



# Effects of Competency - Based Curriculum on Students' Education Achievement: A Study of Secondary Schools in Arusha City Council, Tanzania

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**Abstract:** This study assessed the Effects of Competency - Based Curriculum (CBC) on Students' Education Achievement in Secondary Schools in Arusha City Council, Tanzania. The objectives were to: assess the implementation of CBC in secondary schools and examine the extent to which the implementation of CBC affects students' education achievement in secondary schools in Arusha City Council. Social Constructivist Theory by Theodore Burghard Hurt Brameld guided the study. Convergent mixed methods design was adopted. Data was collected through questionnaires and interview guide. The sample size consisted of 142 respondents; 30 teachers, 90 students selected by simple and stratified random sampling techniques. Purposive sampling technique was used to select 10 Heads of schools, 10 SQAOs, one WEO and one DEO. Validity was established through expert judgment whereas reliability ( $QS\ r=0.85$  and  $QT\ r=0.82$ ) were determined using test-retest technique and Cronbach Alpha Method. Qualitative data were analyzed thematically alongside the research questions and presented in narrative forms while quantitative data were analyzed using descriptive statistics in the SPSS version 21 and results were presented in tables of frequencies and percentages. The findings show that the use of different teaching and learning methodologies such as learner centred approach, discussions, exhibitions and practical activities were encouraged. Moreover, CBC implementation is essential for the student's future career development through self-employment, creativity, innovation, talent exploration and expansion of multiple competencies necessary for sustainable development. The study recommended that, CBC should be effectively implemented in all secondary schools for students to develop necessary skills needed for personal transformation.

**Keywords:** Competency - Based Curriculum, Education, Secondary Schools, Arusha City and Tanzania

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## 1. Introduction

The World Curriculums are in constant change to fit the current needs. The change cannot be avoided in all countries, regardless of their political, social or economic status. The word 'curriculum' is a Latin word which originates from "currere", meaning to run a race as an

athlete or like a horse (Aytac and Deniz, 2010). When it is used in the educational context, curriculum means a programme or course of study that needs to be completed by a learner within a particular period (Savage & O'Connor, 2015). An example in this case is the current curriculum for ordinary level secondary school for four years used among form one to form four students in Tanzania. In order for a learner to complete the full

curriculum, school management, parents and, most importantly, teachers are required to implement the curriculum (Chan, et al,2017).

According to Branyon (2013), Competence - Based Curriculum (CBC) can be interpreted as a curriculum concept that emphasizes the development of the ability to do (competence) tasks with certain performance standards, so that the results can be felt by students in the form of mastery of a particular set of competencies. Mokoro (2020) reported that CBC is directed to develop knowledge, understanding, abilities, values, attitudes, and interests of students in order to be able to do something in the form of skill, accuracy, and success with full responsibility. From this opinion it can be understood that the competency-based curriculum is oriented to individual creativity to do something in the form of skills and expected effects that arise from students through a series of meaningful learning experiences, and expected diversity (Savage & O'Connor, 2015).

Research conducted in Norway by Germeten (2011), aimed to explore the New National Curriculum in Norway and it focused on the role of school principals. The findings specified that although they were assigned the responsibility of implementing the curriculum, they were not part of any decisions taken. This finding further suggested that the principals were not involved in the process of curriculum development though they were implementers. This remained a challenge if curriculum implementers are not involved in the process of development, the implementation of competency-based curriculum would not be effective.

Research conducted in Israel by Benavot & Resh (2003), showed that in recent years, the predominance of the nation-state as the sole mediator of curricular matters has eroded. New actors and organizations, especially local schools, have acquired greater discretion over the definition of school subjects and curricular emphases. The study investigated whether and how different patterns of educational governance influence the actual curriculum that local schools put into place. It was argued that uniformity/diversity in the implemented curriculum reflects macro-level factors that is, structural and institutional characteristics of national educational systems and meso-level factors such as community and local school characteristics. Specifically, it investigated between-school variation in curricular implementation in two major sectors of the Israeli public educational system: Jewish (secular), and Arab. School-based differences are reported in course offerings and time-allocations to subject areas in each sector. In addition, it compared actual curricular implementation in relation to official guidelines established by central authorities. Implementation patterns between and within sectors are discussed in light of educational governance differences and key macro- and local-level factors.

