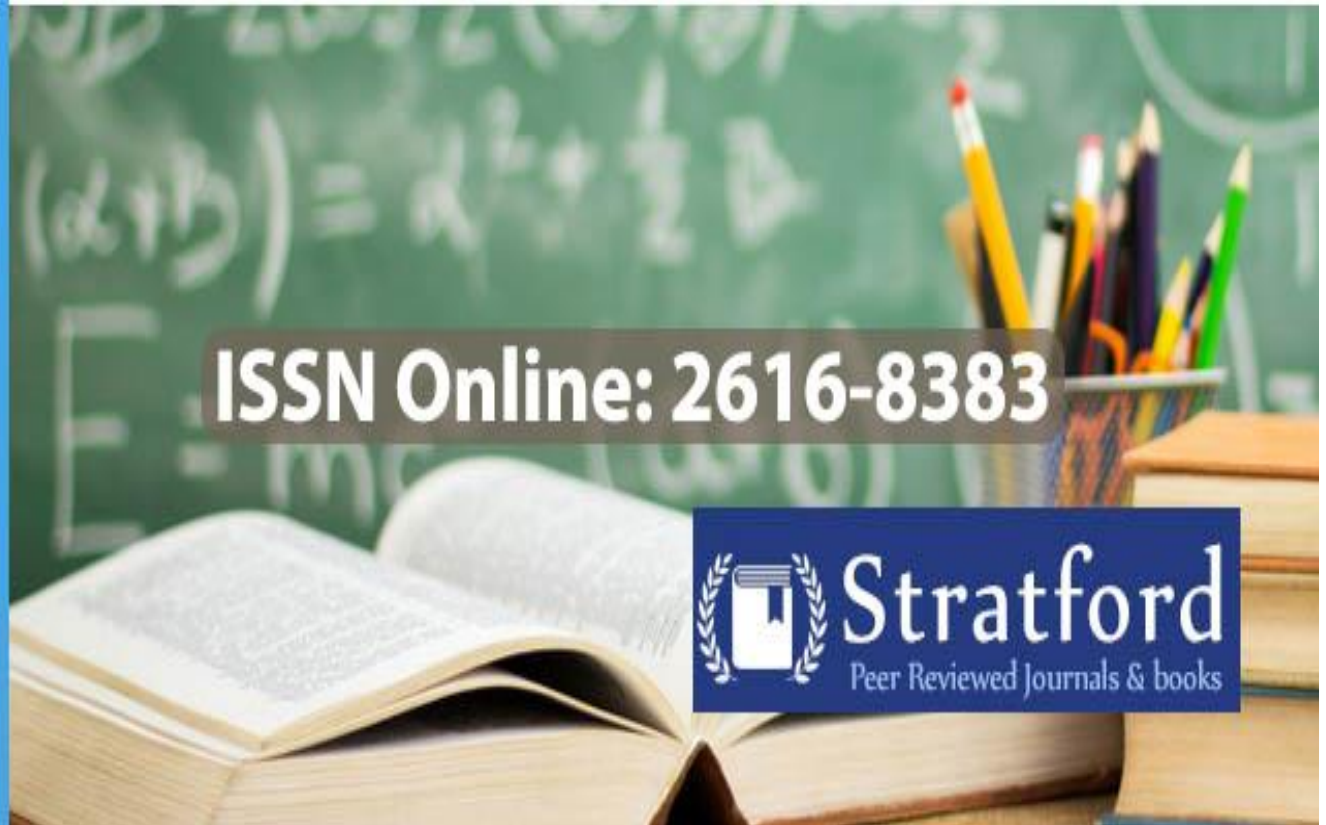


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Abstract

Over a long period, the Rwandan curriculum was Knowledge Based. This means that the education in this country was delivered only through transmission of knowledge than competence. In the year 2016, the Rwandan Ministry of Education transited the curriculum from Knowledge Based to Competence Based Curriculum. The study was comparative designed to assess the effects of competence based curriculum on learners' skills acquisition. The research was conducted within six months approximately two academic terms with sample size of 172 respondents including 150 secondary students sample size of respondents chosen as; the participants of the study who were students from public secondary schools was chosen as; 17 teachers, 3 head teachers and 2 sector educational officers of 3 sectors of Bugesera District. The competences based learning acquired were learning by doing, teacher's guidance, group work, problem solving, individual learner's participation, learners 'cooperation, peacemaking, commitment, competition, trustworthiness, freedom of expression, persuasive, integrity, partnership, pragmatism, innovation. Data on skills acquisition was collected and analyzed utilizing SPSS to descriptive statistics and through Carl Pearson Coefficient of Correlation which was used to measure the relationship between competences based learning and skills acquisition which was 0.89 level of confidence. Two tell Test determined the skills acquired by

students in secondary schools which were attitudes change, debating skills, innovation, discovery, self-perfection, teamwork, communication, leadership skills, problem solving, stamina, organizational skills, critical thinking, initiative, resilience, enthusiasm, stamina, and self-discipline. Post Hoc differences analysis indicated that group discussion. The competence based learning hypothesis had significant impact to skills acquired in secondary schools.

Keywords: *Pragmatism, self-discipline, teamwork, problem solving, communication, discovery.*

1. Introduction

1.1 Background

Competent based learning is not a new approach in educational domain. Globally, this approach was used very long ago and has proven to be successful in learners learning system. The approach support learners by tending to think of themselves as world citizens, rather than citizens of particular nation or homeland. Globally competent learners use critical thinking skills to survey and thoughtfully prioritize problems, identify possible solutions, assess options and plan actions based on evidence, and are equipped to assess the potential impact and consequences of actions under considerations (Mansilla & Jackson, 2011).

