

# Relationship Between the Availability of Instructional Resources and Teachers' Attitude Towards Adoption of a Competency-Based System of Education in Lower Primary Schools in Nairobi City County

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**Abstract:** Competence-Based education is a system that gives more significance to acquiring competencies instead of acquiring content knowledge. Teachers are critical components in the adoption of any new system of education. Teachers' attitude is crucial in ensuring that teachers are prepared and motivated to adopt and implement the change. Attitude can influence the adoption process, thus affecting the implementation process. This study specifically explored the relationship between the availability of instructional resources and teachers' attitudes towards adopting a competency-based system of education in lower primary schools. The theory of educational change guided the study. A descriptive research design was adopted. The target population of this study was 206 respondents from 103 public and private schools in Langata Sub-county, Nairobi City County. The sample size was 62 respondents consisting of lower primary school teachers and the head teachers. Stratified and simple random sampling techniques were used. The study ensured the content validity of instruments by piloting research instruments and providing they aligned with the research objectives. Cronbach alpha coefficient was applied to measure the reliability of the instruments. To collect the data, questionnaires and interview guides were used. Data were analyzed using Statistical Packages for Social Sciences (SPSS), descriptive statistics, and presented results using tables and figures. The results indicated that most institutions had adequate instructional resources like curriculum design and materials for lesson development. The relationship between the availability of instructional resources and teachers' attitude toward the adoption of CBE was significant at .05 level. The study concludes that the availability of instructional resources influenced teachers' attitudes towards adopting a competency-based education system. It is recommended that the school management ensure the full provision of instructional resources to enhance the successful adoption and implementation process of CBE. Teachers should be encouraged to attend more training on competence-based curriculum to help them learn and acquire skills on effective ways to assess the learners in competency-based assessment.

**Keywords:** Availability of instructional resources; Competence-Based system of Education; Adoption; teachers' attitude

## I. INTRODUCTION

A competency-based education system is a type of education that focuses on students achieving specific goals and objectives (Morcke, Dornan & Eika, 2013). These goals and objectives are made up of the knowledge, skills, attitudes, and values that learners must possess to succeed at a certain level. Competency-based education is defined as a system that allows learners to demonstrate mastery of competencies that empower them in the United States of America (Sturgis & Casey, 2018). Learners receive individualized support based on their ability and learning needs, provided on a timely basis (Brindley, 2004). Competency Education is defined in Canada as personalized learning for each student based on guiding principles and emphasizes students demonstrating competencies in higher-order skills (Harris et al., 2017).

In Zambia, competency-based education aims to produce self-motivated, lifelong learners who are also confident, productive, and equipped with the necessary education to lead a successful life (Zulu, 2016). Zambia's vision is that learners will be able to acquire the three critical education elements of worthwhile skills, appropriate attitude, and practical knowledge through a competency-based system of education (Mulenga & Kabombwe, 2019). Countries in the East African Community (EAC) proposed a strategy in 2013 to develop an educational framework that would allow member states to have a harmonized education system (Kenya Institute of Curriculum Development) (Maagi, 2015).

The Kenyan 8-4-4 curriculum, which was implemented in 1985, was said to have failed to assist Kenyans in resolving fundamental issues (Kaviti, 2018). The goal of the 8-4-4 system was to provide a more practical education (Wanjohi, 2011). However, this goal was not met, and more emphasis was placed on rote learning and memorization rather than skill development (Magoma, 2011). A competency-based education system emphasizes the development of skills rather than acquiring content knowledge during the learning process (Sanson-Fisher, Rolfe & Williams, 2005). CBE provides

learners with knowledge and mastery of valuable skills and identifying talents and allows them to learn at their own pace. Learners' acquisition of the seven core competencies is emphasized more in this curriculum under the Competence-Based System of Education (Zhao, 2020). These competencies are learning to learn, problem-solving and critical thinking, collaboration and communication, imagination and creativity, self-efficacy, digital literacy, and citizenship (Kamina, 2021).

To adopt a competency-based education system to be successful, it must involve a multi-stakeholder approach (Ook, Gulikers & Mulder, 2016). Policymakers, teachers, and head teachers, among others in the educational sector, must consider changing their practices to accommodate the change (Hye-Yeon, 2014). The involvement of teachers is critical to the success of this educational system's implementation (KICD, 2017). Teachers must be actively involved in the implementation process for the proposed CBE objectives to be realized. Muraraneza and Mtshali (2017) suggested that successful education reform requires a shift in how teachers act and perceive change. Teachers' attitude (beliefs, feelings, behavior) has been a significant influence on the adoption of education programs in many countries.

