Teachers' Perceptions towards Digital Literacy Integration in Early Years Education in Public Primary Schools in Nakuru County, Kenya.

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ABSTRACT

The Kenyan Competency based curriculum key fundamental ability that should be taught and incorporated into all types of educational endeavours is digital literacy. This paper explores teachers' perception towards digital literacy integration in early years education in public primary schools in Nakuru County. The study objective was to determine teachers' perception towards digital literacy integration in the early years' education. The correlation research approach was utilized for this study and a sample of 157 teachers, 16 Head teachers were involved. Qualitative and quantitative data was collected using questionnaires and observation. Quantitative data was analyzed and the results were produced in themes based on the responses in bar graphs and tables. This study also analyzed qualitative data using descriptive statistics such as means, percentages and Pearson moment correlation inferential statistics. This study found that teacher's perception greatly influences the integration of digital literacy.

Keywords: Teachers' perception, Digital literacy Integration, Competency-based Curriculum

INTRODUCTION

In Kenya before the introduction of CBC, schools were provided with laptops, and teachers' capacity to integrate digital literacy was developed through a partnership MoE had with UNESCO. In some schools, teachers feared using digital devices in case they broke down and some head teachers even went to the extent of locking them in their offices for fear of being stolen. [9].This clearly showed that teachers had a certain perception towards integration of digital literacy. Hence, there was a need to find out teachers perception towards integration of digital literacy in early years education.

Reference [4] found that teachers' beliefs and perceptions are strong factors in integrating digital literacy. Another study by [14] findings showed digital literacy is not integrated into the teaching-learning process. Their study showed teachers have a low perception of digital literacy. According to [3], the teachers' attitude concerning the usefulness of digital literacy in achieving lesson objectives and assisting learners played a key role. Attitude determines whether the teacher will integrate digital literacy or not. Even in England, a teacher's willingness to integrate digital literacy was based on the teacher's attitude towards digital literacy in achieving the lesson objectives [11]. Yet teacher perception was one of the variable in this study that determines digital integration. In Germany, the decision of whether to integrate digital literacy or not was based on the teacher's attitude [9]. Teachers' resistance to integrating digital literacy depends on how they perceive it.

However, several teachers are still anxious plus not ready to work with learners who have grown up with digital devices and resources. In Cameroon and Guinea, most schools had little access to digital resources due to a lack of investment in digital literacy integration [5].

Teachers' resistance to integrating digital literacy depends on how they perceive it. For instance, in Burkina Faso, teachers saw digital literacy as an additional burden and distraction to learners, [5]. In Burkina Faso, some teachers developed a negative attitude towards digital literacy as an additional burden and distraction to learners hence some teachers were unwilling to integrate digital literacy. According to [9] teachers apart from their normal teaching work, also perform other duties and responsibilities allocated to them in school. These other teachers' duties and responsibilities, combined with the weighty school workload hindered teachers' integration of digital literacy during teaching. Based on [9] study found that preparing to integrate digital literacy before the lesson and during the lesson was cumbersome for some teachers. To some extent according to [9], some teachers developed a negative perception of integrating digital literacy there was a need to examine if the same scenario is faced by Kenyan teachers.

Background Of the Study

Having seen ICT being the foundation of digital literacy also how teachers perceive it matters a lot especially when most of them view it as a distraction during lessons, especially in the early years of education where learners are more fascinated with anything alien to them. Teachers' credence regarding digital literacy directs them to integrate it into lesson delivery proficiency linked to greater mastery in integrating digital literacy in class [1]. Credence emerges out of the view that instructors perceive as being successful in producing a method for lesson activities [17]. Beliefs also emanate from the experience in teaching that gives benefits for the teachers to make decisions for future teaching practice. They also arise out of one's encounters during their career giving benefits for one to include current or near future. They also guide teachers in the teaching method to adopt and the kind of learning environment to create. In summary, beliefs and perceptions are key in upgrading any instructional undertaking [17]. Reference [15] showed a below-average degree of awareness during the integration of digital literacy in pedagogy.

