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TEACHER PREPAREDNESS IN DIGITAL MEDIA TECHNOLOGY USE FOR COMPETENCY BASED CURRICULUM IMPLIMENTATION IN PRE SCHOOLS IN KILIFI COUNTY, KENYA

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ABBREVIATIONS AND ACRONYMS

BECF	Basic Education Curriculum Framework
CBC	Competency Based Curriculum
DMT	Digital Media Technology
GoK	Government of Kenya
ICT	Information Communication Technology
ISD	Integrated Staff Development
KICD	Kenya Institute of Curriculum Development
MoEST	Ministry of Education, Science and Technology
NACOSTI	National Commission for Science, Technology and Innovation
NECEC	National Early Childhood Education Committee
SPSS	Statistical Package for the Social Sciences
TIC	Teacher In Charge
UNESCO	United Nations Educational, Scientific and Cultural Organization

ABSTRACT

The Competency Based Curriculum system of Education was initiated in 2018 in 5 ranks of Early learning from PPI to Grade 3 in Kenya. Two levels of Government were mandated with the Implementation: The County Government charged with Pre Primary Education, consisting of 2 levels namely PPI and PPII levels of learners aged 4 and 5 years respectively and the primary schools Grade 1 to Grade 3 being the senior most class with CBC continuously implemented in every subsequent year to final Grade 6. The pioneer grade3 is now in Junior Secondary School. The CBC endorses competences acquisition in every Subject at all levels of learning. Of the competencies, Digital Media Technology use is mandatory and in use across the curriculum. While Education is a core service by both National and County Government, priorities that are funded may differ, hence prompting this study that is an in-depth analysis namely Teacher Preparedness in Digital Media Use in CBC implementation in Preschools, Kilifi County, Kenya. The Choice of this County was guided by Kilifi County being the most expansive devolved county of the Coast region bordering 4 of the other 5 counties, it is the Most densely populated and can be ranked highest in investment in Preschool Education from onset of devolution. The research was pegged on the TAM (1986) Model. TAM was the most appropriate theory due to its strength in identifying influencing factors encompassing Technology Acceptance, use and crosschecks human behavior technology adaptation in respect of CBC implementation. The Target Population was all 2500 permanent and Pensionable teachers spread in the 746 Public Preschools in Kilifi County. The study was guided by 4 objectives translated to variables namely, Availability of DMT infrastructure, Establishing Teacher Capacity in DMT use, investigate effect of Teachers' age on Technological acceptance and use, and finally, to examine Teacher perception of DMT use in the curriculum. The researcher constructed the Conceptual Framework to represent a simplified perspective. The study employed a descriptive research design. Methods of data collection were questionnaires for the Teacher, interview schedule for Teacher- In- Charge; and DMT Resource Analysis Guide for institution. Reliability of Instruments was checked by Test- Retest and result compared by computing the Cronbach's alpha coefficients. Furthermore, Data Analysis was by percentages and frequencies subjected to Chi square and presented in form of tables or charts. The study established that there was a significant relationship between availability of DMT infrastructure, teacher capacity and teachers' perception on DMT use. The effect of Teacher age on DMT use was very minimal. On availability of DMT infrastructure, the study concluded that the teachers were faced by lack of DMT infrastructure/ Resources. On teacher capacity, the study concluded that the County Department of Education and ICT subjected teachers to a minimal digital training compared to the gravity of the curriculum. The researcher recommends a serious investment on DMT resource supply, Investment in staff development and skills upgrade with emphasis to digital infusion in line with the CBC demands. The personal Initiative by some teachers enabled an extent to devise various mechanisms to meet the dictates of syllabus, and a readiness to adapt to DMT use. On teacher's age, the study concluded that the effect of teachers age on DMT use was so minimal thus minor. On teachers' perception on DMT use, the study concluded that teachers have a positive perception and agree that DMT makes teaching interactive. The researcher recommends: Practices: The county should ensure DMT Resources are supplied or Capitation directed into Preschool accounts for DMT supply, use and maintenance. Policy: The researcher recommends a deliberate training of teachers on DMT use while aligning software with CBC demands. The County Department of Education and ICT need to work closely with sister sectors as KICD, Google and Safaricom. The study recommends research on Primary-Preschool partnership and multi-sectorial efforts in addressing CBC implementation and DMT resource use.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

The study is on 'Teacher Preparedness in Digital Media Technology use in Pre Schools in Kilifi County. The chapter is the initial and introductory chapter of the research study and encompasses the background to the study, the statement of the problem, the purpose of the study, the objectives and corresponding research questions that the paper tries to answer, and covers the limitations & delimitations, assumptions and finally the theoretical frameworks namely Technology Acceptance Model. In this chapter the researcher diagrammatically illustrated the entire paper into a conceptual framework. Furthermore, the operational definitions of terms as applicable in the study are highlighted.

1.1 Background to the Study

Digital infusion is mandatory in Curriculum implementation as per the Basic Education Curriculum Framework (2018) that was operationalized in 2018 with intent to improve and replace the 8-4-4 System initiated in 1985. The curriculum was functionalized in 2019 and enforced in 5 classes – PPI and PPII and grade1to 3 in lower primary as a first phase and as the classes progressed to upper levels so were the curriculum Designs for subsequent classes generated and released for use. The system was fashioned to meet skill based, free and compulsory basic education from pre-primary, primary, junior and senior secondary school levels with intent for learners to earn cumulative competencies in line with societal needs and replace the cut throat examination oriented 8-4-4 system. Indeed, while digital infusion pauses challenges, Titus 1:15 reads that to the pure, all things are pure, but to the defiled and unbelieving, nothing is pure; and both their minds and consciences are defiled. The writing of this research was motivated by the desire to investigate CBC implementation by the County government interpretation of the Basic Education Act (2013) as a legal document whose section 28 article 2 when read together with section 39, emphasize the provision of human resource, infrastructure and quality education- in this respect Pre School Education. The CBC is backed up by legal provisions in the Constitution of Kenya (2010) whose article 53 illustrates the importance of meeting the needs and the rights of the child through education. The Competency Based Curriculum (Kenya) focuses on generating a globally competitive workforce in line with Governments worldwide investment in digital media use in teaching and learning in order to reinvigorate school processes. Indeed, for education to be meaningful

Digital Media Technology for curriculum implementation is possible if DMT infrastructure, subsequent maintenance structures, skilled human resources for curriculum implementation, Power and Internet provision and active and reflective approaches to learning, backed by Policy and Research, support implementation and continuous improvement in actualizing the digital infusion aspect of CBC. Furthermore, improved curriculum delivery and meaningful learning proved by competency acquisition, must be useful, valuable and relevant to societal needs and expectations (KNUT, 2019). Deliberate investment in digital media technology coupled with upscaling training of field teachers in use of digital media for teaching is ideal for valuable and quality education, which is the bedrock to societies development and progress a population is hinged on (Buchere et al, 2016). Digital infrastructure, training of manpower and excellent classrooms must be supported by reliable internet provision and electricity to schools, and a multi sectorial support is key to success (Kang'ethe, 2003). Technology cannot replace teachers but ill prepared teachers who have the necessary resources is a disaster. Similarly, excellent policies without resources or skilled teachers is a calamity. The devolved education sector and the continuous political theatrics in county assemblies coupled with financial allocations approved by MCAs and power struggles may lead to warped priorities where learning may take the brunt- a premises to carry out the study.

Investment in DMT is evident from the global platforms with proof of intention in investment by governments in initiating, improving and strengthening digital media technology use in pedagogy as revealed in studies from the United Kingdom. The UK initially had invested £2.5bn in 2008-2009 on ICT, to strengthen its competency based curriculum, and teacher training, followed by further funding, (Taylor et al, 2015). Supply of tablets and other digital media technology gadgets to schools is an excellent move, but teacher preparedness in a hands-on use of digital media technology for content delivery at all levels of learning is paramount.

Empirical studies from Africa reveal that provision of DMT infrastructure to schools and internet with little input to the side of the teacher skills is detrimental, culminating to unachievable education and curriculum goals. Studies from Zambia reveal that while the Government supplied schools with Computers, hard and software for a tailored curriculum content, teachers were still reluctant to migrate to digital teaching platforms, because they were not equipped with necessary skills, coupled with poor attitude towards DMT, devised tactics to evade use of DMT and delivered curriculum content by traditional teaching methodologies, (Spiteri and Chang, 2018). This compromised quality learning. The study established that teacher's low aptitude in Computer technology use, fear of spoiling the gadgets, and poor attitude towards digital technology and technological stress were the undoing of the programme. Moreover, studies highlight non- investment in digital skills in teaching staff to advance effectiveness and functionality of DMT pedagogical advantage to traditional methods of teaching, (Wang, Ertimer & Newby, 2004). Teacher preparedness in DMT use for curriculum delivery is the kingbolt to CBC (Kenya) success and the systems' vertebrae column necessary for learning, learning to learn, future learning and the world of work and diversity in national development.

Regionally, the East African Countries have invested in CBC and the corresponding ICT aspect (Livingstone, et al 2015). Rwanda implemented the CBC in Teacher Training Colleges and invested heavily in digital media technology use. The Rwanda Education Board had misgivings concerning teachers - while teachers were trained in CBC and in Digital Media, 70% resisted change by being adamant, maintained status quo of traditional methods of curriculum delivery and opted to use teaching methodologies devoid of CBC tenets. The Bible refers such as deliberate refusal to multiply in knowledge (2 Peter 1:2 NKJV). Teachers felt comfortable in keeping and re using same teaching documents of past years, irrespective of individual differences in different learners of different abilities and intelligences', from different social-economic backgrounds, who need to benefit from the valuable blessings of DMT, widely provisional and aligned to modern trends, (Anne & Kimberly (2017). The CBC in Rwanda is not a replica of the Kenyan CBC whose goals are entirely different, as challenges revealed included insufficiency of learning and teaching materials and inability to make hard copies of materials from internet with some of the available materials still in electronic copies making it not very practical for every user, an indication that Digital Resources were very limited, inappropriate and ultimate for learners. Such studies offer substance in studying teacher preparedness in CBC implementation. The studies though in DMT use had gaps that Included- different geographical area, different education policies and National goals of education, smaller land mass and a dissimilar democracy. Furthermore, studies were carried out in Teachers Training Colleges.

Digital Technology use for teaching and learning in the Republic of Tanzania reveal a mass of challenges related to teacher preparedness, posit deliberate investment in teacher skills and suggest provision of functional DMT resources into learning institutions, (Swartz and Wachira, 2010). The importance of teacher preparedness in curriculum implementation and delivery was revealed and supported by studies done in Tanzania. Tanzania faced teacher and technological challenges at the inception of Digital infusion in the CBC in 1997, (Majuto & Gilbert, 2017; Hare, 2007). The Education Ministry had to initiate a project named "ICT for Teacher Education Program', that promoted DMT use in teaching processes introduced in Tanzanian Teacher Training Colleges in 2002. The program's objective was to impart pedagogical skills in teachers through the use of ICT with aligned hard and soft wares as underlined in Ngeza, (2017). The programme was a result of teachers being frustrated by inability to download pictures, videos and animations from the internet and use them for teaching purposes as they had no technical knowledge on use of digital media for digital infusion. The digital infusion aspect of the CBC was thus not well integrated. In 2005 ICT was introduced in secondary schools in a programme named the 'e-school forum' whose aim was to design programs that supported the introduction of DTM in teaching. The initiative mostly covered secondary schools while primary schools were not part of this program. The government of Tanzania had then developed the curriculum for integration for ICT in preprimary and primary education level (Swartz & Wachira, 2010), in an effort to ensure effective integration of technology in teaching. ICT for teachers' professional development (ICT-TPD) framework was developed in 2009 to guide teachers' professional development programs aimed at developing technology integration competencies in schools. The identified gap is that the studies were in Secondary schools and CBC in Tanzania started in TTCs and Secondary schools, a Top-down Initiative while in Kenya the needs of the Child are paramount, as per the constitution of Kenya (2010), hence CBC was initiated from preschool and lower grades of primary school- a Down Up. A 2017 survey on ICT integration in Tanzania reveal a high student computer ratio of 3:1 sample that included a secondary school per zone in the entire country where ICT was not practicable as teachers lacked skills to implement digital areas of the CBC. (Ngeza, 2017). Though the teachers had training in computer packages and lacked training in use of DMT for curriculum implementation hence 74% of the teachers failed to use the supplied DMT gadgets. This points at the need for prudence in provision of Digital Media Technology resources, creation of an enabling environment, upgrade teacher skills and improve teacher attitude- a stress free environment for DMT use that rewards positively teachers' use of the Digital forums to meet curriculum needs. Khawaji, (2016) points to necessity of exposing learners to digital technology at initial stages of schooling as it is the ideal time when the child's brain is malleable can learn quickly and is most malleable.

Ngeza, (2017) recommends that teachers need to cultivate a digital technology culture in learners from tender ages as best practice in society.

Teacher preparedness in DMT use for pedagogy cannot be underscored as reflected in deliberate efforts by The Pwani University in Kilifi County. Pwani University found the weakness in CBC implementation when students went for teaching practice; however, its response was more academic than practical, hence the raft of recommendations covered their academic and nonacademic staff. At the inception of the CBC the university in collaboration with University of Nairobi and Strathmore University began a process of aligning training of teachers under 'Totemk Project'. The express aim was offer skills to teachers in digital literacy to prepare student teachers in line with the dictates of the CBC digital infusion context to CBC and its context, and link teacher Education to institutional management hence generate competent teachers to deliver CBC at all levels of Basic and Early Learning. This is evident of the seriousness in skills upgrade for teachers in order to deliver the curriculum (Pwani University- CBC Curriculum, 2018). While this effort may produce results it may not directly affect the schools, moreover it was not a study on teacher preparedness, and while such study was in Kilifi County, it was indeed a research gap in that the university is the apex of institutionalized learning as opposed to the preschool which is the earliest and initial level of schooling.

The MOEST also did related actions to improve teacher preparedness in Digital infusion on CBC but the initiative revealed loopholes in the facilitators part and the teacher in their DMT preparedness. In a workshop on sensitization of teachers on Health Digital Literacy held at ST Thomas Girls High School, teachers were to be exposed to digital health content for CBC and steps in digital presentation to different levels of learners compatible with active methods of teaching and capacity building teachers on ways of navigating HDL Content for 10-14 year olds. The workshop held on 4-1-2020 was a miserable failure as out of 83 participants drawn from the 7 functional Counties only 10 teachers had laptops for the exercise two of which were not functional, (MOE, Kilifi County, 2020). Teachers worked in groups of 10 and many could not access the content. Furthermore, the facilitators could not share the content with all schools as network was low, moreover teachers had only a day for the training. Indeed, from these premises we can calculate the magnitude of teacher preparedness. Furthermore, when teachers asked for the HDL software content necessary for teaching, they were informed that the software were yet to be developed hence unavailable. This was a gap that prompted scientific enquiry into teacher preparedness in DMT use in teaching. Joseph Katana, the then Sub County TSC director for Kilifi North, attested to challenges in the better organized public primary schools. Indeed, the County Government of Kilifi has the herculean task of building, equipping and staffing all public preschools and political priorities at county level may not place education in the top ranks let alone digital technology use.

Motivated by the feelings of teacher attendees' in the workshop, who felt that the MOE was not serious with the digital literacy aspect, as the MOEST failed to access gadgets while there were institutions that could assist in a step by step DMT use in content delivery backed by well-modulated, easy to use digital software, that coheres with the subject content of the curriculum that simplifies content delivery to learners of different abilities, in different grades. Moreover, teachers came from distant schools and were not compensated in transport. The teachers had no memory sticks to upload software, more so the groups of 10 per one gadget was not plausible to effectively learn targeted content, hence the workshop objectives were not achieved, such situations have been the norm in most Kenyan research population as revealed in Sutter & Kihara, (2019). It is from such premises that that the researcher felt the need to conduct a study in Kilifi County, as there has been deliberate effort to implement a fraction of Digital Literacy here in referred as HDL for teachers in primary schools and it is only fair to conduct a study on Teacher preparedness in the Preschools which are located in the same public primary schools but under the County Governments' Department of Education and ICT. The County director's office in Kilifi has lots of recommendations on improvement of DMT use in public primary schools in Kilifi. (KNUT, 2019). There is evidence of positive teacher perception on DMT use in schools but teachers feel left out and treated as lesser mortals in matters CBC – a stronger basis to carry out the research. The workshop recommendations from teachers included tutors having more and quality time for training, reducing the distances by conducting workshops in sub counties, seriousness in conducting CBC clinics by providing adequate DMT gadgets during skill based workshops and a more vibrant Quality Assurance and Standards department, vigilant in monitoring and evaluation of curriculum implementation and delivery. Similar recommendations are in Khawaji, (2016). The workshop failed to meet the objective of the Kilifi training to capacity build teachers on CBC and how to navigate Health digital literacy and need to conduct Monitoring and Evaluation of the program in order to assess the challenges faced and come up with appropriate solutions during implementation. The effort is void of County Governments input on the school Digital Media Technology improvement plan except the jolly phonics workshops mandatory to all preschool teachers in Kilifi County, (MOE-Kilifi, 2020). There is hence a mass of evidence and a gap for the research on Teacher Preparedness in DMT use in Preschools in Kilifi County. Indeed, the importance of Digital literacy in schools cannot be gainsaid as rightly framed in a single statement- "Technology defines the man of the day", (Kang'ethe, 2003). Meanwhile, CBC implementation is impracticable if the digital infusion facet of the curriculum suffers negligence (Spiteri & Chang, 2018), and when teachers fail to have digital teaching competences, the CBC will be in a straightjacket of a situation a research gap that prompted this scientific enquiry.

1.2 Statement of the Problem

The research was a survey on Teacher preparedness in Digital Media Technology use for digital infusion ascribed by the CBC. While Kilifi County was mandated to preschool education and was instrumental in employment of teaching staff, provide resources including Physical facilities, provide quality assurance for the Preschool sector and assure quality in Child Growth, development and learning, there is no evidence of provision of Digital Media Technology resources or preparation of digital infusion as envisaged in both the Curriculum Design and the CBC as envisaged in the BECF (2018). If the teachers are not equipped with the resources and skills necessary for curriculum delivery, the success of the 2-6-3-3 Education will be at stake. If the County department of education fails to provide a Digital Media Technology safe haven for public Preschools, where the bulk of learners acquire education, then claims of CBC success may be termed as lip-service as competencies are acquired through practice. The phenomenon of the county being loaded with an entire level of education, and the level of preparedness needed prompted this study.

1.3 Purpose of the Study

The purpose of this study was to establish teacher preparedness in DMT use for digital infusion in compliance to CBC implementation, and highlight success and challenges faced by the teachers for the sole purpose of offering practical suggestions and recommendations for advancing improvement and strengthening Preschool Education and satisfy the demands of the CBC, Kenya in line with BECF, 2018 and section 53 of the Constitution of Kenya (2010).

1.3.1 Objectives of the Study

The study was guided by these specific objectives;

i. To establish the availability of DMT infrastructure in preprimary schools in Kilifi County Preschools.

ii. To determine teacher capacity in integrating DMT during learning and Teaching Process.

iii. To examine the effect of teachers' age on acceptance of DMT use in the learning and teaching process.

iv. To examine teachers' perception of DMT usefulness in content delivery endorsed in CBC

1.3.2 Research Questions

i. To what extent does DMT infrastructure affect digital infusion during learning and teaching in preschool?

ii. How does Preschool teachers' competence in DMT use negate Digital Infusion in CBC delivery at Preschool level of Education?

iii. What is the relationship is in teachers' chronological age and their acceptance of DMT use?

iv. How does the teacher perception on usefulness of DMT influence curriculum implementation at preprimary school setup?

