COMPETENCY BASED CURRICULUM PREPAREDNESS: PERCEPTION OF TEACHERS IN SELECTED PUBLIC AND PRIVATE PRIMARY SCHOOLS IN KENYA

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Abstract
The purpose of the study was to establish teachers’ perception on their preparedness to implement the Competency Based Curriculum (CBC) in public and private primary schools in Kenya. CBC was rolled out by the Kenya Institute of Curriculum Development in January 2018 and since then, studies have indicated that teachers who are the key implementers of the curriculum are not adequately trained. The current study sought to establish teachers’ perception on their preparedness to implement the Competency Based Curriculum in selected public and private primary schools in Kenya. The study was anchored on instructional design theory and targeted 23,286 public primary schools and 9,058 private primary schools in Kenya. The actual sample was made of 19 public primary schools and 31 private primary schools. The study adopted a convergent parallel mixed methods research design using a cross sectional survey design for the quantitative method and phenomenological design for the qualitative method. Data were collected using questionnaires and focus group discussions. Descriptive and inferential statistics were generated using MS Excel 2020 and SPSS version 21. Qualitative data from the focus group discussions were analyzed thematically and report given in narrative form and direct quotes. The findings revealed among other factors that digital literacy is still a challenge among teachers and that the number of trained teachers in the selected schools was approaching expectation. Resources for CBC are there in a number of schools but quite inadequate in a number of public schools. The study recommended that the training of teachers at all levels should be on-going and that there is an urgent need to help teachers understand the use of CBC assessment rubrics.

Keywords: Competency Based Curriculum, Teachers’ Perception, Preparedness, Primary Schools
1.1 Statement of the Problem
According to Momanyi and Rop (2019) concerns had been raised at the pilot stages on the preparedness of teachers who are the main implementers of the curriculum. Their study concluded that the knowledge teachers had on Competency Based Curriculum (CBC) is vague and that this was bound to hinder their delivery and evaluation. Isaboke, Mweru and Wambiri (2021) later emphasized that teachers are the key implementers yet their preparedness to implement the curriculum in public pre-primary schools remains unknown. Their argument was supported by Owala (2021) who asserted that a pilot study done by KICD (2018) and reports by Teachers’ Service Commission (TSC) indicated that teachers are ill-equipped for the implementation of the competency based curriculum. He pointed out that lack of information, communication and technology (ICT) skills among majority of teachers is one of the challenges facing the implementation of the competency based curriculum since most teachers are not able to integrate information, communication and technology within the competency based curriculum. Masika (2020) was also in agreement when he asserted that teachers who are actual implementers of the curriculum have continuously reported that they were not adequately trained. He asserted that not all stakeholders were involved in the development and design of the competency based curriculum. He further argued that teachers who are the actual implementers of the curriculum on the ground have continuously reported that they were not adequately trained on the requirements of the new curriculum. It is against this backdrop that the current study sought to establish the perception of teachers’ on their preparedness to implement CBC in selected public and private primary schools in Kenya.

1.2 Rationale for the Study
The study sought to determine the perception of teachers on their preparedness to implement the Competency Based Curriculum in selected public and private primary schools in Kenya since reviewed literature indicate that the knowledge teachers have on Competency Based Curriculum in these schools is vague and this is bound to affect their delivery and evaluation. The study targeted 32, 344 primary schools of which 23,286 are public and 9,058 are private (Republic of Kenya, 2019). Teachers from 18 counties which represented a 72% response rate and a 38.29% representation of the 47 counties participated in the study. The main purpose of the study was to add knowledge by addressing the knowledge gaps in theory and methodology and finally beef up literature related to CBC and teachers’ preparedness in Kenya.