Another research conducted by Likisa (2018), in Ethiopia, observed that Technical and Vocational Education and Training (TVET) is one of the noticeable priority areas in Ethiopian education system. TVET was designed to redress the challenges of poverty, unemployment, low technological development, and low productivity of the economy (Michael & O'Connell, 2014). The TVET along with competency-based education (CBE) was introduced in Ethiopia in 2004 in response to the skill needs in the labor market. The primary aim of this study was to examine whether the TVET curricula clearly aligned with occupational standards to ensure graduates' employability (Mitchell, 2015). It also examined whether the curriculum is adequate to ensure entry-level competence.

In Tanzania, training in the late 1970s, Competency Based Education and Training (CBET) was an approach that emphasized the development of skills or competencies which were required in the world of work. In CBET, the focus shifted from the content or knowledge to outcomes derived from the requirements of employment (Kyobe and Rugumayo, 2005). There were various challenges hindering effective implementation of CBET system. For instance, effective implementation of CBC requires proper teachers' orientation and training, appropriate teaching and learning resources and adequate classrooms. Despite the fact that the competency-based curriculum has been implemented for eleven years in Tanzania it appears that students' education achievement as seen in self-employment, creativity, innovation and talent exploration is below the expectation of the general public (Mokoro, 2020). This implies that challenges related to CBC implementation have not been addressed hence the need to carry out a study in order to adequately tackle the challenges. The issue of concern for the current study was to find out how the practices of CBC affect the learners' education achievement. It is in this regard that this study aimed to assess the Effects of Competency - Based Curriculum on Students' Education Achievement in Secondary Schools in Arusha City Council, Tanzania.

## **2. Literature Review**

The theoretical and empirical literature was reviewed with reference to research objectives. The study was anchored on the Social Constructivist theory.

### **2.1 Social Constructivist Theory**

Current trends in research on motivation in the classroom are based on theories that focus on the individual's intrapsychological traits or his or her cognitive and/or affective functioning. In contrast to this individualistic perspective, social constructivist theory provides a framework for conceptualizing motivation as socially negotiated by the participants in the classroom (McKernan, 2013). In such a conceptualization, motivation is inseparable from the instructional process and the classroom environment. The culturally determined joint activity between student and

social context results in an internal state of interest. Moreover, it results in cognitive and affective engagement as well as motivated behaviors, both of which can be considered cultural norms. Implications of this perspective for understanding motivation, classroom instruction, and research are discussed in Competency - Based Curriculum (McKernan, 2013).

Constructivism as an educational theory holds that teachers should first consider their students' knowledge and allow them to put that knowledge in to practice (Mvududu & Thiel-Burgess, 2012). In other words, Mvududu and Thiel-Burgess represent constructivist view as one of the leading theoretical positions in education. Since there is no universal definition of constructivism, some consider it as a theory of learning, others as a theory of knowledge; although some other scholars and theorists consider it as a theory of pedagogy. Additional views are theory of science, educational theory or an all-encompassing worldview (Amineh, &Asl, 2015).

The theory was relevant to the current study because it emphasized acquisition of knowledge and skills through social interaction. In Competency Based Curriculum, educators focus on a curriculum that highlights social reform as the aim of education. The goal of education in CBC is to teach students to think rationally and develop minds that can think critically. In this regard, classroom aims to be a closely organized and well-disciplined environment, which develops in students a lifelong quest for the truth (Amineh, &Asl, 2015).