According to [18], some teachers claimed integration of digital literacy was not suitable in early years education while others indicated that its integration will depend on the conditions. More than 50 % felt that digital literacy is key in early years education while 15% of them proposed to be supported in ensuring the integration of digital literacy is successful. 12% felt digital literacy is not suitable in the early years. This clearly shows there will be a group that will not integrate digital literacy and there are already those who are not interested in it. Therefore, this study found the same was happening in public primary schools in Nakuru County. In Malaysia, [2] did a study in which they investigated aspects determining teachers' integration of digital literacy. A sample of 187 mathematics teachers was used. It revealed that teachers' attitude concerning the integration of digital literacy was positively correlated. Nonetheless, the study also revealed the existence of a negative relationship between the integration of digital literacy within pedagogy and a teacher's years of service.

Reference [3] found that attitude was the most outstanding aspect, due to their beliefs in the worth of digital literacy as a fundamental fragment of the learners learning which is linked to a teacher's commitment to integrating the same in teaching. In England, it was also apparent that teachers' attitudes to integrating digital literacy in learning, cut across various approaches with individuals' convictions, career recognition as well as contrasting conversation of childhood technical knowledge [11]. The same in Germany the decision not to integrate digital literacy was a result of the teachers' perception. Hence, their study suggested one must be acquainted with and know the prospects of digital literacy in teaching and learning, changing the perception of the teacher will be possible if teachers are aware of them plus their outcome [9]. Because a good number of them contended that it can or will be a distraction to learners. Their resistance to integrating digital literacy often was viewed as an additional burden to both teachers and learners while some stakeholders viewed it as a luxury which was the same sentiment in Burkina Faso [5]. Something this study looked into among the public primary teachers in Nakuru County.

THEORETICAL FRAMEWORK

The foundation of this work was built on Gross Theory (1971). The curriculum implementation theory by Gross (1971) postulates the success of an instructional program, components like teacher ability, lucidity, and awareness, together with instructional capacity are important. Also, support from the administration, teachers'

perceptions, and students together with collaborators' perceptions should be regarded. Gross (1971) states that the teacher must be competent and knowledgeable of the content to be integrated. Based on Gross's (1971) Theory this study found out how teachers' perception affects the integration of digital literacy. Gross (1971) also mentions the necessity of changing individuals' perception to productive integrate any educational program.

Statement Of the Problem

The Kenyan government made efforts to develop integration of digital literacy in primary schools through programs, such as the digital literacy program in 2016 and the laptop project. Therefore, the government of Kenya and UNESCO signed an agreement on cooperation in the execution of the digital literacy program by building the capacity of teachers to integrate digital literacy. UNESCO was to aid the Ministry of Education in developing capacities of over 22,000 teachers and 22,000 head teachers in all public primary schools in Kenya and more than one million tablets were provided to primary schools to assist teachers in integrating digital literacy. However, according to [5], the usage of these tablets by teachers stood at 2% which shows teachers lacked the full capacity to integrate digital literacy.

Despite the government equipping schools with digital devices and training teachers on digital literacy, the percentage of adept teachers stood at 36% meaning that out of three teachers, only one was within the basic requirement of a digitally literate teacher. Hence the need to investigate teachers' perception towards integration of digital literacy in the early years of education in public primary schools in Nakuru County Kenya.

Research Objective

This study was guided by the following objective: to determine teachers' perception toward digital literacy integration in early-year education in public primary schools in Nakuru County.

Research Hypothesis

The following null hypothesis at a 0.05 level of significance guided the study: **Ho1:** Teachers' perception toward digital literacy has no statistically significant association with digital literacy integration in early years' education in public primary schools in Nakuru County.