1.3 Theoretical Framework of the Study
The study was anchored on Instructional Design Theory that was first used by Reigeluth (1999). According to Gustafson and Branch (2002), instructional design has the following characteristics; the design is learner-centered. This means that the learner and his/her performance are the focal point. Instructional design is goal oriented, meaning that well defined goals are essential. Instructional design focuses on real world performance, meaning that it helps learners perform the behaviors that will be expected of them in the real world. Instructional design also focuses on outcomes that can be measured in a reliable and valid way. Creating valid and reliable measurement instruments is essential. Instructional designs are empirical since data are at the heart of the process. Instructional design is typically team effort. The process involves team work. These characteristics are in line with the competencies identified by the Basic Education Curriculum Framework (BECF) in Kenya as; communication and collaboration, critical thinking and problem solving, creativity and imagination, citizenship, digital literacy, learning to learn and self-efficacy. The characteristics of the instructional design theory helped the researchers determine whether teachers were well prepared for the implementation of CBC.

1.4 Research Questions
The study was guided by the following research questions:
1) What is your perception of teacher preparedness in the implementation of CBC?
2) How can teachers to be fully equipped to implement CBC?
3) What motivates teachers to ensure that CBC is successfully implemented?
4) What are the challenges teachers face in the implementation of CBC?

2.1 Review of Related Literature
Curriculum according to UNESCO (2017) is the vehicle through which a country empowers its citizens with the necessary skills, attitudes and values that enable them to be empowered for personal and national development. Amutabi (2021) described Competency Based Curriculum (CBC) as a channel where learning is based on the needs and potential of individual learners under a flexible framework and parameters that move and shift according to learners’ needs. This premise had earlier been supported by Kenya Institute of Curriculum Development (KICD, 2017, p.7) when it clearly stated that “there was a paradigm shift in the reformed curriculum which was moving from content focus to focus on competencies”.

According to UNESCO (2017), the KICD resolved to adopt a competency-based approach (CBA) in their curriculum reforms based on “the findings of a needs assessment study carried out in 2016, international best practices in education systems and curriculum reforms, and a desire to make learning more meaningful” (p. 4). Kenya Institute of Curriculum Development (KICD, 2017) developed the Basic Education Curriculum Framework (BECF) by adopting the Competency Based Curriculum. This was informed by various policy documents such as Kenya Vision 2030, Constitution of Kenya 2010, the Task Force Report to the Realignment of the Education Sector, Sessional Paper No. 2 of 2015 on Reforming Education and Training. Other documents that informed the curriculum reforms according to KICD (2017) included the
21st Century Skills, the harmonized curriculum for the East African States, the Sustainable Development Goals (SDGs) and KICD needs assessment report of 2016 (KICD 2017, p. 1).

According to Momanyi and Rop (2019) the new curriculum is seen by many as a panacea to the problem of graduate employability in Kenya. A study by Masika (2020) assessing Kenya’s readiness and preparedness posited that the competency based curriculum was rolled out in January 2018 and was implemented in phases from grade one and two in lower primary. Masika (2020) contended that the implementation of CBC has had challenges one of which include feelings that not all stakeholders were involved in the development and design of the new curriculum. Secondly, teachers who are the main implementers of the curriculum on the ground have continuously indicated that they were not adequately trained or were not trained at all on the requirements of the new curriculum. Masika (2020) also asserted that most teachers’ level of digital literacy is below average yet this is a core competence that learners are supposed to acquire.

A study by Ondimu (2018) on teachers’ preparedness for implementation of CBC in private pre-schools in Dagoretti North, Nairobi County, Kenya however indicated that majority (45.2%) had agreed that they were fully prepared with subject matter to implement the competency-based curriculum while (44.1%) disagreed. Ondimu (2018) did confirm that majority of pre-school teachers (61.3%) had not been exposed to information, communication and technology.

Owala (2021) had also contended that there were inadequate teaching and learning materials in the implementation of the competency based curriculum. A study by Akala (2021) further confirmed that there have been gaps during the preparation and publication of books and this has worked negatively towards the implementation of the curriculum. Makunja (2016) was in agreement when his study on competency based in Tanzania, pointed out that inadequate teaching and learning resources was one of the impediments the instructors encountered in implementing competency-based curriculum.