## **2.2 Assessment of the Implementation of Competency Based Curriculum in Secondary Schools**

A study conducted in Indonesia by Utomo (2005), focused on the time when the Indonesia government launched a new national curriculum, CBC, in response to both the need to produce human resources to survive in the era of globalization and the change in the government system from centralization to decentralization. This resulted in increasingly greater responsibility at the local level in implementing the reforms. As the reforms regarding the decentralization of certain educational functions and processes in Indonesia continue, understanding the impact on curriculum reform and the changes at local school levels were essential. The objective of the study was to investigate the ways in which primary school teachers respond to the implementation of CBC, particularly, issues like curriculum diversification, learning materials, syllabus design, and student assessment.

CBC places emphasis on competence development rather than on the acquisition of content knowledge. This effectively means that the teaching and learning process has to change its orientation from rote memorization of content to the acquisition of skills and competencies useful for solving real-life problems. Teaching methods include

role-play, problem-solving, projects, case studies, and study visits, among other learner-centered strategies, and the teacher is expected to switch from the role of an expert to that of a facilitator who guides the learning process (Bhattacharya, 2021).

Learners are expected to take responsibility for their own learning through direct exploration and experience while their teachers are expected to design effective learning activities geared towards the development of specific competencies. Moreover, the revised curriculum requires teachers to frequently assess their students using assessment methods, such as portfolios, classroom or field observation, projects, oral presentations, self-assessments, interviews and peer assessments. Teachers are also required to change from a norm-referenced to a criterion-referenced judgment of learners' capabilities or competencies to determine their progress. Finally, teachers are supposed to provide continuous, timely and constructive feedback to inform their students about the strengths and weaknesses of their performance since instruction and learning are reviewed and modified based on the feedback (Bhattacharya, 2021).

Tanzania introduced CBC in secondary schools in 2005 and in primary education in 2006. Back in 2001 the Ministry of Education and Culture had asked for education to be treated as a strategic agent in the creation of a well-educated nation (Kafyulilo et al., 2013). The ministry anticipated developing an education system that would enable Tanzanians to be sufficiently equipped with the knowledge needed to competently and competitively solve the development challenges facing the nation. However, a 2012 study on the implementation of the competency-based teaching in schools in Tanzania established that CBC had not been well implemented and more efforts needed to be devoted to the development of tutors' and principals' understanding of the CBC approach. A study conducted by Likisa (2018) to assess CBC implementation in Tanzania have confirmed that there is very minimal use of the CBC teaching approach in schools and that more than 80 per cent of the teachers lack a proper understanding of the approach and continue to use traditional knowledge-based teaching and learning methods, with assessment methods remaining the same as those used in assessing knowledge-based teaching and learning, while the teaching approach continues to be teacher-centered.

Based on the findings of research conducted by Aytac and Deniz (2010), it is fair to conclude that the implementation of CBC has not lived up to the aim of transforming education in Africa. Collective efforts are, therefore, needed to save Africa's education system not only from vested business interests and local cartels, but also from international agencies and non-governmental organizations with hidden agendas. The African Ministries of Education should commission highly educated and experienced curriculum developers and evaluators to produce a high-quality curriculum which is

relevant to the African child and to the needs of the continent.

According to Mokoro (2020), teachers seem not to be trained in various recommended methods for the CBC, this condition reduces the variation of teaching styles which would make learners more involved and engaged in various ways for effective learning and developing different competencies as targeted by the CBC. Therefore, there should be organized pedagogical training sessions for teachers in secondary schools to equip them with the methodological competencies in using different teaching methods as demanded by the competence-based curriculum. Teachers need constant professional proficiency through seminars, in-service training programs and workshops in order to be effective in their teaching and learning activities for the purpose of implementing the educational aims and objectives to bring positive effects of Competency Based Curriculum on students' education achievement.

For effective CBC implementation to occur, there should be teachers' orientation and training, appropriate teaching and learning resources and adequate classrooms. Despite the fact that the competency-based curriculum has been implemented for eleven years in Tanzania it appears that challenges related to CBC implementation have not been studied adequately.