Personification, collaboration, communication, informal learning, productivity and content creation are central to the competencies and skills learners are expected to develop and the way in which these skills are taught. These elements are key to the overall vision of twenty-first century learning (McLoughlin, & Lee, 2008).

In addition, Learnovation (2009) argued personal skills (initiative, resilience, responsibility, risk-taking and creativity), social skills (teamwork, networking, empathy and compassion) and learning skills (managing, organizing, metacognitive skills and failure) are vital to peak performance in the twenty-first century workplace (Learnovation, 2009). While many of these competencies and skills may seem modern they 'are not' new just newly important (Mansilla & Jackson, 2011).

Over the last two decades, the system of educating learner in learning by doing was taking place in developed countries and is still used nowadays. In the United States of America, the approach based on competence based curriculum was implemented to allow children develop their critical thinking, (Redecker & Punie, 2013).

Wagner (2006) advocate a competence curriculum founded on very different principles- 'The new 3 Rs': Rigor, Relevance and Respect. Rigor refers to the abilities and capacities students acquire as a result of their learning. Relevance refers to their understanding of how their learning connects to current real-world challenges and future work. Respect refers to the promotion of respectful relationships among teachers and students that foster academic and social competence (Wagner, 2010).

Sternberg and Subotnik (2006) assumed that there is no single prescribed approach to educating young people for the twenty-first century, a variety of competencies and skills warrant consideration. While framework differ in complexity of learning using knowledge, skills, attitude with values each part is useful for the specific context for which it was developed. The

comparison also draws attention to the absence of these competencies and skills from current learning process (Sternberg & Subotnik, 2006).

The integration of Kenya in the East African Community (EAC) is another reason for the curriculum reforms. When the five East African Countries (Kenya, Tanzania, Uganda, Rwanda and Burundi) resolved to create the EAC. One of the objectives was to foster cooperation and integration. One way of achieving this was through promoting movement of goods, education, and services across the five countries. Movement of labor required that the curriculum for the partner states was harmonized to enhance mutual recognition of certificates (EAC, 2007). This culminated in the development of ‘A Framework on Harmonization of Curricula, Structure and Examinations in the EAC’ (EAC, 2007). The standards and competencies require that all partner states reform their curricula, structure, and examination systems to align them to the EAC Framework (EAC, 2017).

In Kenya, there was also a signatory to the United Nations’ Sustainable Development Goals (SDGs) that were unveiled in 2016. General education and specifically the curriculum that learners interact with played a major role in helping Kenya achieve these goals by 2030. The curriculum reforms provide an excellent opportunity to align the education sector to the SDGs (SDGs, 2016).

This research explored these skills in depth and highlights several key elements for learning in twenty-first century including personalization, collaboration, communication informal learning, productivity and content creation. It also underlined the importance to the twenty-first century workplace of personal skills such as initiative, resilience, responsibility, risky-taking and creativity; social skills such as teamwork, networking, empathy and compassion: and learning such as managing, organizing, meta-cognitive skills and ‘falling forward’. Preparing students for work, citizenship and life in the twenty-first century is daunting (Carneiro, 2017). In Africa the approach of competence base learning was adopted by many countries which are the members of UNESCO such as the EAC countries, Ghana and Ethiopia (Kira & Komba (2013).

1.2 Statement of the Problem

Competence based learning as the approach practiced by many schools has been longtime performed by learners to gain the positive standards, requirements through their achievement, scores in their studies to fill academic standards. However, as stated by Save the Children in 2015 in their report on education, it has been said that the quality of education was a dream in Rwanda and that was not meeting people’ expectations due to the fact that the citizens of Rwanda suffer much from the problem of poor performance of secondary school learners who are still unproductive and fail to relate what they learn with their daily life while the new curriculum called competence based curriculum has been introduced and implemented from 2016, to replace the old one called knowledge based curriculum which was providing inadequate and poor learning by memorizing instead of learning by doing. Due to the fact that the quality of education through the implementation of new curriculum called competence based curriculum was critical in Bugesera District-Rwanda that it was not providing the required competence.

Bugesera district was one of the Eastern province districts and was composed by rural and urban area whereby it is developing very fast that many children chose to do business than to go to school, and then the researcher was interested in carrying out a research. The researcher aims at assessing whether competence based leaning as an approach of competence based curriculum really support the leaners of Rwanda to acquire skills that help them to fit in the competent world.

1.3 The Purpose of the Study

The general objective of the study was to investigate whether the competence based learning had the effects on skills acquisition in secondary schools in Rwanda.

1.4 The Objective of the Study

The objective of the study was to assess the learning skills acquired through competence based learning in public secondary schools in Rwanda. Change this objective to factors

1.5 Research Hypothesis

H0: There was no significant skills acquired through competence based learning in public secondary schools in Rwanda at 95% confidence limit.

1.6 Significance of the Study

The Government of Rwanda through the Ministry of Education and its organ Rwanda Education Board has started implementing the new curriculum called compete based curriculum replacing the old one which was called Knowledge Based Curriculum and was not putting a leaner in the centre of education. This study was sent out to assess whether there was any significant learning skills acquired though competence based learning in Rwandan education system. Therefore, research result will assist the Government of Rwanda, the Ministry of Education, Rwanda Education Board, Educational Specialists, the Educators and learners to enhance teaching and learning aiming at excelling and competing to the national and international labour market and covering the gaps found in Rwandan education to achieve the quality education and high standards of education leaders, managers, planners and implementers of the new curriculum.

