachers. Data was collected using questionnaire, interview schedule and document analysis. Qualitative data was analysed thematically and presented in form of narrations derived from the study objectives and variables. The study will not only emphasize importance of putting measures in place such as preparing teachers before launching a new educational change but also emphasize on the need to fully consider school dynamics in order to successfully implement a new curriculum. The findings will also benefit curriculum planners.

**Key words:** Teacher Training, Implementation, Competency-Based Curriculum

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## **I. Background to the Study**

Investment in education is known to yield high rates of social return. As the society changes, so must education curriculums be reformed. In the recent past, exponential adoption of competency-based curriculum indicates it as the most relevant curriculum. However, the question of its success seems to be based on effectiveness of its implementation. Ngaroga (2006) defines a curriculum as a planned course of study that provides the learner with some learning experiences under the guidance of the school. Implementation of the curriculum entails enacting of the curriculum instructional plan or programme. It essentially involves dissemination of curriculum information. This is not as easy task as it sounds, but requires competency and personal commitment. Competency based curriculum in itself is even more demanding. It sought to develop in learners the ability to apply appropriate skills and knowledge to successfully perform a function (Republic of Kenya, 2016). Mosha (2012), defines it as one that has specific outcome statements that outline the competencies to be developed or attained.

The above definitions bring into light importance of education curriculum especially that of the newly adopted competency-based curriculum. It is considered relevant to the changing societal needs and socio-economic demands in the current job market. A learner who has successfully gone through this curriculum is expected to be knowledgeable, skilled, competent and self-reliant. This lifts our eyebrows to the question of what to do then so that learners successfully go through it, and acquire these values. One of the contributing factors towards this achievement is ensuring that the curriculum is effectively implemented.

The history of competency-based curriculum can be traced back to early 1970s when it emerged for the first time in the United States of America (Richard and Rodgers, 2001). It was an educational movement that defined educational goals in terms of precise measurable descriptions of knowledge, skills and behaviors students had to possess at the end of the course study. Thereafter, the movement spread into European countries such as the United Kingdom and Germany in the 1980's (Wolf, 2001). In Mexican countries, the

implementation of competency-based approach curriculum began in 2009 through a number of reforms on basic education and National Education policies in which competence was viewed as the application of skills, knowledge, values and attitudes (Secretariat de Education Publica, 2011). The competency-based approach aimed at stimulating students in order to attain optimum academic performance. The skills, values, attitudes and knowledge were to be applied in day-to-day activities and learners were expected to reflect them in their endeavours. As Erickson (1987) explains, when children are provided with basic needs and love, they develop trust, autonomy and competence. That is why every nation critically considers child-related issues in national development such as the curriculum design to adopt, education policies and strategic plans which promote effectiveness in the curriculum implementation process. It is important to emphasize hereby that primary or basic education is the base for higher education hence the need to firmly lay it through provision of quality education and effective delivery; well managed, and enacted by competent and committed personnel as earlier mentioned.

While competency-based curriculum continued spreading in the European countries, Africa was not left behind though it has not equally been adopted. In Africa, South Africa, Ghana, Rwanda, Cameroon, Tanzania, Ethiopia and Kenya have already adopted it. Every society has its own norms, needs and culture which must be reflected in the curriculum content. By so doing, the end product which is the learner, ends up completing the curriculum courses and fitting the society to not only be productive to himself/herself but also to the entire society. This poses another doubt of whether the competency-based curriculum needs to be implemented as it is or there is need to Africanize it to suit societal needs. However, that is not the key area to be discussed in this study but mainly the influence of school dynamics on the implementation process.

