

## Teacher Retooling and Effective Implementation of the Competency-Based Education in Makueni County, Kenya

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### ABSTRACT

This study sought to investigate the influence of teachers retooling programs on the effective implementation of the Competency-Based Education (CBE) in public junior secondary school schools in Makueni County, Kenya, a region grappling with inadequate resources. The study targeted educational stakeholders in 945 public junior secondary schools: the heads of institutions (HoIs), teachers, County director of education, the sub-county directors of education, Quality Assurance and Standards Officer (QASO) and Curriculum Support Officers (CSO). The study adopted mixed-methods approach, it combined descriptive surveys for quantitative insights with phenomenological methods for qualitative depth. The study used questionnaire, interview schedule, observation schedules and document analysis. The study used simple random sampling to sample 5 CSOs, 95 heads of institutions and 284 junior school teachers. The study sampled all the 8 sub-county directors and all the 8 QASO and the both County directors ministry of education and the Teachers Service Commission (TSC). 34 percent of the teachers indicated that they have never attended any CBE retooling session. All the heads of the institutions indicated that they had attended the CBE training. The information was sourced from the county sub-County directors, QASO and CSOs through interview schedule who all stated that 76 percent of the teachers were retooled on CBE while 24 percent were not retooled. 10 percent of the heads of institution attends retooling once per term. None of the heads of institution attends retooling twice per month. 65 percent of the heads of the institutions indicated that they attend the retooling once per year. 3 percent of the teachers said that they attend retooling once per term. None of the teachers indicated to have attended the retooling twice per term while 97.3 percent of the teachers indicated that they attend retooling once per month. 56 percent of the teachers attends retooling between 1-3 days, 28.5 percent attend retooling for 4-6 days, and 11.3 percent of the teachers attends retooling for 7-9 days while 4.2 percent of the teachers attends retooling for more than 10 days. It is also evident that 60.3 percent of the heads of the institution attended retooling for between 1-3 days, 9 percent of the teachers attended retooling between 4-6 days, 22.3 percent attended retooling for 7-9 days while 8.4 percent attended the retooling for more than 10 days. 94.2 percent of the head of the institutions and teachers stated that the retooling session was poor, 1.4 percent of the heads of the institution indicated that the retooling was satisfactory while 4.4 percent said that the retooling was good. Heads of institutions and teachers noted that: Facilitators were not knowledgeable (88%), Duration of retooling was inadequate (64%), sessions were too theoretical (90%), limited sessions for questions (79%), facilitators were just reading the slides and no explanation (99%), teachers were not willing to attend the retooling session (34%) and too many trainees handled by facilitators (53%). On the other side, the researcher engaged with education official who expressed the same feeling that the retooling session was poorly done and not much covered to adequately prepare teacher to effectively implement the CBE. The study concluded that while majority of the teachers and the heads of the institutions attended the retooling, about 30 percent did not attend the retooling at all especially the newly recruited teachers. This possess a challenge in the implementation of the CBE. The study also concluded that the retooling sessions had inadequate time to cover the stipulated contented in less than 10 days. The researcher noted that there was inadequate resources to facilitate meals for the retooling participants and also their local and transport and transport. The study also noted that the retooling sessions is not frequently organized to train the teachers most of them occurring once or twice per year. As it was investigated, about 90 percent of the participants indicated that the retooling sessions were poor citing insufficient facilitation, lacking practicals, lacking questions and answers sessions and more interruptions from the participants going to attend calls and

story-telling outside the venue. Besides the challenges associate with retooling, educators and participants agreed that there was need for further scheduling of retooling of teachers majorly to cover areas of pedagogical approaches in CBE, ICT integration, parental/guardian involvement and assessment methodology as well as preparing the professional documents. The study made the following recommendations in order to come up with the effective implementation of the CBE. The government in collaboration with relevant educational stakeholders should increase the frequency of retooling of the teaching the CBE, the government through the ministry of education and TSC should avail enough funds to facilitate retooling session, The ministry of education should train adequately the trainers/trainees in advance so as to acquaint them with the necessary knowledge in CBE, The retooling sessions should focus more in ICT integration in teaching and learning, The retooling sessions should invest more time on real world situations, practicals, projects and hand-on sessions and The retooling should focus majorly on pedagogies, assessment methods and parental involvement.