2. Literature Review

2.1 Competence Based learning towards teaching and learning

Competence based learning is a teaching and learning approach used to upgrade the leaners capacity to commitment and application of the matters leant at school (Bernard Bahati, Matti Tedre, Uno Fors & Evode Mukama, 2016). In their historical overview, Morcke, Dornan and Eika (2013) identified the trace CBE; Competence Based Education (in their terms OBE; Outcome Based Education) back to the 1950s in the US and during a 50 years period find 'two clear cycles of advocacy, then critique', with the second cycle having started more or less on the conceptual fundamentals of the first one in the 1980s. Competence-based learning was coined as a general concept, based on the ideas of mastery learning and criterion-referencing of assessment. Learning, teaching and organization should be guided by clearly specified (minimum)

competencies to be demonstrably acquired (for a stylized distinction of CBL and ‘traditional’ approaches. The conception was devised as a programme for fundamental reform of education. Some current observers draw a distinction between these ‘old’ approaches, which have to some extent lost interest during the 1980s (embedded in a more general withering down of expectations in policy driven systemic reforms and the rise of economically driven neoliberal programmes of ‘high stakes’ and ‘new public management). (Morcke, Dornan & Eika, 2013).

As Biemans *et al* (2004) *assessed competence based learning in TVET (Teaching Vocational Education Training)* in secondary educational, the acquisition of skills is determined by a combination of knowledge, practices and values (Biemans *et al.*, 2004). He identified on a ‘new’ wave of reception of CBL started in the 1990s at the level of the European Union, following first strong moves in the UK. This second wave focuses strongly on the idea of ‘qualification frameworks’, which specify the desired outputs or outcomes of education and training. One expression are learning outcomes, another are the different variants of competencies. Thus the definition of competencies has prominently come to the fore, with different and partly opposing ideas of how the specified outcomes relate to the education, training, and learning processes at the practice level, (Biemans, 2004).

According to Bjørnavold, and Coles (2006), learning also reflects a general acceptance that lifelong learning requires a focus on learning outcomes rather than learning inputs and that the links between different subsystems of education and training need to be strengthened. Thus, development of Education Qualification Framework (NQF) cannot exclusively be explained by the emergence of the EQF. This article emphasizes the distinction between national qualifications systems and national qualifications framework in the application of competence based curriculum. It reviews the development of NQFs in the EU, EEA and candidate countries up to April 2007 and addresses the issue of European cooperation in education and training and its future.

As argued by Bjørnavold, and Coles, (2006), their article: Education Qualification Framework article discusses the potential impact of the European qualifications framework (EQF) on national education and training policies. Particular focus will be on the rapid and widespread development of national qualifications frameworks (NQFs) across Europe. Pioneered by countries like Ireland, France and the UK, NQFs have moved into the forefront of the debate on how to realize lifelong learning and how to promote access to and progress in education, training and learning (Bjørnavold & Coles, 2006).

2.2 An overview of learner’s skills acquisition

The competence based learning for skills acquisition of 21st century skills project categorized twenty-first century skills internationally into four broad categories of ways of thinking, ways of working, tools for working and skills for living in the world (Griffin, Murray, Care, Thomas, & Perri, 2010). Meanwhile, the US-based Apollo Education Group, a leading provider of higher education programs for working adults, cited ten skills needed by students to survive as twenty-first century workers (Griffin, *et al.*, 2010).

Prensky (2012) advocates a student in back up education that learners acquire learning through types of learning and possible game styles which are facts and skills such as imitation, coaching, interviewing, role playing and games with sports. According to Criado, (2013), the communicative approach to language teaching also fosters on: *Presentation-Practice-Production Model (PPP)*, which relates to 'The 3 Ps'; these consist of 'Passion (including character), Problem solving (including communication) and producing what is required with creativity and skill'. Critical thinking, communication leadership, collaboration, adaptability, productivity and accountability, innovation global citizenship, entrepreneurialism, and the ability to access, analyses information (Criado, 2013).

Trilling and Fadel (2009) found out and agreed that education through learning and doing should prepare learners to tackle collaborative problem-solving scenarios that are persistent and lack clear solutions. Real-world challenges are highly complex, often ill-defined and interdisciplinary in nature, spanning multiple domains (social, economic, political, environmental, legal and ethical). In particular, the ability to evaluate new inputs and perspectives, build new capacities and strengthen autonomy was crucial. (Trilling & Fadel, 2009).

Tawil and Cougoureux, (2013) confirmed that the process of transforming twenty-first century education and practice was about making sure that all learners are prepared to thrive and succeed in a competitive world - a world with many opportunities for highly skilled individuals, yet limited options for others. Twenty-first century life and work environments require far more than thinking skills and content knowledge. The ability to navigate these complex environments in a globally competitive information age requires learners to develop appropriate life and career skills, as they need them. The increased tempo at which new developments are emerging demanded that young people quickly recognize the importance of lifelong learning (Tawil & Cougoureux, 2013).

As found out by Carneiro (2007) in his research notes that both students and adults alike need academic and applied knowledge, and must be able to 'connect knowledge and skills, learning and competence, inert and active learning, codified and tacit knowledge, and creative and adaptive learning and transform them into valuable skills'. Above all, these skills stress active learning.

There is general agreement that mastery of core subjects and learning around twenty-first century themes are essential for today's students. Identified core subjects including: Grammar, Reading, or Language Arts; World Languages; Art; Mathematics; Economics; Science; Geography; History; and Government and Civics, with a balance between education in technical and natural science subjects and culture and humanities (Fidler & Gorbis, 2011).

According to Redecker and Trilling (2009), problem-solving in competence based learning approach demonstrated the other basic competency of twenty-first century learning which was problem solving (Ananiadou & Claro, 2009). Research and problem solving skills include point identification and the ability to search for, select, evaluate, organize and weigh alternatives and interpret information. Problem solving in the twenty first century also requires individuals to draw from multiple domains to find solutions to complex issues. This ability to scan multiple

domains is highly valued in today's highly competitive workplace (Redecker, Trilling & Fadel, 2009).