The above discussion of research findings on the new curriculum clearly indicates that new curriculum being implemented before full preparations are made has its own consequences. In Kenya through their Trade Union (KNUT), teachers express their unpreparedness attitudinally and in terms of understanding of the content, to effectively implement the competency-based curriculum. This study explored the level of preparedness in terms of teachers' knowledge of the subject content while focusing on teacher training, availability and utilization of teaching / learning resources, class size, attitude and administrative support. When it comes to new educational changes such as curriculum reforms, the syndrome of putting the cart before the horse seems to be common in most African countries. The above-mentioned factors were researched in this study. Not only should relevant and quality curriculums be designed but all efforts need to be put in place to ensure that effective implementation is achieved. By so doing, the intended curriculum goals and objectives will more likely be possibly rather than being probably achieved. This gravity of the problem has moved the researcher to investigate school dynamics influencing effective implementation of competency-based curriculum in public primary schools in Kenya.

## **II. Theoretical Review**

This study was based on curriculum implementation theory developed by Gross in 1971. According to Gross (1971) theory, factors such as teacher competency, clarity and awareness of the implementor, support from the management and attitude of teachers, learners and stakeholders must be considered for successful implementation of any educational programme. Gross further states that the teacher who is the implementor should be competent, aware of the content and aware of what is to be implemented.

Gross argues that when the implementors are not aware of the changes of the curriculum, they may not effectively and efficiency implement the curriculum. The implementor should also have a positive attitude towards the new curriculum and the changes therein.

The adopted theory of Gross (1971) covers the dependent variable alongside other variables hence justifying its selection for this study. The adopted theory helped curriculum planners, educational administrators and teachers to realize the need to consider these interrelating variables in an effort to ensure that the educational programmes are not only introduced but also effectively implemented paving way for the intended goals to be achieved.

However, in adopting Gross (1971) theory, some short comings were noted. The theory clearly explains how the variables interrelate but the question of why they relate does not clearly come out. Why would motivation of teachers for example, influence curriculum implementation? What exactly motivates them to not only implement but effectively implement a new curriculum. If all other factors were considered except teacher motivation, to what extent would it affect the implementation process? The theory provided a base for the study to answer unclearly defined questions and establish the cohesive power of each party mastering its role. By so doing, the problem of adopting relevant curriculum designs yet failing to effectively implement them due to implementation process challenges were therefore resolved.

### **Teacher Training and Curriculum Implementation in Primary Schools**

Teacher's content mastery and ability to apply it remains the main focus throughout this study when it comes to teacher training. As Akala (2021) argues, teacher competency on delivery of competency-based curriculum is a priority. The government should prioritize professional development that is focused on improving content understanding and that is of extended duration and time span that is more likely to report changes to knowledge and practice (Ingvarson, Meiers & Beavis, 2005). Teaching is a process and does not happen by chance. It is a complex endeavor requiring thorough planning and preparation. A teacher cannot therefore accomplish preparation of instructional materials and effectively deliver without first mastering the curriculum content and acquiring adequate training on how to effectively implement it. It is even harder when it comes to implementation of a new curriculum particularly for teachers with long-term teaching experience who are so much used to old curriculum content and pedagogy.

Training is concerned with the transfer of skills, knowledge, behavior and attitude in order to have competent employees (Paulo, 2014). Quality training refers to the policies and procedures designed to equip prospective teachers with knowledge. The fact that there has been reports that some teachers are incompetent in some skills leaves a lot to be questioned about the colleges where they were trained. This calls for more research focusing on other factors contributing to teacher's competency apart from training and prior to training in colleges. Should education qualification for candidates joining teacher colleges be raised to even higher levels? Does career choice play a significant role here? Could it be a fact that other teachers ineffectively perform because they did not intend to join the teaching profession? And if so, what should be done to motivate those already in the field to promote effective implementation? To put that aside let's focus more on teacher training in preparation to implement a new curriculum. Frenk *et al.*, (2010), points out that qualified teachers with ample and appropriate knowledge and skills are one of the pre-conditions for a successful implementation of competency-based curriculum. The need for changes in the instructional approaches, calls for the need to equip teachers (both in-service and pre-service) with the necessary competencies for handling new teaching paradigm (Momanyi & Rop 2020). These arguments are self-explanatory that it is difficult if not impossible for a teacher to deliver a curriculum content which he/she is not amply informed about.