Amunga, Were and Ashioya (2020) underscored large class sizes as a challenge to the implementation of the competency based curriculum. With high enrolments coupled with understaffing in schools, teachers have found it difficult to focus on individual learners which is the focus of CBC. Because of the challenges highlighted in reviewed literature, the current study sought to establish teachers’ perception of their preparedness to implement competency based curriculum either in private or public primary schools in Kenya. The study also intended to fill theoretical gaps created by the aforementioned studies by using the instructional design theory. The study used cross-sectional survey and phenomenology as quantitative and qualitative designs respectively to address methodological gaps.

3.1 Methodology
The study adopted a convergent parallel mixed methods research design. This was to obtain different but complementary data on the same topic as noted by Creswell and Clark (2011, p. 77). Demir and Pismeck (2018, p. 123) also asserted that the intent of using this design was for triangulation purposes. The quantitative design in this study was a cross-sectional survey since the study was to establish the general understanding of how teachers’ perceived their preparedness to implement CBC in primary schools. The qualitative design was phenomenology since this approach illuminates the specific and helps the researcher understand how the phenomenon is perceived by the actors in a given situation (Lester, 1999). The actors in this study are teachers.

3.2 Sampling Procedures and Sample Size
The study used both probability and non-probability sampling techniques since it adopted a mixed methods research design. Out of the 47 counties, the study anticipated to interview teachers from 25 counties that were randomly selected. Due to Covid 19 challenges and restrictions, it was only possible to get teachers from 18 counties, giving a 72% response rate and 38.29% representation of the 47 counties. Teachers from 19 public schools and 31 private schools were randomly selected to participate in the survey, giving both gender equal chance to give their opinions. Both gender were equally represented at 50% each. Non-probability sampling was used to get teachers for the Focus Group Discussions (FDGs).

3.3 Data Collection Procedures
The study used questionnaires to collect quantitative data and FDGs to collect qualitative data. Due to Covid-19 restrictions and challenges, the survey was done online and the FDGs were also conducted virtually between February 8 and March 19, 2022.

3.4 Data Analysis/Interpretive Procedures
In this study, the analysis of quantitative and qualitative data occurred concurrently. Burke and Larry (2014) called this class of analysis “multidata-multianalysis because both quantitative and qualitative analytical techniques are used” (p. 795). Quantitative data was edited, cleaned for completeness, accuracy and consistency. Coding was done using MS Excel 2018 software and analysis followed using version 21 of the SPSS software. Correlational analysis revealed that 77% of the outcome was determined by causal variables like number of teachers and children in a school. This implied that the model used was a good fit. The Analysis of Variance (ANOVA) further confirmed that the correlational analysis was statistically significant.
Qualitative data analysis involved preparing and organizing data, reducing data into themes through a process of coding and condensing the codes and finally representing data in narrative form as recommended by Creswell (2013, p. 180) and Boeije (2013, p. 76). The researcher then interpreted the themes guided by the research questions and finally represented data in narrative form and direct quotes.

4.1 Findings and Discussions

The national roll out of CBC was done in January 2018. Studies by Isaboke, Mweru and Wambiri (2021) and Owala (2021) emphasized that teachers who are the key implementers were not well prepared. The findings of the current study point to the same direction and these are discussed as follows:

4.1.1 Opinion of Teachers on their preparedness to implement CBC

The researchers coded the responses on teacher preparedness on a likert scale of 5 to 1 where strongly agree took number 5 and strongly disagree took number 1. This is presented in Table 1.

<table>
<thead>
<tr>
<th>Opinion</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Not Sure</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adequate Preparedness</td>
<td>8%</td>
<td>48%</td>
<td>12%</td>
<td>16%</td>
<td>16%</td>
</tr>
<tr>
<td>The school has enough CBC Textbooks</td>
<td>38%</td>
<td>36%</td>
<td>6%</td>
<td>12%</td>
<td>8%</td>
</tr>
<tr>
<td>Availability of enough ICT equipment for CBC</td>
<td>16%</td>
<td>22%</td>
<td>20%</td>
<td>24%</td>
<td>18%</td>
</tr>
<tr>
<td>Teachers have guides for CBC</td>
<td>20%</td>
<td>46%</td>
<td>16%</td>
<td>4%</td>
<td>14%</td>
</tr>
<tr>
<td>Parents understand &amp; Cooperate for the success of CBC</td>
<td>2%</td>
<td>30%</td>
<td>20%</td>
<td>30%</td>
<td>18%</td>
</tr>
</tbody>
</table>

Source: Researchers, 2022.