## 1. Introduction

Globally, the Competency-Based Education (CBE) expanded to other European countries. The primary goal of the CBE was to give a permanent solution to the widespread unemployment and the collapsing economy that were associated to the conventional theory-based curriculum. In Turkey, CBE was made key in all the Early Childhood Education (Porter, 2016). Countries like United Kingdom, Australia and Germany, in effort to prepare the learners for self-employment also implemented the CBE (Anderson-Levitt, 2017).

Retrofitting of teachers can be defined as the process of providing teachers with new skills, knowledge and strategies needed to effectively implement a new curriculum (Culajara, 2023). Retrofitting involves professional development through seminars, workshops, and other training organized by the TSC. Retrofitting involves training teachers on teaching methodologies, examining procedures, preparation of the professional documents, ICT integration and subject content. It is vital to retool the teachers to equip them with new guidelines of the new curriculum.

The Competency-Based Education was first implemented in Australia in 1980s. The country experience great inadequacy of skilled workers needed in the industries which was a prerequisites for industrialization. Due to this problem, education stakeholders had to think and change the then existing curriculum. This was necessary to ensure that the country produce workers well equipped with relevant skills and who could both compete on the world market and satisfy the demands of industrialization (Hodge and associates, 2020).

A study conducted by Jones (2023) in Australia indicated that the curriculum in place and the way it is implemented matters. The study also emphasized that the teachers' attitudes, leadership style, resource availability are part of school dynamics. Education brings about social and economic transformation. It is because of this reason that education curriculum should be aligned with the demands of the 21<sup>st</sup> century work force and the global market.

The CBE has successfully been implemented in various parts of the world. For instance, in the United States, CBE been integrated in many states systems of education so as to ensure that the learners are equipped with specific competencies before transiting to the next level (The Wallace Foundation, 2016). The effectiveness of the implementation of the competency based education has a mixed reaction. Some studies indicating success since the students are well engaged and perform well while others indicate inadequate teacher preparation and limited resources (U.S. Department of Education, 2016). The implementation of the competency based education is coupled with significant changes in curriculum design and assessment methods.

In Africa, the emphasis on the shift from 8-4-4 system of education towards the competency based education is key in many nations so as to achieve quality and relevance education. Most of the African countries have embraced the CBE system of education so as to enhance the outcomes of education towards addressing both high wastage rates and the mismatch between educational outcomes and the labour market demands (African Union, 2018). The competency based education is seen to be in a position of equipping the learners with the 21<sup>st</sup> century skills. African countries like Nigeria and Ghana have emphasized greatly on the implementation of the competency based curriculum system of education as a broader education reform geared towards improving the quality of learning and teaching (Okebukola & Mugisha, 2016). The region emphasizes the CBE so as to improve the literacy and numeracy along with practical competencies as well as personal empowerment (World Bank, 2017). The East African states have heavily invested resources towards implementation the CBE. For instance, Uganda and Tanzania have reformed the education systems towards CBE. This is to enable the realization of educational outcomes which align with regional and global standards (Okebukola & Mugisha, 2016). This strategy has greatly assured countries in East Africa increased quality and relevance of education.

In Kenya the shift from 8-4-4 system of education to competency based education marks a significant educational reform. The CBE is implemented in the model of students centered approach and development of practical skills (Kenya Institute of Curriculum Development, 2018). The CBE was introduced to solve the shortcomings of the 8-4-4 system of education which emphasized the rote learning and limited focus on skill application (Gikunda, 2017). In Kenya the implementation of CBE was started was back in 2017. The main aim of the implementation of the CBE was to equip learners with the competences like critical thinking, problem solving and communication skills (Republic of Kenya, 2019). This is in agreement with the global competences in education.

Effective implementation of CBE anchors on the preparedness of the teachers. The in-serve training also enhances the professional and competences of the teachers. The retooling programs are made primarily to equip the teachers with the pedagogical skills needed in inquiry-based learning, collaboration projects and teaching methodologies (Waweru & Muasya, 2019). In addition, there exists challenges of inadequate resources and lack of support systems threatening the efficiency of such program. For the success of the

CBE, it is important to prioritize the professional development of teachers most importantly equipping them with new teaching methods aligned with the curriculum goals (Molapo & Pillay, 2018).

In rural areas like Makueni County, these challenges are more pronounced. Many teachers lack adequate and quality professional development challenging the implementation of the competency based education. The government of through various stakeholders and educators like ministry of education and teachers' service commission and Kenya Institute of Development (KICD) came up with the initiatives aimed at enhancing teachers' competencies. Never the less, the adequacy and relevance of this program remains a concern. This study sought to address this gap by providing critical insights into the effectiveness of teacher retooling in supporting CBE implementation in the undeserved areas.