As Mansilla and Jackson (2011) confirmed, to be effective, lifelong learners must be self-reliant and acquire higher-order cognitive competencies. By promoting the capacity of learner and grow, learning and innovation skills facilitate the mastery of other twenty first century skills such as the capacity to recognize perspectives, communicate ideas, take creative action, and draw on relevant disciplinary and interdisciplinary expertise to solve complex problems (Mansilla & Jackson, 2011).

Also Barnett (2014) has discovered that solutions to today's complex problems demands a broad range of skills linked to critical thinking, innovation and creativity. To solve a problem it was important to first define it and understand its constituent elements. In addition, it was necessary to identify the resources and strategies needed to solve the problem (e.g. Skills related to information literacy, scanning data and extorting relevant information). Critical thinking skills are fundamental to this process. Learners must also be able to apply the appropriate tools and techniques effectively and efficiently and persist in the face of obstacles. Self-direction and flexibility are therefore critical to problem solving (Barrett *et al.*, 2014).

According to Redecker (2011) the communication was strongly identified as abilities including the capacity to express their thoughts and working independently in both orally and written communication. As said the learners should be given the opportunities to learn and share with their teachers freely (Redecker, 2011).

2.3 Creativity and Innovation in Competence Based Learning Approach

In a speech at the 2006 TED Conference, Sir Ken Robinson, a leading thinker and speaker on creativity remarked, 'We do not grow into creativity, we grow out of it, or rather, and we are educated out of it'. However, in today's world of global competition and task automation, innovative capacity and a creative spirit are fast becoming requirements for professional and personal success. Traditional education, with its emphasis on rote learning and memorization of static facts, has long valued conformity over novelty of thought (Wan & Gut, 2011).

Robinson (2006) argues that humanity's future depends on the ability to reconstitute our understanding of human capacity and place creativity and innovation in the forefront of our educational systems. Divergent thinking (the courage to 'seize' problems) and enthusiastic experimentation boost creativity and innovation even further (Center for Curriculum Redesign & OECD, 2012). The capacity to 'break new ground', invoke fresh ways of thinking, put forth new ideas and solutions, pose unfamiliar questions, and arrive at unexpected answers further advance innovation and creativity (Gardner, 2008; Sternberg, 2007).

According to Gardner (2008) in his studies, this concluded that successful individuals were those who passed the creative skills to envision a strategy for making the world a better place for all. Therefore, Harm and Biemans (2010) insisted on pedagogy approaches such as participation, collaborative learning, and personalized learning, teaching for transfer, project based learning and real-world contexts were the key to simulating such growth. The next step is to combine these educational innovations and supports for the betterment of every student. Twenty-first

century learners can expect to be part of a culture that values participation, with ample opportunities to initiative, produce and share one's creations (Gardner, 2008).

2.4 Competence Based Learning and Learners' Continuous Assessment Test

In his pragmatism and progressive education theory and research, John Dewey argues that progressive education was essentially a view of education that emphasizes the need to learn by doing. Dewey believed that human beings learn through a 'hands-on' approach. This places Dewey in the educational philosophy of pragmatism (Neubert, 2009).

As William and Black (2005) conclude in their global study of learning assessment, the final irony was that it was precisely the demand for accountability which has produced unprecedented pressure to improve education systems that is likely to be the biggest impediment to achieving that improvement.'

Whether formal and structured or more spontaneous and less structured, Kellaghan and Greaney (2009) affirm in their comprehensive overview of student learning assessment in Africa that continuous assessment, in any of its guises, is anything but casual. Rather affirm in their compresses affirm in their comprehensive overview of student learning assessment in Africa that continuous assessment, in any of its guises, is anything but casual. Rather, it represents an integral component of the teaching and learning process. The role of continuous assessment, the two assert Kellaghan and Greaney (2009) 'is to determine the student's level of knowledge, skills or understanding; to diagnose problems he or she may be encountering; to make decisions about the next instructional steps to take (including whether to review or to move on); and to evaluate the learning that has taken place in a lesson. 'A brief discussion of the different and sometimes contrasting definitions and applications and applications of continuous assessment and of how the different versions relate follow (William & Black (2005).

In Ghana, the government officially introduced a similar system of summative continuous assessment (Quansah, 2005). This mandates the completion of four class tests, three tests/quizzes, and four projects/ home works tasks in each of a year's three terms. Many assessments activities per subject. Added to these are and end of term subject examinations. The implication was strong that the system may be exaggerating in seeking to counter balance the oversized impact of the single end of year examination (Quansah, 2005).

According to (Thorndike, 1906), the Acquisition of Skills through Problem-Based Learning was mostly practiced in small groups provided students with a favorable and safe environment for development of necessary skills and attitudes. This study does not only fill a gap but also showed the advantages of problem based learning as perceived by students in a hybrid medical curriculum (Thorndike, 1906).

As shown by the researcher, In Tanzania, generic skills and attitudes are now widely accepted as important outcomes of a secondary education and are being written into virtual every curriculum. Reports in the literature suggest that this approach contributes to the acquisition of only knowledge but also generic competence and personal skills, such as problem-solving, communication and teamwork, which are essential for all graduates of higher education. After 6

years of experience with the hybrid problem based learning curriculum. Assessing its effects, the problem based learning increased the acquisition of knowledge, skills and attitudes with values. The aim of their study was to investigate the extent to which students had taken advantage of the approach to improve their knowledge, generic skills and attitudes. Specifically, Sternberg investigated students' perception of their acquisition of these attributes, the effect of duration of exposure to problem based learning and whether gender affected perceptions of the desired effects of problem based learning, (Sternberg, 2007).