According to Lerum et al. (2018), teachers play an essential role in developing, adopting, and implementing educational systems because they are familiar with students' interests and needs, can adapt to local conditions, and provide solutions. If the desired gains are realized as the new educational system is implemented, issues that may negatively influence teachers' attitudes during the adoption stage must be adequately addressed. According to Fullan (2001), heads of schools and teachers play a significant role as change agents in an institution. Adopting a competency-based education system can only be successful if the facilitators are enthusiastic about it. In Kenya, studies on CBC have revealed that it is not being implemented as intended due to a variety of factors that could be linked to the curriculum's adoption (KNUT, 2019).

Through the current 8-4-4 system, the citizens' productivity, unemployment, and high economic growth issues were not solved. There was no acquisition of adequate entrepreneurial skills necessary for citizens' self-reliance. There were no clear pathways to identify and nurture learners' talents and interests to supply those with the necessary know-how and skills for future careers. Therefore, there was a need to review the education system to help solve the challenges and concerns. A competence-based education system gives more importance to the gaining of competencies during learning instead of just the acquisition of content knowledge (Kenya National Union of Teachers 2019). Competence-Based Education (CBE) equips learners with knowledge and mastery of valuable skills, identifying talents, and learning at their own pace.

### *1.1 General Objective*

This study's purpose was to explore the teachers' attitude towards a competency-based education system in lower primary schools in the Langata sub-county. The study also

explored the factors that influence teachers' attitudes towards adopting a competency-based system of education.

### *1.3 Specific Objective of the Study*

Specifically, the study sought to explore the relationship between the availability of instructional resources and teachers' attitudes towards adopting a competency-based system of education in lower primary schools.

## II. LITERATURE REVIEW

### *2.1 Theoretical Review*

This research was based on Michael Fullan's (1991) educational change theory. The various stages of educational change were highlighted in the study. Fullan highlighted the guidelines and outlines of the educational change process. The process of education change preparation begins with the initiation, which includes the initial planning of the educational change. Under the initiation, the process of education change preparation begins. This involves the initial planning of the educational change. This requires the inclusion of the stakeholders to inform them of all areas of concern and expected changes.

Adoption involves owning the change. Teachers accept the change in practices and policies and are expected to comply with the new changes. This may require many attitude changes and professional help to adopt any new changes. It also requires the availability of instructional resources like curriculum design, teacher's guide books, and audio visuals. In the implementation process, Fullan identified three significant factors that affect the process at this stage; characteristics of change, local factors, and external factors. This study established how effective adoption affects the implementation process.

Continuation is a significant process of change. The phase mainly depends on; changes embedded in the process and if the process of change has created procedures for continued assistance in the project. School management plays an essential role by ensuring they have put strategies in place. The study explored some of the strategies school management was working on to ensure proper teachers' attitudes towards adopting CBE in lower primary schools and thus proper continuation. At this phase, the outcome can be predicted based on the adopted initial strategies. Therefore, if the educational change process was based on the policies that support its functionality, then a positive outcome was expected; otherwise, a negative outcome may arise.

### *2.2 Empirical Studies and Knowledge Gaps*

According to Marbas (2019), instructional materials form an integral part of new education system adoption and implementation. The success of the adoption and implementation process depends on the availability of the resources. While CBE was meant to ensure that the pupils build their talent and special abilities through skills development, Al-Awidi and Aldhfeeri (2017) acknowledge that instructional material has presented the most significant challenge for some schools. The availability of instructional

resources enables qualified and motivated personnel to use methods to ensure the required objectives are achieved. This will allow learners to participate in practical hands-on activities that include experimenting and solving problems.

Kiptum (2018) conducted a study on the effects of the physical environment on teachers' satisfaction in some primary schools in Elgeyo Marakwet County, Kenya. A questionnaire, interview schedule, and observation were used to collect the data, and the results of the study were that the institution's physical facilities positively influenced teachers' satisfaction. While the study focused on the physical environment, this study will explore the availability of instructional resources and teachers' attitudes. Mutisya (2019), in his study, observed that inadequate instructional resources are some of the challenges in the implementation of a competency-based system of education in Kenya. He conducted mixed methods of research design whereby questionnaires and interview schedules were used in data collection.