### *1.2 Statement of the Problem*

The implementation of the CBE in Kenya heavily relies on the capacity of the teachers to effectively implement effective delivery of competency based instruction. The government of Kenya introduced the retooling programs to enhance teacher's preparedness in CBE implementation. Besides putting such strategy in place, the same challenge still persist especially in remote areas such as Makueni County where there is limited access of training, inadequate resources and logistical differences hinder teachers' participation in professional development programs. Besides the effort by the government and other education stakeholders, there is little literature to support on the impact of such training programs on the practical application of CBE in classrooms, leaving uncertainties about whether teachers are adequately prepared to implement the curriculum effectively, especially in remote areas (Sossion, 2017).

The major drawback to the effective CBE success is the insufficient training of teachers with most of them lacking the necessary skills mostly in ICT integration for the competency-based education learning. Many junior schools have expressed concern of lack of confidence in implementing the newly implemented curriculum, despite the in undergoing the prior teaching in methodologies like the Tusome program and PRIEDE project intervention. In 2023, The Presidential Working Party on Educational Reform stressed the need for qualified teachers to ensure the successful implementation of the CBE and recommended for mandatory retooling of junior schools teachers who graduated before 2023. This study sought to investigate the effectiveness of retooling programs in Makueni County, assessing how these efforts influence instructional practices and learning outcome of the learners with the aim of improving the CBE implementation in remote areas.

### *1.3 Researcher Objective*

The study was guided by the following objective;

- Examining the Teacher Retooling and Effective Implementation of the Competency-Based Education in Makueni County, Kenya

### *1.4 Research Questions*

The study was guided by the following research questions;

- How does retooling of teachers influence the implementation of CBC in public junior schools Makueni County?

## **2. Literature Review**

A study carried out in USA by (Kabombwe and Mulenga (2019)) on factors hindering teachers from the implementation of CBE in Minneapolis, Minnesota. The study found out the need for professional development, availability of teaching and learning materials and teamwork and teacher support to the school administrators as they face challenges in the interpretation of the new curriculum and designs. The study further found out that the training through retooling of the teachers was not effectively done since it was poorly implemented.

Kalthoum (2023) did a study on transformation to competency based education: readiness and self-efficacy among Islamic studies teachers in Kuwait. The study found out that the respondents had higher levels of competence based education in planning and implementation. The study reviewed high degree of inadequate training in the implementation of the competency-based curriculum. The study concluded that the main cause of the failure of the implementation of CBE lack of adequate training of the CBE teachers and hence lacking the confidence of the implementation. The study found out that the facilitators were not competent and had no comprehensive understanding of the content facilitated. The findings also reviewed that the retooling sessions were not allocated adequate time to cover the whole training content in less than 10 days. The study asserted that the facilitators could not facilitate practicals and discussion groups due to the limited time.

Kabombwe and Mulenga (2019) conducted a study on the implementation of the competency based education using the History and Government in public secondary schools in Lusaka district, Zambia. The study found out that 67 percent of the history teachers had no much idea on the implementation of the competency based education. Further the teachers said that they had not knowledge and skills of the competency based approach in teaching. The study found that the teachers were only trained for 3-4 days which was insufficient time.

Mwita, Onyango and Obuba (2022) did a study on the CBE training undertaken by teachers in the implementation of teachers teaching grades 1-3 in public primary schools in Migori County Kenya. The study found out that only 39.6 percent of the teachers had been trained in handling the competency based education. The study concluded that there is need to train the teachers on the pedagogical skills in the implementation of the competency based education.

## **3. Research Methodology**

The study utilized a mixed-method design, specifically an explanatory sequential design. The study involved collecting quantitative data and qualitative data to get more informed insights. The data was analyzed thematically and presented in pie charts and percentages. The study targeted all the 945 public junior schools in Makueni County. 945 heads of institutions. The study targeted the two county directors, 8 QASO, 45 CSOs, and 2,835 teachers. The study simple random sampling was used to sample 5 CSOs,

95 heads of institutions and 284 junior school teachers. The study sampled all the 8 sub-county directors and all the 8 QASO and the both County directors ministry of education and the Teachers Service Commission (TSC).

4. Result And Findings

4.1 CBC Retooling: Teachers' Attendance of CBC Retooling

Head teachers and teachers were asked whether they had attended CBE retooling training for the junior schools. The response is as indicated in the figure 1.