### **2.3 The Extent to which the Implementation of Competency Based Curriculum Affect Students' Education Achievement in Secondary Schools**

In order to assess the outcome of implementation of CBC, intensive and critical reasoning is needed on producing competent learners in all aspects. Several critical questions need to be answered. There is a need to understand lessons learned in alternative programs for learners in efforts being developed for adult learners in Africa (Kinyunyu, 2020). Can aspects of a Western educational model be Africanized in order to optimize the relevance of the educational enterprise as well as to adequately prepare learners to address critical issues that are facing the African continent? How can lifelong learning be incorporated as a meaningful component of competency-based education in Africa? The study by Kinyunyu (2020) examined concepts of competence and competency, competency-based education and lifelong learning for learners, both generally and specifically, and considered them in the context of education on the African continent. This shares reflections of their participation in two partnerships between public and private secondary school education institutions in Arusha City Council, in developing and implementing competency-based programs for learners at the secondary level. Issues related

to career, curriculum development and access of CBC education are raised.

According to Moshia (2012), students work at their own pace to demonstrate mastery in the competencies necessary for their chosen field of study. Competency based programs are very flexible as their structure depends on the individual learner. There is no rigid schedule in these programs, no set semesters and no classes. Instead, students guide their learning and control when and where they complete projects and assessments. CBC is also flexible in that it allows students to enter a program at any level where they are given credit for previous experience (Utomo, 2019).

The focus of CBC is on the final outcome and not the journey. This enables students to control their pacing because they are not confined by a set learning process. As soon as a student feels they can prove mastery, they can take an assessment, receive credit and start on the next material. Moving as slow or fast as they wish, students are able to complete a degree when they are ready. This is a huge benefit for independent and adult learners who may be working towards a degree around other schedules Gil and Petry, (2016).

According to Luambano, (2018), knowledge and understanding of teachers constitute an important aspect in the implementation of competency-based curriculum during the teaching and learning process. Indeed, the effectiveness and efficiency of CBC depends on teacher's ability to carry out teaching and learning activities responsibly and effectively.

### **3. Methodology**

The study adopted convergent mixed methods design suitable to collect data through questionnaires and interview. The sample size consisted of 142 respondents including 30 teachers, 90 students selected by simple random and stratified random sampling techniques. Teachers and students were selected based on their gender whereby 15 male and 15 female teachers were selected while 45 boys and 45 girls were randomly selected for the study. Purposive sampling technique was used to select 10 Heads of schools, 10 SQAQ, one WEO and one DEO. Validity was established through expert judgment whereas reliability was determined using test-retest technique and reliability index, QS  $r=0.85$  and QT  $r=0.82$ , was obtained using Cronbach Alpha Method. Credibility of qualitative data was ascertained by involving multiple analysts, whereas dependability was established through detailed reporting of the research process. Qualitative data were analyzed thematically along the research questions and presented in narrative forms whereas quantitative data were analyzed using descriptive statistics in the SPSS version 21 and results were presented in pie charts, tables of frequencies and percentages.

## 4. Results and Discussion

The findings were discussed with regard to research objectives.

### 4.1: The Findings on the Assessment of the Implementation of Competency

## Based Curriculum in Secondary Schools

Table 1 summarizes the findings on assessment of the implementation of Competency Based Curriculum in secondary schools in Arusha City Council.

**Table 1: The Findings on the Implementation of Competency Based Curriculum**

<b>Statement</b>	<b>Students (n = 90) f(%)</b>	<b>Teachers (n = 30) f(%)</b>	<b>Total (n = 120) f(%)</b>
Learner centred approach	71(78)	28(93)	99(83)
Teacher centred approach	78(87)	19(63)	97(81)
Group discussions	75(83)	29(97)	104(87)
Lecture method	40(44)	13(43)	53(44)
Students' world view	48(53)	25(83)	73(61)
Students' explore their creative skills	64(71)	27(90)	91(76)
Project work	66(73)	30(100)	96(80)
Students' exhibitions	72(80)	27(90)	99(83)

f = frequency, % = percentages, values in brackets are percentage of students and teachers who agreed with the statement. Hence, those with contrary opinion to the statement are implied.