Teachers need to be highly skilled in the application of teaching methods essential to make learners learn effectively (Day & Sachs 2004). The quality and significance of the teacher cannot be compared to any variable (Reeves, 2004). This calls for teacher training to be an ongoing process particularly when a new curriculum is implemented. It calls for educational administrators to not only visit schools to collect reports concerning the extent to which curriculum implementation has reached but also to give teachers the necessary support at school, classroom and individual levels.

Another study by Kurt (2017) indicated that teacher training improves instructional techniques and ideologies which enhance content delivery. In addition, Shabani (2016), in his study on benefits of professional development, found out that teachers acquire more knowledge which can help them deliver more while in the class. This is supported by a study done by Elbaz (2018). It further indicated that teachers with little training have too little knowledge of the subjects they teach thus denying their students the most basic learning resources. This study was done in Washington D C where the majority of the students are enlightened. The study was done in a remote and local set up where the respondents may not be well abreast with the outside training environment.

Studies done by Brewer and Goldhaber (2000), Monk and King (1994) and Rowan, Chiang and Miller (1997) concur that the effects of teacher training on academic achievement become clearer when the focus becomes subject matter knowledge as opposed to certification. These researches are generally consistent in indication that high school mathematics and science teachers with a major in their field of instruction have higher achieving students than teachers who are teaching out-of-field. These influences become stronger in advanced mathematics and science courses in which the teachers' content knowledge is presumably more critical (Monk, 1994; Croninger, 2007).

Vaughn, Klingner and Bryant (2001) in agreement with the idea of better teachers observes that well trained teachers can increase reading skills to average reading levels. He argues that the key to ensuring that all children reach their potential in learning to read rests with the formal training and experiences that teachers receive in assessing individual differences during pre-school, kindergarten and primary grade years. This then implies that if children are not provided early consistent experiences that are explicitly designed to foster reading skills, failure would occur no matter how well-developed word recognition skills are. This makes it mandatory for teachers to plan and prepare the lessons in such a way that the teaching learning/activities promote retention.

### Conceptual Framework

The conceptual framework represented the relationship between independent variable and dependent variables.

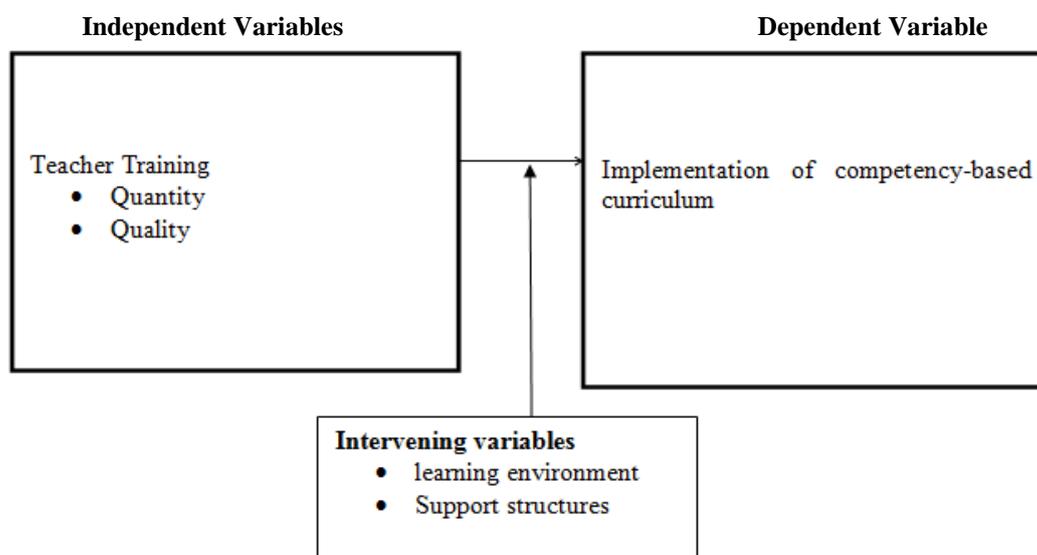


Figure 1: Conceptual Framework

### III. RESEARCH METHODOLOGY

#### Research Design

The study utilized mixed methods approach to collect and analyze both qualitative and quantitative data. Where one variable was not quantitatively measurable, qualitative analysis techniques were applied. As Creswell and Zhang (2009) opines, fixed designs need not be quantitative and flexible designs need not be qualitative).