Table 1 shows that 8% of the teachers who participated in the study strongly agreed that they are adequately prepared to implement CBC. There were 48% of the teachers who agreed that they are adequately prepared. This is in agreement with the findings by Ondimu (2018) which showed that majority of the teachers in primary schools in Dagoretti sub-County, Nairobi County had been adequately prepared and equipped with subject content knowledge. There were 12% of the teachers who were not sure whether teachers were adequately prepared. Some of the teachers, (16%) disagreed that they are adequately prepared while 16% of the teachers strongly disagreed that they are adequately prepared. Their responses are supported by the findings of Momanyi and Rop (2019) which revealed that teachers are inadequately prepared.

Table 1 also shows that there were 38% of the teachers who strongly agreed that schools have enough textbooks. There were 36% of the teachers who also agreed that schools have enough textbooks. This however was not in agreement with Sitienei (2020) who confirmed that insufficient teaching and learning materials impacted negatively in the implementation of the curriculum. There were 6% of the teachers who were not sure whether schools had enough textbooks. Some 12% of the teachers, disagreed that schools have enough textbooks while 8% strongly disagreed that schools have enough textbooks. The responses of the teachers who disagreed that schools have enough text books are supported by the findings of Sitienei (2020) which confirmed that most schools in Kibra sub-County, Nairobi County either lacked or had inadequate teaching and learning materials for implementation of the competency based curriculum.

There were 16% of the teachers who strongly agreed that there were enough ICT equipment for CBC implementation in their schools. Some of the teachers (22%) agreed that ICT equipment for CBC implementation were available. Even though teachers acknowledged the availability of ICT equipment, a study by Ondimu (2018) had earlier revealed that majority of the teachers had not been exposed to ICT and most of them were not competent as they lacked technological skills. There were 20% of the teachers who were not sure whether ICT equipment were available while 24% of the teachers disagreed that ICT equipment were available. Some 18% of the teachers strongly disagreed that ICT equipment were available. The observation made by the teachers is supported by Owala (2021) who confirmed that majority of teachers had not been exposed to Information, Communication and Technology.

Table 1 also shows that 20% of the teachers strongly agreed that teachers have CBC teachers guide. There were 46% of the teachers who also agreed that CBC guides were available. This is supported by Owala (2021) who asserted that there has been development and dissemination of documents including the curriculum design, sample schemes of work, sample assessment records and other documents that are necessary for teaching and learning in the competency based curriculum. There were 16% of the teachers who indicated that they were not sure whether teachers have CBC guides. 4% of the teachers disagreed that teachers had CBC guides while 14% of the teachers strongly disagreed that teachers had CBC guides. The views of the teachers who disagreed that teachers had CBC guides is supported by Akala (2021) who was in agreement with Momanyi and Rop (2019) and Ondimu (2018) when she asserted that gaps and delays in preparation of learning materials with publishing houses had added to the fluidity of the implementation dilemma.

There were 2% of the teachers who indicated that parents understand and cooperate with the teachers towards the success of CBC implementation. A good number of the teachers (30%) agreed that parents understand and cooperate with the teachers. There were 20% of the teachers who were not sure while 30% of the teachers disagreed that parents understand and cooperate with teachers. Some of the teachers (18%) strongly disagreed that parents understand and cooperate with
the teachers for the success of CBC implementation. The views of the teachers who disagreed that parents understand and cooperate with teachers for the success of CBC implementation are supported by Owala (2021) who contended that lack of parental support is a challenge that places a lot of barriers to the implementation of the competency based curriculum. Owala (2021) argued that majority of parents are products of the outcome based 8-4-4 curriculum therefore they have very little knowledge of the new curriculum. “This makes it very difficult for parents to understand what is going on in the curriculum” (p. 6).

The researchers further made a comparison of CBC implementation preparedness in public and private schools represented in the study and this is presented in Figure 1.