Table 1 shows various responses from the students and teachers on assessing the implementation of CBC in secondary schools in Arusha City Council. The items included in this objective are learner and teacher centred approaches, group discussions, lecture method, student's world view, and students' exploration to creative skills, project work and students' exhibitions.

The findings on learner centred approaches show that 51(57%) students supported that this approach is being practiced in schools in the study area. Students were supported by 28(93%) teachers that the approaches based on learners are realized in the strategies and methodologies of teaching and learning processes. This shows that most of the teachers are conversant with learner centred approach compared to the number of students in the study area. It is shown that only 2(7%) teachers did not support while 19(22%) students were against learner centred approach in the study area. Nevertheless, total frequency of 79 respondents which is 66% of sampled teachers and students supported that CBC employ learner centred approach. Therefore, the researcher concluded that learner centred approach is used to implement CBC accordingly with the conviction that more than half of the sampled teachers and students supported the approach as being implemented in the study area.

On another sub-item which is teacher centred approach, 78(87%), students supported the findings leaving only 12(13%) students who did not support it. There were 19 (63%) teachers who supported the students on the practice of teacher centered approach while 11(37%) teachers were of contrary opinion. Generally 97(81%) respondents of the

total sample of teachers and students admit on the use of teacher centred practices as one of the means of CBC implementation. The researcher established that most schools in the selected area use teacher centred method to implement CBC leaving 23(19%) respondents who did not support the sub-item.

Though it does not contribute much to the implementation of CBC, the researchers investigated the teacher centred methodology to find out the truth about the efficiency of CBC in schools. They discovered that both teachers and learners supported teacher centred approach in the implementation of CBC. MoEC (2005), supported the study findings that CBC implementation in Tanzania have confirmed that there are teachers who continue to use traditional knowledge-based teaching and learning methods, with assessment methods remaining the same as those used in assessing knowledge-based teaching and learning, while the teaching approach continues to be teacher-centered.

On the sub-item Group discussion as a child centred strategy in which students are divided into groups and encouraged to discuss on the subject matter given, the findings show that 75 (83%) students support the availability of group discussions as a strategy in the implementation of competency based curriculum. The students were supported by 29(97%) teachers who reported that group discussions are used in teaching and learning processes. A total of 104, which is 87% of all respondents, recognised the use of group discussion in implementation of CBC. These findings are supported by Social Constructivism theory that in contrast to this

individualistic perspective, the theory provides a framework for conceptualizing motivation as socially negotiated by the participants in the classroom (McKernan, 2013).

The findings on the sub-item lecture method showed that 40(44%) students supported leaving out 50(54%) students with different options. Looking at teachers' responses, only 13(43%) teachers supported the students on the use of lecture method in the sampled area whereas 17(57%) had different opinions. A total of 53 respondents which is 44% supported lecture method as one of the methods used in selected secondary schools in implementation of CBC. From the results, the researcher discovered that more than half 67(56%) of the respondents from the total sample population 120(100%) recognise lecture method as not suitable in the implementation of CBC. Lecture method is the oldest method of teaching that the teacher clarifies the content matter to the students by using gestures, simple devices, by changing voice, change in position and facial expressions. Teachers are more active and students are passive but the teacher also asks questions to keep the students focussed. The findings imply that lecture method is not appropriate method in the implementation of CBC.

The findings on students' world view show that 48(53%) students supported it whereby 42(47%) students had a contrary opinion. A good number of teachers 25(83%) supported their students in this sub- item leaving out only 5(17%) teachers with different judgment. The researcher observed that a total of 73 respondents which is 61% concurred that students are given world view opportunities in teaching and learning activities in the implementation of CBC.

