

## **INFLUENCE OF COLLABORATIVE DISCUSSION FORUM PROJECT ON THE IMPROVEMENT OF TEACHING METHODOLOGIES AMONG TEACHERS IN PUBLIC PRIMARY SCHOOLS IN MOMBASA COUNTY, KENYA**

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### **ABSTRACT**

The purpose of this study was to examine the influence of Collaborative Discussion Forum (CDF) Project on the improvement of teaching methodologies among teachers in public primary schools in Mombasa County, Kenya. CDF is a project of the Strengthening Education Systems in East Africa (SESEA) program aimed at improving the educational standards through teacher professional development. The study was conducted through a descriptive survey research design by sampling 10% of the 292 teachers who participated in the CDF training project. The study focused on three independent variables: learner centred approaches, ICT integration in teaching and learning, and teacher-learner communication and their influence on the improvement of teaching methodologies. The study found out that learner centred approaches influence the improvement of the teaching methodology among the CDF participants with a composite mean of 3.73 and a standard deviation of 0.78. The Karl Pearson's correlation coefficient indicated a strong positive correlation between the two. The study also found out that ICT integration in teaching and learning influence the improvement of teaching methodologies. The chi-square calculated value of 20.87 against 12.59 at 6 degrees of freedom and 95% level of confidence showed that teacher-learner communication influence the improvement of the teaching methods. The Pearson's correlation coefficient also shows a strong positive correlation between the teacher-learner communication and teaching methods. The study therefore concluded that the improvement of teaching methodologies is influenced by learner-centred approaches, the integration of ICT and teacher-learner communication.

**Key words:** *Teaching methodologies, learner-centred approaches, integrating ICT in teaching and learning, teacher-learner communicatio*

## CHAPTER ONE: INTRODUCTION

### 1.1 Background of the Study

Educational projects seem to be globally embraced as a way of improving the teaching and learning process. Due to the changing trends in the education sector, there are many reforms being recommended and implemented by schools in order to continue providing relevant and competitive educational standards and to meet various needs. Cavanaugh, McCarthy, and East (2014) state that ‘around the world, the education providers are required to modernize, reform, and rethink the nature of primary and secondary schooling so that the education experience is more relevant for learners and better aligned to community needs.’ The United Nations Educational, Scientific and Cultural Organization (UNESCO) for instance initiates many projects to coordinate the international education cooperation and increase on the quality of education (UNESCO’s Role in Education, 2017). A good number of these projects target the teacher professional development because teachers play a central role in the education sector.

The Center for Mathematics, Science and Technology Education in Africa (CEMASTEIA) aims at building teachers’ capacities to enable them cope with pedagogical related challenges encountered during curriculum delivery (Wamalwa, 2017). Another example is the need to integrate ICT in teaching and learning in Africa which is still taking root in many countries and it is yet to be fully realized. Some countries like Rwanda are known to have recently invested heavily in classroom technology projects. According to Farrell (2007), ICT is central to Rwanda’s Vision for 2020, and ICT in education is one of the core pillars of the country’s National Information and Communications Infrastructure Policy and Plan, adopted in 2000.

With the same vision of providing students with a competitive education and preparing the future workforce, the government of Kenya started the laptop project in 2013 as part of the manifesto of the ruling party. This project aims to digitize the learning content and help teachers to integrate ICT in teaching and learning. However, the findings of the study done by Barmao (2014) revealed that lack of trained ICT personnel and knowledge among teachers were the factors that would hinder the success of introducing laptop projects in primary schools in Kenya.

To ensure that the program is successful, the government is therefore training all the teachers to understand and help implement the project.

Strengthening Education Systems in East Africa (SESEA) is a program that is a joint initiative between the Global Affairs Canada and Aga Khan Foundation Canada targeting the areas of low educational standards in East Africa. SESEA takes a three-pronged approach to enhancing and sustaining the learning outcomes of pre-primary and primary girls and boys in marginalized communities within Tanzania (Southern Tanzania), Uganda (Western Nile) and Kenya (Coastal Kenya) (Strengthening Education Systems East Africa, SESEA, n.d.). In 2009, the Aga Khan Academy Mombasa professional development and outreach centre started the SESEA project that targeted primary school teachers in Mombasa County. When the programme came to an end in November 2017, a total of 102 teachers (24 Male and 78 Female) were certified in the Programme of Teacher of English, Program of Teachers of Mathematics, Education Leadership and Management Program and Competency Based Education and Short Courses in Lead Facilitation and Collaborative Discussion Forum (CDF).

The (CDF) is an academy faculty led sessions delivered to teachers in Mombasa County (Island, North, South and West) and they address the fundamental aspects of the needs assessment exercise and tap from the academy's expertise. The facilitators design observation tools in liaison with the master trainers in charge of CDF. These tools help in capturing data and compiling reports. A report is compiled detailing the milestones experienced in the workshops, new learning experiences, findings and any challenges experienced. Twelve sessions are held every SESEA year and each topic is delivered three times to different sets of participants from the catchment areas (Island, North/South and West).

## **1.2 Statement of the Problem**

A study done by Mahulo (2012) revealed that trained teachers incorporate various effective teaching methods thus improving their content delivery in the classroom. The various studies done on the influence of the various continuous professional development projects for teachers have found the projects to be effective in improving the teaching methodologies

Most of these projects are characterized by long continuous courses and it seems that short courses have not been keenly paid attention to in research. This study aimed to validate the findings of the early researchers by studying the influence of CDF, a similar but altogether new project that is administered to teachers through short courses.