**Figure 1 Comparison of CBC implementation preparedness between Public and Primary Schools**

<table>
<thead>
<tr>
<th>Parents understand &amp; cooperate for success of CBC</th>
<th>Public</th>
<th>Private</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher have basic guide for CBC</td>
<td>Public</td>
<td>Private</td>
</tr>
<tr>
<td>Availability of ICT</td>
<td>Public</td>
<td>Private</td>
</tr>
<tr>
<td>Adequate preparation materials for CBC</td>
<td>Public</td>
<td>Private</td>
</tr>
</tbody>
</table>

![Figure 1](image)

*Source: Researchers, 2022.*

Figure 1 clearly shows that teachers in private primary schools are better prepared for the implementation of CBC than their counterparts in public primary schools. This is supported by Akala (2021) who pointed out that persistent disparities between private and public primary schools are more explicit. As public schools struggle with under resources and poor preparations, private schools are forging ahead with implantation despite the challenges in public education.

4.1.2 How teachers can be equipped to Implement CBC

Teachers who participated in the focus group discussions had this to say, “There is need for continuous training and reskilling of teachers through in-service and on-line training to keep teachers abreast with the new and current teaching strategies and document preparations” (Focus groups, personal communication, March, 15 and 19, 2022). Teachers also expressed the need to be equipped with more subject content knowledge for quality and effective implementation of the competency based curriculum and they had this to say; “We should be taken step by step and not in haste. We propose termly training” (Focus Group with teachers from public schools, personal communication, March, 19, 2022).

Teachers further felt that they should be trained and equipped with ICT or technological skills to facilitate curriculum delivery and for them to apply the skills in curriculum instructions. They had this to say, “Not all of us can use Teacher Digital Devices (TDD) effectively and this affects our lesson delivery. We need continuous training in ICT” (Focus Group with teachers from private schools, personal communication, March, 15, 2022). The views of the teachers are supported by Akala (2021) who asserted that there is need for continuous training and reskilling of teachers through in-service and on-line training. Maina and Rosemary (2019) were also in agreement when they posited that there is need to provide devices, prepare teachers and provide virtual support if CBC has to be successfully implemented.

4.1.3 Motivation for Teachers to ensure that CBC is successfully implemented

The responses from the teachers indicated that they are impressed by the fact CBC is learner centered. There were 89.7% of the teachers from public schools and 90.3% of the teachers from private schools who agreed that CBC does not discriminate learners therefore giving each child an opportunity to excel. It also engages all stakeholders and is skills and work oriented. Teachers in the Focus Groups were in agreement that CBC brings out the competencies learners have and gives them a chance to pursue their talents. CBC also gives learners a chance to pursue their talents and gives conducive environment for teacher-learner interaction among other benefits. There were 21% of the teachers from the public schools and 41.19% from private schools who saw CBC as giving learners an opportunity to develop independence and freedom of expression due to the friendly learning environment that it creates. The teacher and the learner does not have to focus
on mean scores that penalize weaker learners. Teachers in private schools appreciated the fact that most private schools have adequate teaching and learning resources and this has been a great motivation to them.

4.1.4 Challenges Teachers face in the implementation of CBC
There were 50% of the teachers from private schools and 52.6% of the teachers from the public schools who resonated that there were inadequate teaching and learning materials. They also noted that there have been gaps during the preparation of books and delays in the publication of books. They observed that there are times when it is not easy to get particular books for certain classes and this does impact negatively on the implementation of CBC. A teacher from a public school had this to say, “Resources are not adequate, some of our schools lack electricity so a teacher has to be very creative when it comes to content delivery” (Focus Group with teachers from public schools, personal communication, March, 19, 2022). These findings are supported by Ondimu (2018) who posited that majority of head teachers (50%) complained of inadequate materials and facilities for teaching and learning.