1.4 Significance of the Study

The researcher hopes that the findings from the study could influence the County Department of Education in strengthening digital infusion during the teaching process. Moreover, this study would contribute to the existing body of knowledge on use of digital media in school instructions. In addition, scholars interested in preschool curriculum delivery and satisfying digital media technology in CBC can cite or refer from the findings of this work, or do related research or disapprove findings by doing related research in same or different counties. Further, the study suggests areas for further research which other researchers can domesticate to improve scientific enquiry in teaching at primary or preprimary school levels.

1.5 Limitations and Delimitations of the Study

The limitations and delimitations are what feature the threats and weaknesses that faced the researcher and the extent or research borderline in the thematic areas below:

1.5.1 Limitations of the Study

Limitations of the study are the designated weaknesses or threats to the study and the forestalled measures to address them amicably so as not affect the research: The limitations included vastness of Kilifi County hence traveling costs. The second was pressure of work as the research was carried in an election year, that was preceded by closure of schools due to the viral corona infections that brought government and social activities to a near standstill. The third was winning the trust of the respondents, taking into account that the researcher had worked as a Senior ECDE Programme officer in both Central and County Government in the very Kilifi County and teachers felt ill at ease and considerable effort was applied to win their trust.

1.5.2 Delimitations of the Study

Delimitation is the establishment and demarcation of the boundaries the research is entitled to extend (New Riverside University Dictionary, 1982). The research involved Preschool teachers in Public schools in Kilifi County and not in private or faith based centers as they represent the bulk of preschool teacher population in the County Preschool teachers it is mandatory for preschool teachers in Public sector to be trained, be registered by the TSC and undergo a Jolly phonics phase 1 and 2 course of instruction- a language teaching program which heavily leans on Digital Media Technology use that compliments the Language Activity in the Curriculum Design of the CBC.

1.6 Assumptions of the Study

This study was established on the assumptions that;

i. All teachers are trained in CBC and have relevant and adequate knowledge on how to implement the Curriculum
ii. All preschool teachers are proficient in use of laptops and tablets or cell phones for teaching and learning
iii. The preschools have digital hardware, are connected to electricity and have software ideal for the activity areas in the preschool curriculum.
iv. All the participants will share the information needed without fear of self-incrimination, be truthful in their responses by giving correct answers

1.7 Theoretical and Conceptual Framework

This section is in two sub themes namely theoretical framework and conceptual framework.

1.7.1 Theoretical Framework

This study is pegged on Davis' (1986) Technology Acceptance Model (TAM Theory) and is linked to the theory of reasoned action (Davis, 1986). TAM represents one of the explanatory models to have influenced the theories of human behavior (Livingstone, Coverin & Thumin, 2015). TAM was conceived with primary target of identifying influencing factors involved in computer acceptance and to crosscheck variety of Digital Media Technology use and the resulting human behavior (Tylor, 2000). Studies by Sternad & Bobek, (2013) reveal that Digital Media Technology use is to a large extent influenced by the user's attitude, behavioral intentions, perceived usefulness and perceived interface of the technology gadgets. Wikan & Molster (2011), further underlines urgency as affected by peoples' self-efficacy and own beliefs about their efficacy influencing choices and effort. The researcher finds the TAM Theory very appropriate.

1.7.2 Conceptual Framework

The following conceptual framework illustrates the relationship between the independent and dependent variables.

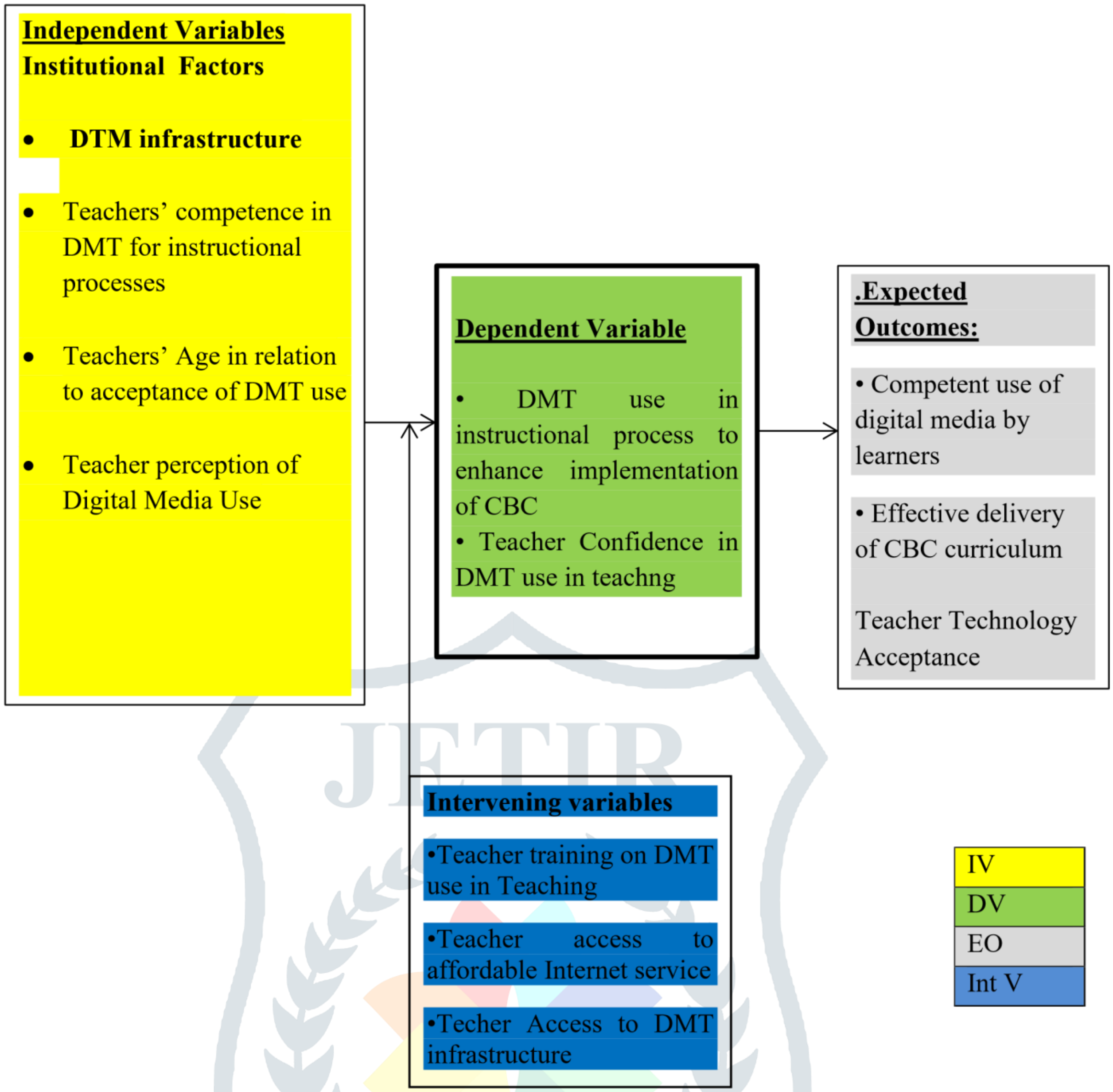
Independent Variables
Institutional Factors
• DTM infrastructure
• Teachers' competence in DMT for instructional processes
• Teachers' Age in relation to acceptance of DMT use
• Teacher perception of Digital Media Use
Dependent Variable
• DMT use in instructional process to enhance implementation of CBC
• Teacher Confidence in DMT use in teachng
.Expected Outcomes:
• Competent use of digital media by learners
• Effective delivery of CBC curriculum
Teacher Technology Acceptance
Intervening variables
•Teacher training on DMT use in Teaching
•Teacher access to affordable Internet service
•Techer Access to DMT infrastructure
IV
DV
EO
Int V

Figure 2.1: Conceptual Framework

This is a diagrammatic explanation on how the Independent variables affects the Dependent variables and the value counter effect of the Intervening variables.

1.8 Operational Definition of Terms

Digital Media	Refers to all technological devices including audio and audio/visual, hard and soft Modem ware necessary for CBC delivery
DMT Infrastructure:	Laptops, Tablets, Digital Cameras, Photocopiers, and internet gadgets. ICT infrastructure This refers to the various networks, databases, software, internet connection and
DMT Software:	hardware that is relied upon in the running of new technologies and programs that are in line with CBC inserted in the Hardware that aids Curriculum Delivery.
Teacher in Charge	Diploma and Graduate ECE Teachers employed by the County Government. Appointed as AIE holders at school level, in charge of financial, physical and human resources reporting to County Government Authorities.
Teachers' perceptions:	Refers to how teachers view the use of digital media and technology in relation to its value in curriculum delivery.
Teacher Preparedness:	The Equipping of teachers in DMT for ideal for digital infusion.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

DMT use is inseparable with all aspects of development, diversity, employment, wealth creation, work, the economy of a country and the globe, hence learning methodologies in contemporary society can neither divorce nor separate Digital Technology to pedagogical processes, thus the chapter reviewed researches and literature related to concerns on 'Teacher Preparedness in Digital Media Technology use in Pre Schools in Kilifi County and highlights empirical studies related to DMT use in teaching processes in the global perspective, through continental, regional and local studies were read, compared and referred to, as an authoritative bedrock to which this study was enforced that underlines and endorses the study on teacher preparedness in Digital Media Technology for pedagogical purposes in relation to the study topic: Teacher Preparedness in Digital Media Technology use in Pre Schools in Kilifi County, Kenya. The study, for best conclusions was propelled to answer specific research questions transposed to meet specific research objectives: Status of digital media technology infrastructure in Preschools, Effect of teachers' age on DMT acceptance and use, Teacher competence in relation to DMT use in content delivery and finally effects of Teacher Perception on DMT use in Curriculum implementation. The summary of the literature reviewed reveals the research gap that is hereby addressed by this academic enquiry- Teacher Preparedness in Digital Media Technology use in CBC delivery in Kilifi County Pre Schools.

2.2 Status of Digital Infrastructure in Schools

Policy documents on digital migration, issue government ultimatums to Education officers and teachers on policy matters, threats of sacking teachers by dozens if they fail to implement CBC and use DMT for teaching a s dictated by the Curriculum need to match provision of digital infrastructure, Power, Broadband services, internet provision and skill to the people charged with curriculum delivery. The research surveys the provision or availability of DMT infrastructure in Preschools. Indeed, Farah, (2011) underlines provision of adequate digital resources as the key to ensuring metamorphosis from traditional methods of teaching to the digital revolution that makes learners globally competent as human resources for diversity in national development. Empty rhetoric, without the corresponding paraphernalia was rightfully termed lip service in Amuchie, (2015). When the teaching and learning environment does not correspond to what the policy demands, then curriculum goals will not be achieved, (Reeves, 1998). Teachers may be ready to move to digital platforms; School heads may be trained but it would be vanity if infrastructure provision is a challenge as pointed out in Mwendwa, (2018) and endorsed in Lambert et al, (2008). The findings fit the Davis, (1986)-TAM theory. Kamau et al, (2015) in application of the TAM Theory modulates an expectancy-value model of motivation useful in understanding and correctly predicting people's behavior in the acceptance and adaptation of digital technology in teaching; in this aspect implementing the digital aspects of the CBC. TAM theory emphasizes that humans' decision to do a particular task by integrating technology is largely dependent on the belief that there are valuable advantages on quality service and product, management of time as a resource in execution of the task at hand, and belief that success is imminent. Mulhim, (2013) posit that expectancy of success and perceived value must be high for one to accept, adapt and use a specific form of technology.

Studies by Karasavvidis, (2009) in Italy and Greece found that provision of Digital Infrastructure to secondary schools, with reliable network and conducive learning atmosphere motivates teachers to migrate to digital delivery of curriculum with skill based interventions in teachers' use of DMT by application of competences, with aligned software that match curriculum content for each school level, with negligible cases of failure. Similar findings are in a research in Sweden. Means, (2011) findings culminated to smooth change and transition from ordinary methods of teaching to integrating digital media then referred to ICT. For rapid development there is neither no alternative nor choice for government or teachers to remain traditional in their curriculum delivery but to face, embrace and migrate to contemporary teaching and learning methodologies whose vertebrae is DMT. The Republic of Kenya poured millions of money for the digital migration of Kenyans from analogue to digital (MOICT, 2016). Schools, as the catalyst to change, modernization to Kenyan community must assimilate, own and implement the demands of CBC-Kenya, and claim a place in global trends, (BECF, 2018).

Research studies on CBC implementation reveal different premises relevant to the Kenyan context. Studies in Komba & Mwandanji, (2015), credited in Swatz and Wachira, (2010), it was evident that teachers were trained in ICT use and had a prepared framework for teachers that focused on the skill upgrade on teachers' technology integration, knowledge and skills in science, Mathematics and English subjects, was developed to ease the work and give a common denominator for all schools to be skilled from a particular point. The United Republic of Tanzania was very particular on teachers' initial skills for implementing ICT in their Competency Based Curriculum. This indicates a well thought out preparation for CBC implementation. The Tanzanian Government upgraded teachers' ICT skills for a vigorous 6-month in-service training program aimed at ensuring that teachers effectively use the ICT tools that were availed to schools. The effort was erased by too old DMT infrastructure, lack of maintenance and poor internet and electricity connection to schools. The neglect and failure to address these variables negatively affected CBC implementation, (Paulo and Tilya, (2014) emphasizes the need to match teacher skills, with confidence, attitude and available functioning Digital infrastructure tailored to the needs of the curriculum in place. The gap is that the research was carried out in Tanzania, the respondents were from PTE institutions and secondary schools and not among Preschool or Kindergarten teachers. It is fair and safe to say that Digital Media Technology infrastructure encompasses availability of the gadgets, Power, internet and affordability of internet, which paused a gargantuan challenge in the Tanzanian DMT institutional infrastructure use as argued in Majuto & Gilbert, (2015). When internet connection is absent in geographical area, teachers face acute difficulty in downloading information, Apps and software useful and necessary for teaching corresponding to the demands, (Groff & Mouza, 2018). When the cost of internet is very high and the teachers not facilitated with capitation, they will look for alternative ways of meeting the syllabus needs, which are counterproductive to Digital Media Technology use and a threat to in CBC implementation, as evident in Tanzanian schools. Swartz & Wachira, (2010) found that in 75% of schools sampled, teachers still using modems to connect their computers to internet through mobile phone companies such as Vodafone, Airtel and Tanzania Telecommunication Company (TTCL), furthermore such internet connection was expensive and unreliable thus teachers resorted to outdated traditional lesson presentation styles, that were neither DMT or CBC compliant. Majuto & Gilbert, (2018) found lack of electricity and internet as an enemy to DMT use and a compromise to quality education. The gaps present culminate to a need to carry out a study in CBCs' digital infusion whose foundation must commence at preschool level of education. While such arguments have great credit, exposure, guidance and training on teachers and learners and tailor-made software addresses many of these shortfalls including fear of virus infection to computers leading to data loss, (Wozney et al, (2016).

The situation evident in studies done in parts of the Republic of Kenya reveal acute challenges in the use of technology in teaching that negatively affect curriculum implementation thereby jeopardizing the CBC delivery which would negatively affect the spiral effect of the curriculum at all subsequent levels. Studies by Mutuku & Ogutu (2018) on Factors affecting Usage of ICT in Teaching and Learning in Machakos County Public Secondary Schools revealed tragic findings. That use of ICT in teaching was very low due to lack of ICT competences among teachers and further established that teachers' characteristics as age, experience in teaching and gender significantly influenced teachers use of digital technology in teaching. Ondimu, (2018), in a study to establish Primary school heads' readiness to adapt ICT in teaching, in Dagorretti, Nairobi, sampled 202 head teachers. The findings revealed that school heads' disposition and subsequent levels of training in ICT use for teaching highly influenced utilization of ICT in schools. He recommended that the government provide in-service ICT training for head teachers, this coheres with suggestions in Wangila, (2015). He insists that the Ministry of Education need to initiate mechanisms for systematic training of teachers. The challenges in the study included teachers' inabilities to infuse the core competencies in primary schools, failure to use of digital media technology to meet the dictates of the CBC related to digital infusion. Moreover, the study was not on preschools teachers, who the Constitution (2010), firmly mandates this level of schooling to County Governments as a research gap fit for an academic inquiry, addressed in this study.

Research on ICT Infrastructure in the Country have indicated a great need to improve on what infrastructure is provided to schools. While secondary schools have better means of collecting money from parents to improve on status of DMT, Bariu, (2020), on his study on Status of ICT infrastructure for pedagogical purposes in secondary Schools in Meru County, reflect a sorry state. While adoption of ICT in teaching has faced bottlenecks, Bariu, 2020 revealed status of computers at 63.65 being useless as they were bro ken down. 475 of schools had no photocopies. Internet connections to schools was absent in 87.3 5 of secondary schools, with none of the schools having digital cameras. While fingers may point at poor planning by the Ministry of Education, it is my opinion that school principals should ensure policies are implemented and Secondary schools are better placed that preschools 5to ensure DMT use in schools satisfies the need for the CBC on digital paraphernalia, internet cannot be supplied by schools where it is not available. Moreover, Meru County is considered fairly high productive than Kilifi, with levels of education far much higher than coast counties. Neglect on the use of ICT infrastructure in thuis study did not consider teacher attitude on DMT use which may affect adaptation of ICT. The study used Qualitative and Quantitative methods of data collection, and this makes findings more reliable. The gap was that the research was done in Meru County and not in Kilifi where attitude on education varies and moreso in secondary schools as opposed to preschools which fall under different levels of Government where priorities on education may mnot be accorded eqal emphasis hence a research gap that needs to be addressed.

Investments worth millions of dollars spent on building classes, furniture provision, text books and procurement of learning materials, and later school health need to be geared towards CBC implementation and the DMT use. Digital Media Technology is neither ornamental or ceremonial aspect of learning and teaching, but Time and Key signature to competence acquisition, for the global man, (Kang'ethe, 2003; Langat, (2015). While Kilifi County made forward strides in improvement and strengthening Preschool education in comparison to the other Coast Region Counties, a premise for choice of Kilifi County for the study, questions on the County Department of Education and ICT planning and preparing for CBC and digital infusion, that adequately prepare learners for primary school need answers. Was the curriculum implementation in line with the dictates of the CBC in line with DMT use as asked in KNUT, (2019)? Is our education system at grassroots compliant to the UNESCOs Global Standards of Education? Are the counties plans and budgetary allocation tailored to meet the Sustainable Development Goals for provision of quality Education? Arguments by Japheth & Usman, (2018) insisting that political rhetoric on Digital Media Technology questions must be correctly and truthfully answered by skills upgrade in teachers, availability of infrastructure, ideal classrooms and reliable power and internet connectivity for meaningful learning to take place, on such grounds the researcher found gaps that prompted conduct of this study in preschools in Kilifi County, Kenya. Partner collaboration with digital content facilitators as KICD, google, Edu TV and Safaricom to enrich the content provided to learners and prepare the learners for learning to learn and future schooling, life and as digital citizenship, must be encouraged, (Taylor et al, 2015).