There seems to be little or no evidence of research done to assess whether the project done is making any influence on the teachers in the coastal region so as to convincingly justify the implementation of another phase of the project. This research therefore was aimed at filling in this gap by examining the influence of Collaborative Discussion Forum Project on the improvement of teaching methodologies among teachers in public primary schools in Mombasa County, Kenya.

## **1.3 Research Hypotheses**

The research was guided by the following three hypotheses: tested at the 95% level of significance:

- i.  $H_1$ : Learner centred approaches have influence on the improvement of teaching methodologies among teachers in public primary schools in Mombasa County, Kenya.  
 $H_0$ : Learner centred approaches have no influence on the improvement of teaching methodologies among teachers in public primary schools in Mombasa County, Kenya.
- ii.  $H_1$ : ICT integration in teaching and learning influence the improvement of teaching methodologies among teachers in public primary schools in Mombasa County, Kenya.  
 $H_0$ : ICT integration in teaching and learning does not influence the improvement of teaching methodologies among teachers in public primary schools in Mombasa County, Kenya.
- iii.  $H_1$ : Teacher-Learner communication influences the improvement of teaching methodologies among teachers in public primary schools in Mombasa County, Kenya.  
 $H_0$ : Teacher-Learner communication does not influence the improvement of teaching methodologies among teachers in public primary schools in Mombasa County, Kenya.

#### **1.4 Significance of the Study**

The government of Kenya has been on the run to ensure that the teachers receive continuous professional development so that they can improve on the standards of teaching. According to Kafu (2011), teacher education can affect all the other aspects in education. The findings of this study will inform the policy makers in the Ministry of Education Kenya and the County Government of Mombasa to come up with strategies on what programmes they can partner with to enhance the competency of their teachers.

This research report will also benefit a great deal the donors of SESEA project including the Aga Khan Foundation Canada (AKFC) and the Global Affairs Canada who have financed the programme with 31 million Canadian dollars (“Strengthening Education Systems East Africa (SESEA),” n.d.). The findings will help in the monitoring and evaluation of the outcomes of project so as to inform decision making on the future of the SESEA projects. The findings of this study will be of great significance to the Aga Khan Academy Mombasa even as it plans to start planning and implementing the second phase of the SESEA project. The fact that this area of study has not been widely researched on also makes the study significant and therefore a great contribution to literature.

#### **1.5 Delimitations of the Study**

The study delimited itself by only focusing on the public primary schools in Mombasa county, (specifically Mombasa Island, Kisauni, Likoni and Changamwe districts) that participated in the Collaborative Discussion Forum.

Also, the researcher targeted a sample size of 10% of the target population. The study also confined itself to the three variables stated in the conceptual framework. Other variables that could influence the dependent variable were not considered. Lastly, the study used the questionnaire; a basic instrument of data collection that is easy to understand and that is likely to limit one from giving personal information.

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 Influence of Learner Centred Approaches on teaching methodologies**

Learner centred approaches put the student at the centre of learning so that the student takes an active role in the learning process. In student centred instruction, the teacher provides students with opportunities to learn independently and from one another and facilitates learning as a coach guiding them develop the required skills effectively (Collins and O'Brien, 2003). The learner is the focus in learner centred approaches and 'learning by doing' is greatly emphasized.

The learner centred approaches in teaching and learning borrow from the constructivism and experiential learning theories where students are given the chance to be engaged in their own learning process (Dano-Hinosolango and Vedula-Dinagsao, 2014). Dano and Vedula refer to constructivism learning theory as developed by Lev Vygotsky and Jean Piaget stating that human beings produce or construct meaning, understanding and knowledge of the world from their own experiences. From constructivism, learners should not be treated as tabula rasa (blank slate) because they come to learning situations with a lot of experiences that should be tapped. This kind of learning is popularly known to inform the concept of learning 'from known to unknown'. This therefore means that students are actively engaged in the learning experience as a discovery journey.

According to Savery (2015), Problem-based learning (PBL) is an instructional learner-centered approach that empowers learners to conduct research, integrate theory and practice, and apply knowledge and skills to develop a viable solution to a specific problem. In PBL, the students learn through solving problems in small groups and reflecting on their experiences while the teacher's key role is changed to one that facilitates a collaborative construction of knowledge (Ling and Loy-Pang, 2007).

Marink et al. (2016) also enlist Inquiry Based Learning (IBL) as one of the most effective student centred approaches in teaching and learning as it makes the learner curious about knowledge. Their study on whether IBL can transform the teaching methodology in the traditional university found out that inquiry learning activities contributed greatly to students' interests in various subjects.

IBL teaches students to ask good questions and the focus of teachers is training students to know how to learn so that they can own the process. It improves problem solving skills and motivates learners by ensuring that students are learning actively through data exploration and analyzing information (Push and Kehrwald, 2014). The IBL practice can improve the teaching methodology as the teacher learns how to structure learning often in activities that will lead students into an inquiry lesson. The learning activities are guided by the lesson objectives but at the end of the lesson students can end up learning much more beyond what was planned. IBL actually appreciates the fact that learning is not just filling the gaps but ‘digging even deeper gaps’.