In another sub-item on students' exploration of creative skills, the study results showed that 64(71%) students supported it as a strategy in the implementation of CBC. In addition, 27(90%) teachers agreed that there are chances given to the students to explore their creative skills in the sampled area. A total number of 91 respondents which is 76% support the sub-item as used in CBC implementation. The study findings are supported by Ornstein & Hunkins (2004), as it has been said "Learning is influenced by teachers". This shows how important teachers are to the process of curriculum implementation. Therefore, it is important for the teachers to understand the content included in the curriculum and to know the best practices in its delivery to the students enabling them to solve complex problems and find interesting ways to approach tasks.

During the interviews, on explaining how the components of CBC are implemented in secondary schools in Arusha City Council, a respondent reported that:

*Effective implementation of CBC improves innovative skills, develops multiple competencies and enables students to find solutions to*

*problems Exhibitions and presentations enhance cooperation; create self-confidence and group support in students for the development of the society (Personal interview, June 7, 2021).*

This finding concurs with quantitative finding by Nsengimana (2020) which also indicated that there should be maximum cooperation among the teachers, among the students and between the teachers and students in order to bring to reality the psychomotor skills, creative skills and innovative skills. All students should participate fully in practical activities in all science subjects such as physics, chemistry and biology. This will enable students to extract their world view and unveil their talents as they involve themselves in measuring samples using weighing instruments such as beam balances and spring balances. They gain confidence as they interact with chemicals and apparatus in mixing and creating new samples in the laboratories.

The processes of dissection, labelling and naming the parts of real specimens enable the learner to get the clear and real concept of the subject matter than those who rely only on text book concepts. The findings from the current study are supported by Moon (2017) whose findings showed that the curriculum remains a means through which education systems help its citizens acquire desirable knowledge, skills, values and attitudes, in which teachers must seek to overcome the narrow minded past of traditional syllabi or written plans and focus on providing learners with the ability to acquire, develop and apply knowledge, values and attitudes which should lead to the utilization of skills.

From the current study, the findings show that respondents were familiar with what the CBC entails in the implementation of the national curriculum goals in education sector after having been enlightened through seminars and workshops on CBC. A respondent reported:

*Teachers attend seminars and workshops on CBC to impart knowledge and creative skills to the learners (Personal interview, June 9, 2021).*

This finding is in agreement with quantitative finding. This implies that the teachers have been trained on CBC in order to bring about effective implementation of the curriculum and increase understanding and abilities for better achievement in learners' education. Both new and experienced teachers are provided with in-service training especially on CBC progressively to make sure that they are well equipped in order to bring best results in student's learning experiences. The findings are also in agreement with Tolliver, Martin, & Salome (2017), who examined the concepts of competence and competency-based education and lifelong learning for adult learners, both generally and specifically, and consider them in the context of education on the African continent.

The Kenyan new competency-based curriculum (CBC) and most curricula in sub-Saharan Africa are aimed at

promoting education for sustainable development as an alternative approach to school. To address some of the knowledge deficiencies that are currently formulated from the western perspective, a study carried out by Okeyo et al (2021) focused on the integration of existing Indigenous Knowledge Systems within the country into the CBC in Kenyan schools. The objectives of this study were to explore the role of indigenous knowledge systems, provide critical analysis of the CBC to assess the extent to which indigenous knowledge systems have been integrated into teaching/learning in the Kenyan formal school system, and propose a working paradigm of introducing indigenous knowledge systems in teaching/learning in our schools (Lumonya, 2020).

Moreover, according to Moon (2017) on assessing the extent to which the systems have been integrated into teaching and learning, one striking themes of contemporary society is our continual search for quality. Within this context, evaluation becomes a key factor for identifying both the desired and undesired aspects of an activity, leading to a continual improvement of services. Within the educational sector, this includes the evaluation of program offerings. The finding indicates that evaluation is the process by which information is obtained about student learning so that changes can be made, if necessary.

## 4.2 The Findings on the Extent to which the Implementation of Competency Based Curriculum affect students' Education Achievement in Secondary Schools

Table 2 summarizes the findings on the extent to which the implementation of CBC affects students' education achievement in secondary schools in Arusha City Council.

