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Influence of Core Competencies Nurtured in Competence Based Curriculum on Creativity Learning Outcomes Among Grade Four Pupils in Makueni County, Kenya

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Abstract

The 21st century is an era of technological advancement, unpredictability and unfamiliar demands. Consequently, it is vital that creativity remains at the heart of learning. The significance of creativity in successful living motivated the researchers to undertake a study purposed to evaluate the extent to which the seven core competencies nurtured in CBC influence creativity learning outcomes among grade four learners in Makueni County, Kenya. The study was informed by Brunner's discovery learning theory. The study employed mixed methods research methodology together with triangulation design. From the target population of 832 public primary schools in the county, 17 primary schools were sampled using stratified sampling. From the schools, the researchers solicited data from 323 grade four pupils, 31 grade four teachers, 17 head teachers as well as 9 field officers. Research experts from the school of Education, Machakos University validated the data collection instruments. Cronbach alpha reliability coefficient was used to establish reliability for quantitative data collecting instruments. It was 0.907 at $\alpha=.05$ hence they were reliable. Quantitative data was analysed using Statistical Package for Social Sciences (SPSS) version 27 programme and presented in tables. The descriptive statistics used were: frequency, percentage, mean and standard deviation. The inferential statistic used was regression. Qualitative data was analyzed thematically and presented in narrative forms. The study concluded that the seven core competences had a statistically significant influence of 0.446 ($p < .001$, $\alpha=.05$) on pupil's creativity learning outcomes and should be reinforced to maximize their influence to learners' creativity. The study recommended that the ministry of education should ensure that all the core competencies are properly nurtured.

Key words: Influence, creativity learning outcomes, core competences, and Competence Based Curriculum (CBC)

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1.0 Introduction

Growing demands for the acquisition of 21st century skills has in a big way affected teaching and learning. It has brought the need to guarantee to everybody the achievement of new critical competencies for their personal and societal development (Pamier, 2017). Today, business schools are challenged by rapidly changing industrial environments that require matching curricula with appropriate and expected business competencies in their graduates (De Los Santos, Dominguez & Lafrance, 2015.) Claro (2009) views competencies to be knowledge, skills, and attitudes required for a successful life in a knowledge-based society.

In many countries globally, Competence Based Curriculum (CBC) has been adopted to help satisfy the need for a skilled workforce for economic development. In the United States of America (USA), CBC has made considerable inroads in its educational system (Natale, 2011). In the USA, CBC was introduced due to concern about low student achievement and poor quality of teacher training. These prompted a need to structure the outcome of learning to encourage teachers to express their teaching objectives in terms of observable student behaviour.

Corcoran (2006) undertook a study in Australia on inculcating creativity in a senior secondary school. Based on the revelations of his study, Corcoran recommended that, if instructors are to maximise their learners' creativity learning outcomes, they must involve their students in activities that highly involve social interaction by building an environment that is both stimulating and motivating to the process of creativity.

In the developing countries, education systems experience a growing gap between their curricula and the demands from society, business, and industry for a more flexible workforce with high skills in problem-solving, teamwork, and project management. CBC adoption in most African countries is a modification of similar frameworks from the developed countries (Cheptoo, 2019). The implementation has been imposed on the countries following directives of the government or due to Western non-governmental organizations' support. East Africa for example signed the East African harmonization policies, which required the countries to adopt CBC. However, the adoption has been done amid challenges like a lack of expertise in African teachers (Cheptoo, 2019). Generally, many research findings on the implementation of CBC indicate shortcomings. Studies have majorly been on the implementation of CBC, challenges facing CBC, attitude towards CBC, but not on the actual nature and outcomes of CBC especially in Africa.

In Kenya, Momanyi and Rop (2019) conducted a study to establish teacher preparedness for the implementation of CBC. They did this by surveying early grade primary school teachers in Bomet East Sub-County. The survey was prompted by concern on the capacity of teachers for CBC implementation. The findings of the study revealed that, teachers were inadequately

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prepared for CBC implementation. Their knowledge of CBC was vague and this hampered their curriculum delivery and its evaluation. The study recommended that, KICD and MoE (Ministry of Education) should plan for more training sessions to bridge capacity gaps highlighted in pedagogy, assessment and preparation of teaching documents.