Collaborative learning method is another effective learner centred approach which can be applied in different strategies including PBL and IBL discussed above. Collaborative learning involves creating and managing meaningful learning experiences and stimulating students' thinking through real world problems. Cooperative learning is also at the heart of problem-based learning and it is related to collaborative learning that occurs as an effect of community in which students work together in unstructured groups and create their own learning situation (Johnson, Johnson, and Smith, 1998). The two concepts, collaborative and cooperative learning seem to emphasize the idea that students have a lot they can learn from one another. This way the students do not only become knowledgeable but also develop collaborative skills which are very essential in the 21<sup>st</sup> century learning.

The three learner centered approaches as discussed above have been shown to support pupils to easily construct meaning because they involve the process of the students themselves experiencing learning. The learner-centered teaching has become a widely accepted teaching method that shows how to tie teaching and curriculum to the process and objectives of learning rather than to the content delivery alone (Weimer, 2013). The collaborative discussion Forum can be justified by the claim that whilst teachers and students are acquainted with student-centred learning to a certain degree, they are in need of more guidance, knowledge and understanding regarding its application and practice (Marinko et al. 2016).

## **2.2 Influence of Integrating ICT in Teaching and Learning on Teaching Methodologies**

Roblyer (2006) defines integrating educational technology as the process of determining which electronic tools and which methods for implementing them are appropriate responses to given classroom situations and problems. Ghavifekr and Rosdy (2015) on the other hand define it as technology-based teaching and learning process that closely relates to the utilization of learning technologies in schools. In a report of an inquiry project in ‘Fulbright Distinguished Awards in Teaching Program in Indiana University Bloomington’, Mykrä (2015) notes that today’s learners are more connected to technology than previous generations. Prensky (2001) calls the students of today ‘native speakers’ of digital language and hence emphasizing the need to infuse technology in teaching and learning. The experience of different technological contexts has caused a mismatch between the learners and teachers’ expectations meaning that teachers must rethink their teaching methods (Bluestein, 2011). There is need to infuse technology in teaching as a way of preparing learners for the future workforce.

The integration of technology in the instructional programs has become an important part of today’s teaching and learning environment (Fogel, 2016). Information technologies have more

potential than ever to help teachers address the challenges that they face in this modern day world (*Engaging Students and Enhancing Learning Outcomes with Internet and Instructional Technologies*, 2015). A study done by Wasif, Munir, and Shad (2012) on the usage and impact of ICT in Education Sector of shows that availability and usage of ICT improves the knowledge and learning skills of students.

Burke (2014) observes that the success using these technologies is highly dependent on the enthusiasm of the teachers and not the device itself. With the advancement in technology, qualified teachers are still needed to plan the instruction and facilitate learning. Remarkably, Ghavifekr and Rosdy (2015) show in their study that technology based learning can actually improve on how the teachers manage their class as it makes students well-behaved and more focused because they are motivated to learn. For instance, ICT gives students the opportunity to access a variety of information which will ideally mean that the teacher is not the only one who can access content. The role of the teacher henceforth changes to helping students learn how to learn from the already available information.

These significant changes in technology and education imply that teachers need sufficient training on how to infuse technology in a way that adds value in teaching and learning in schools as recommended in the study conducted by Obonyo (2013) in Rachuonyo South District, Kenya. An effective training on ICT integration for teachers will help them align their teaching methodologies to adopt the use of available technologies in the school environment. A study that was done in Malaysia about the effectiveness of ICT integration in schools demonstrate that teachers' well-equipped preparation with ICT tools and availability of facilities is one of the main factors in success of ICT integrated teaching and learning (Ghavifekr and Rosdy, 2015). The research also indicates that technical difficulties are a major problem and a source of frustration for students and teachers and cause interruptions in the teaching and learning process. The teacher is supposed to deal with integrating the ICT more than learning about the very technical skills otherwise every teacher will be required to be an IT teacher. Technical support is therefore invaluable in schools that plan to implement ICT integration effectively.

Information Technology literacy is one of the key 21<sup>st</sup> century learning skills. Infusing ICT in learning therefore helps students to begin making connections of their world and what they are learning. Twenty-first-century teaching learning skills emphasize the need to transform the conventional teacher-centered pedagogy to more learner-centered where learners are actively involved in learning (Bindu, 2016). For ICT integration to be effective in teaching and learning, there is need to focus more on growing the skills of those very key stakeholders that are involved in implementing it, that is, the teachers and the students (Mutie, 2016).

### **2.3 Teacher-Learner Communication Influence on Teaching Methodologies**

The communication between the teacher and the learner is more about relationship and what kind of feedback they give each other. Teachers should seek to interact with students even outside the classroom environment including in informal settings.

Exploring on the components that make great teaching, (Coe at al. 2014) explain that there is a clear need to create a classroom that is not only constantly demanding more, but also recognizing students' self-worth. The student success should be celebrated rather than ability and their

resilience should be valued instead of focusing on failure. A case study of teachers and students relationships done by Gablinkske (2014) indicates that classroom climate which means the culture of respect and caring the classroom inhabitants, teachers and students have, should be purposely created by the teacher. The teacher needs to ensure that every student feels 'safe' in class and that everyone is intending them well. The teacher should essentially create a classroom that is of as a community that understands and has support systems. Modern classroom set up that is encouraging interactive learning shows that educators prefer to have students to face each other. Another factor that Gablinkske' study found out was the teacher interaction behaviors which are referred to as specific actions that allow for positive communication between the teacher and her students. The teacher needs to use words that motivate students like praising them and encouraging them including giving timely feedback on their work. Students cannot be expected to be perfect and so the teacher should know how to ask them to work on their weak areas in which case they are taking the role of a mentor. The last factor explored was the instruction that the teachers uses. This should be the one that allows the teacher to interact more with the student and build a support relationship.