Marion (2020) conducted a study on challenges in education experience in CBC implementation, and findings indicated a lack of instructional material like teacher's handbooks in public and private schools. Digital learning materials were also not available in most schools. While Marion (2020) appeared to have focused on challenges in Laikipia County, the current study focused on Nairobi County. Wanjohi (2018), in his report, cited several challenges faced by the implementation process of CBC. Among them was the inadequate teaching and learning materials, especially in the public schools in Kenya. Langat (2018) studied teachers' attitudes toward instructional technology materials in Kericho teacher training college. The research study used a descriptive survey method with quantitative and qualitative research methodologies. The current study focuses on the availability of instructional resources in lower primary schools. Therefore, there is a need to explore the availability of instructional resources in Langata sub- County and its effect on teachers' attitudes towards adopting CBE.

### 2.3 Conceptual Framework

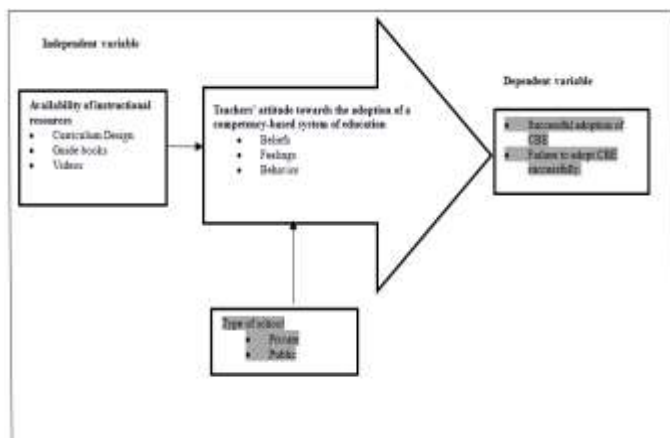


Figure 1: Conceptual Framework

## III. METHODOLOGY

### 3.1 Research Design and Target Population

A descriptive survey design was adopted in this study. Orodho (2016) describes this as a collection of data from a particular population to determine the population's status and describe its phenomenon concerning a single or many variables. The design used qualitative and quantitative methods in investigating variables. The study targeted 103 primary schools that cut across public and private schools. There are 11 public schools and 92 private schools at the primary level. The targeted population for this research work was the head of schools and lower primary school facilitators in the Langata sub-county from public and private schools.

### 3.2 Sampling Techniques and Sample Size

Simple random sampling and stratified techniques were used. The teachers and head teachers were divided into strata with the same characteristics. The number of respondents from different sub-groups was spread proportionately in every category selected for the study. Therefore, out of 103 primary schools in the Langata sub-county, 31 schools were sampled, making 30% of the total primary schools. In every school, only one head teacher and one lower primary teacher were included in this study. This translated to 62 respondents (31 teachers and 31 head teachers).

### 3.3 Research Instruments

The researcher used questionnaires and an interview schedule. Questionnaires for the teacher were used because of their simplicity in the administration, while the interview was conducted with school head teachers.

### 3.4 Pilot Study

The researcher conducted a pilot study to ensure the research instruments were reliable and valid. The pilot test is essential to help test and check the tools' validity in data collection in any given study (Mugenda, 2003). A pilot study was conducted on 2 Head Teachers, and 2 Teachers of the Lower Primary drawn from a public and a private school. This helped pretest the questionnaires and interview schedules for validity and reliability. Instruments were pretested to assess suitability and clarity of language before the actual study. The study adopted a Cronbach's Coefficient alpha approach in order to measure the research instrument's internal consistency. Cronbach's Coefficient is a scale measurement tool best suited to measure internal consistency in descriptive survey research. The reliability of inter-item consistency was measured. The higher the correlation coefficient, the better it is for the study. According to Sekaran (2003), 0.6 reliability range is poor, 0.8 reliability range is good since the reliability coefficient is closer to 1.

Reliability coefficients of 0.82, 0.86, and 0.89 were obtained for teachers' attitudes towards adopting a competency-based system of education, availability of instructional resources, and teacher's attitudes towards the adoption of CBE and

Strategies schools have put in place, and teachers' attitudes towards the adoption of CBE. Content validity was used to review whether research questions were to be answered by the instruments. To ensure content validity, a pilot study was conducted. There was a need to seek consultations and guidance from the supervisor on these findings. Adjustments and additions were made to the research instruments to ensure all objectives and variables were appropriately covered. Instruments were pretested to assess suitability and clarity of language before the actual study.