2.5 Theoretical Framework

The study applied the theories of Multiple Intelligence and Complex Combination in Learning. According to Gardener (1983) and Deakin Crick (2004) in theories of multiple intelligences and Complex Combination in learning argue that learners learn differently in different ways. According to Gardener, there are 8 intelligences which a learner can develop in order to have a package of skills in their acquisition such as: Mathematical intelligences, logical intelligence, linguistic intelligence, kinesthetic intelligence, musical intelligence, spiritual intelligence, interpersonal intelligence, intrapersonal intelligence (Gardener, 1983). According to Deakin Crick, to acquire competence through competence based learning requires a combination of knowledge, skills, with values. Deakin (2004) emphasizes that learners are responsible for themselves either at school or in their learning environment. The teacher serves them as facilitator instead of being all knowing or a master as they were called in the traditional times. For Deakin (2004) a learner was born while holding a prerequisite knowledge, so the task of a teacher was to make clear what a learner has come up with (Deakin, 2004).

3. Materials and Method

3.1 Research Design

The study employed comparative research design /descriptive research design that consisted of analysis of the activity intensively, descriptively and holistically a single entity case. Thus, the researcher used survey research design in order to portray the individuals or a group of learners and teachers by completing a survey or questionnaires, or statements to which participants provide the answers for their opinions, attitudes, beliefs and their understanding about competence based learning and skills acquisition in secondary schools of Rwanda.

3.2 Target Population

The study was conducted in Rwanda; one of the east African community countries with two thousand one hundred public secondary schools (2100). Among them, Bugesera District where the research took place had forty five (45) public secondary schools. The researcher reached to the groups of participants including students, teachers, head teachers as well as educational officers of the District. As shown the statistics of Bugesera District population; the District has 15 sectors, the total number of 45 secondary schools and 850 teachers of public secondary school levels, 45 head teachers and 32,500 students, (Bugesera District Statistics, 2017). It is in such way that the researcher purposively selected three sectors of Bugesera District which are

Nyamata, Mayange and Ruhuha from which he considered target population of 309 participants including 3 sector educational officers, 6 head teachers, 30 teachers and 270 students.

3.3 Sample and Sampling Procedure

During sampling stage, the researcher considered 172 respondents who were selected from three sectors of Bugesera district which are Nyamata, Mayange and Ruhuha from which he selected six public secondary schools, 2 educational officers and 3 head teachers to make 5 respondents using purposive sampling, and 17 teachers with 150 from In this regard, the researcher considered 172 respondents who were selected from three sectors of Bugesera District which are Nyamata, Mayange and Ruhuha from which he selected six schools, 2 educational officers and 3 head teachers to make 5 respondents using purposive sampling, and 17 teachers with 150 students using simple random sampling from six sampled schools that the students were distributed equally from their respective schools G.S Murama, E.S Kamabuye, G.S Nyamata Catholique, G.S Ruhuha, G.S Mayange and G.S Rango that each school provides 25 to make 150 students using simple random sampling. Thus, the researcher used the proportion of Robert and Morgan Table (1970) to get exact sample size. The detailed population size was generated from the sampling formula:

$$s = X^2NP (1 - P) \div d^2 (N - 1) + X^2P (1 - P)$$

s = required sample size.

X^2 = the table value of chi-square for 1 degree of freedom at the desired confidence level (3.841).

N = the population size.

P = the population proportion (assumed to be 0.50 since this would provide the maximum Sample size).

d = the degree of accuracy expressed as a proportion (.05).

According to the formula and the table, the sample size was 172 and the sample size for the study is summarized in table below.

3.4 Research Instrument

The instruments that were used for data collection were students' and teachers' questionnaires. Questionnaires facilitated the researcher to get easy and quick derivation of information within a short time. Use of questionnaires ensured that confidentiality was upheld so that participants have no reason to be dishonest. 'Students' philosophy about competence learning and their competence skills acquisition' on learning scale. The participants were asked to rate their level of agreement with specific statements (form 1- strongly disagree to 5- strongly agree). The questionnaires were designed using a 5 point Likert Scale format from strongly disagree to strongly agree. Cronbach's Alpha was calculated to determine internal consistency.

3.5 Data Collection

Data collection methods as the process of gathering and measuring information was used by the researcher on variables of interest, in an established systematic fashion that enables the researcher to collect data such as questionnaires and interviews depends on the availability of the respondents and the affordability of the research instruments. In order to generate qualitative and quantitative data the research was conducted through guided interview. Furthermore, the guided interview was chosen as a data collection tool because from officials of education in selected sectors and schools. The interviews with educational officials and head teachers helped to reveal that there are some impact on the use of competence based learning technique.

3.6 Test for validity and reliability

3.6.1 Validity

The validity the questionnaire was tested by its accuracy and meaningfulness of inferences which are based on the pre-testing research results. The pre-test was conducted in Rwamagana District in the eastern province of Rwanda because this district was known to have the same characteristics and the piloting was done in the three randomly selected secondary schools including G.S Rwamagana, G.S Kabare, and G.S Nsinda. The researcher administered six questionnaires to three head teachers and three teachers with 15 students from the above three public secondary schools of the district. Firstly, the researcher and the assistant ensured that the students do not speak to one another while filling questionnaires. Secondly, in order to improve validity, experts in the field were used to validate the value content of the instrument then modifications were made where necessary. In this case the researcher considered both the questionnaire and face to face interviews to fill the information gaps.