However, Yiu (2011) in his study on the same subject found out that in fact there are other factors that can affect the perceptions of the teachers and how close they will be with students. The students' race, gender and academic performance affected how teachers felt towards their students. Teachers will therefore need to be keen on having biased perspectives about students which may limit how they interact with those students by developing a more meaningful and professional communication with them. Luz (2015) conducted a survey and profoundly found out that majority of teachers and students value a supportive and caring relationship between them and that interaction is essential to the teacher-student relationship. Teachers who are more caring and supportive tend to make the learners be interested in the learning process.

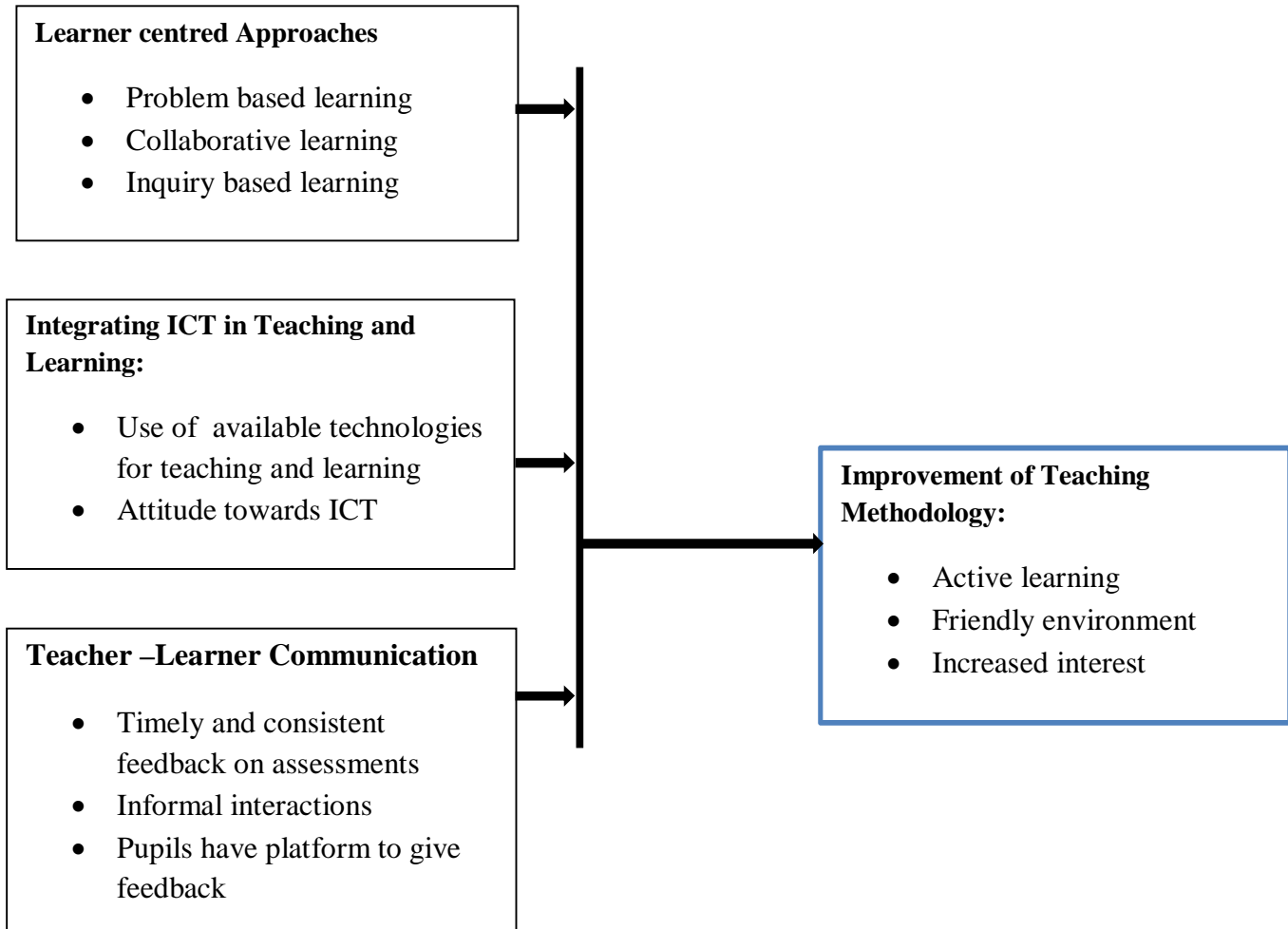
On the influence of feedback on learning, Gunlock (2014) in an action research found out that providing feedback helps students to become more engaged and self-motivated in their learning which in turn improves their ability to acquire the necessary skills. When properly given, feedback can eventually help students in improving their learning experience and hence the need for training teachers on how to give feedback. Ahea (2016) suggests that feedback is more effective and valuable for students learning when students are made to understand what good performance or goal means, the improvement process of self-assessment or reflection in learning is simplified, providing quality information to students about their learning, allowing peer dialogue in understanding the feedback, inspiring positive motivational beliefs, proving opportunities to close the gap between the current and the desired performance and giving positive feedback. The student should feel positive after receiving the feedback and generally teachers need to celebrate the students' achievements and encourage them on how they can improve.