1.1 Statement of the Problem

According to Wanjohi (2017), skills shortage in sectors like Engineering and Technology with a rapidly changing job market have raised questions on whether Kenyan education is sufficiently equipping youngsters with the competencies they need to thrive in the modern world. Since a curriculum is viewed as a critical instrument of social change, it is vital that in the course of its operationalization, evaluation is done to find out if it is fostering its envisaged learning outcomes. The study intended to reveal the extent to which implementing CBC was spurring creativity learning outcomes in Kenyan learners in grade 4.

1.2 Objective of the Study

The object of the study was to find out the extent to which the core competencies nurtured in CBC influence creativity learning outcomes among grade four pupils in Makueni County.

1.3 Research Hypothesis

The hypothesis of the study was: There is no statistically significant relationship between the core competencies inculcated in CBC and creativity learning outcomes among grade four pupils in Makueni County.

2.1 Concept of CBC

Curriculum is the medium through which nations of the world empower their citizens with the knowledge, skills, attitudes and values that are necessary for them to be economically and socially engaged, in order to attain national and personal development (Kabita & Ji, 2017). Curriculum development is usually necessitated by the desire to respond to change and as such, any quality curriculum development is an on-going process. A good curriculum needs to align with global trends of rapid expansion of knowledge, broadening information and communication technologies (ICT), as well as the resultant constant change in the skills needed by learners to fit in the job market (Stabback, 2016). Currently, global education is experiencing a shift to CBE (Gardner, 2017). CBC is therefore a worldwide educational reform.

Most African countries started to consider the shift in the 1990s. This was borne by African governments' dissatisfaction with Knowledge Based Curriculum (KBC). They blamed KBC for producing learners who were only academic but had no applicable competences. In Zambia, the curriculum review started in 2013 and their CBC was gradually implemented until 2017. The aim of the Zambian CBC was to produce self-motivated, confident and productive Zambians. The curriculum was envisaged to develop holistic and independent learners with knowledge, skills, attitudes and values to enable them succeed in school and life. These competencies would make them effectively serve the society.

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2.2 Influence of Core Competencies in CBC on Creativity Learning Outcomes

As per Kenya Institute of Curriculum Development (KICD) (2019), CBC seeks to inculcate seven core competencies as it strives to achieve its vision of “developing engaged, empowered and ethical citizens.” The first four competencies are called the 4 Cs for they begin with letter C. They are: Communication and Collaboration, Critical thinking and problem solving, Creativity and imagination and the fourth competence is Citizenship. The last three competencies to be inculcated as CBC is implemented are: digital literacy, learning to learn and self-efficacy. The actualization of these competencies shall be through different subjects. Although an integrated approach is to be used, Communication shall be ingrained through literacy (linguistics). Collaboration shall be actualized through life skills education. Critical thinking and problem solving shall be actualized majorly through subjects like Mathematics, Science, Business studies and Agriculture. Although Creativity and Imagination shall be integrated in all disciplines, it shall be mainstreamed majorly through creative, visual and performing arts as well as Sports and Physical Education. Citizenship shall majorly be inculcated through: Religious Education, Social Studies and Health & Environmental Education. The last three competencies shall be integrated in all subjects.

2.3 Influence of Communication and Collaboration on Creativity Learning Outcomes

Binkley, Erstad and Herman (2012) defined communication as the ability to use oral, written and non-verbal skills to share thoughts and ideas. Collaboration means working together. The two competences are interdependent since for people to work together, they must communicate. KICD (2017) views the two competences as speaking together to realize shared goals. The exchange of ideas and different perspectives enhances creative thinking. During collaborative learning experiences, learners build on each other’s ideas. Hamalainen and Vahasantenen (2011) opines that, during student constructive negotiations, they are able to reach deeper understanding that was initially unavailable to any individual learner. By encouraging learners to work together and allowing them the independence to explore the areas that interest them, learners gain the confidence to question, analyze, and solve problems (Slavin, 2015).

2.4 Influence of Critical Thinking and Problem solving on Creativity Learning Outcomes

Bensley (2010) described critical thinking as a multidimensional construct that if given good opportunity culminates in finding solutions to problems. The various sub-skills of critical thinking are: observing the different facets of a problem/issue, analyzing and evaluating any phenomena, producing inferences and lastly decision making. Sternberg (2015) enlisted the various dispositions of a critical thinker to be: curiosity, openness, flexibility in considering the opinions of others and the ability to reconsider opinions. Critical thinking helps learners to think out of the box, a premise for creativity.