It is not clear whether the arguments by Teachers trade unions were union rhetoric to be relevant or a means of getting into the limelight and earn political positions, but the concerns , whether genuine or not it brought matters of great gravity on CBC afloat. KNUT, (2019) revealed that 70 % of schools lacked computers, and the gadgets were outdated and obsolete and dysfunctional and required highly skilled personnel to operate, repair and insert the necessary software. Furthermore, over 68% of schools were not connected to the National Electricity grid. In Kilifi County challenges in infrastructure were revealed to as recent as 2020 where availability of DMT hardware and use or the lack of was brought to light when the CDE Kilifi County organized a day's workshop at the headquarters on 'The sensitization of teachers in Kilifi County on Health digital literacy content and CBC.' held at St. Thomas Girls Secondary school on 4th January, 2020. The situation is very much identical in various counties in Kenya, a line of argument supported in Wangila, (2015). The intent was to capacity build teachers on CBC and how to navigate Health digital literacy content. The training was officially opened by the Kilifi County Teachers Service Commission Deputy Director Ibrahim Hussain. SCD TSC Kilifi County Jackson Katana also attended and actively participated during the sessions. Ministry of Education County office was represented by Erastus Waigwa QASO and Veronica Mwau QASO. Out of the 80 teachers who attended only 10 brought their laptops, 2 of which were nonfunctional. Thus, the participant had to working groups of 11 per single gadget. Though facilitators were from KICD the workshop was a failure. This shows the magnitude of the problem and although the teachers were from primary schools, the picture painted on DMT use for curriculum delivery was very dingy (MOEST, Kilifi, 2020 report). This underscores the importance of infrastructure as the studies and evidence presented were in Primary and Secondary schools under the National Government and not in Preschools manned by the devolved units of government.

2.3 Teachers Age in Relation to Acceptance and use of DMT in CBC Implementation

The underpinnings of the Basic Education Act (2013), and the rationale for the curriculum reforms in Kenya intend to align the education Sector with the Kenya's Economic Blueprint with Vision 2030, and realign the Education Sector with Kenya's Constitution (2010). This demands that teachers of all ages contribute and are actively engaged with curriculum implementation irrespective of beliefs or attitude towards a certain aspect of competence embedded in the Curriculum. This credits the study with the choice of teacher age in relation to DMT acceptance and use. When changes are introduced to an education system, there arises resistance led by older teachers who may be respected in the teaching fraternity. The case of 8-4-4 System of Education replacing the 7-4-2-3 system in 1985, hence the eradication of prestigious Kenya Advanced Certificate of Education with the last cohort writing their final examinations in 1989, affected teacher morale and gave rise to obstinacy among those who had done Advanced Certificate and hoped to be promoted on merit. Such are evidence of teachers with lengthy service resisting change, with covert resistance to 8-4-4 evident. Had it not been the single party move to stamp its authority, and teachers who completed PTE in 1984 and 1985 taking the initiative with gusto, the system would have failed. Resistance to change is thus not a new phenomenon. The teacher age in relation to lengthy of service, coupled with premises that culminated to the establishing of the TAM 1986 theory can hence be a basis for which teacher age on acceptance of use of DMT in CBC implementation, can be a variable in this study. Whereas teachers may be ready to move to digital platforms; School heads may be trained but it would be vanity when curriculum implementers resist the use of and coin up many reasons for failure to use DMT in the teaching processes. Arguments advanced in Mwendwa, (2018) and revealed in Lambert et al, (2008) give credence to the Davis, (1986)-TAM theory. Kamau et al, (2015) in application of the TAM theory posits an expectancy-value model of motivation useful in understanding and correctly predicting people's behavior in the acceptance and adopting of digital technology in teaching in this aspect implementing the digital aspects of the CBC Kenya punctuated in the BECF, (2018). Resistance to Digital Technology in teaching may be as a result of teachers having had their training a long period of time or posted in a station for a lengthy period of time. Farah, (2011) points at teachers' reluctance to change as caused by stagnating at a single grade after initial teacher training college coupled with no further training after the initial teacher training, or have worked in a station for very long, an argument supported in (Wanga, 2014). Resistance to change in systems contradicts the principal of learning- as relative permanent change over a period of time and the Bible teachings where Jehovah wants teachers; as Jesus to increase in wisdom and in stature, (Luke 2:51) and stagnating in a status and resist changes. The circumstances are similar in the County Government of Kilifi where those who have been loyal to the teaching call and had had their training as Pre Primary Teachers Course offered by Specially Trained officers stationed in the then DEOs offices namely District Programme Officers who offered In-service course to Teachers during school holidays, and no further training afterwards, as contaminating younger workmates in resisting change as they may be fixated to particular methodologies, (County Government Department Education Report on Pre School Education, 2022). The defunct Pre Primary Teachers Certificate Course that closed shop in 2006 had no aspect of DMT embedded in their training, neither were the teachers given tasks that required digital sources (MOE report by SCDE, Term 3 speech to KEPSHA, Kilifi North Sub County - Haron Karani, October, 2022). Such premises validate the variable namely 'Teachers' age on Technology Acceptance and use for digital infusion as a constituent aspect of Teacher Preparedness in DMT use.

The TAM, 1986 theory was proved relevant in argument was advanced in Japhet & Usman (2018) whose research findings reveal that effective use of DMT compliments technological comfort levels and gives a teacher the liberty to shape pedagogy to teacher-perceived learners needs with cascading effect on the learners' development. The argument is credited in Khawaji, (2016) who posits that perceived expectancy of success and added another dimension of perceived cost, significantly influenced teacher acceptance and use of Digital Technology. Japheth & Usman, 2018 further found that experienced teachers were reluctant in integrating DMT into their teaching. Such findings match others in Greece and Turkey (Nazarenko,2014.; Duncun,2010), in which it was found that teachers with less length of teaching service were likely to integrate ICT in teaching than counterparts of a lengthy teaching experience of 10 years and above. In the same study, teachers with experience of twenty years and above on average utilized below 33 % of their time in using computers for teaching or related purposes while teachers of service of 10-19 years were better placed at 47% with those teachers who worked for of 4-9 years at 48 %. The report reveals that teachers with up to three years were reported to spend up to a mean of 58% of their time working with or using computers. This proves that teachers of lesser years in teaching utilize DMT better and accommodate technological changes necessary for implementation of the CBC. The research findings are similar in researches by (Livingstone et al, 2015; Veenhof et al, 2005). The researches reveal that in Canada older workers had fewer ICT skills than the younger counterparts which indicated a dangerous trend in the Canadian labor force and it is likely to culminate in a deterioration of their position in the labor force. Lambert, (2008) suggests deliberate steps to be taken to upgrade DMT skills in this age cohort, a 'generation gap' with respect to exposure to computers and other ICT resources may explain a reduced opportunity to learn ICT skills and contradicts findings that put male teachers ahead of female in in Technology acceptance and use. Studies by Pallak and Walls, (2019) further revealed that young workers aged 25 and under are significantly more likely to grow up with a computer in the home, giving an advantage as opposed to those aged 25 and above. The studies done in Norway concluded that a significant decline in ICT use is found to occur after age 45 in several areas of the work force, which though at the time was true, older Kenyans of 45 years and above who in the course of their work attended higher studies in National Universities had to do compulsory Common Units to be able do their academic course with less technology stress hence a research gap a view that corresponds to Langat, (2015).

More studies further reveal that users of internet tend to be younger adults, this research was done in secondary schools in the US and not in Preschool set up, a research gap that this study intends to address. Studies in changes in Education programmes (Bulliva, 2018), reveal that when teachers are faced with changes whereby they are treated as mere conveyer belts they take a hardline position of resistance. Karasavvidis, (2009) argues that most fundamental problems in education changes facing teachers is that they fail to have a coherent sense of the reasons for the changes forced down their throats- the what it is, and the how to progress culminating to much confusion, failure to develop a change programme, technological stress leading to unwarranted and misdirected resistance to the misunderstood reform. In research studies by Boulton, (2017) in American, Canadian and UK Education Reform programmes observed that teachers, as the bearers of the burden of implementing reforms must be on board the forums and platforms for curriculum and pedagogical changes, have room to update their skills as they learn the intricacies of the intended programs, and make sense of the new technologies. Teachers who resist change are usually thought to have had a lengthy period of stagnating in one teacher level of education after their initial teacher training course, (Wambiri & Ndani, 2016). This might be objected to by research findings carried in Malaysia. It was a surprise discovery that teachers who have a lengthy period of service were ready for change and embraced technology to better their work. Lau and Sim, (2010). Furthermore, teachers, who continuously worked with computers outside teaching and had long teaching experience, were better placed in adapting to technological changes, and use of tailored software. Findings in studies by Chun-Mei et al (2018), on a different trajectory revealed that secondary school tutors who continuously taught for five years or better frequently used computer technology in the classrooms for teaching and instruction were better in adapting to curriculum changes involving digital media, than fresh or new recruits. The research that sampled 250 teachers proved different variables as exposure in ICT and Pedagogy in that older teachers had richer experience in teaching, better class control and classroom management and were competent in the use of computers, and so could easily integrate ICT into their teaching. These studies are an indicator that this phenomenon cannot be predicted and must be subjected to more scientific inquiry, moreover the studies were carried out in Malaysia amongst secondary school teachers and not in the preschools or early grades of schooling, a research gap.

The factors necessary for teachers to have mandatory skill based training in DMT skills and update their pedagogical skills was underlined in Oliver, (2014). In the researches done in Malawi and Rwanda, he revealed that experienced teachers who had not been exposed to digital technology in their teacher training can overcome the handicap by indulging into skill based models of DMT use in their own learning before they can apply technology to implement curriculum demands. DMT skills are not the entire skills to manage schools and the curriculum as in most instances older teachers are the senior teachers occupying professional positions, a view similar to findings in Momanyi & Rop, (2020). It is safe to conclude that the burden of CBC and by extension the DMT use rests squarely on teachers and a well thought out and practical course of action for CBC implementation in the digital facet essential.

Teacher preparedness in use of DMT is crucial is essentially crucial for continuous learning and life in the 21st century and cannot be underscored and such premises are supported by studies evident in Mbugua et al, (2020); Means, (2011) that divulge evidence of fairly new teachers as having higher confidence in their ability to teach using DMT than older counterparts. Teachers who had more experience in teaching expressed reluctance to adapt to teaching using ICT claiming that they were more comfortable with traditional teaching techniques (Gebremedhin & Fenta, 2015). The teachers sampled in the research felt their students were likely to know more on digital media technology use than the teachers themselves. Teachers who were not exposed to computer use and or digital technology during their period of teacher training had greater phobia on Digital Media Technology use and further attested to fear of their students being adept, hence a threat to their authority as posited in Wangila, (2015). Other scientific study reveals the length of period in teaching has an effect in use of digital media technology for pedagogical interactions with learners, Kamau et al (2016) in research carried in Kiambu County. The study is contradicted by exhibited new and young teachers as highly adept in technology use than their older counterparts who refrained from incorporating ICT in their teaching. The research findings contradict findings in Li, Yamanguchi & Takada, (2018) who point at fresh teachers as loving digital technology but inept in digital technology in pedagogical processes. He advanced two fundamental reasons: new teachers basically focused on how to operate and use DMT instead of how to incorporate such technology in their teaching. The argument that fresh from college and newly employed graduate teachers could encounter serious challenges in their first few years of teaching and spend considerable time in discipline, class management issues and the curriculum. Age, in relation to acceptance of digital media use has given contradicting opinions hence the need for further research. Research finding from a study in Nakuru County in Mbugua et al, (2015) reveal that teachers' age influences their acceptance and use of DMT in teaching. The study established that teachers below 40 years easily accepted, and used Digital technology for instructional purposes than teachers above the said age bracket when both groups are introduced to the gadgets and benefits at the same time, similar to findings in Bulliva, (2018). Whatever the findings and conclusions drawn from a scientific perspective, it is clear that age affects acceptance and use of digital technology in teaching and deliberate steps to take on board older teachers are essential as presented in Wambiri & Ndani, (2016). Furthermore, how can the education system subject the learner to the 21st century demands of 21st Century Skills, Attitudes, Competences and values if the entire teaching fraternity is not taken on board, hence the variable the on effect of teacher age on technology acceptance. Gaps in the review include: - The studies were predominantly done in primary schools and secondary schools and not in Preschools, neither were they carried out in Kilifi county.

2.4 Teacher Competence in DMT use in Instruction

The value of teacher competence in DMT cannot be negated as teachers are the 'take off pad' for effective learning and learning to learn as envisaged in the BECF, (2018). Indeed, Christensen and Knezek, (2016) described computer competence as digital technology self-efficacy and confidence. They indicated that teachers' competence with digital technology use is the key to assertiveness in facilitating true and effective use of DMT in modern pedagogical processes. Romans 12:2, asserts the need to be transformed by the renewal of the mind and earn what is good and acceptable as essential, hence DMT use to meet curriculum demands is an ideal Key signature to modern learning, in the perspective of the Vision of the CBC of Engaged, Empowered and Ethical Citizen. Indeed, the place of technological competence is further underlined in Peralta and Costa, (2017). In this study it was evident that in Italy, teachers' technical competence in DMT was a factor in improving higher confidence in the use of ICT. The study links perception of confidence as ease of using digital infrastructure correctly, without fear of damaging the resources. The teachers who were the respondents reported pedagogical and personal factors as what contributes to self-efficacy and confidence in ICT use, and possessing absolute control over the Digital Media paraphernalia.

Teacher competency influences implementation of digital infusion in curriculum delivery, this has been complimented by research findings in a study undertaken in Macedonia. The Bible once asked workers, in this respect teachers, to up their skills [In this respect digital skills] to present selves to God as approved, with no need to be ashamed and rightly handling the word of truth, as well as avoiding irrelevant talk that leads others into sin, This can be rightfully interpreted as teachers of all ages and professional levels to accept the new challenges prompted by CBC and at all costs implement the Curriculum that is ideal to the present crop of learners whose growth, development and survival is embedded, to a great extent to DMT, (2 Timothy, 2;15-16). When tutors fail to correctly implement the curriculum, by skipping the digital infusion aspect, they are not only sabotaging their teacher registration, the giant Ministry of Education, their employer and the God blessed Republic of Kenya, but suffocating the CBC mission of Nurturing Every Learners Potential.

Teachers can adequately meet the CBC curriculum goals with emphasis to DMT integration if, and only if they have the will , the skills or competences and the paraphernalia useful and ideal to meet the curriculum goals. Knezek & Christensen, (2017) argue that when Teacher experience in use of technology for pedagogical purposes cannot be a standalone variable in assessing effectiveness of technology use. Instead they advocated for and improved on the theory of 'The will, Skill, Tool Model of Technology Integration'. They acknowledged 9 variables affecting the school learning environment. The WSTMTI encompass: Characteristics of the learner, Characteristics of the teacher, Classroom Interactions, Home-School-Community relations, Instructional materials, Objectives, Organization of Instruction, Physical Characteristics and Subject matter. The paper revealed that 70 -84% of teachers' level of technology integration is predictable by using measures of Will, Skill and Tool, while 8-12 % attributed to level of integration of Technology in the classroom. This gives the premises that teachers' competencies in both teaching and use of technology to meet the objectives of the curriculum is paramount hence underscored. This strengthens the argument in Vasilka et al, (2014) that established the nature and extent of ICT skills and use by teachers in primary schools as core to use of ICT in teaching and learning. The study that sampled 214 teachers in 10 primary schools in South-East Macedonia on Modeling of Structural Equations Technique was used to determine the relative strength of the factors affecting the frequency of ICT use in teaching. The study revealed that teachers with high ICT competencies better embraced technology use in the process of teaching and instruction. This coheres with studies in

Mongolia in Spiteri & Chang, (2018). The study unraveled interrelated factors that influence primary school teachers' culture on use of digital technology as influenced by the school cultures' process of instruction. The study emphasized an entire school approach to digital learning and teaching, with all levels of learning apportioned same weight of DMT learning as determined by the demands of the curriculum, and equally teacher training and DMT skills update for teachers already serving a period of time, in form of workshops, clinics or seminars to prepare a teaching force ready to face challenges that are aligned to the demands of the Competency Based curriculum. The studies by Spiteri & Chang, (2018,) revealed that the use of technology during the teaching process was adversely affected by lack of competencies, fear and negative attitude in teachers. The limited skills and negative attitude by teachers and school heads suffocate the CBC implementation, furthermore if teacher professional development for both new and experienced teachers is neglected, far reaching damages in DMT use is cascaded to learners, a line of argument supported in Cakir & Yildirim, (2013). An ICT literate teaching fraternity is the pivot for which a country's citizenry catapulted to a knowledge-based economy whose realization is by subjecting learners to the CBC which comprises major learning items that can only be learnt by DMT use. Mulhim, (2013) stated that teacher factors such as lack of best practices in use of software for digital infusion of syllabus content as enemy number one to digital media technology use. Duncan, (2010) further underlines inability to use software resources for best practice in teaching as potential barriers to computer aided instruction. Furthermore, Buchere et al, (2009) argue that acquisition of digital literacy by learners can only be achieved if teachers utilize digital technology in content delivery by digital infusion of content and by giving assignments to learners or virtual learning. Research by Spiteri & Cheng, (2018) furthermore reveals the effect of lengthy experience in teachers, to creation of certain comfort modes of teaching certain topics irrespective of change in learners hence not catering well for individual differences and changing needs of the modern child, the curriculum, pedagogy and global the economy.

The value of teacher training in use of DMT has been underlined in global research findings. In the USA state of Texas, 'The Troy Technology Plan' coined a strategy that incorporates technology and the way it impacts the learning of students. The Plan stipulated that it was compulsory for teachers or instructional aides to be adept in a set standard of technology skills. The Texas Technology Instruction Committees Report, (2013) further support this researchers' line of argument on deliberate and serious training of teachers, in use of ICT during teaching for learners to benefit fully from digital media technology. When the report was implemented, use of computer aided teaching and learning improved learning and teacher attitude on use of technology. The Troy Technology Plan' endorsed the importance of all teachers getting trained in the use of digital media technology Competency based curriculum delivery. The report revealed that teachers, after training could map out strategies that incorporate use of digital media technology for the express benefit to learning and improved curriculum delivery in line with the BECF, (2018). Furthermore, teachers need to deliberate on set standards of digital technology competencies; as technology continuously mutates in progressive change, not only in their teaching skills but their digital media technology skills as well. Emphasis was also given to teachers' self-research and training on new methodologies to sharpen skills for integrating most modern and latest digital content appropriate for a particular level or grade, strand or learning item (Texas Essential Knowledge E teacher technology_competencies_Skills.pdf retrieved from internet on 9/8/2019), ideas that match findings by Cakir & Yildirm, (2013) The Troy ISD implemented a two-year comprehensive staff development curriculum for all new staff in the district; a serious strategy absence in Kenya. The Teacher curriculum for Texas further included activities that tie each of the competencies in using Technology for teaching and learning that subjected the target group to explicit instruction in the Google Apps for Education, which the district adopted at the beginning of the 2015-2016 school year. Newly employed teachers or those posted from other districts that might have had ICT skills were not considered able to teach using Digital Media but 100% of all teachers had to complete Google Basic 1 training during the first year of employment in the Texas district. A hundred percent of the teachers employed by the district for one year attended Google Basic 2 training prior to or during their second year of employment by the district. Teachers hired at mid-year had to undergo their Google Basic training series during their first full year on contract, a clear indicator that technology integration in teaching and learning is of great gravity, this is a serious gap in the implementation of CBC in Kenya.

When teachers acquire skills in DMT use, their self-efficacy increases hence self- efficacy elicits a type of behavior in this case, accepting to use and application of Digital Media technology skills for teaching, vital and mandatory in CBC implementation, thus venture into new horizons in upgrading software when the software used becomes obsolete. Teacher self-efficacy is vital in Digital Technology use. In Sweden Pallak & Wallis, (2019) conducted a study on teacher factors influencing use of ICT in primary schools- an aspect of Competency Based Curriculum on digital infusion and use of computerized learning. The study used random sampling technique to sample 360 teachers and the tool was questionnaire containing 27 open ended and closed ended questions. The research revealed a strong correlation of self-efficacy in using digital media in instructions by teachers and actual use of ICT in teaching and learning, thus making learning more practical. Teachers who had prior training in ICT better embraced Digital Media Technology use in curriculum delivery, better implemented digital skills and used more digital content during teaching and learning process, and had less technology stress, and class control ideal for learning, such premises have been evident in studies by Mwendwa, (2018).