## 2.4 Conceptual Framework

The following conceptual framework serves as a mind map for the independent variables as they relate to the dependent variable, improvement of teaching methodologies as seen on the literature review above.

**Figure 2.1: Conceptual Framework  
Independent Variables**



## CHAPTER THREE: RESEARCH METHODOLOGY

### 3.1 Research Design

The study was conducted through a descriptive survey research design as conceptualized by Kothari (2004). This design was relevant to the study since the objectives were already predetermined and it therefore allowed data collection relevant to the study problem, in this case investigating how the identified variables influence the improvement of the teaching methodology. This design also allowed the researcher to gather information in the most cost effective way. The study combined both quantitative and qualitative data collection procedures.

### 3.2 Target Population

A record from the Professional Development Centre at Aga Khan Academy Mombasa indicates that a total of 73 public secondary schools in Mombasa country participated in Collaborative Discussion Forum Project. The participants come from four districts namely Mombasa Island (21 schools), Kisauni (18 schools), Changamwe (23 schools) and Likoni (11 schools). From every school, only 4 teachers participated in the CDF and these are the ones that the researcher sought to make a generalization about. This study therefore targeted a population of 292 teachers from Mombasa County who attended the CDF training project from the four districts.

### 3.3 Sampling Technique and Sample size

The survey focused on 30 out of the 292 teachers who participated in the CDF from the four districts of Mombasa Island, Likoni, Kisauni and Changamwe in Mombasa County. This gave 10.3 % of the total number of participants in this project. To obtain the study sample according to Gay cited in Mugenda and Mugenda (1999), for descriptive studies 10% of the accessible population is enough. Stratified Random sampling technique was used to select the participants from schools across the four districts. This technique was chosen because it guaranteed desired representation from the four districts thus increasing efficiency of the survey. Once participants were categorized in the four strata, simple random sampling procedures were used to select four schools from each district where 8 teachers were selected from those schools from districts with more than 20 schools participating and 7 from those with less than 20 schools.

### 3.4 Research Instruments

The questionnaires were used to collect data from the total population. These were structured into 3 chapters each focusing on one objective using both open ended and closed ended questionnaires to collect the relevant data for this study. The questions were developed to address the specific objectives of the study. 'Questionnaires are mostly appropriate for the descriptive survey design and are also useful instruments of collecting primary data since respondents can read and then give responses to each item and they can reach a large number of subjects' (Orodho, 2004). Furthermore, using the questionnaires provides greater anonymity through coding and discrete analysis of the respondent personal details (Kombo and Tromp, 2006)

#### 3.4.1 Validity of the Instrument

To establish validity, the instruments was given to two experts to evaluate the relevance of each item in the instrument to the objectives and rate each item on the scale of very relevant (4), quite relevant (3), somewhat relevant (2), and not relevant (1). Validity was determined using Content

Validity Index (C.V.I). C.V.I = items rated 3 or 4 by both judges divided by the total number of items in the questionnaire and found to be 0.87 of items which were rated as good.

### **3.5 Data Collection Procedures**

Before going to the field to collect data and upon receiving a letter of authorization from the University of Nairobi, permit was obtained from the Aga Khan Academy Mombasa which was the administrator of the CDF training project. Appointments were then scheduled with the head teachers of the school to notify and request for permission to carry out the study with their teachers.

### **3.6 Data analysis techniques**

Raw data from the field was collected and cross checked to ensure uniformity and then coding was done according to objectives and research questions. Data was analyzed using descriptive and inferential statistics with the help of Statistical Package for Social Scientist Software (SPSS). Data was organized and presented in form of frequency tables and figures. Chi Square was used to test the hypothesis and calculate the Pearson's correlation coefficient to determine the extent of relationships between variables.

## CHAPTER FOUR: DATA PRESENTATION, ANALYSIS AND INTERPRETATION

### 4.1 Learner centred approaches influence on improvement of teaching

The respondents who participated in the study were asked to give their opinion on provision of learner centred approaches on improvement in teaching methodologies in public primary schools in Mombasa County. Based on statements on a scale of 1-5, where 1= strongly disagree (SD), 2 = disagree (D), 3 = neutral (N), 4 = agree (A) and 5 = strongly agree (SA). Results are presented in table 4.1.