Batlolona and Mahapoonyanont (2019) purposed to find out whether PBL was more effective in enhancing academic learning outcomes and creative thinking skills with different classes. This research was begun by compiling instruments, carrying out the learning process, analyzing data, and presenting it in reports. An independent sample T-test tested the average value to help reject or accept the hypothesis. The right-tailed T-test was used to determine

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whether the learning achievements of students taught through PBL were higher than those taught through the conventional method. The results showed that the average value of student learning achievement was higher in the experimental class than in the control class.

2.5 Imagination as the Precursor of Creativity Learning Outcomes

According to Napier (2013), the imagination that begets creativity involves the mental consideration of useful but unexpected/unexploited information. This mental activity yields insights which when ultimately pursued materialize to creativity. Seeling (2012) claimed that, attitude, knowledge and imagination can spark and add to creativity. For a learner to be creative, s/he must have a depth of knowledge as a premise since knowledge is the tool box of fruitful imagination and ultimately invention. In CBC implementation, teachers should give learners opportunities to imagine and explain ideas to nurture creative thinking.

2.6 Influence of Citizenship Competence on Creativity Learning Outcomes

KICD (2017) conceptualizes the citizenship core competence to be developed in every learner to be great valuing of community and acting with respect for all. A learner with the Citizenship competence is patriotic and endeavors to contribute to the development of the nation. The inculcation of citizenship under the CBC shall be making learners alive to the Kenyan vision 2030. The vision is “transforming Kenya into a newly industrialized, middle-income country with a high quality of life for all citizens in a clean and secure environment.” Kenyan vision 2030 aligns with the global millennium development goals. Vision 2030 proposes intensified application of science, technology and innovation to raise productivity and efficiency across the economic, social and political governance pillars. The desire to make Kenya globally competitive and prosperous shall stimulate learners to be creative. The creativity shall be directed to solving the myriad problems of the country.

2.7 Influence of Digital Literacy on Creativity Learning Outcomes

According to the Basic Education Act (2013), digital literacy is the ability to use ICT resources to support and enhance the attainment of curriculum outcomes. Learners should be able to use the following ICT facilities for learning: radio, television, memory cards, flash disks, DVDs, CDs, data cables, power cables, projector, phones, ipads, cameras, computer and the internet. Rumbley (2008) asserts that, ICT resources offer learners an opportunity for joint projects, research and collaboration which stimulates creativity. CBC envisages to equip learners with the ability to express their creative and innovative potential through digital media and technologies. Learners use ICT facilities to view educational photos and videos which is core in CBC implementation. Giving learners opportunities of interacting with ICT facilities could optimize their understanding, motivating them to think critically and creatively.

2.8 Influence of Learning to learn (metacognition) on Creativity Learning Outcomes

Farington (2013) defines metacognition as the knowledge of cognition and action. Metacognition is therefore the ability of an individual to know and monitor their thinking and the products of their cognitive process. Sanz and Baquedane (2013) suggests that, creative thinking is part of metacognitive processes because a person has to monitor his/her thinking during the production

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of new and useful ideas. During the creative process, a person should also check his/her strategies and adjust them if needed in order to increase creative output.

Teaching and learning in CBC is designed to support the development of the ability of learners to learn by themselves. Learning to learn moves students from been passive receptors of information to active researchers of knowledge. This competence makes learners monitor their own understanding and hence strive to reinforce and extend it further. Farington (2013) points out that, pupils who employ metacognitive strategies that include self-regulated learning and goal setting are better able to engage in cognitive processes and optimize learning, a premise for creativity.

2.9 Influence of Self Efficacy on Creativity Learning Outcomes

Bong (2013) defines Self-efficacy as the ability of individuals to execute a particular task up to the desired targeted outcome. Bandura (2016) also described self-efficacy as a motivational condition in which the individual's self-esteem is measured by carrying out specific actions to achieve his goals. Academic self-efficacy refers to students' ability to organize and implement learning behavior to achieve the chosen academic achievement level, for example, to pass the exam (Turki & Al-Qaisi, 2012).

Individuals actively construct sources of self-efficacy beliefs through cognitive processes (reflective thoughts). The first source is mastery experience, which results from purposive performance (Bong, 2013). The next source is the vicarious experience, which is the experience of the effects produced by the actions for example the modeling of others (Rezaei, 2012). The third source is social persuasion, which develops when individuals create and develop self-efficacy beliefs due to the social messages they receive from others. The final source of self-efficacy information comes from an individuals' physiological and emotional feedback during his/her performance (Artino, 2012).