At the continental level studies, show that incorporating digital technology in learning and associated tasks to meet objectives culminates to better academic achievement in learners (Pallak & Walls, 2019). Studies in Namibia that involved a DTM program named 'Thinker Tools' revealed that mid school students who used the Thinker Tools technology program in learning performed better than the control group in their abilities in application of principles of physics in non-classroom life situations (Groff & Mouza, (2018)). Digital Media Technology is thus of great benefit to learners in higher order thinking skills and problem solving necessary in the changing world (Anne & Kimberly, 2017). Furthermore, the study findings portrayed that, students benefit better from using technology in the classroom as it prepares them for 'the technology laden work environment in which many students will find themselves in after they graduate at various levels of learning and training. Schools need take the opportunity to augment learners' school experiences by integrating various aspects of DMT in classroom settings.

Studies in Zambia, purposed to investigate factors affecting primary teachers' use of digital media technology in teaching-learning. Spiteri & Chang, (2018) conducted an in-depth study that established use of digital technology in teaching as hampered by lack of skills and poor attitude towards use of technology. The study recommended that teachers need training in use of digital media technology in curriculum delivery and as they acquire the skills through practice the age gap in use of technology will be eliminated, an argument that coheres with Batanero, et al. (2022). Continued exposure and encouragement will weed perceived challenges hence enable stress-free CBC implementation on the part of teachers while learners will profit from the curriculum in line with set level outcomes and the National Goals of Education. Tanzania had a fair share of action researches on implementation of Digital Media Technology in the CBC. The Ministry of Education, in an effort to put on board experienced teachers, came up with the strategy of exhibiting teachers to weeks of training, in phases, not only in use of Digital Media use but in delivery of Competency Based Curriculum as in Mokoro, (2020).

Teachers Competency in DMT is essential and cannot be underscored. Studies have proved that Computers on their own cannot teach. It can be compared to taking a wheel to the top of the hill and assume it can roll down the hill, but wheel must be positioned and set on motion, so it gather speed, increase velocity towards a certain destination. Limo, (2013) in his research in Naivasha Sub County notes that all teachers when subjected to certain training increase their competency albeit their individual differences, practice and expertise gained as they are exposed to ideal environment, whereby Desktops, Computers, and tablets are provisional and software in line with the items during the course of study, internet, Electricity connection is available. The study recommended that all teachers irrespective of what level of teacher training need to undergone training before the inception of and integration of ICT in teaching and it is mandatory to subject teachers to regular in-service course in presentation of content and use of ever changing software and techniques so that the learners under them benefit fully in technological inhibitions. Wanga, (2014) insists on teachers must undergo periodic training in ICT in line with the digital content of the syllabus and teach by use of Digital Media Technology resources, so as to add value to contemporary teaching trends. Majuto and Gilbert, 2015 believe that Digital Infusion training be through Digital Infusion clinics, in-service workshops or school-based insets and vocational training platforms as most ideal tactic to equip teachers in skills, competences and expertise for best outcomes.

The study further revealed that though some schools are equipped for ICT integration, low competency in teachers hamper effective curriculum implementation. Head teachers who lack competency further complicate issues and let the gadgets gather dust in stores. Such premises were also advanced in Waweru, (2018) in a research carried out in Nyandarua North Sub-County where 98.8% of the teachers had low competencies also had low self-efficacy in curriculum implementing and had challenges in linking core competencies stipulated in the curriculum design to the content. It was also established that preparing of the CBC lesson plans which could help infuse the core competencies was a challenge to 95% of the teachers, this gives credence for this study as the studies above were carried out in Primary schools and not preschools, again digital infusion was not in the competencies in the study-a gap which this proposed study intends to address.

2.5 Teachers Perception in DMT use in Instruction

Teacher Perception on DMT use in Instruction is to a great extent affected by attitude on sensitivity, understanding and discerning on acceptance, use of and belief on the effectiveness and ease of the DMT for teaching and subsequent achievement of the CBC goals, this is supported by arguments in Li, Yamanguchi and Takada, (2018). The CBC is embedded with competencies with Digital Infusion as a functional best practice to meet curriculum demands and be abreast a globally acceptable trends fit for the 21st century learner. Indeed, Mbugua, Kibos and Tanui, (2015) refers teacher perception as the hallmark to acceptance, use and dexterity of DMT as an antidote for embracing modern trends for the modern day scholar. eases work, is prompt and more interesting and captivating to the modern day learner. Researches done in Spain by Garcia et al, (2021) show that the expenses incurred by teachers leads to negative perceptions, and point out that provision of software for addressing a topic is key to DMT use by teachers. Further studies reveal negative perception by teachers in use of DMT as catapulted by negative parental support (Fincham et al, 2016). Christensen and Knezek, (2016), further describes ICT perception as self-efficacy and computer confidence in skillful use to meet pedagogical competence. The study illustrates teacher perception in Digital Technology use as essential, compulsory, mandatory and an ingredient for diversification of all facets of development. This line of argument concurs with findings in Peralta and Costa, (2017), whose study on teacher competences and confidence in regards to the use of ICT in lesson delivery. Interestingly, the Italian teacher technical competence with technology, unlike the Kenyan counterpart on initial use of DMT for teaching, was strengthening and improving higher confidence in the use of ICT. Furthermore, Teachers adept in Digital Technology use for instruction linked the perception of confidence in using ICT with eradication of fear of damaging the infrastructure or failure to meet curriculum objectives, but stress free absolute control of DMT resources use necessary for curriculum delivery. Kamau et al, (2018) point at teacher perception on DMT use as cultivated by available time to work, practice with digital resources, adequate support given by school administration, teacher experience in Digital Technology use and training in DMT use and interface as grounded strategies ideal in enforcing teacher confidence and improve perception in Digital Technology for success in curriculum delivery; as underlined in Wikan and Molster, (2011).

In studies by Kamau et al (2018), teacher perception on DMT in teaching and learning is regrettably low culminating to unorthodox and weak curriculum delivery modes. While the State Department for Early and Basic Education supplied tablets and ensured most primary schools were connected to the National Electricity grid, teacher involvement was neglected and the digital resources remained untouched in stores or in computer laboratories. Alghasab et al, (2020) points at neglect on teacher education as contributing to poor and low perception. The MOE failed to u[date teacher skills, nor offer a wide range of software options tailored to CBC curriculum implementation. The researches revealed younger teachers to be more positive with little prompting towards use of the gadgets but alleged fear for consequences if devices got damaged in the course of trying them out. Wambiri and Ndani (2016) advanced the argument that young teachers a likely to have been exposed to ICT in the cause of teacher training. While this argument is true, Preschool teacher training colleges did not have the component for DMT use and the teachers had been exposed to In-service training on borrowed facilities, thus unlikely to be exposed to DMT in their training. Moreover, the preschool teacher curriculum was the thematic model void of DMT complications whereas DMT use is mandatory in the CBC and the contemporary teacher Education curriculum, a point underlined in Batanero, Rueda & Grevo, (2022).

In a different study on teacher perception on DMT use in teaching, Bulliva, 2018 used a convenient sample to investigate acceptance and perception level in female and male teachers in primary school teachers in Vihiga County. The study revealed no significant differences in perception of the usefulness in ICT use for teaching between male and female teachers, but all the same an effort in studying teacher perception on DMT use. Negligence of slow learners by teachers during ICT lessons was revealed in a research by Heinrich, et al. (2020). The researchers used a mixed methods of data collection involving Focus Group discussions, Observation when teaching was in progress, Student Surveys and Teacher Interviews. Spiteri & Chang, 2018 point at teachers limited time in a period to carter for the different learner ability groups. Further probe revealed that the teachers were not given training in skills to handle large classes or mixed abilities.

Studies in Digital technology use in schools reveal other dimension as the poor perception by school heads as a variable negatively affecting DMT use by teachers who are ready, are adept and proficient in DMT use and have positive perception of technology use in pedagogy ideal in CBC implementation. Bulliva, (2018) found poor and negative perception in digital media use by primary school head teachers, having a cascading effect on teachers use of DMT, where the supply of DMT infrastructure was not ultimate but provisional. Poor storage, nonuse and disrepair of DMT paraphernalia digitally suffocates learners by failing to adequately cover the syllabus hence under use of gadgets by teachers, culminating to none integration of digital technology in school administration and management and teaching and digital content infusion leading to poor CBC implementation. Ondimu, 2018 points to such weakness as root to handicapping both learners and teachers in DMT use. Evidence is present in finding in different studies- Studies undertaken in Mongolia have exhibited findings on Teacher Perceptions on Digital Media Technology in Curriculum delivery. Studies by Li, Yamaguchi & Takada, (2018) that sought to understand factors affecting primary school teachers use of ICT for student-centered education in Mongolia. The study specifically purposed to establish factors affecting teachers' perceptions on use of ICT in instructions. The study was based on Fullans' Educational Change theory; a sister theory to the TAM, 1986 Theory on which this research is hinged on. The study collected data from 838 primary school teachers in Mongolia using questionnaires. The researchers show that teachers' perceived benefits in use of ICT for teaching and their professional competencies were significant factors affecting their perceptions on use of ICT for teaching and learning. More so, teachers' professional competency and perceived benefits of using ICT affected their perceptions on integrating ICT in teaching and instruction. Kamau et al, (2016) posit teacher perception is improved by a deliberate involvement in participatory, activity laden, action parked induction clinic, where an explicit intention to simultaneously educate and change learners and teachers by use of digital technology embedded in the CBC Kenya stressed in BECF, (2018).

Other studies on teacher perception on Digital Media Technology use which relates to CBC delivery are congruent with the school of thought on young teachers being ICT comfortable than tutors of a lengthier practice (Groff & Mousa, 2018). The sample of 3000 teachers revealed that quality digital media integration in teaching correlates to years of teacher service with young teachers being more positive than their aging counterparts. However, in a study carried out in Canada, where Livingstone et al, (2015) revealed contrary findings contributing to teachers' successful implementation of ICT. The study that sampled 60 respondents from 12 schools exposed no relationship between teachers' accumulated teaching experience and use of ICT for teaching. The research showed teachers' ICT skills and successful implementation of digital technology in teaching was complex and was not a clear determinant of integration of digital technology for teaching as was influenced by teacher perception in Digital Media Technology use, cascading to poor curriculum delivery, a view shared in Gebremedhin & Fenta, (2015).

Teacher perception on Digital Media Technology is a variable that affects digital infusion on CBC delivery at preschool level and structures must be established that will inject better teacher perception on DMT use for digital infusion. Gebremedhin and Fenta, (2015) researches in Ethiopia pointed at substantial effect of teacher perception on use of digital media in meeting digital needs of the curriculum and endorses practical skill development approach. Ondimu (2018) in a study in Dagorretti North Sub County of Nairobi City County, on teachers' perceptions in implementation of the Competency Based Curriculum in private preschools', established that 33.3% of the preschool teachers felt that infusing of the core competencies in instruction was complicated and consumed lots of time, while some teachers had not fully conceptualized the competence-based teaching-learning approaches. Further, the study revealed 65.6% of the teachers perceived that they were not fully prepared to implement the CBC while 33.2% perceived that they were very prepared to implement the CBC. This is proof that teacher perception on Digital Media Technology strongly affects curriculum delivery, in agreement to the Davis, (1986) TAM Theory. Such studies on DMT use and subsequent findings were relevant primary and secondary school settings and worse still, in a different education system. This was a research gap that needed bridging in this paper.

2.6 Summary of Literature Review

In summary the researcher reviewed literature on five study areas: Presence of digital Media Technology infrastructure in the schools which project or hinder Digital infusion of the CBC and literature revealed that while teachers can be trained and may be ready to use digital technology for curriculum implementation, infrastructure can hinder a noble course, a view shared by Swatz and Wachira, 2010; Groff & Mousa, (2018). TA

M (1986) theory dictates that perceived usefulness and ease in outcomes as motivator in use of technology for teaching and the research proposes to look into effect of age of teachers on acceptance and DMT use, Teo, 2011; Limo, 2013; Li, Yamanguchi & Takada, 2018 and Ondimu, (2018) among others and found that the more the teacher ages, the more resistant to change and the negative the perception on DMT use, the more the rigid; the poor the in trying out use of DMT use. Studies in Sweden (Palak & Walls, 2019), strongly agree with others in Namibia (Vasilka, Tatjan and Sanja, 2014), that teacher competence in use of Digital Media Technology is congruent to use of DMT is curriculum implementation and that ease of use benefit learners as there would be little room of digital media technology stress. The findings correspond to research findings in Buchere et al, (2016) in Kenya. Finally, this paper reviewed literature in teacher perceptions, where studies revealed younger teachers had better perception on DMT use than more experienced colleagues, with findings contradicting different findings as in Canada where Livingstone et al, (2015), thus making this research topic extremely interesting to pursue. The proponents of The Constitution of Kenya (2010), which devolved Preschool Education to County Governments, may have had very noble intentions but could have been oblivious of the financial, human and infrastructure obligation bedeviling the system, a research gap and fodder for scholars to carry out studies, whose findings may alter the education skyline of Kenya.

The afore mentioned gaps and the actions of the counties at the inception of Devolution in 2013, and the pivotal role the County Government, in particular the Department of Education and ICT manned then manned by a scholar-Professor Gabriel Katana, acted on the principal of urgency, and by 2017 built 35 Model Preschool centers of 2-4 classes in all the 35 Wards, deployed 7 Sub County Education Coordinators, and embarked on building all public schools, employed 2500 preschool teachers, with a tailored scheme of service and posted 35 Ward supervisors to man preschool education is strong premise to select Kilifi County for the research

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the study methodology used in the research topic -Teacher Preparedness in Digital Media Technology use in Pre Schools in Kilifi County, Kenya. To ease understanding the chapter is segmented into sub areas namely: Research design, Study Variables, Location of the study, Target population, Techniques for Sampling and sample size. It also describes research instruments, pilot study, validity and reliability of the instruments, data collection procedures, data analysis and presentation. Finally, the chapter presents the ethical and logistical considerations of the study.

3.2 Research Design

The study employed a descriptive research design. This design was considered appropriate for this research and was guided by research questions, hence the study made use of descriptive statistics to analyze data. In addition, the design enabled the researcher to use both quantitative and qualitative methods of collecting data. Newby (2014) asserts that mixed method approach allows use of various methods of collecting data from respondents which, when used to verify findings through triangulation, gives forth reliable findings for better conclusions.

3.2.1 Variables of the Study

The study had two major variables: The Independent Variables and Dependent Variables as described below:

Independent Variables

There were four (4) independent variables that sums up teacher preparedness: Availability of DMT Infrastructure at school level, the influence of teacher age on DMT acceptance and subsequent use, the teacher Competence in DMT use for pedagogy as demanded by the CBC, Kenya and finally the Teacher Perception of DMT use to satisfy the needs of CBC as reflected in the BECF, (2018).

Dependent Variable

Use of Digital Media Technology in pedagogical practices was Dependent Variable (DV) of the study. This variable was measured by teachers' and learner's ability to correctly use various digital devices in teaching and learning in compliance with the CBC.

3.3 Location of the Study

The study was conducted in Kilifi County of Coast Region, Kenya. The choice of the location was on the following premises: Convenience. The researcher, before devolution and after devolution of Preschool education worked as a Senior Officer in Early Childhood Education, and interacted with many aspects of Early learning and Preschool education. The second and major premise is the leading position in learner population and geographical position of Kilifi County in the entire Coast region. The County holds a population of 1,109,735 and covers an area of 12,245.90 km2 as per the population census 2019.The Counties boarders embrace 3 other counties with the longest Ocean access area making its climatic conditions replicated in all Coast counties hence ability to extrapolate findings to the sister counties. Furthermore, the County Government of Kilifi was most instrumental in Preschool teacher employment at Permanent and Pensionable terms in Coast and one of the pioneer counties of Kenya. This is an indicator of the seriousness in early and preschool education the county takes in its obligation, hence, given a copy of this study, I faith the recommendations herein, will be of great concern. [Kilifi employed 2500 Teachers on Permanent and Pensionable teachers and accorded each a medical insurance cover for the principal (the Teacher), a spouse and children, County Government education report, (Directorate of Pre Primary learning, CGK on 24th of March, 2022)].

Target Population

The study targeted the 2500 permanent and pensionable preschool teachers stationed in 796 public pre-primary school centers in Kilifi County, whose preschools are resourced by the very Kilifi County Government. The schools have a total of 796 'Teachers In-Charge' and 1704 teachers and other teachers employed by BOMs who are not in the Government payroll. The teachers serve a Preschool learner population of 20217 girls and 24434 girls respectively (County Education, statistician, March 2022). The Guidelines for preschools stipulate each Preschool to have a Board of management separate from that of the mother Primary School.

3.4 Sampling Technique and Sample Size

The sampling techniques used to arrive at the sample and the corresponding sample size was as described in t sub-articles 3.4.1 and 3.4.2 below: -

3.4.1 Sampling Technique

The sampling technique was multistage random sampling whereby in Sub Counties with larger population; or schools with more streams, a bigger portion was awarded than sister sparsely populated Sub Counties for the sample to be more representative. The first stage was selection of 2 sub counties for pilot exercise and 7 for the main study. The second stage was selection of the schools from each of the 7 sub counties of the county where the school selected had the Teacher in charge, a PP1 and a PP2 teacher who was selected by rotary as most public schools are 3 or more streamed. The sample consisted of 250 Teacher in Charge and 500 Pre Primary Teachers from 250 Preschools with high density sub counties as Malindi, Kilifi North, Kilifi South and Kaloleni having 40 schools each. Counties of sparse population as Rabai, Chonyi, and Ganze had 30 teachers respectively. The pilot exercise was in Magarini and Kauma Sub counties, taken three weeks before the main study.

3.4.2 Sample Size

The sample size for the study was determined by the population as suggested in Mugenda, (2011) who recommend a sample of 10-30% of the target population as ideal. This study sampled 30% of the target population as illustrated below;

= 2500 * 30/100

n = 7500/100

n = 750 $teachers$

The sample size of 750 teachers (30%) was informed by fact that some respondents may fail to return the instruments or by attrition, in which case response rate covered over 500 ((20%), hence ability to extrapolate results or findings still be representative (Kothari, 2009). The response rate was 734 (97.87%)

3.5 Research Instruments

The choice of data collection instruments was on account of the type of research being qualitative, quantitative or a combination of the two as pointed in Creswell, (2014). Since the research used a combination of qualitative and quantitative methods. Questionnaires were used in collection of data from Preschool teachers and Teachers' in Charge while an analysis guide was used in ascertaining availability and use of digital media technology infrastructure used at school level.

3.5.1 Questionnaires for the Teachers

A questionnaire was used to collect information from school teachers. Creswell (2014) affirms that a questionnaire is ideal for collecting data because it can collect a lot of information from a vast number of people within a short span of time and covers a number of selected variables under investigation. This data collection instrument was designed in five sections whereby the first had items which captured teachers' demographic information, the second section of the questionnaire had items which collected data on availability of DMT infrastructure, the third on teachers' competence in using digital media and digital infusion in a five point Likert scale while the fourth section had items that captured information on teachers' perception on digital media technology infrastructure useful in the CBC implementation.