**Table 4.1: Learner centred approaches influence on improvement of teaching**

Item	Statements	SD	D	N	A	SA	Mean	SD
1	Problem based learning has greatly improved my teaching strategies in my classroom.	1 (3.33%)	0 (0%)	13 (43.34%)	15 (50%)	1 (3.33%)	3.50	0.73
2	Using collaborative learning has made learning to be more engaging and interactive in my classroom.	0 (0%)	2 (6.67%)	4 (13.33%)	13 (43.33%)	11 (36.67%)	4.1	0.88
3	Inquiry based learning has encouraged active learning and created interest among pupils in my classroom.	2 (6.67%)	1 (3.33%)	5 (16.67%)	21 (70%)	1 (3.33%)	3.60	0.89
<b>Composite Mean/ SD</b>							<b>3.73</b>	<b>0.78</b>

From the study findings, most of the respondents were in agreement that learner centered approach of problem based learning has greatly improved learning strategies. From the Problem based learning results, 15(50%) of the respondents agree that using PBL has improved their teaching methodologies and 1(3.33%) strongly agree. This can be summarized by a mean score of 3.5 indicating that the respondents agreed to the statement. On whether using collaborative learning has made learning to be more engaging and interactive in the classroom, 13 (43.33%) of the respondents agreed, 11 (36.67%) strongly agreed and 4 (13.33%) were neutral. This indicates that using collaborative learning has made learning to be more engaging and interactive in the classroom as also shown with a mean of 4.1. The respondents also agreed that IBL has encouraged active learning and created interest among pupils in the classroom. 21 (70%) of the respondents agreed and 1 (3.33%) strongly agreed to the statement. This can also be

backed up with the mean of 3.6 showing respondents that are in agreement that IBL is stimulating a lot of interest amongst the learners.

In testing the hypothesis, the chi – square distribution table at 8 degrees of freedom and 95% level of confidence shows a value of 15.51 against the calculated value of 23.4. Since the calculated value is higher, we reject the null hypothesis and conclude that, learner centred approaches influence the improvement of teaching methodologies among teachers in public primary schools in Mombasa County, Kenya. The researcher calculated the correlation using the Pearson’s correlation coefficient to determine the extent of the influence. Values of 0.893, 0.945, 0.935 were obtained for the relationships between using PBL, collaborative learning, and IBL respectively and their influence on the improvement of teaching methodologies. The researcher therefore concluded that there is a strong positive correlation between learner-centred approaches and the improvement of teaching methodologies among teachers in public primary schools in Mombasa County, Kenya.

#### 4.2 Integration of ICT in Teaching and learning influence on teaching methodologies

The respondents who participated in the study were asked to give their opinion on the influence of integrating ICT in Teaching and learning on improvement in teaching in public primary schools in Mombasa County. Based on statements on a scale of 1-5, where 1=strongly disagree (SD), 2 = disagree (D), 3 = neutral (N), 4 = agree (A) and 5 = strongly agree (SA). Results are presented in table 4.2.

**Table 4.2: Integration of ICT in Teaching and learning influence on teaching methodologies**

Items	Statements	SD	D	N	A	SA	Mean	SD
1	After the CDF workshop, I enjoy regularly using available ICT tools for teaching and learning in my school.	0 (0%)	1 (3.33%)	7 (23.33%)	22 (73.34%)	0 (0%)	4.00	0.83
2	The use of the available technology tools has enhanced students understanding and created interest in learning.	0 (0%)	0 (0%)	7 (23.33%)	14 (46.67%)	9 (30%)	4.07	0.74
3	I would like to learn more other ways of how I can integrate ICT in teaching and learning.	0 (0%)	0 (0%)	1 (3.33%)	2 (6.67%)	27 (90%)	4.87	0.43
<b>Composite Mean/ SD</b>							<b>4.31</b>	<b>0.61</b>

As observed in table 4.2, it was found that after the CDF workshop, teachers enjoy regularly using available ICT tools for teaching and learning in their schools. 22(73.34%) of the respondents agreed that they are enjoying regularly using ICT tools for teaching and learning. The respondents also agreed that the use of the available technology tools has enhanced students understanding and created interest in learning. 14(46.67%) and 9(30%) of the respondents agree and strongly agree to this statement respectively. On whether the teachers who took part in CDF

would like to learn more other ways of how they can integrate ICT in teaching and learning, (6.67%) and 27 (90%) of the respondents indicated that they agreed and strongly agreed respectively. This shows that the respondents developed a positive attitude towards infusing technology in their teaching and learning processes after the CDF workshop.

The hypothesis testing from the SPSS, the chi – square distribution table at 5 degrees of freedom and 95% level of confidence shows a value of 11.07 against the calculated value of 24.4. Since the calculated value is higher, we reject the null hypothesis and conclude that, ICT integration in teaching and learning influence the improvement of teaching methodologies among teachers in public primary schools in Mombasa County, Kenya.

### 4.3 Teacher-Learner Communication and the improvement of teaching methodologies

The respondents who participated in the study were asked to give their opinion on teacher learner communication on improvement in teaching in public primary schools in Mombasa County. Based on statements on a scale of 1-5, where 1 =strongly disagree (SD), 2 = disagree (D), 3 = neutral (N), 4 = agree (A) and 5 = strongly agree (SA). Results are presented in table 4.3.