#### Target Population

The study targeted all Grade 6 teachers and head teachers of the public primary schools. Schools from Uasin-Gishu county provided an accessible population of 2910 Grade 6 teachers and 485 headteachers and 6 sub-county directors. The entire population therefore comprises 3401 respondents.

#### Sample Size

Yamane's (1967) formula is hereby applied to calculate the sample size;

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

Where;

n= the sample size

N = the population size and

E=the error (5percent)

$$\begin{aligned}
 N &= \frac{2910}{1 + 2910 (0.05)^2} \\
 &= \frac{2910}{1 + 2910 (0.05)^2} \\
 &= 351.6 \\
 &= 352
 \end{aligned}$$

Sample size was therefore 6 sub-county directors, 97 headteachers and 352 Grade 6 teachers.

#### Sampling Procedures

The study only justifies use of stratified random sampling to select schools from all these sub-groups accordingly. The researcher therefore further selected representative schools from each zone using simple random sampling technique. After visiting a selected school, the researcher requested for the list of all Grade 6 teachers in the school and in consideration of the population size participants were simple randomly selected for the study. In total, 455 respondents, comprising 97 headteachers, 352 Grade 6 teachers and 6 sub county directors was selected to participate in the study.

### **Research Instruments**

The main survey instrument for this study was a questionnaire. An interview schedule was also used to overcome the limitations of the questionnaire. The questionnaire and interview schedule were developed by the researcher.

### **Pilot Study**

This was conducted in Iten and Chebonet public primary schools in Elgeyo Marakwet County to ascertain the validity and reliability of the research instruments.

### **Data Analysis and Data Presentations**

Research data was analyzed using both descriptive and inferential statistics. Qualitative data was transcribed into a single coherent description and analyzed thematically mainly using narrative forms. Data from the questionnaire was coded, entered into the SPSS and analyzed into descriptive statistics in form of frequency tables, percentages, graphs and pie charts. Measures of central tendency were used to analyze quantitative data. Quantitative data was analyzed using measures of central tendency and dispersion, inferential analysis was done using Pearson product moment correlation and t-test was used to establish relationships between variables.

## **IV. FINDINGS AND DISCUSSION**

### **Influence of teacher training on implementation of competence-based curriculum**

The objective was to determine the influence of teacher training on effective implementation of competency-based curriculum in Uasin Gishu County. This objective was analyzed using descriptive statistics (frequency and percentages) and inferential statistics (Pearson product moment correlation analysis and linear regression). The study results are presented in Table 1.

The respondents were asked to rate (on a five-point Likert scale) their level of agreement on several statements describing the implementation of CBC in public primary schools in Uasin Gishu County and their response summarized in Table 1. Findings indicated that 216(76.6%) of the respondents agreed that their knowledge of CBC was good, while 23(8.1%) disagreed and 43 (15.2%) were undecided.

Majority of the teachers 170(60.3%) agreed that they had received adequate training on CBC, 56(19.9%) undecided and 56(19.9%) disagreed.

Sub County Directors interviewed argued that:

*“Teachers who went for workshops were adequately trained, however they have not finished all curriculum training. There are also Inservice training which motivate teachers on CBC”*

The study findings above were supported by the interview with sub-county director [1] who noted that:

*“Yes, some teachers have undergone training on CBC. However, process is on-going to train those teachers who are untrained on 1-2 weeks workshops”*

Most of the teachers 185(65.6%) agreed that they were able to judge if learners had achieved the learning outcomes of CBC, 34(12.1%) disagreed and 63(22.3%) were undecided. Majority of the teachers 175(63.5%) agreed that their knowledge of the assessment techniques for CBC was good, 34(12.0%) disagreed and 69(24.5%) were undecided.