Teachers in the study identified inadequate human resource especially in public schools as another challenge. The problem of understaffing has persisted. With lack of enough teachers coupled by large amounts of work that teachers are supposed to undertake, implementing CBC is quite challenging. A teachers from a public school had this to say, “I have had a class of 112 pupils and this has made assessment very strenuous” (Concerned teacher, personal communication, March, 19, 2022). This observation is supported by Sitienei (2020) whose study revealed that most head teachers (87.5%) felt that their schools were too overcrowded. The head teachers asserted that some classes were so crowded to an extent of forcing some learners to learn from outside the classroom especially during practical subjects that required demonstrations. A teacher had this to say, “teacher-pupil ratio is very high constraining teachers’ efforts in managing pupil discipline. It also affects the teaching workforce environment which then affects the smooth implementation of CBC” (Concerned teacher, personal communication, March, 19, 2022). The researchers further observed that the mean ratio of teachers to learners is different in private and public schools. Averagely there is 1 teacher for every 20 learners in private primary schools and 1 teacher for every 46 learners in public primary schools. This means that all factors remaining constant, a learner in a private primary school is 2.56 times more likely to have a trained CBC teacher as compared to their counterparts in public primary schools.

Lack of information, communication and technology (ICT) skills among majority of teachers is another challenge facing successful implementation of CBC. Most teachers are not able to integrate ICT in the learning and teaching within the curriculum. A teacher had this to say, “Up to now some of us cannot handle Teacher Digital Devices (TDD) or Learner Digital Devices (LDD)” (Concerned teacher, personal communication, March, 19, 2022). This view is supported by Mwang’ombe (2021) who asserted that most teachers do not have adequate technological skills for ICT integration in the classrooms. She alluded this to fear, inadequate teacher confidence and competency.

Another challenge is lack of parental support that places a lot of barriers to the implementation of the competency based curriculum. There were 52.6% of teachers from the public primary schools and 50% of the teachers from private primary schools who observed that majority of parents are products of the 8-4-4 system and so have little knowledge of the new curriculum. This according to the teachers has made it difficult for parents to understand what CBC requires and so they have not been able to consistently assist their children with homework and other home supervision required of them.

A study by Mwarari, Githui and Mwenje (2020) supports this finding as it established that even though parents acknowledge the importance of house-school collaboration, they are aware that lack of time, an absence of induction on the competency based curriculum, inadequate skills and knowledge to assist children and lack of resources are a major challenge as they endeavor to partner with schools. For the implementation of the CBC to be successful, teachers and parents must work hand in hand as collaborators and co-educators. A concerned teacher had this to say, “Some of our parents do not even own smart phones so their children are quite disadvantaged” (Concerned teacher, personal communication, March, 9, 2022). Owala (2021) is in agreement when he contended that lack of parental support in the implementation of CBC is still a major challenge especially in public primary schools.

There were 28.6% of the teachers from public primary schools and 21% of teachers from private primary schools who saw issues related to work load as a challenge affecting the implementation of CBC. The teachers felt that the new curriculum has tripled their work. They asserted that they have a lot of work to do in keeping the records of each child since grades are not only awarded based on academic output but also on co-curricular activities. The teacher is also expected to keep learners data on individual skills and weaknesses through regular assessments in a portfolio.

4.1.5 Correlation and Association Analysis
The researchers were interested in determining the criteria used in training CBC teachers. The correlational analysis done revealed that 77% of the outcome was determined by causal variables such as the number of teachers in a school and the number of learners in a school. This is illustrated in Table 2.
Table 2 Correlation Analysis

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig</th>
<th>95.0% Confidence Interval for B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
<td>Lower Bound</td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>3.436</td>
<td>2.168</td>
<td>1.565</td>
<td>0.120</td>
</tr>
<tr>
<td></td>
<td>children_num</td>
<td>-0.008</td>
<td>0.002</td>
<td>-2.83</td>
<td>0.004</td>
</tr>
<tr>
<td></td>
<td>teachers_num</td>
<td>0.069</td>
<td>0.016</td>
<td>0.545</td>
<td>0.589</td>
</tr>
</tbody>
</table>

Source: Researchers, 2022.