METHODOLOGY

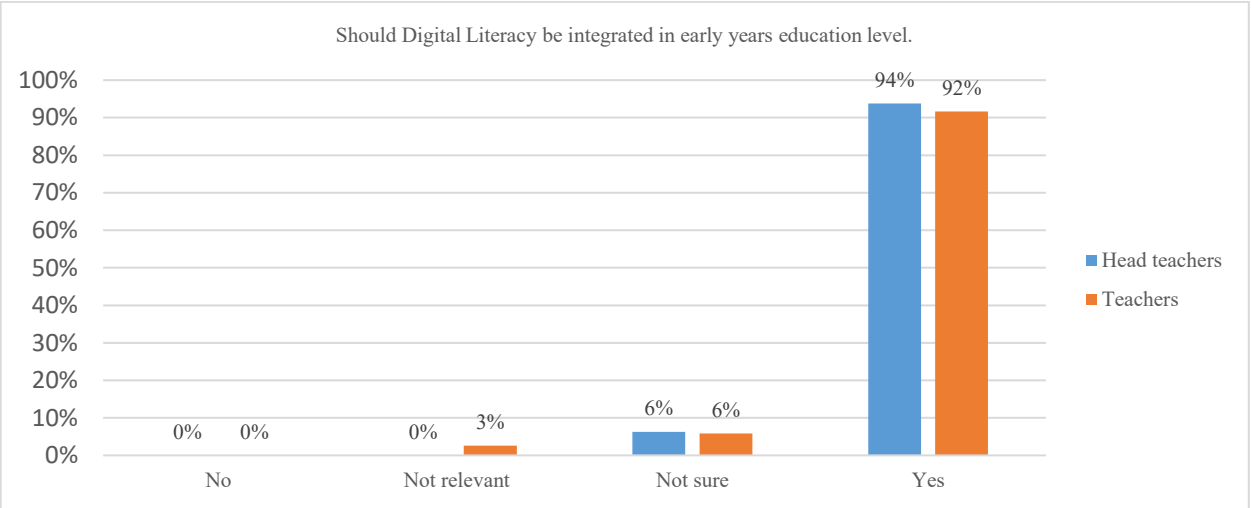
The study adopted a correlation research design, a design in which researchers lack the actual influence of the independent variable, reference [13] further states that correlational studies are the type of studies that are aimed at discovering the relationship between two or a set of variables or data (inherent in the data or subject). Not only does the researcher find out whether the relationship exists, but also is interested in the direction of the relationship. Hence, the correlation research design suited this research, teachers' perception towards integration of digital literacy in early years' education in public primary schools in Nakuru County.

FINDINGS AND DISCUSSIONS

This study was to determine teachers' perceptions towards digital literacy integration in early-year education in public primary schools in Nakuru County. To determine perception towards digital literacy integration in early-year education, a questionnaire which had a close-ended question and a Likert scale ranging from strongly agree to strongly disagree was administered to both head teachers and teachers.

Both the head teachers and teachers' questionnaires had statements on digital resource utilization and access. The items were scored on a five-point rating scale. SA (Strongly agree), A (Agree), UD (Undecided) D (Disagree) SD (Strongly disagree). The weighting of options for positive connoted items were SA=5, A=4, UD=3, D=2, SD=1, while for negatively connoted items were: SA=1, A=2, UD=3, D=4, SD=5. The results were presented in tables as shown below:

FIGURE 1: Head Teachers' and Teachers' View On Digital Literacy Integration In Early Years Education



Source: Research Data (2023)

According to figure 1, the most of teachers 92% and head teachers 94% agreed that digital literacy should be integrated into the early years' education level. Therefore, there is a need to support them fully by developing their capacity to integrate digital literacy in the early years of education level.

TABLE I: Head Teacher's Attitude Towards Digital Literacy Integration In Early-Year Education Frequency and Percentage.

ITEMS	SA	%	A	%	UD	%	D	%	SD	%	Totals	Mean	Standard Deviation
DIGITAL LITERACY IS SUCCESSFULLY INTEGRATED IN EARLY YEARS' EDUCATION	2	13 %	4	25 %	1	6%	5	31 %	4	25 %	16	2.69	2.55
INTEGRATING DIGITAL LITERACY HAS HELPED ME ACHIEVE THE LESSON OBJECTIVES	4	25 %	9	56 %	3	19 %	0	0%	0	0%	16	3.06	2.60
INTEGRATING DIGITAL LITERACY HELPS ME IMPROVE MY TEACHING	6	38 %	6	38 %	3	19 %	1	6%	0	0%	16	4.06	3.64
DIGITAL LITERACY IS BEYOND THE LEVEL OF LEARNERS IN EARLY YEARS EDUCATION	1	6%	10	63 %	0	0%	1	6%	4	25 %	16	2.81	2.65
DIGITAL LITERACY AND	2		2		1	6%	2		9		16	1.50	2.06