Intellectually gifted students tend to believe that they are competent to complete a task, and this confidence is a strong motivation for exceptional performance (Farmer & Tierney, 2017). As students' self-efficacy levels increase, their independence and intrinsic motivation translates into tremendous classroom success. Self-efficacy functions as the internal motivator for gifted students to endure challenges and achieve goals. Huang (2015) reported that, self-believing ability is a vital characteristic of student success. Students with high self-efficacy show more persistence, spend more time learning and have higher educational attainment which can be a spring board of creativity.

A study by Bembenutty (2011) also unearthed a positive correlation between homework assignments given by teachers with self-confidence and the sense of responsibility in students. He stated that, the assignments and self-learning skills or self-regulated learning could help students' academic performance. It could also improve time management and learning environment effectively and maintain one's focus on learning. It can also help students improve their learning efforts leading to excellent academic achievement.

3.0 Research Methodology and Design

The researchers employed mixed methods approach. Donald (2010) views mixed methods research as a study that integrates both qualitative and quantitative research methods. In

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Qualitative research, data is collected in form of narratives. In Quantitative research, data is collected in form of numbers and accurately subjected to analytical statistical programs to draw numerical values. Creswell (2013) points out that, one advantage of mixed research is that, it offers the chance of triangulation to analyse a particular research problem. A combination of quantitative and qualitative research approaches was used in data collection, analysis, interpretation and inferencing.

The researchers employed the concurrent triangulation design. Concurrent triangulation design provides a study with a range of available options to consider that are well defined to facilitate the researchers' use of a solid approach for addressing the research problem and hence helps researchers anticipate and resolve challenging issues. The concurrent triangulation design comprises simultaneous but separate, collection and analysis of quantitative and qualitative data to get diverse but complementary data on the same topic for researchers to understand the research problem in the best way possible.

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3.1 Sampling Procedure and Sample Size

The research employed probability sampling. In probability sampling, each individual has unknown and equal chance of been included in the sample. 17 primary schools were sampled using stratified sampling. The strata were the nine sub-counties constituting the County. The justification for using stratified sampling technique was to reduce homogeneity of the sample hence optimize external validity. Table 1 summarizes the sample size and sampling techniques used for the study.

Table 1: Sample size

Category	Target population	Sample size	Sampling technique
Grade IV pupils	34,847	323	Systematic sampling
Grade 4 Teachers	3180	31	Simple random sampling
Head teachers	832	17	Stratified sampling
CSOs	37	6	Simple random sampling
QASOs	9	3	Simple random sampling

Source: Researchers 2021

3.2 Research Instruments

Four types of data collection tools were used to solicit different types of data regarding CBC and creativity learning outcomes. The data collection tools were: questionnaire for the grade four teachers, interview schedule for the CSOs, QASOs and head teachers as well as observation schedules and tests for the grade four pupils. Questionnaire tested the views of grade four teachers on the influence of core values inculcated in CBC on grade four pupils' creativity learning outcomes using a likert scale of 1-5. The interviews collected views of CSOs, QASOs and head teachers on the influence of core values inculcated in CBC on pupils' creativity learning outcomes. The observation schedules and tests were used to collect data on the pupils' creativity levels.

3.3 Instrument Validity and Reliability

Validity is the extent to which an instrument measures what it is supposed to measure and performs as it is designed to perform (Creswell, 2013). Reliability is the degree to which a test/instrument consistently measures what it is constructed to measure (Donald, 2010). Content and construct validities were ascertained by research experts and panelists from school of education, Machakos University. Both validity and reliability were finally measured and ascertained during piloting. The internal consistency reliability was calculated using Cronbach alpha method. The mean value of the reliability of all variables was 0.907 and thus, the study instruments were considered reliable.

4.0 Research Findings and Discussion

The study sought to find out the extent to which the core competencies nurtured in CBC influence creativity learning outcomes among grade four pupils in Makueni County. The data obtained was analysed descriptively, thematically and inferentially.

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4.1 Descriptive Statistical Analysis

The data was derived from 5-point likert questions that sought the views of grade four teachers on the influence of core competencies to their pupils' creativity learning outcomes. The results of their opinions are summarized in Table 2.