Table 2 shows that both the number of children and the number of teachers are statistically significant in determining trained CBC teachers. Assuming that all other factors remain constant, the number of trained CBC teachers increases by 0.869 units for every unit increase in the number of teachers in the schools. It however decreases by 0.008 units for every unit increase in the number of children in school and vice versa. The anticipated model for prediction is as shown:

\[
CBC \text{ trained } \text{ teachers } = 3.436 + 0.869 \text{ teachers} - 0.008 \text{ children}
\]

The significance of correlational analysis done was supported by Analysis of Variance (ANOVA) test which portrayed a statistical significance in the correlation analysis as illustrated in Table 3. The implication as presented in Table 3 is that the model was a good fit.

Table 3 ANOVA Test

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>241.304</td>
<td>2</td>
<td>100.652</td>
<td>34.145</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>1501.276</td>
<td>47</td>
<td>31.942</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>3682.578</td>
<td>49</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Researchers, 2022.

Association Analysis

The researchers were also interested in knowing whether there was any association among the parameters of study. The test results showed existence of association between the number of trained CBC teachers and the number of pupils, the number of teachers, CBC challenges and application of skills, the education system and CBC objectives. The results were statistically significant. These findings are presented in Table 4.

Table 4 Association between CBC Trained Teachers and Causal Factors

| Coefficients | Estimate | Std. Error | z value | Pr(>|z|) |
|--------------|----------|------------|---------|---------|
| (Intercept)  | 1.701512 | 0.2305202 | 7.381   | 0.000   |
| Teachers Numbers | 0.0564186 | 0.0054281 | 10.394  | 0.000   |
| Children Numbers | -0.0004513 | 0.00001068 | -4.227  | 0.000  |
| CBC Challenges | -0.0769280 | 0.1212998 | -0.634 | 0.005 |
| Skills Application | 0.0103262 | 0.1206260 | 0.086  | 0.009  |
| Education System | 0.1176908 | 0.0850484 | 1.384  | 0.002  |
| Objective achieved | 0.0396595 | 0.0796924 | 0.498  | 0.006  |

Source: Researchers, 2022.

4.2 Conclusions and Recommendations

From the study findings, the following conclusions were drawn: Firstly, that not all teachers are adequately prepared and equipped with CBC subject content knowledge and that teachers in private schools are better prepared for the implementation of CBC than their counterparts in public schools.

Secondly, continuous training and reskilling of teachers is needed through in-service and on-line training to keep teachers abreast with the new and current teaching strategies and document presentations.

Thirdly, that teachers are quite motivated to implement the CBC because it gives the learners opportunities to develop independence and freedom of expression due to the friendly learning environment that it creates.

Fourthly, that the main challenges teachers face in the implementation are; inadequate teaching learning materials, inadequate human resource, overcrowded classrooms especially in public primary schools, lack of information, communication and technology skills among majority of teachers, lack of sufficient parental support and heavy work load.
From the findings and the conclusions drawn, the study recommended that the Government through the Ministry of Education should adequately prepare teachers through in-service training and that the trainings should not be scheduled during school holidays to allow 100% teacher attendance. The focus of the training should be on the use of assessment rubrics and reporting feedback.

Teacher training institutions should consider incorporating CBC training in teacher training curriculum so that teachers are equipped with skills and knowledge of CBC before they are sent into the field. Teachers should be equipped with technological skills to enhance their digital literacy and integration of ICT in teaching and learning.

The Ministry of Education through the County Directors of Education should organize seminars, workshops and education days at least ones a term with the aim of sensitizing parents on their roles and obligations in the implementation of CBC.

The Teachers Service Commission should recruit more teachers to meet the demands of large class sizes. This will ease the burden of overcrowding in classes especially in public schools and will make it possible for teachers to give individual attention to the learners.

The Ministry of Education should ensure equal distribution of resources and infrastructure that meets the needs of CBC in all schools and together with KICD be keen on editing and publishing of CBC reading materials to minimize content errors.

4.3 Further Research
The following suggestions are made concerning areas that need further focus:
1. A study on parental involvement in the implementation of CBC in both public and private primary schools.
2. Another study on teacher preparedness to implement CBC in secondary schools.
3. A study on the effectiveness of head teachers in the implementation of CBC.

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