3.6.2 Reliability

Reliability was tested using the test-retest technique where the data collection instruments were administered to the students and education officials during test stage. Thereafter, the other test was done to the same but sample groups of the respondents three weeks after the main data collection stage. In order to ensure the collected data were reliable. The researcher administered six questionnaires to three head teachers and three teachers with 15 students from each six selected public secondary schools. Therefore, the data cleaning step allowed the researcher to adjust the items where necessary in order to ensure the accuracy of the collected data. To discover the internal consistency of the sub measurement the researcher used Cronbach Alpha scale to calculate each objective's sub measurement focused on the equation 1 by Cronbach (1990):

$$\text{Cronbach Alpha} = \left(\frac{k}{k-1} \right) \left(1 - \frac{\sum \sigma_i^2}{\sigma_x^2} \right)$$

Where: k = Number of items

σ_i^2 = Variance of individual items

σ_x^2 = Variance of total scores.

3.4 Data Analysis

Data was processed and analyzed using the statistical package faro social science (SPSS) with using descriptive statistics mean, percentages and counts to assess the skills acquired in public secondary schools through competence based learning in Rwanda. Further analysis was done using Analysis of Variance (ANOVA) and Chi squared at 95% level of significance to assess the significant impact on competence based learning to skills acquisition

4. Findings

4.1 Introduction

The purpose of the study was to investigate whether the competence based learning had the effects on skills acquisition in secondary schools in Rwanda. The skills acquired in public secondary schools of Rwanda ware again depending to the competence based learning approaches.

4.2 The identification of competence based learning factors

The findings were presented and discussed to answer the questions of the research questionnaires and the interview guide given to the head teachers and sector educational officers as the educationalists, and technicians in charge of education at a school and sector level. As the respondents agreed upon, the identification of competence based learning factors that lead to learning skills acquisition in public secondary schools in Rwanda were addressed in the following presentations:

Table 1 Teachers’ responses to identify competence based learning factors

Statements	Strongly disagree		Disagree		Neutral		Agree		Strongly agree	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Learning by doing is a part of competence based learning	0	0%	1	6%	1	6%	6	36%	9	52%
Teacher and parent’s guidance is a part of competence based learning	1	6%	0	0%	0	0%	5	29%	11	65%
Group work as part of competence based learning improved my score as a student	1	6%	2	12%	0	0%	7	41.5%	7	41.5%
Problem solving as a competence based learning factor changed the students learning style positively	0	0%	0	0%	0	0%	9	52%	8	47%
Average	1	3%	1	4.5%	1	2%	7	42.5%	8	48%

Source: Data from field, 2018.

As to whether there were competence based learning factors that lead to learning skills acquisition in public secondary schools in Rwanda, 48% strongly agreed, 42.5% agreed and only 2% were neutral. Therefore 3% strongly disagreed and 4.5% disagreed. As shown by the table 4.10, the questionnaires were given to 17 teachers of selected secondary schools of Bugesera, and the findings showed that the majority of the respondents assumed that competence based learning increased the learners’ skills and they are able to put in practice what they learn while the minority of the respondents denied that competence based learning approach brought any change to students.

i. The students’ responses to the identification of competence based learning factors

The questionnaires were distributed to 150 respondents’ students varied to 100%, and all of them returned well filled questionnaires and gave the following findings as shown in the table 2.

Table 2 Students’ responses the identification of competence based learning factors

Statements	Strongly disagree		Disagree		Neutral		Agree		Strongly agree	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Learning by doing is a part of competence based learning I acquire in my class	2	1%	4	3%	4	3%	39	26%	101	67%
Teacher’s guidance is a part of competence based learning which improved my attitude change	4	3%	10	7%	5	3%	51	34%	80	54%
Skills acquisition increases my participation in continuous assessment tests	2	1%	3	2%	12	8%	55	37%	78	52%
Group work as part of competence based learning improved my scores of the class	7	4%	15	10%	5	3%	57	38%	66	44%
Average	4	3%	8	5%	7	4%	50	33%	81	54%

Source: Field data, 2018.

As to whether there were competence based learning factors that lead to learning skills acquisition in public secondary schools in Rwanda, 150 respondents’ students provided their answers whereby 54% strongly agreed, 33% agreed and only 4% were neutral, 3% answered strongly disagreed and 5% disagreed. As shown in the table 4.11, the questionnaires were given to 150 students of selected secondary schools of Bugesera, and the findings showed that the majority of the respondents assumed that competence based learning increased their confidence and their learning by doing aimed at learning for having a better future while the minority of the respondents denied that competence based learning approach contribute to their better learning.

ii. The Sector Education Officers and Head teachers’ responses from the interview to the identification of competence based learning factors that lead to learning skills acquisition,