Table 2: Grade four Teachers' Response on the Influence of Core Competencies on Pupils' Creativity Learning Outcomes (n =31)

Core competencies		VLE	LE	ME	GE	VGE	Mean	Std. Dev
Communication	F		1	12	11	7	3.774	0.8449
	%		3.2	38.7	35.5	22.6		
Collaboration	F			9	14	8	3.968	0.7521
	%			29	45.2	25.8		
Critical Thinking	F		2	13	15	1	3.484	0.6768
	%		6.5	41.9	48.4	3.2		
Problem-solving	F		1	13	17		3.516	0.5699
	%		3.2	41.9	54.8			
Imagination	F	1	5	8	16	1	3.355	0.9146
	%	3.2	16.1	25.8	51.6	3.2		
Citizenship	F		5	6	16	4	3.613	0.9193
	%		16.1	19.4	51.6	12.9		
Digital literacy	F		2	17	8	4	3.452	0.8099
	%		6.5	54.8	25.8	12.9		
Learning to learn	F			9	20	2	3.774	0.5603
	%			29	64.5	6.5		
Self-efficacy	F			12	15	4	3.742	0.6816
	%			38.7	48.4	12.9		

Key: VLE =Very Low extent, LE =Low Extent, ME =Moderate Extent, GE= Great Extent, VGE =Very Great Extent

Field Data 2021

As shown in Table 2, twelve of the respondents (38.7%) indicated that, communication nurtured in CBC influenced grade four pupils' creativity learning outcomes to a moderate extent, while eleven (35.5%) pointed out that, it influenced to a great extent. Further, other seven respondents (22.6%) said that, communication influenced pupils' creativity learning outcomes to a very great extent, while only one, (3.2%) indicated a low extent influence. Thus, communication influenced pupils' creativity learning outcomes to a great extent (mean=3.774, SD=0.8449).

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The majority of the respondents (n=14, 45.2%), indicated that, collaboration influenced pupils' creativity learning outcomes to a great extent, while nine (29%) pointed out that it influenced to a moderate extent. Further, other eight (25.8%) said that, collaboration influence on pupils' creativity learning outcomes was to a very great extent. Thus, collaboration core competence influenced pupils' creativity learning outcomes to a great extent (mean 3.968, SD=0.7521).

These study Findings are supported by Shorofat (2007) who revealed that collaborative writing strategy helped students in generating their writing ideas and activating the students' background knowledge of the topics assigned to them to develop in their writings. The researcher used mixed-method study consisting of 80 students from a public senior high school in West Sumatra, Indonesia. The current study is unique in that, it was based on a smaller sample (N=31) of primary school teachers.

Fifteen respondents (48.4%) indicated that, critical thinking nurtured in CBC influenced grade four pupils' creativity learning outcomes to a great extent, while thirteen (41.9%) were of the view that it had an influence of moderate extent. In addition, other two respondents (6.5%) were of the opinion that, critical thinking influenced pupils' creativity learning outcomes to a low extent, while a minority (n=1, 3.2%) indicated a very great extent of influence. Generally therefore, critical thinking nurtured in CBC influenced grade four pupils' creativity learning outcomes to a fairly moderate extent (mean=3.484, SD=0.6768).

More than half of the respondents (n=17, 54.8%) opined that, problem-solving core competence influenced pupils' creativity learning outcomes to a great extent, while some thirteen (41.9%) indicated a moderate extent influence. In addition, only one (3.2%) was of the opinion that, problem solving influenced pupils' creativity learning outcomes to a low extent. Thus, problem-solving core competence nurtured in CBC influenced grade four pupils' creativity learning outcomes to a great extent (mean=3.516 SD=0.5699). These research findings are congruent to those of Batlolona and Mahapoonyanont (2019) which unearthed that, the average value of student learning achievement was higher in their experimental class compared to the control class. Batlolona and Mahapoonyanont (2019) explored whether Problem Based Learning (PBL) was more effective in enhancing academic learning outcomes and creative thinking skills with different classes. The investigators did an independent sample T-test then tested this average value and the hypothesis. The right-tailed T-test was used to determine whether the learning achievements of students taught through PBL were higher than those taught through the conventional method.

About half (n=16, 51.6%) of the respondents indicated that, imagination competence nurtured in CBC influenced grade four pupils' creativity learning outcomes to a great extent. Other eight (25.8%) pointed a moderate extent level of influence and few (n=5, 16.1%) opined a low extent level of influence. The remaining respondents (n=1, 3.2%) said that imagination influenced pupils' creativity learning outcomes to both a very low extent. Hence, imagination core competence nurtured in CBC influenced pupils' creativity learning outcomes to a moderate extent (mean=3.335 SD=0.9146).