**Table 4.3: Teacher-Learner Communication and teaching methodologies**

Items	Statements	SD	D	N	A	SA	Mean	SD
1	Interacting with my pupils outside class has increased trust and hence better participation in class.	0 (0%)	1 (3.33%)	0 (0%)	0 (0%)	29 (96.67%)	4.9	0.55
2	Pupils in my class have a platform to give me feedback and this has created a friendly classroom environment.	3 (10%)	5 (16.67)	4 (13.33%)	12 (40%)	6 (20%)	3.43	1.28
3	My timely and consistent feedback on students' work has helped to improve on learning outcomes.	0 (0%)	0 (0%)	1 (3.33%)	9 (30%)	20 (66.67%)	4.63	0.56
<b>Composite Mean/ SD</b>							<b>4.32</b>	<b>0.69</b>

On whether the teachers' interaction with pupils outside class has increased trust and hence better participation in class, the respondents strongly agreed that interacting with their pupils outside class has increased trust and hence enhanced active participation in class with 29(96.67%) of the respondents strongly agreeing. Many respondents were neutral with a mean of 3.43 that pupils in their class have a platform to give them feedback and this has created a friendly classroom environment. There was a distribution in the responses with those agreeing and strongly agreeing at 12(40%) and 6(20%) respectively. Respondents timely and consistent feedback on students' work has helped them to improve on learning outcomes as shown by those who agree 9(30%) and those who strongly agree 20(66.67%) with a mean of 4.63. The study revealed that teacher learner communication improves teaching methodologies with an average

of 4.32 of the respondents agreeing and a low standard deviation of 0.56 that show most of the data being close to the mean.

From the hypothesis testing, the chi – square distribution table at 6 degrees of freedom and 95% confidence shows a value of 12.59 against the calculated value of 20.87. Since the calculated value is higher, we reject the null hypothesis and conclude that, Teacher-Learner communication influences the improvement of teaching methodologies among teachers in public primary schools in Mombasa County, Kenya. The researcher computed the correlation using the Pearson's correlation coefficient. The following values were obtained 0.634, 0.945, 0.941 for the relationships between interacting with pupils outside class and the improvement of teaching methodologies, pupils' platforms to give feedback strategies and the improvement of teaching methodologies, timely and consistent feedback and the improvement of teaching methodologies respectively. The researcher therefore concluded that there is a strong positive correlation between Teacher-Learner communication and the improvement of teaching methodologies among teachers in public primary schools in Mombasa County, Kenya.

## CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

### 5.1 Summary of Findings

From the field information about the extent to which learner-centred approaches influence the improvement of teaching methodologies, the study found out that majority of the teachers agree that the three strategies; PBL, collaborative learning, and IBL have improved on the way they conduct teaching and learning. The Karl Pearson's correlation coefficient for the three is 0.893, 0.945 and 0.935 respectively indicating a strong positive correlation between the learner-centred teaching methods and the improvement of teaching and learning. This agrees to Ganyaupfu (2013) discussion that student-centred approaches are being frequently used today by teachers in their teaching methodologies and have been found to promote interest, analytical research, critical thinking and enjoyment among students.

From the study and the analysis of the data about the integration of ICT in teaching and learning, 73.34% of the teachers who participated in the CDF enjoyed using ICT tools that were available in their schools for teaching and learning. The 90% of the respondents strongly agreed that they would like to learn even more ways that they can use the ICT tools in teaching showing the change of attitude and the willingness of the respondents to be continuous learners. This is in line with the recommendation of Obonyo (2013) that the significant changes in technology and education implies that teachers need sufficient training on how to use ICT tools in a way that adds value in teaching and learning in schools.

Concerning teacher-learner communication, 96.67% of the respondents strongly agreed that after they attended the training, they have now been interacting with their pupils outside class and this has enhanced active participation in class. 66.67% of the respondents strongly agreed that their timely and consistent feedback on students' work has bettered their learning. This study finding agrees with the findings of Gunlock (2014) that providing feedback helps students to become more engaged and self-motivated in their learning. In this study however, it was found out that for feedback to be helpful it needs to be consistent and timely.

### 5.2 Conclusions

Based on the study findings in chapter four, the study concludes that collaborative discussion forum project has influence on the improvement of teaching methodologies among teachers in public primary schools in Mombasa County, Kenya. The study concludes that learner centred approaches on teaching methodologies influence the improvement of teaching methodologies among teachers in public primary schools in Mombasa County, Kenya. The study also concludes that integrating ICT in teaching and learning has a great positive influence on the improvement of teaching methodologies among teachers in public primary schools in Mombasa County, Kenya. Finally, the study concludes that teacher learner communication on teaching methodologies influence the improvement of teaching methodologies among teachers in public primary schools in Mombasa County, Kenya.



### **5.3 Recommendations**

- i. The study recommends that, to ensure there is improvement of teaching methodologies in primary schools in Mombasa County, Kenya, teachers should adopt learner centred approaches.
- ii. The study also recommends that teachers should be consistently trained on the infusion of ICT in teaching and learning since it improves the teaching methodologies among teachers in primary schools in Mombasa County, Kenya.
- iii. The study recommends that, for there to be an improvement of teaching methodologies among teachers in public schools in Mombasa County, Kenya, teachers should increase the teacher learner communication strategies.
- iv. The study also recommends that the government should liaise with SESEA to provide professional training through short term courses and peer-mentorship to all the primary school teachers since this improves the teaching methodologies.
- v. The study recommends that SESEA should make this training for teachers' capacity building through short term courses continuous rather than a one off project.

### **5.4 Suggestions for Further Studies**

The study suggests further reading on the influence of collaborative discussion forum project on improvement of teaching methodologies among teachers in public primary schools in Mombasa County Kenya. The study suggested that a further research be conducted on:

- i. Influence of SESEA professional training projects in other parts of the region.
- ii. Legal and regulatory framework for partnership between the government and other educational organisations in offering short term courses.
- iii. Improvement of students' performance through collaborative discussion forums in the public primary schools in Mombasa.
- iv. The influence of SESEA long term courses on teaching and learning.