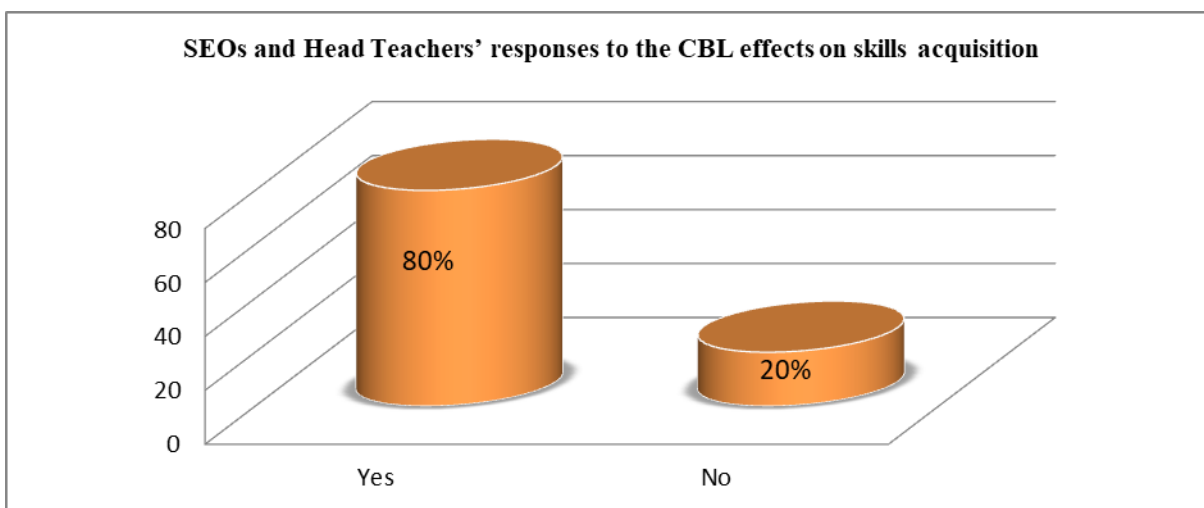
There were 5 interviewed respondents including: 2 Sector Education Officers and 3 head teachers. The findings from the interview given to them showed that ‘the positive changes occurred to students since the competence based approach stated being implemented through competence based learning’. The leaders of the sector and head teachers assumed that from 2016 when the Ministry of Education and its organ such as Rwanda Education Board launched the New Curriculum called Competence Based Curriculum, the approach of competence based learning has provided great changes to the learners skills acquisition, where the results showed that 4 of 5 respondents who equaled to 80% assumed that students were able to associate their knowledge with skills such as application of their creativity, innovation and entrepreneurial skills where learners were able to create new things such making stories, tales, essays, cultural activities such as performing drama, role-plays, and promoting financial education as savings for the future small businesses.

The respondents agreed that learners increased their students’ participation, critical thinking, creativity, innovation, research, problem solving and collaboration where 4 of 5 respondents equaled to 80% agreed that students got such skills they (learners) were able to solve problems related to their heir everyday deeds.

iii. The SEOs and Head Teachers’ responses to the effects of Competence Based Learning on Skills Acquisition

The number of interviewed Sector Education Officers (SEOs) and head teachers was 5, and the figure 1 presented the findings.

Figure 1 Sector Education Officers and Head Teachers’ responses to the effects of Competence Based Learning on Skills Acquisition



Source: Data from the field, 2018.

As to whether there were the effects of competence Based Learning on Skills Acquisition, the figure 1, shows the findings got from the Education Officials and school head teachers; ones of educational strategic planners whereby the majority of the them equaled to 4 of 5 respondents varied to 80% agreed that most of the effects were positive where learners increased their critical thinking, open-mindedness, problem solving skills, prepared them for the future leaders by expressing themselves, self-confidence, power to avoid laziness by encouraging them to work hard for self-reliance, interpersonal relationship with collaboration, self-respect, positive discipline by increasing reciprocal respect, problem solving based research. Then, learners were motivated to learn and this helped them increasing their grades, scores and success in the homework, classwork, group works and continuous assessment tests.

4.5 Summary of the findings

The fourth chapter discussed about the findings, discussions and the interpretations of analyzed data. The findings got focused to the general objective of the study and one specific objective of the research. The findings were presented in the tables and figures, and analyzed using SPSS 21.0 Version. As the findings showed, the research was conducted from the 3 sectors of Bugesera district and 6 schools from the 3 sectors such as G.S Nyamata Catholique, G.S Murama, G.S Ruhuha, E.S Kamabuye, G.S Mayange and G.S Rango. The findings showed that the called competence based learning had contributed much in the increase of the skill among leaners where learners were learning by doing, by creating new things, developing critical thinking, collaboration among them was strengthened, and the innovation increased their confidence. All the acquired skills were improved to give the learners the ability to learn independently at their schools, homes and everywhere they were.

5. Discussion of the Findings

5.1 Introduction

This chapter presents the discussion of the findings. The discussion focused on the general objective of the study and one specific objective of the research. The available information got from the related literature review. This research purpose was to investigate whether the competence based learning had the effects on skills acquisition in secondary schools in Rwanda. While the specific objective was to identify competence based learning factors that lead to learning skills acquisition in public secondary schools in Rwanda. The data were analyzed using SPSS Version 21.0, and the findings were presented in the tables and figures. The respondents were education officials, head teachers of the selected schools, the teachers and the students. Competence based learning was the independent variable while skills acquisition in Rwandan secondary schools formed the dependent variable whereby the findings showed that competence based learning affected skills acquisition in terms of promoting students' critical thinking, self-confidence, power to avoid laziness by encouraging them to work hard for self-reliance, open-mindedness, problem solving skills, prepared them for the future leaders by expressing themselves, interpersonal relationship with collaboration, self-respect, positive discipline by increasing reciprocal respect, problem solving based research.

5.2 Discussions

The results of the research analysis and the variance described that there were significant variation in the skills acquisition and competence based learning used $F(2,237) = 7,944, p = .000$). By comparing competence based learning implementation with skills acquired by learners in the secondary schools of Rwanda. The findings indicated that competence based through the use of homework, classwork, group works, debates, discussions, collaboration and continuous assessment tests had increased skills acquired by the learners such as problem solving skills, prepared them for the future leaders by expressing themselves, interpersonal relationship with collaboration, self-respect, positive discipline skills. Further analysis on competence based learning and skills acquisition showed that 87% of the respondents' students, 90.5% of the respondents teachers and 80% of the respondents' education officials and head teachers accepted that there were the effects of competence based learning approach which were promoting students' critical thinking, self-confidence, self-reliance, open-mindedness, problem solving skills, interpersonal relationship with collaboration, self-respect, positive discipline prepared them for the future leaders by expressing themselves.

Competence base learning as the approach of the competence based curriculum plays a major role in the increase of the students' multiple intelligences such as interpersonal, literacy and numeracy, innovation, communication, observation, creativity and collaboration (Gardner, 1984). It accepts that the acquisition of skills among the learners was influenced by the application of competence based learning approach. The Rwandan Ministry of Education took initiative of replacing the knowledge based curriculum with competence based curriculum after finding out the previous curriculum was not assisting with the responses to the country problems such lack of competent manpower, knowledgeable people and researchers (MINEDUC, 2017).