About half (n=16, 51.6%) of the respondents indicated that, citizenship core competence influenced pupils' creativity learning outcomes to a great extent, while six respondents (19.4%) indicated that it had a moderate extent level of influence. Other five respondents (16.1%) and

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four (12.9%) had the view that, citizenship influence to grade four pupils' creativity learning outcomes was to a low extent and a very great extent, respectively. Therefore, citizenship core competence influenced grade four pupils' creativity learning outcomes to a great level of extent (mean=3.613, SD=0.9193).

More than half (n= 17, 54.4%) of the respondents indicated that, digital literacy core competence influenced grade four pupils' creativity learning outcomes to a moderate extent. Eight (25.8%) indicated that it influenced to a great extent, and four, (12.9%) pointed out that it had a very great level extent of influence. The remaining two respondents (6.5%) indicated a low extent level of influence. Generally, digital literacy core competence influenced grade four pupils' creativity learning outcomes to a moderate level of extent (mean=3.452, SD=0.8099). These study findings are in line with an investigation done by Ruhama and Purwaningsih (2018) that revealed that synectic model of teaching using audiovisual media is able to increase students' ability in writing descriptive texts.

A high number of respondents (n= 20, 64.5%) were of the view that, learning to learn core competence influenced grade four pupils' creativity learning outcomes to a great extent whereas about a quarter (n=8, 29%) indicated that it had a moderate extent level of influence. In comparison, the remaining two respondents (6.5%) noted that it had a very great extent level of influence. Generally, learning-to-learn core competence influenced pupils' creativity learning outcomes to a great extent (mean=3.774, SD =0.5603).

Many respondents (n=15, 48.4%), indicated that self-efficacy core competence influenced grade four pupils' creativity learning outcomes to a great extent while some twelve (38.7%) pointed that it had a moderate extent level of influence. Other four respondents (12.9%) said that self-efficacy influence on pupils' creativity learning outcomes was to a very great extent. Generally, self-efficacy core competence influenced to a great level (mean=3.742, SD=0.6816). These study findings rhyme those of Li and Wu (2011) that showed statistical significance between self-efficacy, and creative behavior. This was exposed in a study they conducted whose aim was to reveal the relationship between optimism, creative self-efficacy, and creative behavior among university students. The study sample comprised 970 university students in Taiwan unlike the current study which had a sample of 323 pupils.

4.2 Inferential Statistics on the Influence of Core Competencies on Grade four Pupils' Creativity Learning Outcomes

The researchers further conducted a simple linear regression to establish the extent to which core competencies nurtured in CBC influenced pupils' creativity learning outcomes. The study regressed the mean variable of the seven core competencies against the mean variable of creativity learning outcomes derived from a creativity test administered to the pupils. The output is shown in Table 3.

Table 3: Regression Coefficients of Core Competencies

Model	Unstandardized		Standardized	T	Sig.
	Coefficients		Coefficients		
	B	Std. Error	Beta		
1 (Constant)	-1.541	.399		-3.865	.001
Core	.446	.109	.890	10.503	.000

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competencies

a. Dependent Variable: Creativity learning outcomes

Researchers 2021

Table 3 shows that, the seven core competencies nurtured in CBC had a significant positive influence on grade four pupils' creativity learning outcomes. A beta value of .446 indicates that a unit increase in core competencies will lead to a .446 increase in creativity learning outcomes ($P < .001, \alpha=.05$). These results led to the rejection of the hypothesis of the study. These study results mirror the research findings from a study conducted by Chin (2013) that revealed a positive correlation between creative self-efficacy and creativity. His study sample consisted of 158 university students in China while the current study focused on grade four pupils in Makueni County, Kenya.

4.3 Thematic Analysis on the Influence of Core Competencies on Grade four Pupils' Creativity Learning Outcomes

Qualitative data collected using interviews was analysed thematically. The analysis was guided by the study objective and was done to corroborate the information gathered through the quantitative likert tests.

Respondents were asked to provide their views on how core competencies ingrained in CBC influenced creativity learning outcomes of learners in their school. From the interviews done to head teachers and field officers (CSOs and QASOs), 85.7% of the respondents indicated that communication core competence was well inculcated in CBC. They showed a positive influence of communication core competence in CBC on grade four pupils' creativity learning outcomes. On communication core competence of CBC head teacher D said that:

“Communication ensures that, all learners are well involved.”