3.5.2 Questionnaires for Teachers in Charge

A Questionnaire for the teacher in charge addressed questions on infrastructure, Teachers chronological age and acceptance and perception in 5 point Likert scale. Semi-structured schedule used to collect qualitative data from TICs. Chris, (2015) asserts that questionnaires enable researchers to collect in-depth information about a subject matter. The researcher collected detailed information from the County TICs. The information from TICs was crucial and complemented the self-reported data provided by the Preschool teachers. The tool included items on DMT infrastructure in the school, including maintenance of Digital Gadgets, Teachers age in relation to use of DMT and Teacher Competency in DMT and training in DMT use and finally Teacher Perceptions on use of DMT in the CBC delivery.

3.5.3 DMT Resources Analysis Guide

This is a guide deliberately prepared and structured to check availability of DMT tools in storage or in use in the learning institution procured by the county or donated by well-wishers or owned by teachers for digital infusion in line with the CBC demands. Davis, (2011) finds this tool ideal for cross checking information with answers provided in interview schedules and questionnaires. The DMT resources encompassed Desktops, Laptops, Tablets, Digital cameras, Projectors, Printers and, memory sticks, modems, and manuals among others that enables smooth digital learning and teaching ideal for curriculum delivery.

3.6 Pilot Study

Pretesting of the research instruments was carried out in 20 public Preprimary schools in a Sister Sub Counties, namely Kauma Sub County in the Central part of the County and in Magarini Sub county which is the most Northerly Sub County. The Two sub counties have similar learning conditions as the other 7 Sub counties and their Geographical position could not influence responses in the main study, hence the researcher eliminated bias. More so, piloting assists in establishing validity and reliability of instruments as pointed out in Creswell (2014) who affirms that pre-testing research instruments is crucial in research as it assists the researcher to detect instrument deficiencies. Garcia, et al (2020) posits influenced responses to the study by same respondents during pilot stage and later in the main research as an enemy to validity.

3.6.1 Validity of Instruments

Content validity was established by the researcher. This was achieved by ensuring that the items in the instruments were accurate, relevant and adequately covered the variables under investigation. In addition, lecturers from the School of Educations' Department of Special Needs and Early childhood studies who double as adept in the subject matter and rich in Early Education field experiences, were given the instruments and reviewed the items in the instruments and gave judgment and advice on relevancy and adequacy as recommended in Teece et al, (2019). Triangulation of the Teacher in Charge questionnaires, The PPI and PPII Teacher research tool, the digital infrastructure analysis guide was then used to test validity through convergence of data from the data sources used.

3.6.2 Reliability of Instruments

Reliability is the measure of extent to which a research tool brings forth consistent results or data after repeated trials (Sutter & Kihara, 2019). The researcher implemented adequate Survey procedures especially processes that counterchecked responses in respect to questionnaires and interviews. The researcher initially applied data quality checks at data collection stage and secondary checks at data entry stage. The express aim was to ensure authenticity of source by Test- Retest method at the piloting stage. The period between the 1st and 2nd time was a 3-week lapse. The results from 1st and 2nd was compared by computing the Cronbach's alpha coefficients of the two tests. The rule was that reliability coefficient should be at least 0.70 therefore a reliability coefficient of .7 and above was considered high enough to judge the reliability of the instruments (Wambiri & Ndani, 2016). Table 3.1 presents the results of reliability tests.

Table 3.1: Results of Reliability Tests

Variable	Cronbach's Alpha Value	Remarks
Availability of DMT infrastructure	0.616	Reliable
Teacher capacity	0.702	Reliable
Teachers' age	0.750	Reliable
Teachers' perception	0.741	Reliable
Aggregate score	**0.702**	**Reliable**

Source: Pilot Study (2022)

The results as presented in Table 3.1 indicate the 0.7 threshold was met by all the variables while the overall reliability y was 0.702 which was evidence that the questionnaires were reliable.

3.7 Data Collection Techniques

Data was collected by two sets of questionnaires. The questionnaires were administered to Teachers in Charge and PP1 and PPII teachers which was collected after one week, sanitized, arranged in relative bunches and subjected to analysis. In addition, the researcher in collaboration with the TICs filled a DMT Resource Analysis using a guide so as to analyze the Infrastructure situation per each respective preschool sampled. The school ledgers and other store records were examined and data crosschecked to eliminate misconceptions that may bias the study findings.

3.8 Data Analysis

The collected data was analyzed by use of qualitative and quantitative techniques: The quantitative data which was collected through questionnaires was summarized in a tabular form. The responses were coded and entered into the SPSS version 22.0. Then the researcher analyzed the data using percentages and frequencies and the generated data was presented in tables and figures. Determination of significance was by Chi Square; the test has the capacity to determine significance of the variables relationship in numerical values. The qualitative data obtained through interviews and DMT Resource analysis schedules were analyzed. The themes were generated according to the objectives. The generated data was used to compliment the self-reported data in line with the objectives. The data collected from the DMT resource Analysis Guide was subjected to the alpha Cronbach in SPSS 22, hence analyzed.

3.9 Logical and Ethical Consideration

The researcher adhered to the logistical and ethical considerations as reflected in the two subsections below:

3.9.1 Logical Considerations

The researcher followed laid down legal procedures by obtaining documented permission from the Graduate School of Kenyatta University, then the NACOSTI. At the County level the researcher notified CDE, Kilifi County, who informed all Sub County Directors of Education of the study and both parties agreed on modalities for ensuring none disruption with learning processes by data collection procedures.

3.9.2 Ethical Considerations

Ethical considerations were in three aspects:

Confidentiality and Privacy

The researcher undertook to keep information given by the teacher in charge, Preschool teachers and information uncovered by interview and DMT resource analysis guide as private and confidential. Furthermore, the researcher assured respondents that the information would be used for the academic study and would not be used as evidence to incriminate the teacher or institution in any form, neither will the data used for promotion or disciplinary purposes.

Anonymity and withdrawal from the process.

The researcher assured the respondents that they will be treated with respect and their identities, schools' name or motto kept hidden by assigning numbers to the schools as guarantee for anonymity and confidentiality. More so, no identifiers of schools nor sub counties shall be used in any communication. Furthermore, respondents were informed of the full details about what the study entails and were granted the freedom to voluntarily participate in the study by signing consent forms. Pallak & Wallis, (2019) stresses the importance of the mentioned procedures. If by any reason some respondents wish to withdraw from the research for any reason whatsoever or at any point feel he or she cannot continue as a respondent, the researcher would accent to such a request. The researcher assured respondents' confidentiality and security by assigning codes instead of names on the research instruments.

Non Interruption to school Time table

The researcher assured the respondent of utilization of time as a resource and the data collection process shall not interfere with the precious school time- table, as schooling is a child right and the Child, in this research referred as the learner takes top priority as envisaged in Article 53 of the Constitution, 2010. The teachers, the school management and the researcher collaborated harmoniously in ensuring data collection process happened during breaks in the school day so that quality time assigned for Activity areas and learning is neither interrupted nor disrupted.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSIONS

4.1 Introduction

This section presents the results of the study which are organized in sub-sections based on the study objectives. The main purpose of the study was to establish Pre School teacher preparedness in DMT use for digital infusion in Kilifi County, Kenya on compliance to CBC, Kenya. Cognizant to Nazarenko, (2014) and emphasized in Ngeno, Mweru & Mwoma, (2021), which posit that there exists intertwining and overlapping factors that affect and influence curriculum delivery and implementation in teaching and learning by use of digital technology hence the specific objectives below were floated: -

i. To establish the availability of DMT infrastructure in preprimary schools in Kilifi-County.

ii. To determine teacher capacity in integrating DMT during learning and Teaching Process.

iii. To examine the effect of teachers' age on acceptance of DMT use in the learning and teaching process.

iv. To examine teachers' perception of DMT usefulness in content delivery as endorsed in CBC (Kenya)

Data was collected using questionnaires and the collected data was analyzed according to the study variables and presented using tables and figures. The presentation of the findings was done using the following sections; the response rate, demographic information of the respondents and descriptive analysis results.

4.2 Response Rate

The response rate was based on total number of 734 questionnaires administered to the teachers from the public pre-primary schools in Kilifi County. The following is the presentation of the response rate in Table 4.1.

Table 4.1: Questionnaires Return Rate

Category	Frequency	Percentage
Number of questionnaires returned	734	97.86
Number of questionnaires not returned	16	2.14
Total	**750**	**100**

Source: Research Data (2022)

The results as presented in Table 4.1 shows that the questionnaires that were administered and returned accounted for 97.86% and those which were not returned accounted for 2.14%. The researcher found overall response rate at 97.86% as adequate and suitable to carry on with the data analysis as pointed out in Li, Yamanguchi & Takada (2018), who claims that a response rate of 75% or above is sufficient for generalization of results.

4.3 Demographic Information

The demographic information of the respondents was analyzed based on gender, age, level of education, length of service, class handled, number of learners, type of building and roofing. These are presented in Table 4.2.

Table 4.2: Demographic Information

Category	**Sub-category**	**Frequency**	**Percentage**
Gender	Male	38	5.17
	Female	696	94.83
	Total	**734**	**100**
Age	years and below	09	1.24
	to 30 years	179	24.38
	to 40 years	388	52.86
	to 50 years	121	16.48
	Above 50 years	37	5.04
	Total	**91**	**100**
Level of teacher education	Certificate in ECD	484	65.93
	Montessori	2	0.27
	Pre School Teachers Examination	136	18.52
	Diploma ECDE	107	14.6
	Bachelor of Education	5	0.68
	Total	**734**	**100**
Length of service after teacher training	4 years and less	86	11.72
	5 to 9 years	225	30.65
	10 to 14 years	168	22.88
	15 to 19 years	186	25.35
	20 years and above	69	9.40
	Total	**734**	**100**
Class handled	PP1 PPII	420 314	57.22 42.78
	Total	**734**	**100**
In Charge handling class	**Total**	**238**	**100**

Number of learners	Boys	14655	46.3
	Girls	16998	53.7
	Total	**31653**	**100**
Type of building	Stone	84	35.2
	Brick	71	29.7
	Mabati	49	20.9
	Mud	34	14.3
	Total	**238**	**100**
Floor	Mud	116	48.7
	Tiles Red Cement	2 26	0.6 10.9
	Ordinary Cement	94	39.5
	Total	**521**	**100**
Roofing	Makuti	52	
	Corrugated Sheet	150	
	Boxed Sheet	36	15
	Total	**238**	**100**

Source: Survey Data (2022)

As presented in Table 4.2, most 696 (94.83%) of the respondents were female and 42(6.17%) accounted for male respondents. Therefore, it was concluded that the study took gender balance into consideration due to the fact that male and female teachers have different perspectives on the workplace. While a study by Sutter and Kihara, (2019), posit the majority of teachers in pre-primary schools were female and that majority of people believe or associate early childhood education (ECE) with female gender, which accounts for the majority of students enrolling in the course being female, the researcher argues that ignorance or neglect by education authorities and even law makers as the cause of gross neglect in investment in early education, poor pay for preschool teachers as opposed to other counterparts of equal level of training in primary and secondary schools, a line that collaborates research by Newby (2014). Moreover, the Kenyan Social system looks at the man as provider hence low pay or irregular salary payment affects the self-esteem in the male teachers than the female counterparts. Sanchez et al, (2017) looks at gender variations influence the manner in which individuals react to the behaviors of others in the work settings or group coalition.

The State of DMT Infrastructure

The results in Table 4.3 show that the respondents' ages ranging 20 years and below accounted minority at 38(1.24. %), those who had their ages ranging between 21 to 30 years were represented by 179 or (24.39%), majority of teachers, that is 358 (at 52.85%) were aged between 31 to 40 years, 121(16.48%) accounted for those respondents who were aged between 41 to 50 years and 37(5.04%) represented those respondents who were aged above 50 years. Age diversity was important to the study as it brings about different experiences, expectations, styles and perspective in the teacher preparedness in DMT use for digital infusion in compliance to CBC implementation. Peralta and Costa (2017) study on descriptive study on the influence of age diversity of the workforce and employees' performance found that age diversity of the workforce has a significant contribution to predict the employees' performance.

The findings as presented show that the highest number of teachers were certificate holders with ECD Certificate offered by KNEC at 484 (65.93%) and Pre School Teachers Examination, at 136, (18.52%) which was offered by MOEST. These two Certificates culminate a sum of 620 and a percentage of 84.45 of the sample. Diploma in ECD as represented by 107 (14.6%) and Bachelor of Education were a paltry sum of 5 that was (0.68%). Montessori certificate holders were 2 (0.27%), these had been forced to be retrained in Diploma courses from a National University and be registered by the TSC which is mandatory for consideration for employment by the County Government. According to the findings, all of the teachers were qualified, but it was noted that many of the pre-primary teachers in Kilifi County public schools had not advanced their education level. This might be as a result of a lack of motivation brought on by the County Government's inadequate compensation for Diploma and Graduate teachers and the no facilitation in finance or study leave to improve and strengthen their teaching prowess. Boulton, 2017; Rop, 1999, Stefanie et al, (2020) findings cohere that educational qualification, skill integration and passion positively affected job performance and the findings of the studies confirmed that teachers who have the ingredients named easily accommodated and assimilated changes in this respect integration and acceptance of DMT and use.

Furthermore, majority 420 (57.22 %) of the respondents handled PP1 classes and those who handled PP2 classes accounted for (42.77%). There was also an overlap between Teachers In Charge and classroom teachers as TIC is a responsibility where the said teacher is responsible for resources supplied by the County Government hence a window for accountability. In addition, the study established that the number of girls was slightly higher 16998(53.7%) compared to the boys at 14655(46.3%). Therefore, it can be concluded that most of the teachers had handled PP1 classes and the public primary schools in Kilifi County has higher numbers of girls attending preschools compared to boys.

The type of building was examined and as presented in Table 4.2, most of the school buildings was found to be made of stones as indicated by majority 32 corresponding 35.2% of the respondents, followed closely by those made of bricks as indicated by 27 which equals 29.7% of the respondents, 19 respondents corresponding 20.9% indicated Mabati and 13 corresponding 14.3% of the respondents indicated that school walls were made of mud. The study found that most preschool centers were roofed in corrugated Iron summing150, that is 63%, Makuti (coconut palm frond material) thatch at and Box Iron Sheet at 36 (15%). Most classes roofed in corrugated Iron are leaky as the old iron sheets were initially used to roof Primary schools or contributed by parents. Existence of tilled classes with box sheets is deliberate effort by the county government on infrastructure responsibility on Early Education with emphasis to preschool education. In addition, the study established that majority 116(48.8%) of the respondents indicated that the floor of the school building was of mud, followed by those made of ordinary cement at 94(39.6%), 26(10.9%) red cement and 2(0.6%) tiles. This is an indicator that the public preprimary schools' buildings in Kilifi County are not developmentally appropriate to early childhood learners as schools were found to have been constructed using stones, roofed with Makuti, and floor made of mud which could affect teacher preparedness in DMT use as such environment affects functionality of DMT gadgets. Physical facilities are the basis for lots of skill acquisition, Digital literacy among them as in studies by N'geno et al (2021) study that focused on the availability of physical infrastructure in implementation of the Competence-Based Curriculum in Public Primary Schools in Kericho County and the findings established that physical infrastructure had a moderate positive influence on CBC implementation.

4.4 Availability of DMT Infrastructure

Table 4.3 State of Pre Schools' DMT Infrastructure

Statements	M	SD
Unavailability of Electricity connection	3.84	1.293
Poor internet connection	2.10	2.790
Use of Smart phones to align with CBC	4.56	0.562
Poor storage of Tablets	0.829	3.92
Breakdown of MOEST Tablets	4.66	0.542
Competition with Primary section in access of Tablets	3.33	1.732
Primary school heads allow preschool teachers access Tablets	1.067	3.92
Bottlenecks in discipline in large classes while using DMT	4.84	0.778
Lack of computer laboratory	4.87	0.427
Stress in alignment of Digital content to Syllabus dictates	4.82	0.383
Poor maintenance of DMT hardware	0.383	3.44

Source: Survey Data (2022)

The study sought to establish the availability of DMT infrastructure in preprimary schools in Kilifi County, necessary for CBC Digital infusion. The respondents were interviewed in a face to face on items describing availability of DMT infrastructure to rate them according to their level of agreement. The following are the results of descriptive statistics achieved presented in terms of Mean (M) and Standard Deviation (SD). The results as presented in Table 4.4 indicate that the respondents strongly disagreed on the statements that their schools are connected to National Electricity grid hence connect gadgets to power at (M=4.87, SD=0.427), they claimed poor internet connection at (M=4.84, SD=0.778), they can use smart phones to access compliance with CBC Digital Demands at (M=4.82, SD=0.383), However, the phones run out of power hence a handicap. Respondents state that the gadgets provided for the public Primary schools, where the Preschool shares facilities, have very poor storage of Tablets (M=4.66, SD=0.542) and that the tablets have a high tendency of breakdown and poor service (M=4.56, SD=0.562 Competition with Primary section in access of Tablets M=3.33, SD =1.732. There was little friction with Primary school heads if the Preschool section would agree to service tablets (M= 1.067, SD= 3.92. This meant that Pre Schools can only access the tablets if they can take the financial burden, which the Primary schools cannot afford. This was a tall order as primary schools are funded by the Ministry of Education while Preschools are not funded by the County Government, nor the National Government. Indiscipline when using DTM for a large class, Lack of Computer lab or room for conducting lessons and Technology stress hampered use of the available DMT gadgets in the school are hitches and challenges similar to the findings in Swartz & Wachira, (2010) who revealed that in most of the schools' teachers are still using modems to connect their computers to internet through mobile phone companies such as Vodafone, Airtel and Tanzania Telecommunication Company (TTCL), furthermore such internet connection was expensive and unreliable thus teachers resort to earlier lesson presentation styles that were neither DMT or CBC compliant. The findings are congruent with findings by Amuchie, 2015 in which in secondary schools in Ardo-Kola sand Jalingo State in Nigeria that availability of ICT resources was so poor and these states paid lip service to the needs of the schools while on the ground the situation was pathetic where in 227 schools only14.7% had desktops and television sets for ICT integration. All other hardware was missing contrary to government reports.

The findings are in line with other research that exposed failure in DMT use in learning institutions as compounded by challenges in hardware and software as explained in Groff & Mouza, (2018) who observed that digital media technology infrastructure encompasses availability of internet and affordability of internet. When a geographical area where a school or set of schools lie has weak or low internet connection teachers have difficulty in access of sites, downloading information and conducting lessons saturated with digital content as an impossibility hence contravening the dictates of the Curriculum Designs for PPI & PPII hence suffocating CBC system of education.

4.4.1 Results of Chi-square on availability of DMT infrastructure and use for competency based curriculum implementation

The relationship between availability of DMT infrastructure and use for competency based curriculum implementation in preschools Kilifi County, Kenya was computed using Chi-square. Table 4.4 presents findings on Chi-square computation.

Table 4.4: Availability of DMT infrastructure and use for competency based curriculum implementation

	Value	Df	Asymp. Sig. (2-sided)	Asymp. Sig. (2-sided)	Asymp. Sig. (1-sided)
Pearson Chi-Square	10.548	2	.000		
Continuity correlation	7.009		.001		
Likelihood Ratio	11.203	2	.000		
Fisher's exact test				.000	.001
Linear-by-Linear Association	43.875	1	.000		
N of Valid Cases	91				

Source: Survey Data (2022)

The results as presented in Table 4.4 shows that the estimated Chi-square with 2 degrees of freedom was 10.548 with a p-value of less than 0.05 ($p=0.000<0.05$). Therefore, it is safe to concluded that there is a significant relationship between availability of DMT infrastructure and use for competency based curriculum implementation in preschools Kilifi County, Kenya. The findings also agree with a study by Wanga (2014) that focused on factors influencing information communication technology integration in curriculum implementation in secondary schools in Gilgil Sub-County, Nakuru County-Kenya. The study established that a significant positive relationship existed between availability of ICT infrastructure and ICT integration in curriculum implementation in secondary schools.