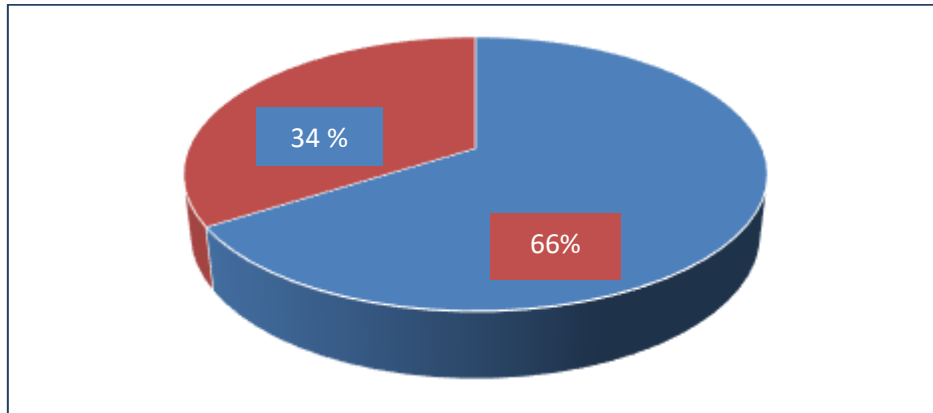


Fig 1: Teachers' Attendance of CBC Retooling

The results in fig. 1 showed that 66 percent of the teachers attended the CBE retooling. Additionally, 34 percent of the teachers indicated that they have never attended any CBE retooling session. All the heads of the institutions indicated that they had attended the CBE training. The information was sourced from the county sub-County directors, QASO and CSOs through interview schedule who all stated that 76 percent of the teachers were retooled on CBE while 24 percent were not retooled. The finding concurs with the findings of Kabombwe and Mulenga (2019) which found out that 67 percent of the History teachers had not been retooled for the CBE.

4.2 Frequency of retooling.

The heads of institutions and teachers were asked to respond on the frequency of attending the retooling sessions.

Table 4.1. Frequency of retooling.

	Once per term (%)	Twice per term (%)	Once per year (%)
<b>Heads of institutions</b>	10	0	65
<b>Teachers</b>	3	0	97.3

From the table 4.1, 10 percent of the heads of institution attends retooling once per term. None of the heads of institution attends retooling twice per month. 65 percent of the heads of the institutions indicated that they attend the retooling once per year. 3 percent of the teachers said that they attend retooling once per term. None of the teachers indicated to have attended the retooling twice per term while 97.3 percent of the teachers indicated that they attend retooling once per month. A teacher who comprehends what he is teaching through retooling is more likely to be competent and effective in implementing the new CBE in classroom (Munna, 2021). The frequency of attending the retooling is not adequate for equipping the teachers with the full understanding of the CBE.

4.3 Duration of Retooling.

The study also sought to investigate the duration of the retooling session in CBE. The result findings are illustrated in table 4.2.

Table 4.2: Duration of retooling

Head teachers/Teachers	Days	Response in Percent	cumulative (%)
Teachers	1-3 days	56	56
	4-6 days	28.5	84.5
	7-9 days	11.3	95.8
	More than 10 days	4.2	100
Head Teachers	1-3 days	60.3	60.3
	4-6 days	9	69.3
	7-9 days	22.3	91.6
	More than 10 days	8.4	100

Table 4.2 shows that 56 percent of the teachers attends retooling between 1-3 days, 28.5 percent attend retooling for 4-6 days, 11.3 percent of the teachers attends retooling for 7-9 days while 4.2 percent of the teachers attends retooling for more than 10 days. It is also evident that 60.3 percent of the heads of the institution attended retooling for between 1-3 days, 9 percent of the teachers attended retooling between 4-6 days, 22.3 percent attended retooling for 7-9 days while 8.4 percent attended the retooling for more than 10 days. Chaudhuri, McCormick, and Lewis (2019) suggested that for a quality retooling to take place, the training session should take about 90 hours for teachers to get adequate knowledge in terms content, pedagogical approaches and assessment methodologies. The study concurs with Kabombwe and Mulenga (2019) who found out that History teachers were retooled within 3-4 days. The concern here is whether the teachers received adequate training to implement the CBE effectively.