Respondent H supported the same views by saying:

“When a child knows how to communicate, creativity comes automatically and that when a child can speak, he or she has a wide spectrum of new responses that were far from reach.”

The head teachers and field officers alike indicated that, collaboration was fairly inculcated in CBC. They indicated a positive influence of collaboration born from communication on pupils' creativity learning outcomes as sharing is also achieved through collaboration. On collaboration head teacher K, M and field officer A in that order opined that:

“When learners sit in groups, it ensures that all share including those who are not free to talk. The teacher can monitor the work and prod their thinking further by asking questions to open the learners' minds.”

“Learners can share knowledge as they work together in a team, eventually achieving objectives.”

“Pupils get the freedom to talk to each other and can discuss other things as they wish.”

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Respondents also indicated that collaboration contributed to the formation of ideas among learners. In regard to influence of collaboration core competence on pupil's creativity learning outcomes, field officer C pointed out that:

“Collaboration makes learners come up with new ideas. A learner can compose his/her personal ideas and make things.”

From the interview responses, the head teachers and field officers indicated that, critical thinking and problem-solving in CBC were fairly inculcated. They further noted that the competence had a positive influence on the creative learning outcomes of the grade four pupils as it made them innovative.

On critical thinking and problem-solving, field officer B as well as head teacher B and K said the following:

Critical thinking causes learners to analyse issues eventually solving problems.” (Field officer B). “When a learner is independent, they can do most things on their own. Learners think ahead and start solving problems without the intervention of the teacher.” (Head teacher B). “Learners can handle difficult issues by thinking deeper to solve problems through envisioning (Head Teacher K).

These study findings are in tandem with those of Elald and Batd (2015) that unearthed that problem-based learning had positive effects on academic achievement. Elald and Batd (2015) aimed to find out the effectiveness of problem-based learning on students' academic achievement and to also establish other academic contributions among learners brought by creativity. A total of 20 studies that met inclusion criteria were analyzed under using Comprehensive Meta-Analysis and the MetaWin statistical program. The study found out that, problem based learning positively affected academic achievement scores.

On the same core competence of critical thinking and problem solving, head teacher G and J pointed out that:

Critical thinking and problem-solving core competence makes learners more able to reason and solve problems without assistance of the teacher.” (Head teacher G). “When a child is solving problems by trial and error, s/he can eventually achieve his/her target(Head Teacher J).

All the head teachers and field officers indicated that imagination was well inculcated in CBC. They further noted that, it had a positive influence on creativity learning outcomes of grade four pupils. They generally opined that; imagination helps learners in boosting their thinking since learners get the ability to pre-think before undertaking a task hence improving their comprehension. Through imagination, learners' recall capability is also enhanced. This was supported by head teacher F and field officer A who revealed that:

Imagination enables pupils to think beyond limits, creating a lot of learning since they consider many factors and see how they affect what they are doing.” (Head teacher F). “Imagination helps learners recall incidences found elsewhere and can match with the

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current situation. Learners could learn on their own through imagination. It helps them learn from known-to-unknown (Field officer A).

Both the field officers and head teachers indicated that citizenship core competence was fairly inculcated in CBC. They further noted that it had a positive influence on the creativity learning outcomes of grade four pupils. They exposed that, teaching citizenship helped learners to be patriotic and accept others regardless of tribe. On citizenship core competence and its influence to creativity, field officer A as well as head teacher J and B pointed out that:

Kenyan national anthem and the East African song inculcates national unity and cohesion. Through citizenship, learners can know how issues are solved in different ethnic groups hence solve issues better.” (Field officer A). “Citizenship also prepared learners to do their best as it stimulates learners to think nationally, e.g., see water for a whole community and therefore not pollute it.” (Head teacher J). “Citizenship helps learners to work with others harmoniously and to care for community resources (Head teacher B).

Almost all interviewees (92.9%) indicated that, digital literacy was fairly inculcated in CBC. They further noted that it had a positive influence on creativity learning outcomes of their pupils. They stressed that digital literacy motivated learners. These sentiments were aired by field officer C as well as head teacher N and H who said that:

Digital literacy motivates learners to learn. It increases interest and joy hence pupils can properly understand concepts therefore they can work on their own. Digital literacy eases learning for example developing new methods of solving maths problems.” (Field officer C). “Healthy digital content provokes thinking hence helping learners get answers to their numerous problems.” (Head teacher N). “Digital learning exposes learners enabling them to learn by imitation. It helps learners to be more involved, imitate others, and interact with fellow learners (Head teacher H).