4.5 Status of DMT Resources in Public Pre Schools (Pre School ledgers)

The Researcher had to have a physical Headcount of DMT resources from the ledgers in the Pre Schools. Though the population was teachers and not schools, the number of teachers in the sample were spread in 240 centers and the results were as in table 4.5 below:

Table 4.5 Status of DMT Resources in County Pre schools

Item	No	VG	%	G	%	P	%	VP	%
Computer accessories	210	0	0	0	0	0	0	210	100
Desk top Computers	210	00	0	00	0	00	00	210	100
Digital Camera	210	0	0	0	0	0	0	210	100
Laptop	210	15	7.14	00	0	07	3,34	188	89.5
Printer	210	00	00	00	00	00	00	210	100
Projector	210	00	00	00	00	00	00	210	100
Tablet	210	29	13.9	38	18.1	10	4.76	181	86.2
Television	210	00	00	00	00	00	00	210	100
Video Player	210	00	00	00	00	00	00	210	100

Source: Survey Data (2022)

The survey on availability of DMT resources in Pre Schools reveals that the 738 Teachers in 210 schools where the survey was carried out were very poorly equipped and neglect on the part of supply of DMT resources was very high. The survey placed functional tools to be very good (VG), Tools that were old or out dated as good (G), Resources that were could be repaired as poor (P) and where the Resources are none existent or beyond repair as Very Poor (VP). The Situation can be termed as tragic as of the 10 resources surveyed 8 were found to be none existent in the Preschools: Computer Accessories at 00= VP, Desk tops at 00= VP, Digital Cameras at 00= VP, Printers at 00=VP, Projectors at 00=VP, Television and Video Player both at 00=VP. This sums to 80% of the Resources. The 2 types available were pathetic as there were 15 laptops (7.14%) in Very Good Condition and 7 (3.14) laptops that needed service. 29 teachers in different Centers had each a functional laptop (13.9%) and 38 Tablets (18,1%), in good condition, while 10 tablets (4.6 %) needed service to function properly. This meant 181(86.2) schools had no access and were at very poor (VP) level. On further probe the researcher found that the resources in the schools belonged to the State Department of Basic & Early learning and not for Preschools.

4.6 Teacher Capacity in use of DMT for digital infusion

The study sought to determine teacher capacity in integrating DMT during learning and teaching process. The respondents were given a list of statements describing teacher competence in Digital Media Technology use in the process of teaching to rate them according to their level of agreement. The following are the results of descriptive statistics achieved presented in terms of Mean (M) and Standard Deviation (SD).

Table 4.6: Teacher Competence in DMT use for Digital Infusion

Statements	**M**	**SD**
Have received training in Digital Media Technology for teaching	4.42	1.184
Have received training in accessing links ideal for digital infusion in line with Curriculum Design for Pre Primary Levels.	4.63	0.865
My training in Computer Packages is very useful in CBC delivery	4.01	1.636
The Department of Education sponsors teacher DMT skill acquisition courses necessary for Digital Infusion ideal for CBC.	0.819	4.44
I use email to communicate with parents on areas their children need help	3.56	1.477
I am able to design technology-enhanced learning activities for learners.	4.44	1.000
I am able to apply alternative teaching strategies in my lessons using digital media	4.47	0.993
Learners’ understanding of difficult concepts is enhanced by use of digital media technology	3.92	1.500
I am able to use digital media to adjust lessons to the proper level for individual learners	4.43	1.185
I am adept in preparation of teaching-learning materials for my class using digital media.	4.05	1.294
I am adept in preparation of teaching-learning materials for my class using digital media	3.98	1.453
Digital Media Technology use fosters learners’ creativity	3.81	1.563
I experience Technology stress whenever I infuse digital content in the process of content coverage	4.04	1.210

Source: Survey Data 2022)

The results as presented in Table 4.6 indicate that the respondents strongly agreed on the statements that; they had received training in Digital Media Technology for teaching (M=4.63, SD=0.865) and that they easily implement alternative teaching strategies in class using digital media (M=4.47, SD=0.993). This shows that the government has ensured that teachers have been trained on the use of digital media technology when teaching and teachers have been able to devise various mechanisms in teaching using digital media technology. Limo, 2013 in his research in

Naivasha sub county notes that all teachers when subjected to certain training increase their competency albeit their individual differences, practice and expertise gained as they are exposed to ideal environment, whereby desktops, computers, and tablets are provisional and software in line with the items during the course of study, internet, electricity connection is available.

The respondents agreed on the statements that: the Department of Education is instrumental in sponsoring teachers in Digital Technology for Preschool teaching (M=4.44, SD=0.819), they can design technology-enhanced learning activities for my learners (M=4.44, SD=1.000), they are able to use digital media to adjust lessons to the proper level for individual learners (M=4.43, SD=1.185), have received training in Digital Media Technology for teaching (M=4.42, SD=1.184) and they are adept in preparation of teaching-learning materials for class using digital media (M=4.05, SD=1.294). This shows that the County has offered sponsorship programs for teachers to learn about digital media technology and how on how to apply in teaching. Teachers are also to customize teaching lessons to fit to the needs of the individual pupils to make the lessons more collaborative and interactive. However, teachers say that the training they are to attend takes two to five days and the period is too shot to acquire the requisite skills to cover all activity areas offered at preschool to adequately handle the digital aspect stipulated in the Curriculum Design for PPI and PPII. Spiteri & Chang, (2018) conducted an in-depth study that established use of digital technology in teaching as hampered by lack of skills and poor attitude towards use of technology. The study recommended that teachers need training in use of digital media technology in curriculum delivery and as they acquire the skills through practice, the age gap in use of technology will be bridged.

The respondents also agreed on the statements that: they experience technology stress whenever they infuse digital content in the process of content coverage (M=4.04, SD=1.210), their training in Computer Packages, which is part of the qualification requirement by the county, is very useful in CBC delivery (M=4.01, SD=1.636), but the skills acquired are different from the skills for DMT use in teaching. Teachers are adept in preparation of teaching-learning materials for class using digital media (M= 3.98, SD=1.453), learners' understanding of difficult concepts is enhanced by use of digital media technology (M=3.92, SD=1.500), digital Media Technology use fosters learners' creativity (M=3.81, SD=1.563) and that the teachers can use email to communicate with parents on areas their children need help (M=3.56, SD=1.477). Duncan, (2020) underlines inability to use software resources for best practice in teaching as potential barriers to computer aided instruction. Furthermore, Buchere, Nasongo & Wamocha, (2009) argue that acquisition of digital literacy by learners can only be achieved if teachers utilize digital technology in content delivery. The findings resonate with findings Stefanie et al, (2020) that revealed lack of skills in the teaching staff in ICT use as influencing adoption off ICT in public schools in Kenya. The study revealed that the number of teachers' adept in ICT was very low hence computers supplied to schools were in disuse in spite presence of resources, internet connection and availability of electricity, such findings are similar to another related study by (Brun & Hinostroza, 2014), The research recommended continuous professional development that ensures success in ICT in schools. Research further reveals the effect of lengthy experience in teaching, to creation of certain mechanical methods for handling certain topics irrespective of individual differences in learners, hence disadvantaging some learning.

There seems to be no clear understanding in teachers on DMT use as the confusion is on whether Digital Technology is for the digital infusion of items in the curriculum Designs or for assisting teachers obtain information to aid traditional methods of curriculum implementation. The school of thought is in researches by (Wikan and Molster, (2011). The study points at teachers who have basic training in ICT not applying ICT in activities in connection with curriculum delivery and that the highest frequencies of ICT use by teachers corresponded to essentially basic and traditional activities such as search for information and browse the relevant web site. This finding is line with later studies by Brun and Hinostroza, 2014). It is thus safe to say that use of Education Technology may not be specifically used by teachers for the purposes or intended reforms and that the county government of Kilifi has not taken Digital Infusion and Curriculum delivery with the weight needed though the research found teachers' perception on value of DMT for digital infusion very high

4.6 .1Teacher Capacity in Integrating DMT during Learning and Teaching Process

The relationship between teacher capacity in DMT and their application in curriculum delivery in line with Competency Based Curriculum in preschools in Kilifi County, Kenya was computed using Chi-square. Table 4.6 presents findings on Chi-square computation.

Table 4.7: Availability of DMT infrastructure and use for Competency Based Curriculum implementation

	Value	Df	Asymp. Sig. (2-sided)	Asymp. Sig. (2-sided)	Asymp. Sig. (1-sided)
Pearson Chi-Square	10.548	2	.000		
Continuity correlation Likelihood Ratio Fisher's exact test	7.009 11.203	 2	.001 .000	.000	.001
Linear-by-Linear Association	43.875	1	.000		
N of Valid Cases	734				

Source: Survey Data (2022)

The results as presented in Table 4.7 shows that the estimated Chi-square with 2 degrees of freedom was 8.117 with a significance value of p=0.001 which was less than stated level of significance value at 0.05. Therefore, teacher capacity was found to have a significant relationship with the use for competency based curriculum implementation in preschools Kilifi County, Kenya. The findings are contrary to the findings of a study by Momanyi and Rop (2020) study that investigated teacher preparedness for the implementation of competency based curriculum in Kenya: A survey of early grade primary school teachers' in Bomet East Sub County. The analysis of data reveals that teachers are inadequately prepared. The findings can be compared to findings by Christensen and Knezek (2016), which exhibit teachers as reluctant to use computers for teaching purposes when they lack confidence, are frightened of failing to integrate digital content accurately and lack of Digital Technology skills. Teachers after given the chance to use the tablets shied away for lack of confidence or anxiety. Teachers knowledge of DMT usage is vague and this has hampered their delivery and evaluation. However, the findings concur with Isaboke, Mweru and Wambiri (2021) study that examined teacher preparedness and implementation of the competency based curriculum in public pre-primary schools in Nairobi City County, Kenya. The study established a significant relationship between the teachers' extent of training in CBC and their ability to implement the curriculum.

4.7 Teacher's Age on Acceptance of DMT use

The study sought to examine the effect of teachers' age on acceptance of DMT use in the learning and teaching process. The respondents were given a list of statements describing teachers' age on acceptance of DMT use in the learning and teaching process to rate them according to their level of agreement. The following are the results of descriptive statistics achieved presented in terms of Mean (M) and Standard Deviation (SD).

Table 4.8: Teacher's Age on Acceptance of DMT use in the Learning and Teaching Process

Statements	**M**	**SD**
Use of digital media can help make difficult topics easy to understand	3.86	1.630
Digital media are difficult to use	4.22	1.428
Digital media makes it easier to respond to the needs of the pupils.	4.31	1.466
Use of digital media motivates pupils to learn more	4.54	1.025
Use of digital media will make the work of teacher easier	3.89	1.456
Use of digital media makes learning pupil-centered with the teacher being the facilitator	3.59	1.549
Use of digital media makes the lessons more interactive	4.10	1.193
Digital media need to be used by newly graduated teachers only	3.73	1.571
The use of digital media makes me a more effective teacher	3.23	1.713
I feel comfortable using digital media	2.63	1.603
I believe that I could be a better teacher if I use digital media in instruction	3.12	1.583
I don't think I can use digital media when teaching	3.09	1.547
Pupils performance can improve if I use digital media when teaching	3.57	1.586
I encourage my pupils to use digital media	3.84	1.368
Given an opportunity I will make an effort to upgrade my knowledge and skills on use of digital media	4.21	1.379
Use of digital media in the class is very frustrating	4.64	0.850
Digital media are very relevant in teaching	3.56	1.661

Source: Survey Data (2022)

The results as presented in Table 4.8 indicate that the respondents strongly agreed on the statements that; the use of digital media in the class is very frustrating (M=4.64, SD=0.850) and use of digital media motivates pupils to learn more (M=4.54, SD=1.025). This is an indicator that the teachers lack skills in the use of digital media when teaching though students are motivated by the use of digital media when learning. Boulton, (2017) found that experienced teachers were reluctant in integrating DMT into their teaching. Such findings match others by the U.S National

Centre for Education Statistics (2000) in Li, Yamguchi and Takada, 2018, which admitted that teachers with less experience were likely to integrate ICT in teaching than counterparts of a lengthy teaching experience.

The respondents agreed on the statements that digital media makes it easier to respond to the needs of the pupils (M=4.31, SD=1.466), digital media are difficult to use (M=4.22, SD=1.428), given an opportunity I will make an effort to upgrade my knowledge and skills on use of digital media (M=4.21, SD=1.379), use of digital media makes the lessons more interactive (M=4.10, SD=1.193), use of digital media will make the work of teacher easier (M=3.89, SD=1.456), Use of digital media can help make difficult topics easy to understand (M=3.86, SD=1.630), they encourage my pupils to use digital media (M=3.84, SD=1.368), digital media need to be used by newly graduated teachers only (M=3.73, SD=1.571), use of digital media makes learning pupil-centered with the teacher being the facilitator (M=3.59, SD=1.549), pupils performance can improve if they use digital media when teaching (M=3.57, SD=1.586) and that digital media are very relevant in teaching (M=3.56, SD=1.661). This shows that the use of digital media in presenting teaching contents makes the pupils understand better by making learning more collaborative and interactive, though it is a challenge for the teachers to implement. Research finding from a study in Nakuru County by Mbugua et al, (2015) revealed that teachers' age influences their acceptance and use of DMT in teaching. The study further established that teachers below 40 years easily accepted, and used Digital technology for instructional purposes than teachers above the said age bracket when both groups are introduced to the gadgets and benefits at the same time.

The respondents were undecided on the statements that; the use of digital media makes them a more effective teacher (M=3.23, SD=1.713), they believe that they could be a better teacher if they used digital media in instruction (M=3.12, SD=1.583), they don't think they can use digital media when teaching (M=3.09, SD=1.547) and that they feel comfortable using digital media (M=2.63, SD=1.603). This shows that the implementation of digital media is poor since teachers have not yet acquired the required skills. Korcic & Covic, (2021) contend that tutors who continuously taught for five years or better frequently used computer technology in the classrooms for teaching and instruction were better placed than new recruited teachers. The research that sampled 250 teachers proved different variables as exposure in ICT and Pedagogy in that older teachers had richer experience in teaching, better class control and classroom management and were competent in the use of computers. This school of thought is strongly underlined in Chun, et al. (2018). Such teachers easily transit and migrate to DMT use in their teaching.

4.8 Results of Chi-square on teachers' age and use for CBC implementation

The relationship between teachers' age and use for competency based curriculum implementation in preschools Kilifi County, Kenya was computed using Chi-square. Table 4.8 presents findings on Chi-square computation.

Table 4.9: Teachers' Age and Use for Competency Based Curriculum Implementation

	Value	Df	Asymp. Sig. (2-sided)	Asymp. Sig. (2-sided)	Asymp. Sig. (1-sided)
Pearson Chi-Square	13.548	2	.102		
Continuity correlation Likelihood Ratio Fisher's exact test	11.674 22.309	 2	 .080 .111	 .815	 .631
Linear-by-Linear Association	15.671	1	.120		
N of Valid Cases	238				

Source: Survey Data (2022)

The results as presented in Table 4.9 shows that the estimated Chi-square with 2 degrees of freedom was 13.548 with a significance value of p=0.102 which was higher than stated level of significance value at 0.05. Therefore, teachers' age was found to have no significant relationship with the use for competency based curriculum implementation in preschools Kilifi County, Kenya. The findings match with the Sanchez-Mena et al, (2017) study that examined the effect of Age on teachers' intention to use educational video games: A TAM Approach. The study found that the age was found to moderate the effect of teachers' perceived ease of use on perceived usefulness of education video games. A study by Wambiri & Ndani (2016) provided that younger teachers have higher levels of confidence in their ability to utilize computers to teaching as opposed to their elderly counterparts. Studies in Li, Yamanguchi & Takada, (2017) focused on preparedness of pre-service teachers on ICT utilization in the classroom context. There was reluctance to integrate ICT in teaching among the elderly teachers who exhibited comfort with the conventional methods of teaching.

4.9 Teachers' perception of DMT usefulness in content delivery as endorsed in CBC

The study sought to examine teachers' perception of DMT usefulness in content delivery as endorsed in CBC in Kenya. The respondents were given a list of statements describing teachers' perception of DMT usefulness in content delivery as endorsed in CBC in Kenya to rate them according to their level of agreement. The following are the results of descriptive statistics achieved presented in terms of Mean (M) and Standard Deviation (SD).

Table 4.10: teachers' Perception of DMT Usefulness

Statements	M	SD
Use of digital media can help make difficult topics easy to understand	3.97	1.345
Digital media are difficult to use	3.77	1.359
Digital media makes it easier to respond to the needs of the pupils.	3.71	1.608
Use of digital media motivates pupils to learn more	4.18	1.238
Use of digital media will make the work of teacher easier	3.77	1.599
Use of digital media makes learning pupil-centered with the teacher being the facilitator	3.76	1.515
Use of digital media makes the lessons more interactive	3.56	1.368
Digital media need to be used by newly graduated teachers only	3.90	1.521
The use of digital media makes me a more effective teacher	4.05	1.079
I feel comfortable using digital media	3.47	1.417
I believe that I could be a better teacher if I use digital media in instruction	4.14	1.321
I don't think I can use digital media when teaching	4.08	1.204
Pupils performance can improve if I use digital media when teaching	4.18	1.371
I encourage my pupils to use digital media	4.01	1.487
Given an opportunity I will make an effort to upgrade my knowledge and skills on use of digital media	3.73	1.415
Use of digital media in the class is very frustrating	3.52	1.530
Digital media are very relevant in teaching	3.70	1.441

Source: Survey Data (2022)

The results as presented in Table 4.10 show that the respondents agreed on the statements that; use of digital media motivates pupils to learn more (M=4.18, SD=1.238), pupils performance can improve if they use digital media when teaching (M=4.18, SD=1.371), they believe that they could be a better teacher if they use digital media in instruction (M=4.14, SD= 1.321, they don't think they can use digital media when teaching (M=4.08, SD=1.204), the use of digital media makes them a more effective teacher (M=4.05, SD=1.079) and that they encourage their pupils to use digital media (M=4.01, SD=1.487). This shows that teachers have a positive perception on the use of digital media when teaching because it makes teaching to become more interactive. Boulton, Erick & Sydney, (2017) study denotes that teachers also have a positive perception that they can enhance their teaching skills through application of digital media. Further analysis on teachers who have access to the tablets owned by primary schools reveal that The Teacher perception concerned time management in that time and DMT integration was that connecting of tablets to internet took a lot of time in their lessons and by the time the teacher is ready to present time has elapsed, moreover in a large class as the case in Kilifi County. Learners ability is different hence catering for different ability groups frustrates the teacher and learners. This is reflected in similar study by Heinrich et al. (2020) on the potential and prerequisites of effective tablet integration in rural Kenya. In the study that involved classroom observation, teacher interviews, student surveys, and focus groups, found that teachers found the time allocation to be too limited to carry out a lesson successfully and often excluded learners perceived to be slow learners during technology integration. Gebremehdin & Fenta (2015), in a different setting, revealed congruent results. The studies recommended a deliberate teacher professional development schedule to equip them with the pedagogical skills in DMT to accommodate all learners including those with disabilities in technology-integrated classroom for every learner to benefit from the Curriculum. In addition, teacher perception on Digital Media Technology use which relates to CBC delivery are congruent with the school of thought on young teachers being ICT comfortable than tutors of a lengthier practice. It is interesting to note findings by Chris, 2015 whose findings pegged on the Innovation Diffusion Theory (IDT) posits acceptability of new technologies is based on Triability, Complexity, Compatibility, Observability and Relative advantage as prerequisite features that determine successful spread of innovation.