3.4 Data collection Procedures, Analysis and Presentation

Prior to collecting the data, authorization was obtained by the researcher from Kenyatta University and the permit to collect data from respondents from National Commission for Science and Technology Innovations (NACOSTI). The researcher headed to the Langata Sub-County Education office and informed them of the research to be carried out. They presented the introductory letter to head teachers and lower primary teachers in sampled schools upon acceptance of the request. The questionnaires were self-administered. Drop and pick methods were applied in data administration. The completed questionnaires were then sorted and cleaned of errors. A one-on-one, in-depth interview with the head teachers was carried out, and their statements and answers were recorded. Cleaning of mistakes that could have happened in data collection and proper organization of the data was done. For qualitative data, analysis was done along with the study objectives thematically, and results presentations were presented in narrative forms. Analysis was carried out using descriptive statistics techniques like the percentage mean, frequencies, and standard deviation for quantitative data. Inferential statistics, Pearson correlation, was used to test the null hypothesis. Statistical Packages for Social Sciences (SPSS) was conducted to analyze the collected data and tables and figures used to present the study findings. The following hypothesis was tested based on Pearson's:

IV. RESULTS AND DISCUSSIONS

4.1 Bio-Data of Teachers

The following are the general characteristics of the teachers involved in the study.

Table 1: General characteristics of teachers

Teachers' characteristic		Frequency	Percent (%)
Teacher's gender	Male	10	34.5
	Female	19	65.5
	Total	29	100.0
Age of teachers in years	20-29 Years	6	20.7
	30-39 Years	15	51.7
	40-49 Years	5	17.2
	50 Years and above	3	10.3
	Total	29	100.0

Years of service	Less than one year	5	17.2
	2-5 Years	8	27.6
	Over 5 Years	16	55.2
	Total	29	100.0

Table 1 shows that a more significant part of the participants in the study was females (65.5%) while the male representation was (34.5%). This agrees with Obuhatsa(2020) in his study on teacher factors that influence the implementation of CBC at lower primary schools in Luanda sub-county, Vihiga County. His findings indicated that (57.9 %) of teachers sampled were female, and only (42.1 %) were male. This is a clear indication that in Lower Primary schools in Kenya, teaching young learners has the predominance of female teachers.

The age distribution indicated in this study shows that a more significant part of the participants lies at the age of 30-39 years of age (51.7%), while a small percentage (10.3%) is above 50 years. This observation may be because it is common to find younger teachers in private schools than in public schools. Table 4.4 stipulates that a more significant number of the respondents had more than five years of teaching experience (55.2%), while those with 2-5 years' experience were 27.6%. Only 17.2% had a teaching experience of less than one year. Fullan (2001) noted that teachers 'prior experiences place them in an angle likely to have them be better placed in terms of self-efficacy. Thus higher experience enables them to have greater competence in handling new skills required for the successful adoption and implementation of CBE

4.2 Bio-Data of Head Teachers

The following are the general characteristics of the head teachers involved in the study.

Table 2: Head teachers' demographic characteristics

Variable	Frequency	Percentage
<b>Gender</b>		
Male	18	62.1
Female	11	37.9
<b>Total</b>	<b>29</b>	<b>100.0</b>
<b>Age</b>		
35-40	3	10.3
41-45	4	13.8
46-50	11	37.9
51-55	9	31.0
56-60	2	6.9
<b>Total</b>	<b>29</b>	<b>100</b>

The information in Table 2 indicated that males dominated the leadership in primary schools in the studied area. This is in public and private schools that took part in the study. Further,

the school headship in the primary schools was entrusted to mature teachers since the majority were above 46 years.

4.3 Availability of instructional resources on teachers' attitude towards adoption

The study aimed to explore the relationship between instructional resource availability and teachers' attitudes towards adopting CBE. Using a Likert scale rating 1 to 3, teachers were required to tick whether the resources were adequate, inadequate, or not available to test this objective. The findings are as indicated in Table 3.

Table 3: Availability of Instructional Resources as reported by teachers

Resources	Adequate		Inadequate		Not Available	
	F	%	F	%	F	%
Curriculum designs	20	69.0	8	27.6	1	3.4
Teachers guide books	11	37.9	16	55.2	2	6.9
Audio visual media	16	55.2	8	27.6	5	17.2
Curriculum support materials	10	34.5	19	65.5	0	0.0
Materials for lessons development	17	58.6	11	37.9	1	3.4
Local materials provided by parents	14	48.3	15	51.7	0	0.0

N=29

As it can be seen in Table 3, the teachers have adequate curriculum designs. Other adequate materials were audio visual media and materials for lesson development. Some of the instructional resources that were inadequate were the teacher's guide books, curriculum support materials and local materials provided by the parents. The results imply that many of the schools had enough teaching-learning resources. To have a clear picture on the availability of instructional resources and the relationship they have to teachers towards the implementation and adoption of curriculum, an individual mean score was generated.