From the responses adduced from the interviews of both field officers and head teachers, learning to learn CBC core competence was fairly inculcated in pupils. They further noted that, it had a positive influence on creativity learning outcomes of the grade four pupils. They stated that learning to learn helped learners move from known-to-unknown. Respondents further added that, learners’ interest was also boosted by the desire of wanting to learn more. Learning to learn also helps learners in knowledge application.

This was supported by head teacher B and C as well as field officer C who said that:

Learning new things increases pupils’ interest, making them eager to know more. Learners can read ahead of the teacher and acquire knowledge.” (Head teacher B). “It helps learners discover many things in the school, which helps them improve the methodology of handling things and improving efficiency of doing things hence learning

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with ease.” (Head teacher C). “Learners can apply an activity elsewhere then link the activity with a current activity (Field officer C).

From the responses adduced from the interviews, 85.7% of the head teachers and field officers indicated that, self-efficacy core competence of CBC was fairly inculcated. They further noted that it had a positive influence on creativity learning outcomes of the grade four pupils. On self-efficacy, head teacher C and field officer B said that:

Learner’s confidence is enhanced by self-efficacy. A learner with self-confidence can express freely hence give his/her views.” (Head teacher C). “Self-efficacy makes learners have confidence as well as raise self-esteem which heightens their ability and performance since they know they can do a task successfully (Field officer B).

The desire to learn is also increased through self-efficacy. This was supported by head teacher D, I and F who alluded that:

Self-efficacy makes learners have the desire to complete a task. A learner can identify what he or she is good at and concentrate on it.” (Head teacher D). “Self-efficacy prepares learners to learn since they are always ready to tackle tasks. It helps each learner to be more exposed to discover his/her talent and use it” (Head teacher I). “When a child works independently, they can perform more duties without the help of anybody(Head teacher F).

5.0 Conclusion

The study findings revealed that communication and collaboration influenced pupils’ creativity learning outcomes to a great extent (mean=3.774 and 3.968 respectively). Communication ensured that learners were well involved, had a wide spectrum of new responses and ideas, and read to understand questions. Collaboration encouraged sharing as learners could work together and were free to talk, and the teacher could easily monitor them.

The study findings also showed that, citizenship core competence influenced pupils’ creativity learning outcomes to a great extent (mean=3.613). Citizenship caused learners to be patriotic, embrace others regardless of tribe, and know how to unite as enshrined in the National and East African Anthems. Citizenship equipped learners to care for resources and to work in harmony with others.

Research findings also revealed that, learning to learn influenced pupils’ creativity learning outcomes to a great extent (mean=3.774). It helped learners move from known to unknown, boosted interest in learning, and discovery of new things. It helped them improve the methodology of handling things, improving efficiency, and applying knowledge.

Self-efficacy core competence also influenced pupils’ creativity learning outcomes to a great extent (mean=3.742). Self-efficacy enhanced learners’ self-confidence as they could express themselves freely. It increased the desire to learn and helped each learner to be more exposed to discover their talent.

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Research results further exposed that, critical thinking and problem-solving core competences nurtured in CBC influenced pupils' creativity learning outcomes to a moderate extent (mean=3.484 and 3.516 respectively). Critical thinking made learners innovative and independent. Imagination core competence influenced pupils' creativity learning outcomes to a moderate extent (mean=3.335). Imagination caused learners boost their thinking before, during and after performance of tasks. It enhanced learners' recall capability since it made them learn independently as they moved from known-to-unknown. Digital literacy core competence was found to influence pupils' creativity learning outcomes to a moderate extent (mean=3.452). Digital learning motivated learners, increased interest and eased learning.

Results of a linear regression analysis between scores got from the creativity tests administered to the pupils and the mean value for the influence of the core competences gave a value a beta

value of .446 ($p < .001, \alpha=.05$). This indicates that a unit increase in core competencies will lead to a .446 increase in creativity learning outcomes

5.1 Recommendations

The ministry of education should ensure that all the seven core competencies are well inculcated in CBC. This can be enhanced by proper training of all teachers and school heads.

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