The respondents agreed on the statements that: use of digital media can help make difficult topics easy to understand (M=3.97, SD=1.345), digital media need to be used by newly graduated teachers only (M= 3.90, SD=1.521), digital media are difficult to use (M=3.77, SD=1.359), use of digital media will make the work of teacher easier (M=3.77, SD=1.599), use of digital media makes learning pupil-centered with the teacher being the facilitator (M=3.76, SD=1.515), given an opportunity they will make an effort to upgrade their knowledge and skills on use of digital media (M=3.73, SD=1.415), digital media makes it easier to respond to the needs of the pupils (M=3.71, SD=1.608), digital media is very relevant in teaching (M=3.70, SD=1.441), use of digital media makes the lessons more interactive (M=3.56, SD=1.368) and that the use of digital media in the class is very frustrating (M=3.52, SD=1.530). This shows that when teachers are using the digital media in teaching they can simplify difficult topics that pupils can understand better and those teachers who are newly employed are encouraged to use digital media when teaching. Teachers also believe that they can be proficient in the use of media technology when teaching with time if they are more exposed to the system. However, teachers are facing challenges. Waweru, (2018) underlines poor and negative perception in digital media use by school heads leads to discouragement in teachers even when digital infrastructure is provisional, as heads will store the gadgets, fail to release them to learners giving flimsy reasons as that the gadgets will get breakdown, hence under use of gadgets by teachers, culminating to non-integration of digital technology in both administration issues, teaching and digital content infusion leading to poor CBC implementation in schools hence handicapping both learners and teachers in DMT use in learning necessity for thriving in the 21st Century. Teece et al. (2017) would be in agreement for they argue that when considering the adoption and diffusion of innovation, organizational characteristics as degree of centralization within a given organization, degree of familiarization as well as interconnectedness of the various departments must be taken into consideration, which seem starved in the DMT use in CBC implementation in preschools.

4.6.1 Results of Chi-square on teachers' perception and use for CBC Implementation

The relationship between teachers' perception and use for competency based curriculum implementation in preschools Kilifi County, Kenya was computed using Chi-square. Table 4.9 presents findings on Chi-square computation.

Table 4:11 Teacher Perception on DMT

	Value	Df	Asymp. Sig. (2-sided)	Asymp. Sig. (2-sided)	Asymp. Sig. (1-sided)
Pearson Chi-Square	20.001	2	.119		
Continuity correlation Likelihood Ratio Fisher's exact test	36.785 10.318	 2	 .017 .111	 .134	 .209
Linear-by-Linear Association	14.091	1	.200		
N of Valid Cases	91				

Source: Survey Data (2022)

The results as presented in Table 4.11 shows that the estimated Chi-square with 2 degrees of freedom was 20.001 with a significance value of p=0.119 which was higher than stated level of significance value at 0.05. Therefore, teachers' perception was found to have no significant relationship with the use for competency based curriculum implementation in preschools Kilifi County, Kenya. The findings agree with the Mokoro (2020) study that examined the perception of teachers on their preparedness for implementation of the competence-based curriculum among Secondary Schools in Arumeru District, Tanzania and the which found that the implementation of CBC is rendered ineffective due to negative perception from the teachers. However, the finding disagrees with Ngeno, Mwoma and Mweru (2021) study that examined teachers' attitude towards implementation of the competence-based curriculum in primary schools in Kericho County that posit that the attitude of teachers had a positive impact on CBC implementation, which could be because of differences in the samples between them.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter displays a concise substance of the findings, the conclusions drawn, what the researcher offers as recommendations and suggestions for further studies, drawn from the research on Teacher Preparedness in DMT use in Preschools in Kilifi County, for CBC delivery, a research hinged on the Davis, (1986) TAM theory. This study is pegged on Davis' (1986) Technology Acceptance Model (TAM Theory) and is linked to the theory of reasoned action (Davis, 1986). TAM represents one of the explanatory models to have influenced the theories of human behavior (Livingstone, Coverin & Thumin, 2015).

5.2 Summary of Findings

The main objective of this study was to establish the teacher preparedness in DMT use by teachers in Preschools in Kilifi County in curriculum delivery, Kenya in compliance to CBC implementation. The findings are summarized in the specific constituent areas encompassing DMT resources and infrastructure available in the preschools, Teacher capacity on use of DMT to implement dictates of the CBC, effect of Teachers' chronological age on technology acceptance and use and finally the influence of teacher perception on Digital Media Technology for pedagogical use.

5.2.1 Summary on DMT infrastructure in the Preschools in Kilifi County

Study revealed that the Public Preschools have no DMT resources in the County from the Department of Education and ICT, from donors nor NGOs hence DMT Resources and Infrastructure was below expectation in meeting the digital infusion aspect of CBC Kenya contrary to the BECF, 2018. The absence of Tablets, Laptops, Digital cameras, Provision of internet or modems is an indicator of very little or no use of Digital Technology for digital infusion as mandated by the CBC and the Curriculum Designs for PPI and PPII levels. A paltry 0.2% owned laptops. The ownership of laptops by the teachers was not mandated by the County Government of Kilifi but was for those who were pursuing under graduate courses in local Universities. Furthermore, the Department of Education and ICT provides no capitation into Preschool accounts hence schools are unable to source for such gadgets connect centers to National Grid or connect to most schools as the county government had not supplied computers, laptops or tablets and smartphones for preschool teachers. While some primary schools had tablets for primary schools supplied by the MOEST teachers say that bad blood between County Government teachers and their Counterparts employed by the Teachers Service Commission hindered smooth arrangement for the two groups to share the tablets or DMT resources. It is safe to conclude that Digital Infusion; from the findings, is not a priority in the county education budget hence suffers neglect.

5.2.2 Summary on Teacher Capacity in DMT use for Digital Infusion

In Summary of the findings on the second research objective, that sought to establish the influence of the teacher capacity on the use for competency based curriculum implementation in preschools Kilifi County, Kenya. Teacher capacity can be summed as very low. The training teachers had received was inadequate as the entire BECF, 2018 was compressed into a manual read to the Teachers in a 4-day workshop. Teachers were in in groups of between 100 and 150 participants in a hall. Further probe revealed that the DMT media used was a single laptop and a projector to enable some participants read what the facilitator read. There were no individual or shared laptops during the training. Moreover, all the components of the curriculum including Digital infusion were covered in a 4-day seminar. Majuto & Gilbert, (2015) recommend a 6-month DMT course. Such action is endorsed and underlined in the Davis' (1986) Technology Acceptance Model (TAM Theory) that contends provision of training to reasoned action (Davis, 1986). TAM represents one of the explanatory models to have influenced the theories of human behavior (Livingstone, Coverin & Thumin, 2015). There are no organized trainings on digital infusion of the curriculum designs neither are there partnerships with service providers, as Airtel, Telecom, Safaricom, google or even KICD to upgrade teacher's digital competencies hence improve and strengthen preschool teaching and learning. It is worth noting that teachers trained on DMT use in the 4-day workshop on CBC implementation are not empowered to access digital software to use in personal gadgets to meet digital infusion ingredients of the syllabus thus suffocating the CBC further. There was also no evidence of schools working in cohorts with private schools as Bridge International who emphasize digital infusion in their teaching. Such collaborations would benefit the child immensely.

It is safe to summarize that internet connection to schools is poor and where it is strong schools have not been facilitated by the counties or Board of Management to access internet when in the school. Internet is expensive and teachers and teachers in charge cannot afford bundles even when they would want to use their smart phones for

Digital infusion in their teaching. Mokoro, 2020 finds a problem in insisting use of DMT and access to internet without schools meeting such obligations. Unless routers are provided and a set amount of money or an understanding with service providers made, it is fool hardy to force teachers use internet and DMT to meet curriculum goals as they use their smart phones. Internet provision should not be ultimate but provisional so that teachers can navigate, explore and exploit the varied sources in the internet to promote understanding, captivate and enhance learner interest in learning activities, meet individual differences as the teachers meet curriculum dictates. Furthermore, provision of gadgets and use faces storage issues and servicing. Garcia et al, 2020 finds it paramount and essential to have clinics where digital technicians can service the gadgets and hence enable functionality of the Digital Media Technology in Learning and teaching. In a nutshell the researcher found no budgetary allocation for procurement, hire, maintenance and repair of DMT gadgets, let alone provision of internet in schools.

5.2.3 Summary on Teachers' Chronological Age on DMT acceptance and use

In summary teachers chronological age was not found to be of effect to DMT use based on the findings on the research objective that sought to establish the influence of the teachers' age on the use for competency based curriculum implementation in preschools Kilifi County, Kenya. Teachers strongly agreed on the effect of Digital Media Technology use in preschool learners: That use of digital media motivates learners to learn more, promotes understanding of difficult concepts, makes learning interactional, increases the attention spun of learners and help bridge the gap between fast and slow learners. Thus it can be summarized that the gap between teachers aged 40 and above and those of the age cohort below 40 years was not visible. Teachers' age was found to have no significant relationship with the use for competency based curriculum implementation in preschools Kilifi County, Kenya. The findings were contrary to Wambiri and Ndani, 2016 which found young teachers to be more be more adept in ICT use in teaching than their older counterparts. This could be attributed to use of DMT for communication purposes and Facebook as opposed to Teaching, learning and Curriculum implementation. Moreover, exposure to higher level courses in older teachers makes them gain ICT exposure as their younger counterparts. This is an indicator that exposing all age sets of teachers to training in DMT use and unrestricted access to DMT resources, and evaluation on meeting curriculum goals would encourage and cultivate positive attitude, technology acceptance and use of DMT for teaching to satisfy the Competency based Curriculum demands. The conclusions are first attributed to the

TAM, 1986 Theory on Human Behavior when faced with new technology that improves performance of work, perceived ease of processes and accuracy in the result or service on one hand and the effect of subjecting all staff, irrespective of age to training in DMT resource use in line with the syllabus as captured in the conceptual framework constructed by the researcher.

5.2.4 Summary on Teacher Perception on DMT Use

The fourth research objective sought to establish the influence of the teachers' perception on the use of DMT in fulfilling the needs of CBC. Teacher perception on DMT use was high. 90 percent of teachers strongly perceived the importance of DMT for curriculum implementation. The teachers feel that Digital Media Technology use reduces the burden of bringing true situations into the class. Teachers believe that learning becomes increasingly active and that indiscipline and poor class control will be evident on the first days of DMT use and improves with proper planning and as learners get accustomed to the use of such resources. Interviews revealed that DMT makes teachers reflective and that if everything if access of DMT is not ultimate Teaching will be very satisfying. The findings contradict Rop, (2000) who found that teachers who had positive perception in usage of digital technologies for teaching and learning do not necessarily believe in their own ability to use technology in a classroom with learners their research had different variables, population and location. Studies by Sternad & Bobek, (2013) reveal that Digital Media Technology use is to a large extent influenced by the user's attitude, behavioral intentions, perceived usefulness and perceived interface of the technology gadgets, this further underlines the trueness of the TAM (1986) theory and its applicability and importance of DMT in the CBC – Kenya. The research is in agreement. Wikan & Molster (2011) that revealed urgency as affected by peoples' self-efficacy and own beliefs about their efficacy influencing choices and effort. The researcher finds the TAM as appropriate and that learning and readiness in DMT use is catapulted by high levels of self-efficacy and a positive attitude and perception, the TAM theory is ideal and true in this study. Teacher perception invigorates application of digital media use, motivates learners to learn more, improve learner performance and teacher confidence. The teachers and Teacher In-Charge believe that they could better their pedagogical skills if they use digital media during instruction and its evident that use of digital media makes them better effective not only in curriculum implementation and delivery, but in school management and management of school resources.

5.3 Conclusion

The conclusions drawn from this study have been fairly convicted by the research findings and clarity is when looked at in the four dimensions used to look at the teacher preparedness in digital media technology use for CBC implementation in Kilifi County, of Kenya. themes in the study: Availability of DMT resources in Schools, teacher Capacity on DMT use in teaching, Effect of teachers Chronological age on DMT acceptance and use and finally conclusions on teacher perceptions on Digital Media Technology use for teaching purposes.

5.3.1 Conclusion on Availability of DMT resources in Public Preschools

The first conclusion on the Availability of DMT infrastructure in preschools is that the Preschools have been neglected in supply and provision of DMT resources. There were no records seen of supply of gadgets as TV sets, Laptops, Tablets from the County Department of ICT, from donors or from hardware companies. Furthermore, connection to internet and National Grid was poor. Where connected, it is the Parent primary school whose concerns are the Primary School Sector than the whole school. Preschools lack direct capitation from the County Government as opposed to the previous 8-4-4 system where MOEST headquarters offered capitation directly into Preschool accounts country wide, the CBC system neglected the aspect of capitation to meet the digital needs. Amuchie, (2015) refers to Government bragging on strides made and the absolute opposite when on site as such treatment of teachers in ICT provision and training in skills for curriculum implementation a mere lip-service by the Nigerian States. Wozney et al, (2016) underlines urgency as affected by peoples' self-efficacy and own beliefs about their efficacy influencing choices and effort. Choices are only possible when a range of digital paraphernalia, internet and electricity- rather if the digital climate is conducive. The TAM (1986) Theory is appropriate, though the findings exonerates teachers from blame. The child needs to meet the CBC demands are suffocated contravening section 53 of the Kenyan Constitution (2010). Swartz & Wachira, (2010) found it a common in Tanzanian secondary schools where teachers are timid in fear of reprimands from state officials. He situation could be worse in counties as teachers in counties are not allowed to join trade unions.

5.3.2 Conclusion on Teacher Capacity on DMT use

On teacher capacity, the study concluded that preschool teacher capacity is wanting. While it was mandatory for teachers to have Computer Package certificates during interviews for teacher positions in Kilifi County, attendance to commercial colleges does not translate to use DMT for pedagogical purposes. The 4-day workshop given to teachers on all aspects of CBC as stipulated in BECF, (2018) was not enough to learn aspects of CBC, translate Curriculum Designs and learn the Digital infusion aspects demanded by the CBC. While the county department of Education & ICT brags on having an entire sub sector on ICT, most of the sector personnel were people trained in Courses in ICT and IT and had no pedagogical knowledge necessary for Teacher Training nor for Teaching Preschool learners. Furthermore, 57 % of teachers agreed on ability to use databases e.g. access stored learners personal data and performance records, presentation software for class presentation, digital camera and a computer to produce a video for classroom presentation, they could scan for viruses and fix basic faults and that they could search the internet for educational reference materials, and access the Jolly Phonics software for the teaching of reading, 43% had smartphones but large classes hampered the use of a single smart phone, this variable was again challenged by the expensive Safaricom and poor network in the affordable Airtel and Telkom. TAM (1986) theory was structured with express objective of identifying influencing factors involved in digital media technology acceptance and to crosscheck variety of Digital Media Technology use and the resulting human behavior (Cakir & Yildirim, (2013). If the teachers are exposed to deliberate skill acquisition course and teaching methodologies in line with the digital ingredients of CBC, provision of DMT resources, then teachers would accept, use and enjoy teaching as learners gain skills hence teachers transformed to facilitators as pointed in Bulliva, 2018. Technology use is greatly influenced by the user's attitude, behavioral intentions, perceived usefulness and perceived interface of the technology gadgets and skills gained through practice or training, argument advanced in Christensen & Knezek, (2016).The findings unveiled, makes it safe to conclude that the teachers' capacity in integrating DMT in digital infusion as demands the CBC was very low and teachers lack of skills in the use of digital media technology was across board on all age and gender cohorts and suppresses and suffocates the demands of the curriculum. This conclusion is cohering to findings by Ngeza, (2018); Chris, (2015) in studies carried out in Tanzanian Secondary schools and Kenyan primary schools respectively.

5.3.3 Conclusion on Teachers' Chronological age on DMT acceptance

The findings lead to the researcher drawing the conclusion that teachers age was not a factor in Digital Technology acceptance or use contrary to Wambiri and Ndani, (2017) who found young teachers to be technology adept than their older counter parts. Teachers below thirty while spent more time browsing the internet and much time use their smart phones- such activity was not found to be on pedagogical issues but social media use which may culminate to losses in valuable contact hours. The Davis' (1986) Technology Acceptance Model (TAM Theory) linked to the theory of reasoned action (Davis, 1986). Fails to see age as a factor to technology acceptance, if the teachers in spite of age were exposed to skill development. TAM represents one of the explanatory models to have influenced the theories of human behavior (Livingstone, Covering & Thumin, 2015). Evidence reveal young teachers use smart phones more but not necessary for teaching hence such use is not using it for teaching but for matters unrelated to teaching, learning or Curriculum. Teachers strongly agree that use of digital media in presenting teaching contents improves learner attention and makes the learners grasp concepts better by making learning more collaborative and interactive, but a challenge for the teachers to implement especially in classes accommodating 100 learners under one teacher. The conclusions are first attributed to the TAM, 1986 Theory on Human Behavior when faced with new technology that improves performance of work, perceived ease of processes and accuracy in the result or service on one hand and the effect of subjecting all staff, irrespective of age to training in DMT resource use in line with the syllabus as captured in the conceptual framework constructed by the researcher. It is safe to say that re training the teachers for CBC implementation and subsequent digital infusion was not given the weight it deserved.

5.3.4 Conclusion on Teacher Perception on DMT use for Digital Infusion

On teachers' perception, the study concluded that teachers have a positive perception on the use of digital media when teaching as it makes teaching to more interactive, improves learner participation and increases learner attention. In the interviews the teachers agree that Digital Infusion is the heart- beat of all learning. When teachers are using the digital media in teaching they can simplify difficult learning items for learners and improve learner competencies in reduced time. We can be safe to conclude that application of DMT for digital infusion as envisaged in the syllabus gives learners a head start in the initial levels of learning and schooling. New teachers can hence be encouraged to use DMT for teaching and implementing the syllabus as opposed to visiting un called for sites.

Teachers also believe that they can be proficient in the use of media technology when teaching with time if they are more exposed to the system irrespective of the technology stress that accosts them.

5.4 Recommendations

Based on the conclusions, the study made the following recommendations in thematic areas namely: Recommendations on Policy, Practices and on Research.

5.4.1 Recommendation on Policy

The recommends a change of tactic by the Ministry of Education on provision of tablets to schools and maintenance of School laptops and digital media by adapting a KEMSA style of supplying County Hospitals that ensures Preschool learners benefit from the tenets of the curriculum with emphasis on provision of digital Media Technology Resources and Preschool Teachers must be trained to acquire competencies in digital infusion for content delivery. This would be a paradigm shift from unstructured Education programmes by Counties where the Chief officers and CECM for Education are political appointees who may have no idea in ICT, Preschool or TVET education. This will ensure that Schools have not only the necessary resources but internet and connection to the national Electricity grid is ensured without friction by Primary school heads on who will pay for the Electricity and internet. Furthermore, a holistic multifaceted National approach to provide internet connectivity for each of the Counties Preschools and the provision of necessary DMT training for the County teachers and Education Ward Supervisors to ensure that they are well prepared to make use of connectivity; provision of broadband connection and support to the education cloud and learning management system that have been established by the Kenya Institute of Curriculum Development (KICD). This will facilitate ready access to digital content developed by KICD as well as to other approved local or international education content and resources; and technical support to ensure that the connected schools are not hindered by technical hiccups hence learners full benefit of broadband connectivity, hardware and software components and established maintenance structures to facilitate an ambitious Digital Infusion in the CBC Furthermore, teachers of PPI and PPII must own laptops facilitated by banks so that digital Media Technology can become an everyday use in planning, sourcing for materials and digital content delivery.