TECHNOLOGIES ARE A DISTRACTION TO LEARNERS IN EARLY YEARS EDUCATION		13 %		13 %				13 %		56 %			
SCHOOL WORKLOAD AND OTHER RESPONSIBILITIES IN SCHOOL HINDER THE INTEGRATION OF DIGITAL LITERACY	4	25 %	6	38 %	0	0%	1	6%	5	31 %	16	2.25	2.45

Source: Research Data (2023)

TABLE II: Teachers' Attitude Towards Digital Literacy Integration In Early-Year Education Frequency And Percentage.

ITEMS	SA	%	A	%	UD	%	D	%	SD	%	TOTALS	MEAN	STANDARD DEVIATION
DIGITAL LITERACY IS SUCCESSFULLY INTEGRATED IN EARLY YEARS' EDUCATION	17	11%	31	20%	10	6%	57	36%	42	27%	157	2.52	2.38
INTEGRATING DIGITAL LITERACY HAS HELPED ME ACHIEVE THE LESSON OBJECTIVES	23	15%	76	48%	16	10%	26	17%	16	10%	157	2.41	2.21
INTEGRATING DIGITAL LITERACY HELPS ME IMPROVE MY TEACHING	30	19%	99	63%	15	10%	9	6%	4	3%	157	3.90	3.48
DIGITAL LITERACY IS BEYOND THE LEVEL OF LEARNERS IN EARLY YEARS EDUCATION	23	15%	21	13%	14	9%	61	39%	38	24%	157	3.45	3.21
DIGITAL LITERACY AND TECHNOLOGIES ARE A DISTRACTION TO LEARNERS IN EARLY YEARS EDUCATION	13	8%	18	11%	7	4%	57	36%	62	39%	157	2.50	2.94

SCHOOL WORKLOAD AND OTHER RESPONSIBILITIES IN SCHOOL HINDER THE INTEGRATION OF DIGITAL LITERACY	54	34%	55	35%	5	3%	30	19%	13	8%	157	2.32	2.20

Source: Research Data (2023)

According to Table I, the majority of head teachers suggested that digital literacy is beyond the level of learners in early years education. 6% strongly agreed, 63% agreed, none was undecided, 6% disagreed and 25% strongly disagreed. This item had a mean of 2.81 and a standard deviation of 2.65 which shows majority of the head teachers were undecided. On the other hand, a big percentage of teachers felt that digital literacy is beyond the level of learners in the early years of education. 15% strongly agreed, 13% agreed, 9% were undecided, 39% disagreed and 24% strongly disagreed. The item had a mean of 3.45 and a standard deviation of 3.21 meaning that many teachers agreed that digital literacy is beyond the level of learners in early years education level. This shows that even if the training is done and the digital resources are availed there are still teachers who will need to be convinced to change their attitude toward digital literacy. Many head teachers also opposed the idea that digital literacy and technologies are a distraction to learners in the early years of education. 13% strongly agreed, 13% agreed, 6% were undecided, 13% disagreed and 56% strongly disagreed. The item had a mean of 1.50 and standard deviation of 2.06 clearly showing that many teachers disagreed that digital literacy and technologies are a distraction to learners. Most teachers had the same view as the head teacher were, 8% strongly agreed, 11% agreed, 4% were undecided, 36% disagreed and 39% strongly disagreed. The item had a mean of 2.50 and a standard deviation of 2.94 showing that many teachers were undecided. Even though most of them saw the importance of digital literacy many still did not see it being relevant to learners in early years education similar finding to a study conducted by [18], which found that some teachers claimed integration of digital literacy was not suitable in early years education. **Ho1:** Teachers' perception toward digital literacy has no statistically significant association with digital literacy integration in early years' education in public primary schools in Nakuru County.

This hypothesis was tested using Pearson's moment correlation at a 5% level of Significance.

Table III: Source OF RELATIONSHIP FOR HEAD TEACHERS

The table III: below shows the source of the relationship for head teachers the computed critical value and the decision on Ho 0.05 alpha.