The interviews with sub county director [3] revealed that

*“Since the roll out of CBC, there has been resistance by some teachers and they did not attend the training hence it took time before they accepted change”*

Most of the teachers 183(64.9%) agreed that through CBC teacher training they had received clear guidelines on how learners can be transformed from passive to active learners, 55(19.5%) disagreed and 44(15.6%) undecided. Majority of teachers 174(61.8%) agreed that teachers’ academic qualifications influence their ability to interpret and implement CBC, 53(18.8%) disagreed and 55(19.5%) were undecided. Majority of teachers 149(52.8%) agreed that teachers’ experience influences their ability to interpret and implement CBC, 78(27.7%) disagreed and 55(19.5%) were undecided. Most of the teachers 185(65.6%) agreed that the teacher’s knowledge and understanding of the curriculum principles influence teaching and learning process, 49(17.4%) disagreed and 48(17%) remained undecided.

The sub county director [4] noted that;

*“For the teachers trained they learnt about new approaches of CBC/knowledgeable hence their pedagogies change as recommended.”*

Majority of teachers 210(74.5%) agreed that professional development of teachers helps in implementing CBC, 31(11%) disagreed and 41(14.5%) were undecided.

**Table 1 Teacher training on competence-based curriculum**

	SA		A		UD		D		SD	
	Freq	%								
1. My knowledge of CBC is good	81	28.7	135	47.9	43	15.2	13	4.6	10	3.5
2. I have received adequate training on CBC	78	27.7	92	32.6	56	19.9	34	12.1	22	7.8
3. I will be able to judge if learners have achieved the learning outcomes of CBC	83	29.4	102	36.2	63	22.3	23	8.2	11	3.9
4. My knowledge of the assessment techniques for CBC is good	64	22.7	115	40.8	69	24.5	21	7.4	13	4.6
5. In the CBC teacher training I have received, clear guidelines on how learners can be transformed from passive to active learners	58	20.6	125	44.3	44	15.6	30	10.6	25	8.9
6. Teachers' academic qualifications influence their ability to interpret and implement CBC	72	25.6	102	36.2	55	19.5	34	12.1	19	6.7
7. Teachers' experience influences their ability to interpret and implement CBC	52	18.4	97	34.4	55	19.5	49	17.4	29	10.3
8. The teacher's knowledge and understanding of the curriculum principles influence teaching and learning process.	67	23.8	118	41.8	48	17.0	38	13.5	11	3.9
9. Professional development of teachers helps in implementing CBC	119	42.2	91	32.3	41	14.5	14	5.0	17	6.0

For this curriculum to be correctly implemented, expert and know-how facilitators who can follow suitable methodologies of teaching like mentoring, facilitation and education are required (Abuya et al., 2017).

**Factor Analysis for Teacher training**

Principle Component Analysis was conducted to verify item loadings through which redundant items were identified and omitted from analysis. Nine indicators were proposed to measure teacher training. The KMO value of teacher training was 0.828 indicating that sampling was adequate. The significant chi-square value for Bartlett's test of sphericity ( $\chi^2 = 914.02$ ,  $p < 0.05$ ) confirmed that data collected for teacher training was adequate (Table 2). None of the indicators were deleted and all the nine indicators were retained, computed and renamed training for further analysis. The items extracted loaded highly on two-dimension factors, with component one having four indicators and component five having five indicators.

**Table 2 Teacher training Rotated Component Matrix<sup>a</sup>**

	Component	
	1	2
My knowledge of CBC is good	.818	
I will be able to judge if learners have achieved the learning outcomes of CBC	.773	
My knowledge of the assessment techniques for CBC is good	.709	
I have received adequate training on CBC	.705	
Teachers' academic qualifications influence their ability to interpret and implement CBC		.815
In the CBC teacher training, I have received clear guidelines on how learners can be transformed from passive to active learners		.751
Teachers' experience influences their ability to interpret and implement CBC		.734
Professional development of teachers helps in implementing CBC		.606
The teacher's knowledge and understanding of the curriculum principles influence teaching and learning process.		.503
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.828	
Bartlett's Test of Sphericity	Approx. Chi-Square	914.021
	df	36
	Sig.	.000
Total Variance Explained	58.842	
% Of Variance	30.610	28.232
Total eigen Values	2.755	2.541
Extraction Method: Principal Component Analysis.		
Rotation Method: Varimax with Kaiser Normalization.		

a. Rotation converged in 3 iterations.