Table 4: Individual Mean scores in the availability of instructional resources

Resources	Mean	Std. Deviation
Curriculum design	2.66	.553
Teachers guide books	2.31	.604
Audio-Visual Media	2.38	.775
Curriculum Support Material	2.34	.484
Material for lesson development	2.55	.572
local materials provided by parents	2.48	.509

Results in Table 44 show the individual mean scores in the availability of instructional materials. The mean was 2.5, and the standard deviation of .583. The results imply that most teachers had good curriculum designs and materials for lesson development. A minority of teachers who participated in the study had inadequate guidebooks, audio-visual media, and curriculum support materials.

Table 5: Overall mean scores in the availability of Instructional resources

Resources	Mean	Std. Deviation
Teachers' attitude towards CBE	3.5316	.53657
Availability of instructional resources	2.4540	.39314

N=29

Table 5 sought to show the overall mean scores in the availability of instructional resources and teachers' attitudes towards adopting CBE. The mean for the attitude was 3.5, while the availability of instructional resources was 2.5.

4.3.1 Hypothesis Testing

To understand the relationship between the availability of resources towards CBE adoption, Pearson correlation was used to determine the significance of the relationship.

*HO<sub>n</sub>: There is no significant relationship between the availability of instructional resources on teachers' attitudes towards the adoption of a competency-based system of education in lower primary*

Table 6: Relationship between the availability of instructional resources and teachers' attitude

		Teacher's attitude toward CBE	Availability of instructional resources
Teacher's attitude towards CBE	Pearson Correlation sig. (2-tailed)	1	.463 .011
Availability of instructional resources	Pearson Correlation Sig. (2-tailed)	.463 .011	1

N= 29 \* Correlation was significant at 0.05 level (2- tailed)

As indicated in Table 6, the correlation between availability of instructional resources and teachers' attitude was .463, while the P. value was .011. The result implies that the relationship between the availability of instructional resources and teachers' attitude towards adoption of CBE was significant at 0.05 levels, and therefore the null hypothesis was rejected.

To further explore the relationship between the availability of instructional resources and teachers' attitudes towards adopting a competency-based system of education, interviews were conducted with the head teachers. The following are some of the verbatims.

*I can tell of a better response from the teachers when they started receiving instructional resources in line with the competence-based curriculum. Availability of curriculum designs, teacher's guide books, and well-structured materials for lesson development had led to a more positive approach towards the curriculum from the teachers, unlike when they did not have the resources. They now seem to understand what is expected of them in the delivery of the lesson and thus a better and easy implementation process. (Male Headteacher, Public school).*

The researcher further sought to find out if there was any relationship between the availability of materials and the attitude of teachers from the head teachers in private schools by conducting an interview. The headteacher from Private school 12 revealed that:

*There is an improvement in teaching skills among teachers. A lot of creativity has been observed especially in improvisation and re-using of materials readily available. This has helped solve the issue of the availability of resource materials to be used in lesson planning and development.*

The current findings are consistent with those found by Mandukwini (2016) in his research on challenges to curriculum implementation in South Africa, where he discovered low morale among teachers and limited resources. According to the researcher, a lack of adequate learning resources may influence teachers' attitudes toward the implementation and adoption. The findings corroborated Mutisya's (2019) observation that inadequate instructional resources are among the challenges affecting Kenya's implementation of the competency-based education system. The current study's findings on CBC implementation challenges and next steps agree with Wanjohi (2018). The study showed that the unavailability of teaching and learning resources were some of the challenges facing the CBC implementation process in Kenya. However, the current study findings do not concur with those Abdullahi (2019) findings, which revealed that there were inadequate instructional materials like audio-visual materials and ICT equipment, yet teachers had a positive attitude towards the implementation of CBC.

## V. CONCLUSIONS

The study concluded that the availability of instructional resources like curriculum designs and materials for lesson development was essential in teachers' attitudes towards implementing and adopting a competency-based education system. The correlation coefficient between the availability of instructional resources on teachers' attitudes towards adopting a competency-based education system was .463 with a p-value of .011. Therefore, it is clear that the availability of instructional resources influenced teachers' attitudes towards adopting a competency-based education system.

## VI. RECOMMENDATIONS

1. Teachers should be encouraged to attend more training on a competency-based curriculum. This will help them learn and acquire skills on effective ways to assess the learners in competency-based assessment.
2. The school management should ensure a complete provision of instructional resources to enhance the successful adoption and implementation process of CBE. Availability of instructional resources will lead to a positive attitude among teachers in the adoption process of the curriculum.

3. The Ministry of Education should also conduct more action research studies in schools to identify their needs and offer the necessary help to ensure a success story in the implementation and adoption process.

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