An interview with one of the CSO to confirm the duration of the retooling session had this to say, “The retooling period was very short and inadequate. The content of the CBE implement to be covered exhaustively. The retooling session only covered the main points in summary”

4.4 Quality of Retooling.

The study also sought to find out the quality of retooling session through 3-point likert scale. The heads of institution and teachers were requested to give their response on the quality of the retooling. The outcome was summarized in table 4.3.

Table 4.3: Quality of Retooling

	Percent	Valid percent	Cumulative percent
<b>Poor</b>	<b>94.2</b>	<b>94.2</b>	<b>94.2</b>
<b>Satisfactory</b>	<b>1.4</b>	<b>1.4</b>	<b>95.6</b>
<b>Good</b>	<b>4.4</b>	<b>4.4</b>	<b>100</b>

From the table 4.3 it is indicated that 94.2 percent of the head of the institutions and teachers stated that the retooling session was poor, 1.4 percent of the heads of the institution indicated that the retooling was satisfactory while 4.4 percent said that the retooling was good. The findings concurs the findings of Kabombwe and Mulenga (2019) in USA who found out that the training through retooling was not effectively done.

4.5 Factors that Affected the Quality of Retooling Sessions

The study used open-ended questions to find out the factors that affected the quality of the retooling sessions. The results were summarized in table 4.

Table 4.4: Factors that Affected the Quality of Retooling Sessions

Factors	Percentage (%)
Facilitators were not knowledgeable	88
Duration of retooling was inadequate	64
Sessions were too theoretical	90
Limited sessions for questions and answers	79
Facilitators were just reading the slides and no explanation	99
Teachers were not willing to attend the retooling	34
Too many trainees handled by few facilitators	53

The table 4.4 evidenced the factors affecting the quality of retooling sessions. Heads of institutions and teachers noted that: Facilitators were not knowledgeable (88%), Duration of retooling was inadequate (64%), sessions were too theoretical (90%), limited sessions for questions (79%), facilitators were just reading the slides and no explanation (99%), teachers were not willing to attend the retooling session (34%) and too many trainees handled by facilitators (53%). On the other side, the researcher engaged with education official who expressed the same feeling that the retooling session was poorly done and not much covered to adequately prepare teacher to effectively implement the CBE. The official further added that the resources were inadequate for facilitating more days for retooling. They also said that the resources were inadequate to facilitate lunch for the teachers and traveling allowances for both heads of the institutions and the teachers. Through interviewing on of the officials, had the following to say “The teachers were complaining about the retooling scheduled during holiday. Most of them were not keenly attentive since they kept stepping out to attend phone calls during the sessions causing interruptions. Other kept on walking out just to share stories outside training halls. I had to rush through the KICD slides so as to cover the planned content within the stipulated time. There was no adequate time to cover the whole content, discussion groups and practical engagement”

The study agrees with the findings of Kalthoum (2023) in Kuwait who found out that the retooling sessions were not enough to cover the expected content and could not be facilitated through discussion groups and projects.

5. Conclusions

The study concluded that while majority of the teachers and the heads of the institutions attended the retooling, about 30 percent did not attend the retooling at all especially the newly recruited teachers. This possess a challenge in the implementation of the CBE.

The study also concluded that the retooling sessions had inadequate time to cover the stipulated content in less than 10 days. The researcher noted that there was inadequate resources to facilitate meals for the retooling participants and also their local and transport and transport. The study also noted that the retooling sessions is not frequently organized to train the teachers most of them occurring once or twice per year. As it was investigated, about 90 percent of the participants indicated that the retooling sessions were poor citing insufficient facilitation, lacking practicals, lacking questions and answers sessions and more interruptions from the participants going to attend calls and story-telling outside the venue. Besides the challenges associate with retooling, educators and participants agreed that there was need for further scheduling of retooling of teachers majorly to cover areas of pedagogical approaches in CBE, ICT integration, parental/guardian involvement and assessment methodology as well as preparing the professional documents.

## 6. Recommendations

The study made the following recommendations in order to come up with the effective implementation of the CBE.

- The government in collaboration with relevant educational stakeholders should increase the frequency of retooling of the teaching the CBE.
- The government through the ministry of education and TSC should avail enough funds to facilitate retooling sessions.
- The ministry of education should train adequately the trainers/trainees in advance so as to acquaint them with the necessary knowledge in CBE.
- The retooling sessions should focus more in ICT integration in teaching and learning.
- The retooling sessions should invest more time on real world situations, practicals, projects and hand-on sessions.
- The retooling should focus majorly on pedagogies, assessment methods and parental involvement.

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