According to the research conducted by Spady (2010), on outcome based education found out that the approach of the Outcome based education has three elements of traditional, transitional and transformational approaches. Spady's research, to one hand, focused on transitional approach because it focuses on cross disciplinary skills such as problem solving. Spady's research to the other hand focused on transformational approach where this addressed to the key competences which promote the skills necessary to enhance the education outcome for overall education al economy and competitiveness enhances the general education and vocational training. So, the competence based learning approach serves the nationals with the desired skills young people who intend to be the future competitive generation to the labor market.

Learners acquire important things when they use the combination of knowledge, skills in the related contexts and this help them to apply what they learnt with the world they live in. this extent their critical thinking and problem solving by increasing their learning experience by finding the meaningful and valuable skills. The researcher Killen claimed that the students learn best and retain what they learnt when they engage actively in learning, when they are encouraged to reflect on their experience by getting the opportunity to collaborate and communicate with to others about the things they are acquiring (Kira, Komba, Kafanabo, & Tilya, 2013).

It is also important to note that competence based learning applied through the used technology increases the recognition of the new knowledge, skills and wider competences. According to the researcher (Mike, 2008), the country which wanted the pressure to the qualifications system got many advantages to increases flexibility and responsiveness; motivate young people to learn, link education and work, promote open access to qualifications, diversify assessment processes, make the qualification system transparent, review funding and increase efficiency, improve system management in education (Mike C., 2008).

In facts, the transformation of the institutional or teachers intention into a measurable aspect of learning brings great clarity where learners learn independently and with purpose to compete on labor market.

Competence based curriculum, in different European countries which previously started its implementation, plays a vital role in the promotion of the students' competition in learning for creation and innovation of the current economic activities. These researchers examined the quality assurance at national, institutional and programme level; the design and implementation of outcome based programmes; learning outcomes and the assessment of learner achievement; learning outcomes and information for stakeholders such as employers and general and the recognition of learning: informal learning, learning from work and the transfer of learning outcomes. Declan, Áine, and Norma (2008) identified some different categories of competences into a number of different areas which may be summarized into three:

HETAC (2009) published that the competence context supplying the context within which knowledge and skills are deployed for the practical purposes. The HETAC publication describes this category in terms of social, civic, occupational situation, and demonstrates that the learner acquires skills though combined skills in order to get higher level of thinking and learning.

Competence role requires the application of social skills understanding of the assigned tasks and group activities. This higher level of competence associates with the multiple responsibilities such as leadership, autonomy and initiative. This category appreciates the effort of a person who joins the group and adopts the roles of it.

Competence of learning to learn relates to the ability of an individual to observe and participate in the new activities to experience to extract and retain the meaningful ideas from the experience. This category helps the leaners to acknowledge the limitations of his/ her current knowledge, skill and competence.

Competence insight integrates the other bunch of knowledge, skills and competence with the leaner's motivation, attitudes beliefs, values personality and cognitive styles. Neary (2002) demonstrates that the term competence is not specific to only learning but it gives some indication of what is expected to happen as the sources of evidence to the competent learner. Neary (2002) states that the term competent is wide and falls into different areas of working and learning.

Inclusion, there was no single skills acquired through competence based learning approach but the leaners are free to make best choice to what skills they desire to learn but whatever they learn

have to be practical and world related in order to open the mind of the learner to standard behaviors required by the society, peace, harmonization, unity, reconciliation and tolerance.

6. Conclusions

The conclusion was made focused on the research findings that the students of the secondary schools acquire different skills that bestowed their learning to critically think and practically problem solving. The null hypothesis that there was no significant skills acquired through competence based learning in public schools in Rwanda was rejected. This means that the application of competence based learning approach has great impact on students' skills acquisition in secondary schools. The research also showed that practicing the approach of competent based learning increased the learning situation of the leaners where they acquire combined skills which are problem solving skills, critical thinking skills, lifelong learning skills, creativity, innovation skills, and collaboration and communication skills. The sited skills have strong implication to the effective and competent learning for the future problem solving based evidence.

7. Recommendations

Based on the findings of the study, the researcher provided the following recommendations:

7.1 General recommendations

The government of Rwanda and the ministry of education with Rwanda education board should provide all needed materials and requirements in order to facilitate the implementation of the competence based learning by proving the capitation grants to schools, recognizing the students with disabilities, distributing the curriculum and syllabi to the schools and teachers.

The parents should work hard in order to support their children in their smooth learning and preparing them for the future life. The parents should be responsible in supporting their children learning such as proving the required school materials in order to facilitate their children.

Teachers, trainers, entertainers and other implements of the competence based curriculum should enforce the use of the approach of competence based learning and skills acquisition. This should help to develop the science and technology and language development among learners.

The educational leaders should work hand in hand with the people, teachers, and head teachers, the government and the stakeholders in order to improve the implementations of the competence based learning. The learners of should feel responsible in putting the approach in action.

7.2 Recommendation for Further Research

1. The further research should assess the competence based learning and learners' performance due to the fact that in the year 2019 the Rwandan Ministry of Education will have assessed the performance of the learners to the national level.

2. The competence based curriculum should be addressed to the learners of the primary schools of Rwanda to find out whether their abilities and achievements match with ones of secondary schools.
3. The investigation of the competence based learning and the application of languages such as English language as the medium of instruction in Rwanda schools.
4. To assess the abilities of the teachers in the implementation of the competence based curriculum in Rwandan, preprimary, primary and secondary schools.

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