## REFERENCES

- Barmao, C. (2014). Laptops-for-Pupils Project: Challenges and Opportunities in Public Primary Schools in Eldoret Municipality.
- Bindu, C. N. (2016). Impact of ICT on Teaching and Learning: A Literature Review. *International Journal of Management and Commerce Innovations I*, 4(1), 24–31.
- Bluestein, J. (Ed.). (2011). *Classroom Management*. California: Corwin Press.
- Burke, L. (Ed.). (2014). *Learning in a Digitalized Age: Plugged in, Turned on, totally engaged?*. Melton, Woodbridge: John Catt Educational Ltd.
- Cavanaugh, C., McCarthy, A., & East, M. (2014). An innovation framework for holistic school transformation: Ten critical conversations for the 21st century. In *EdMedia: World Conference on Educational Media and Technology* (pp. 1560–1569). Association for the Advancement of Computing in Education (AACE).
- Coe, R., Aloisi, C., Higgins, S., & Major, L. E. (2014). What makes great teaching? Review of the underpinning research.
- Collins, J. W., & O'Brien, N. P. (2003). *Greenwood Dictionary of Education* (3rd ed.). Westport, CT: Greenwood.
- EmergingEdTech\_Free\_Education\_Technology\_Resources\_eBook.pdf*. (2015).  
EmergingEdTech.com.
- Fogel, G. K. (2016). *A model of learner-centered approach and best practices in distance education*.
- Gablinske, P. B. (2014). A case study of student and teacher relationships and the effect on student learning.
- Ghavifekr, S., & Rosdy, W. A. W. (2015). Teaching and Learning with Technology: Effectiveness of ICT Integration in Schools. *International Journal of Research in Education and Science*, 1(2), 175–191.
- Gunlock, D. (2014). The Effects of Feedback on Student Learning in a Kindergarten Classroom.
- Johnson, D. W., Johnson, R. T., & Smith, K. A. (1998). Cooperative learning returns to college what evidence is there that it works? *Change: The Magazine of Higher Learning*, 30(4), 26–35.

- Kombo, D. K., & Tromp, D. L. A. (2006). *Proposal and Thesis Writing: An Introduction*. Nairobi: Paulines Publication's Africa.
- Kothari, C. R. (2004). *Research Methodology: Methods and Techniques* (2nd ed.). New Delhi: New Age International (P) Limited.
- Ling, A., & Loy-Pang, K. J. (2007). Student's perceptions of good PBL facilitation. In *Int. Problem-Based Learning Symp.* Citeseer. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.117.2723&rep=rep1&type=pdf>
- Luz, F. S. dos R. da. (2015). *The Relationship between Teachers and Students in the Classroom: Communicative Language Teaching Approach and Cooperative Learning Strategy to Improve Learning* (Master's Thesis).
- Marinko, I., Marinko, J., Hughes, J., & Rees, A. (2016). EMPOWERING TEACHERS FOR A STUDENT-CENTRED APPROACH (by.
- Mugenda, O. M., & Mugenda, A. G. (1999). *Research Methods: Quantitative and Qualitative Approaches*. Nairobi: African Centre of Technology Studies.
- MUTIE, P. W. (2016). *Mutie\_Factors Influencing Integration of Information and Communication Technology in Teaching and Learning-the Case of Selected Secondary Schools in Lamu West Sub-county, Kenya*. University of Nairobi, Nairobi.
- Mykrä, T. (2015). *Learner-centered Teaching Methods—A Toolkit for Secondary Education Teachers*.
- Obonyo, S. O. (2013). *Use of Information Communication Technology in Teaching and Learning Processes in Secondary Schools in Rachuonyo South District, Homa-Bay County, Kenya*. University of Nairobi, Nairobi.
- Orodho, J. A. (2004). *Techniques of Writing Research Proposals and Reports in Education and Social Sciences*. Nairobi: Masola Publishers.
- Prensky, M. (2001). Digital natives, digital immigrants part 1. *On the Horizon*, 9(5), 1–6.
- Push, S. E., & Kehrwald, B. A. (2014). Supporting New Academics' Use of Student Centred Strategies in Traditional University Teaching. *Journal of University Teaching & Learning Practice*, 11(1), 1–14.
- Roblyer, M. D. (2006). *Integrating Educational Technology into Teaching* (4th ed.). New Jersey: Pearson Education, Inc.

- UNESCO's Role in Education. (2017). United Nations Educational, Scientific and Cultural Organisation. Retrieved from <http://unesdoc.unesco.org/images/0024/002481/248136e.pdf>
- Wamalwa, P. (2017). Factor That Influence Teachers' perception Towards the Implementation of Strengthening Mathematics and Science in Secondary Education (SMASSE Programme) in Bungoma County, Kenya.
- Wasif, M. N., Munir, E. U., & Shad, S. A. (2012). Usage and Impact of ICT in Education Sector; A Study of Pakistan. *arXiv Preprint arXiv:1206.5132*.
- Weimer, M. (2013). *Learner-centered teaching: five key changes to practice*. Retrieved from <http://catalogimages.wiley.com/images/db/jimages/9781118119280.jpg>
- Yiu, H. L. (2011). *The influence of student and teacher characteristics on student-teacher closeness*. University of Maryland, College Park.