Secondly, the county government should carry out an ongoing program to update teachers on skills required for appropriate teaching in the context of competence based curriculum. Other educational stakeholders need to collaborate with the government in facilitating educational service including updating teachers' pedagogical skills to create a positive perception of teachers on implementation of CBC and use of digital media technology for teaching in line with the stipulations of the CBC-Kenya.

Rewards is a very ideal way to encourage ideal syllabus coverage. Teachers can on their own volition can enroll in courses that align them to improvement of pedagogical tendencies. Staff development must be in line with better performance. When teachers take the initiative to advance their training, and use the skills earned for curriculum delivery, they can be encouraged through promotions or recognition. While the TSC is silently very particular on self-motivated staff establishment, the highly politicized County Public Service Board and by extension the County Department of Education; has not been very encouraging to the teachers. This discourages teachers from advocating for such initiative's. Positive rewards not only encourage the teachers who took initiatives but enforce those who are oblivious to try out hence advancing the curriculum objectives. I underline promotion or scaffolding of the teachers who widened their perspectives through training and applying the skills in class.

5.4.2 Recommendation on Practice

There is a National University in Kilifi County, and a satellite Private university campus, One Public and Two Private Teachers college and 10 TVET institutions. The County Government should work in Collaboration with the Universities through an arrangement so that teachers can access training on Pedagogical skills in the universities in form of workshops and forums to improve DMT use and offer training in DMT maintenance from the TVET. This would be a win-win situation where TVET will have room for attachment and horning of skills, while the universities will have a chance to give back to the society. The collaboration of the Preschool sector, the TVET sector and the University is a unique combination of allied forces not only to strengthen DMT use for teaching, but Preschool and technical education, talent management and co-existence and interdependence of the 3 service providers. The universities, KICD State Department for basic and Early learning and County Government Education personnel can work together to develop Education software for preschools or specialized affordable tablets for schools in line with Article 53 of the Constitution., a line of action underlined in Chun-Mei et al, (2022).

Ward Education Supervisors need be facilitated to organize digital media Technology workshops for up grading of teachers' pedagogical skills and maintenance of DMT laptops, repair laptops, cameras and projectors to ensure functionality of DMT infrastructure so teachers work becomes easier and enjoyable leading to smooth content delivery and syllabus coverage. Furthermore, the researcher recommends that the County Government Department of Education and ICT in collaboration with the State Department of Early Learning and Basic Education make deliberate effort to solicit digital collaboration with stake holders as Google, The Giant Safaricom, Airtel, Microsoft, HP to train teachers and Computer technicians on hardware and software that are aligned to the digital demands of CBC. Cohorts of Education Officials drawn from MOEST, TSC and County Education need to use multi-sectorial approaches to functionalize the Digital demands of the 2-6-3-3 curriculum to meet the curriculum and education goals of the Republic of Kenya. The staff development, reward and promotion of teachers need depend on hard work, adequate meeting of curriculum goals, advanced studies need be the criteria as opposed to the dysfunctional systems that frustrates teachers- a line must be borrowed from the TSC- MOEST upward mobility strategies for teachers and Education officers in job group ranks and hierarchical positions.

5.5 Recommendations on Further Research

The researcher recommends further research on the effect of splitting Early learning into Preschool under the devolved county government and grade 1-6 under the Ministry of Education, whose teachers are employed by the TSC, and effect of rivalry between the two cadres of staff working in the same institutions for the Kenyan child but funded by two different arms of government. Moreover, research on ways to address psychological traumas and mental stress arising from the weight of the CBC, school discipline that does not involve the covert corporal punishment or use of the cane which the government of Kenya made such punishment obsolete but schools use it, and how social workers or psychologist could be visiting schools periodically to assist both teachers in the two cohorts of school, parents and learners and advice accordingly.

Further research need to be done on assessment of Whole School Preparedness in Digital Technology use for CBC in schools with Junior Secondary School sections and the effect of posting cohorts of teachers drawn from Preschool, Primary and Secondary school to initiate level 3 of the syllabus in grade 7-9. This comes on the wake of so many complaints by stake holders on the preparations made for initiating the Junior Secondary classes and the preparations made for laboratories including the digital laboratory. Such premises are ideal for further research that may culminate to the improvement or strengthening of CBC which indeed is god initiative.

The researcher recommends action research on the institutional placement of children aged day 1-1000 days, the place of Day Care Centers and how working nursing mothers can have a safe environment where the infants can be assessed, access safe care and learning and re invigorating Centers for Early Childhood Teacher training separately from the primary Teacher Education colleges to prepare, train and skill day care teachers as House Maids for the local and international market. A strategy to strengthen Child development and care and meeting the constitutional mandate of article 53 of the Constitution of Kenya, (2010). The use of DMT in line with the digital aspect of the Competency Based Curriculum (Kenya) and the findings and conclusions drawn was summed up in Philippians 4:8 that reads, 'Finally brothers and sisters, whatever is True, whatever is Right, whatever is Noble, whatever is Pure, whatever is Lovely, whatever is Admirable – If anything is Excellent or Praiseworthy- consider [and Implement] such things. Thus DMT use in the teaching process as fashioned for CBC need be mandatory from the initial stage of learning, in the academic and professional settings and indeed for life as it is the heartbeat of development,

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APPENDICES

Survey on Digital Infusion for CBC

APPENDIX 1: DMT RESOURCE TOOL

Item	No	VG	%	G	%	P	%	VP	%
Computer accessories									
Desk top Computers									
Digital Camera									
Laptop									
Printer									
Projector									
Tablet									
Television									
Video Player									

APPENDIX I: TEACHERS' QUESTIONNAIRE

PRELIMINARIES: This questionnaire is designed to gather information about teacher use of digital media technology for Competency Based Curriculum in Kilifi County, Kenya. You are kindly requested to respond to the items given as honestly and as accurately as possible. Do not write your name or any form of identification. The information you give will be confidential and will only be used for the purpose of this study. Kindly respond to all items by ticking the appropriate choices.

DEMOGRAPHIC INFORMATION (tick in appropriate space)

County	Sub county	Ward

1. Teachers' gender: Male [ ] Female [ ] Other [Specify……….……….]
2. Teachers age: 20Y & Below [ ] 21-30 [ ] 31- 40 [ ] 41-50 [ ] 50+[ ]
3. Level of Teacher Education?

   Certificate in ECD [ ] Montessori [ ] PTE [ ] Diploma ECDE [ ] B Ed [ ]
4. Teacher Employer: County [ ] BOM [ ] Volunteer [ ]TSC [ ] Other -Specify…………….
5. Length of service after Teacher Training: 20Y and above [ ] 15-19 Years [ ]

   10-14 years [ ] 5- 9 years [ ] 4years and less…..]
6. Class you handle [PP1….PP2…… Other (Specify………………………]
7. Number of learners: Boys […….] Girls […….} Total [………...]
8. Type of Building [Stone. /Brick... / Mabati .. /Mud…../ Other-Specify….]
9. Roofing: Concrete [….]Mabati[….]Makuti [….]Other-[Specify……………………….]
10. Floor […..} Tiles […..] Red cement [….] Ordinary Cement [….] Wooden [..] Mud […]

PART A: Teacher Competence in Digital Media Technology use in the process of teaching

. Key: SD – Strongly Disagree D –Disagree U – Undecided A – Agree SA – Strongly Agree

Skill	SD	D	U	A	SA
I can connect digital devices to electricity and switch ON or OFF a computer					
I can open, close, save and rename a file					
I can search the internet for educational reference materials					
I can use the internet for e-mailing other teachers, parents and pupils on issues related to teaching and learning					
I can scan for viruses and fix basic faults					
I can use Word Processor e.g. MS Word to type lesson materials					
I can use Spreadsheets e.g. MS Excel to perform Arithmetical calculations and plot graphs					
I can use Presentation software for class presentation					
I can use databases e.g. Access to store pupils personal and performance records					
I can use digital camera and a computer to produce a video for classroom presentation.					

Planning, lesson delivery and presentation using digital media?					

Continue putting a tick where appropriate

STATEMENT	SD	D	U	A	SA
Have received training in Digital Media Technology for teaching.					
My training in Computer Packages is very useful in CBC delivery.					
The Department of Education is instrumental in sponsoring teachers in Digital Technology for Preschool teaching.					
I can use email to communicate with parents on areas their children need help					
I can design technology-enhanced learning activities for my learners					
I easily implement alternative teaching strategies in my classroom using digital media.					
Learners' understanding of difficult concepts is enhanced by use of digital media technology.					
I am able to use digital media to adjust lessons to the proper level for individual learners					
I am adept in preparation of teaching-learning materials for my					

class using digital media.					
I am adept in preparation of teaching-learning materials for my class using digital media					
Digital Media Technology use fosters learners' creativity.					
I experience Technology stress whenever I infuse digital content in the process of content coverage					

PART B: Teachers' Perceptions in Use of Digital Media in Instruction

Indicate the extent to which you agree with the following statements on use of digital media in teaching and learning, please circle your correct choice. Key: **SD** =Strongly Disagree **D**=Disagree. **U**=Undecided. **A**= Agree. **SA** =Strongly Agree

STATEMENT	SD	D	U	A	SA
Use of digital media can help make difficult topics easy to understand					
Digital media are difficult to use					
Digital media makes it easier to respond to the needs of the					
pupils.					
Use of digital media motivates pupils to learn more					
Use of digital media will make the work of teacher easier					
Use of digital media makes learning pupil-centered with the teacher being the facilitator					

Use of digital media makes the lessons more interactive					
Digital media need to be used by newly graduated teachers only					
The use of digital media makes me a more effective teacher					
I feel comfortable using digital media					
I believe that I could be a better teacher if I use digital media in instruction					
I don't think I can use digital media when teaching					
Pupils performance can improve if I use digital media when teaching					
I encourage my pupils to use digital media					
Given an opportunity I will make an effort to upgrade my knowledge and skills on use of digital media					
Use of digital media in the class is very frustrating					
Digital media are very relevant in teaching					

Give your suggestions on how Digital Infusion can be made viable or improved to support CBC implementation.

………………………………………………………………………………

………

………

…………………………………………………………………………

………………………………………………………………………………………..

APPENDIX III : Questionnaire for Teacher In Charge PRELIMINARIES

[Tick where appropriate]

County	Sub county	Ward

1. Teacher's gender: Male [ ] Female [ ] Special [ ]
2. Number of streams in a school 1[ ] 2[ ] 3[ ] 4[ ] above 4 [ ]
3. Total number of Children [ ] male learners [ ] female learners [ ]
4. In which age bracket do you belong? 25 years and Below [ ] 26 – 30 years [ ] 31 – 39 years [ ] 40 – 49 years [ ] Over 51 years + [ ]
5. What is your highest professional qualification? B Ed [ ] MA [ ] B.Ed [ ] [ ] Diploma [ ] P1 [ ] ECD Certificate (Montessori Qualification)
6. How many years have you served as The Teacher In Charge of this school? 1 – 5 years [ ] 6– 10 years [ ] 11 – 15 years [ ] Over 15 years [ ]
7. Numbers of teachers in your school: Male [ ] Female [ ] Total [ ]

PART A. DIGITAL MEDIA TECHNOLOGY INFRASTRUCTURE SURVEY

In the scale provided confirm the statement by putting a tick where it is most appropriate

Key: **SD** = Strongly Disagree **D** = Disagree **U** = Undecided **A** =Agree **SA** = Strongly Agree

STATEMENT	SD	D	U	A	SA
The computer laboratory in the school is developmentally appropriate for PPI \PP2 learners					
The laboratory and equipment sharing with primary learners has brought friction.					

There are enough Tablets for digital infusion for the pre school					
The tablets are regularly repaired and ready for use whenever my class is ready for digital learning.					
The County Government has supplied tablets for Preschool learners					
The school has appropriate digital cameras to serve the Preschool population during learning					
The classes is connected to the National Electricity Grid and UPS for ideal for digital media infusion					
The school has Wi-Fi and internet connection for learning purposes					
The BOM in charge of Preschool pays for the electricity and internet services utilized by the pre school					
The school has enough projectors					
The school carries out regular servicing of DMT gadgets					
Large companies as Google and faiba provide regular school based training					
The Education and quality assurance department regularly assesses the quality of digital material used in teaching.					
The gadgets in the school have gathered dust in the store for fear they may get damaged.					

Learners have access to tablets when they demand.					
The school has appointed a teacher in charge of digital gadgets maintenance and keep ledger					

PART B: TEACHERS AGE IN RELATION TO DMT ACCEPTANCE AND USE

STATEMENT	SD	D	U	A	SA
Which group of teachers would you prefer to use DMT gadgets					
Old teachers prefer using digital media to enhance learning					
Between old and young teachers who are most likely to use tablets for own use.					
Old teachers get stressed after conducting a digital infusion lesson					
I supervise teachers lessons during digital infusion					
Young teachers tend to use digital gadgets for issues unrelated to teaching.					
Old teachers (35-60) are most adept when accessed to training.					
Young teachers are highly stressed by use of DMT when teaching.					
Young teachers are ready to finance repair of gadgets for work.					
Old teachers source from primary school tablets and use them in teaching.					

STATEMENT	SD	D	U	A	SA
Old teachers can use computers well for teaching					
Young teachers are adapted in using digital media in teaching					
Internet provision makes/enables older leaders chart with friends than young teachers					
Young Teachers spend a lot of time in social media than sourcing for digital content					
Young teachers are digital savvy but unable to teach using digital media.					
DMT makes teachers cover the content better.					
Old teachers agree to changes easily than young teachers.					
I prefer teachers to teach digitally than traditional					
More old teachers taught learners digitally than young teacher during the Covid 19 vacation.					
During the Covid 19 vacation young teachers in the profession taught learners virtually.					
During the closure my institution covered syllabus virtually.					
Given change for training I would recommend all teachers be trained					

Given change I would suggest older teachers be in serviced.					
An ICT technician would be of great assistance to older teacher then young teachers					
Support needs to be given to the younger teachers for them to teach well.					
Sourcing for digital content from internet is easier for younger teachers.					
If you are given digital teaching as criteria for retrenching teachers first in first out would be the best criteria					

Put down suggestions of how best Digital Infusion can be improved so that it can adequately support the curriculum delivery in line with the Competency Based Curriculum (CBC –Kenya initiated in 2018…………………………………………………………………..

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Appendix IV: DMT Interview Guide

Demographic Information

1. Gender: Male……. Female………
2. What class do you handle: Baby Class…… PPI…..PPII…….

Instructions:

A). Answer the questions as truthfully as possible.

B) The Interview is for academic advancement and will never be used to incriminate the respondent.

C). This information will be held in confidentiality on the part of the researcher.

Availability of DMT Hardware

1. Does the school have a computer laboratory or class?
2. How many Desktops does the school have?
3. Are the desks for office administration use or for teaching purposes?
4. Do you have school tablets?
5. If yes, which body supplied the Tablets?

Accessibility to DMT Hardware

1. Does the school own a digital camera?
2. Do you know how to operate the Digital Camera?
3. How do you enlarge digital material for the entire class?
4. What other DMT hardware does the school have access to?
5. What can you say about accessibility of DMT for teaching purposes?

Internet connection

1. Does the school provide internet connection to its teachers?
2. Which is the strongest net at the school?
3. What internet connection gadget do teachers use in the school?
4. Who finances the internet connection for teaching purposes?
5. If you use cyber café for school management how then do you handle the digital infusion aspect?

Power Connection

1. What kind of power does the school have?
2. Is the school connected to the National Power grid?
3. How do you get power for your gadgets?
4. Which is the biggest obstacle to use of DMT technology for CBC implementation?
5. Is the digital infusion aspect implemented in your school?

Maintenance of DMT Gadgets

1. What percentage of the laptops provided by the ministry are functional?
2. How often is the hardware serviced?
3. Who services the Computers in the School?
4. Can you do minor repairs to your laptop?
5. How does th e school finance repairs and maintenance?

Quality Assurance

1. How many times have you been assessed by MOE officials during teaching?
2. Is there a joint Quality Assessment team of MOE and County Education Officials?
3. Does the school head allow Preschool Teachers access DMT hardware for teaching purposes?
4. How then does the school assess Digital infusion aspect of the Curriculum Design?
5. How often does the school hold workshops on DMT for Curriculum purposes?

Teacher Development

1. How long was your training in CBC take?
2. Have you been taken for a teacher education course on DMT aspect of CBC?
3. How has the giant Safaricom assisted in Teacher Training for DMT Use?
4. Do you have evidence of KICD training on Digital use in Teachers?

5. Has the School contacted Google for assistance in Teacher DMT skill acquisition/ Upgrading?

Perception

1. In your opinion, are learners benefiting from the digital infusion aspect?
2. What effect does Digital Infusion have on larger classes of Preschool learners?
3. How can you gage the class discipline when Digital Infusion is in Process?
4. Is Digital Infusion stressful or stress free?
5. What is your opinion on the use of DMT in curriculum delivery?

Appendix V: Approval Letter

KENYATTA UNIVERSITY
GRADUATE SCHOOL

E-mail: dean-graduate@ku.ac.ke
Website: www.ku.ac.ke

P.O. Box 43844, 00100
NAIROBI, KENYA
Tel. 810901 Ext. 57530

Internal Memo

FROM: Dean, Graduate School

DATE: 1st July, 2022

TO: Ntondwe R. Walakisa
C/o Department of Early Childhood & Spe. Needs Educ.
Kenyatta University

REF: E83/38631/17

SUBJECT: APPROVAL OF RESEARCH PROPOSAL

We acknowledge the receipt of your revised Research Proposal entitled **"Teacher Preparedness in Digital Media Technology use for Competency Based Curriculum Implementation in Pre Schools Kilifi County, Kenya"** as per recommendations raised by the Graduate School Board of 25th May, 2022.

You may now proceed with your Data collection, subject to clearance with the National Universities Commission.

As you embark on your data collection, please note that you will be required to submit to Graduate School completed supervision Tracking and Progress Report Forms. The Forms are available at the University's Website under Graduate School webpage downloads.

Also, please ensure that you publish article(s) from your thesis before submitting it to Graduate School for examination as per the Commission for University Education and Kenyatta University guidelines.

By copy of this letter, the Registrar (Academic) is hereby requested to grant you substantive registration for your Ph.D. studies.

Thank you.

JOHN M. ODONGI
FOR DEAN, GRADUATE SCHOOL

c.c. Registrar (Academic) Att. Mr. Richard Chweya
Chairman, Department of Early Childhood & Special Needs Education

Supervisor

1. Dr. Rachael Kamau-Kang'ethe
C/o Dept. of Early Childhood & Spe. Needs Educ.
Kenyatta University

2. Dr. Ong'ang'a Hudson
C/o Dept. of Early Childhood & Spe. Needs Educ.
Kenyatta University

Committed to Creativity, Excellence & Self-Reliance

Appendix V: Research Permit

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **272500**

Date of Issue: **21/July/2022**

RESEARCH LICENSE

This is to Certify that Mr.. NTONDWE RECCABSON WALAKISA of Kenyatta University, has been licensed to conduct research in Kilifi on the topic: TEACHER PREPAREDNESS IN DIGITAL MEDIA TECHNOLOGY USE FOR COMPETENCY BASED CURRICULUM IMPLEMENTATION IN PRE SCHOOLS, KILIFI COUNTY, KENYA for the period ending : 21/July/2023.

License No: **NACOSTI/P/22/18985**

272500

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NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

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