**Regression analysis on effect of teacher training on CBC implementation**

The regression coefficient summary explains the nature of the influence of independent variable and the dependent variable. The study hypothesized that there was no significant effect of teacher training on CBC implementation. A linear regression model explored the effect of teacher training on CBC implementation. The R<sup>2</sup> represented the measure of variability in CBC implementation that teacher training accounted for. From the model, R<sup>2</sup> = 0.506 shows that teacher training accounted for 50.6% variation in CBC implementation. The teacher training predictor used in the model captured the variation in the CBC implementation as shown in Table 3. The adjusted R square of 0.504 depicts that the teacher training explained the variation in CBC implementation by 50.4%.

**Table 3 Model Summary on teacher training and CBC implementation**

R	R Square	Adjusted R Square	Std. Error of the Estimate
.711 <sup>a</sup>	0.506	0.504	0.47551

The study used Analysis of variance to check whether the model could forecast the result better than the mean, as seen in Table 4. The regression model that used teacher training as a predictor was important (F=287.063, p value =0.000), indicating that teacher training has significant influence on CBC implementation.

**Table 4 Teacher training and CBC implementation Analysis of Variance**

	Sum of Squares	df	Mean Square	F	Sig.
Regression	64.907	1	64.907	287.063	.000 <sup>b</sup>
Residual	63.31	280	0.226		
<b>Total</b>	<b>128.218</b>	<b>281</b>			

In addition, the study generated β coefficients in order to test the hypothesis under study (Table 5). The β-value for teacher training had a positive coefficient, depicting positive influence on CBC implementation as summarized in the model as:

$$Y = 1.260 + 0.633X_1 + \epsilon \dots\dots\dots \text{Equation 1}$$

Where: Y = CBC implementation, X = teacher training, ε = error term.

**Table 5 Teacher training and CBC implementation Coefficients**

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
<b>(Constant)</b>	1.26	0.141		8.948	0.000
<b>Training</b>	0.633	0.037	0.711	16.943	0.000

The study had hypothesized that there is no significant relationship between teacher training on CBC implementation. From the findings teacher training had significant influence on CBC implementation (β=0.633 and p value < 0.05). Therefore, an increase in teacher training led to an increase implementation of CBC curriculum. The study therefore rejected the null hypothesis (H<sub>01</sub>).

The findings showed that teacher training improved the CBC implementation in public primary schools in Uasin Gishu County. This agrees with Ondimu (2018) that majority of the teachers (97.8%) had attended in-service training for the competency-based curriculum. This is sizable for teachers because it prepares them for the implementation of a curriculum. This is a sign that majority of teachers had been inducted and as a result organized for the implementation of the competency-based curriculum in lower primary schools.

This finding agrees with Ungar and Baruch (2016), that curriculum reforms that incorporated teachers in the decision-making process revealed necessity for increased teacher capacity and readiness for effective curriculum reforms to take place and therefore improved learner achievement. There is a feeling that teachers have not sufficiently been involved in the CBC drafting and implementation.

## V. CONCLUSION AND RECOMMENDATIONS

### Conclusion

The study concluded that teacher training improved the CBC implementation in public primary schools in Uasin Gishu County. Teachers' academic qualifications influence their ability to interpret and implement CBC. Teacher's knowledge and understanding of the curriculum principles influence teaching and learning process. Teacher preparation hindered the execution of the Competency Based Curriculum.

### Recommendations

The Ministry of Education should organize for more in-service trainings for the teachers on the competency-based curriculum. To improve competency-based curriculum implementation, Ministry of Education (MoE), through the Kenya Institute of Curriculum Development should increase the duration of in-service training towards competency among pre-primary schools.

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