SOURCE OF RELATIONSHIP	DEGREE OF FREEDOM	COMPUTEDR	CRITICALR VALUE	DECISION ON HO 0.05 ALPHA
SCHOOL WORKLOAD AND OTHER RESPONSIBILITIES IN SCHOOL HINDER THE INTEGRATION OF DIGITAL LITERACY I ALWAYS CREATE VIDEO-BASED E-LEARNING TO SUIT A PARTICULAR LEARNING STRAND.	14	0.595	0.497	REJECT THE NULL HYPOTHESIS

Source: Research Data (2023)

TABLE IV: Source Of Relationship for Teachers

Table IV: below shows the source of the relationship for teachers the computed critical value and the decision on Ho 0.05 alpha.

SOURCE OF RELATIONSHIP	DEGREE OF FREEDOM	COMPUTED R	CRITICAL R VALUE	DECISION ON HO 0.05 ALPHA
DIGITAL LITERACY IS BEYOND THE LEVEL OF LEARNERS IN THE EARLY YEARS OF EDUCATION VIDEO-BASED E-LEARNING TENDS TO BE A DISTRACTION IN CLASS.	155 (150)	0.205	0.159	REJECT THE NULL HYPOTHESIS

Source: Research Data (2023)

As shown in Table III there was a high positive correlation between school workload and other responsibilities in school and creating video-based e-learning to suit a particular learning strand among head teachers. The computed r value of 0.59 is greater than the tabulated r value of 0.497 therefore the null hypothesis was rejected. The findings simply imply that teachers' attitude toward digital literacy has a statistically significant association with digital literacy integration in early years' education in public primary schools in Nakuru County.

As shown in Table IV there was a high positive correlation between Digital literacy being beyond the level of learners in early years education and Video-based e-learning tends to be a distraction in class among teachers. The computed r values of -0.16 and 0.20 are greater than the tabulated r values of 0.159 and - 0.159 therefore the null hypothesis was rejected. The findings simply imply that teachers' perception toward digital literacy has no statistically significant association with digital literacy integration in early years' education in public primary schools in Nakuru County.

This study revealed that a good number of teachers have a positive perception towards digital literacy however; digital literacy is not successfully integrated into early years education over half of them agreed. To some extent, 69% of teachers agreed that digital literacy is beyond the level of learners in early years education. This clearly shows that teachers have low perception even though a good number are positive about it. The study findings concur with earlier studies conducted by [14], and [3].Teachers' perception of digital literacy was also supported by [11].Further, the study revealed that the school workload and other responsibilities hinder the integration of digital literacy, a claim supported by 63% of the head teachers and 70% of the teachers. This finding is in tandem with earlier studies [9]. The study findings are anchored in the Gross theory which postulates that teachers' attitudes should be regarded for the success of any instruction program. Furthermore, the current study found a high positive correlation between teachers' perception towards digital literacy and the integration of digital literacy. The null hypothesis, **Ho1:** Teachers' perception towards digital literacy has no statistically significant association with digital literacy integration in early years' education in public primary schools in Nakuru County was therefore rejected.

RECOMMENDATIONS

The head teachers, teachers and teachers in charge of ICT in schools who have sufficient knowledge and skills in digital literacy should be supported and motivated to help and assist other teachers in areas that possess a challenge to teachers in integrating digital literacy. Retooling, workshops and seminars should be conducted often to maintain the positive attitude head teachers and teachers have towards integrating digital literacy in early years education level.

CONCLUSION

The objective of this study was to determine teachers' perception towards digital literacy integration in early-year education in public primary schools in Nakuru County. This study revealed that digital literacy is not successfully integrated into early years education. It also revealed there is a low perception among teachers towards digital literacy. Furthermore, the study revealed that school workload and other responsibilities allocated to teachers hinder the integration of digital literacy. It was also noted that a high positive correlation between teachers' perception towards the integration of digital literacy in early years education.

Even though both the head teachers and teachers had a positive perception towards digital literacy, digital literacy was not successfully integrated into early years education level due to lack of support for teachers and sufficient digital devices and resources. For CBC to attain its goal of ICT literacy in the early years of education, teachers' perception towards integration of digital literacy needs to be cultivated.

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