**Table 2: The Findings on the Effects of Competency Based Curriculum on Students' Education Achievement**

Statement	Students (n = 90) f(%)	Teachers (n = 30) f(%)	Total (n = 120) f(%)
Self-employment	74(82)	27(90)	101(84)
Enhances creativity	74(82)	28(93)	102(85)
Improves innovative skills	73(81)	30(100)	103(86)
Develops multiple competencies	80(89)	29(97)	109(91)
Enables student to find solution to problems	83(92)	28(93)	111(93)
Necessary for future career development	79(88)	28(93)	98(82)
Talent exploration	67(74)	29(97)	96(80)

f = frequency, % = percentages, values in brackets are percentage of students and teachers who agreed with the statement. Hence, those with contrary opinion to the statement are implied.

Table 2 results show the findings from the effects of Competency Based Curriculum on students' education achievement. The findings are based on the following sub-items namely: self-employment, creativity, innovative skills, multiple competencies, ability of student to find solution to problems, future career development and talent exploration. Results from both 30 teachers and 90 students are represented in frequencies and percentages from a general sample population of 120 respondents from the study area.

On sub item self-employment, the findings show that 74(82%) students and 27(90%) teachers with a total of 101 respondents which is 84% supported that it is possible for the students to be self-employed after their secondary school studies if CBC is well implemented. The researcher established that the effective implementation of CBC in secondary schools will reduce the number of idle youth in

the streets after ordinary level accomplishment as they are able to employ themselves and earn their living.

Another sub item is enhancement of creativity whereby 74(82%) students and 28(93%) teachers supported that creativity is one of the effects of CBC in students' education achievement. A total of 102(85%) respondents supported that the effective implementation of CBC will enable students to develop creativity.

Improvement of innovative skills is another sub item in which 103(86%) respondents supported that the implementation of CBC would result into the development of innovative skills for the learners. In particular, 74(82%) students and all 30(100%) teachers supported each other in this sub item. It is only 16(18%) students who had contrary notion.

Development of multiple competencies is the next sub item whereby 80(89%) students and 29 (97%) teachers supported it as the effect of CBC in student educational achievement in secondary schools of the sampled population. Generally, 109respondents which is 91% supported that in the process of teaching and learning based on the methods of CBC, there is continuous development of proficiencies in learners. The findings are supported by (Sullivan & Downey, 2015), that, one of the strongest outcomes of competency-based education is increased student engagement. Students are more engaged in the material because they have ownership over their learning.

The sub item - finding solutions to different problems indicated that 83(92%) students and 28(93%) teachers supported it as another effect of the implementation of CBC with a total of 111 participants that is 93%. From the findings the researcher concluded that almost all respondents except 9(7%) show that students are given tasks and questions that require correct and clear solutions.

CBC implementation affects future career development of the school leavers. This sub item is supported by 79(88%) students and 28(93%) teachers which gives total of 98(82%) respondents. Referring to the study findings the researcher established that CBC is the backbone of different careers when it is effectively and efficiently implemented in secondary schools with the possibility for learners to determine their future career.

Lastly, the talent exploration sub-item is supported by 67(74%) students leaving out 23(26%) students and seconded by29 (97%) teachers except 1(3%) teacher who had different views. Having a total of 96 respondents which is 80% of the total sample population, the researcher observed that CBC implementation provides learners with opportunities to explore their various hidden talents which are recurring patterns of thought, feeling, and behaviour that quantify potential including innovation, adaptability, persuasion, communication, and teamwork.

The implementation of CBC enhances competencies of students in different ways as one respondent reported:

*Effective implementation of CBC improves innovative skills, develops multiple competencies and enables students to find solutions to problems* (Personal interview, June 9, 2021).

The view put forward by participant indicated when students get opportunities to explore their skills, they become competent in varied aspects that go beyond performance on both formative and summative exams. Competency based learning or education (CBE) is not a new trend, but has received much attention over the past few years as more institutions develop programs. As the name suggests, CBC programs are based on the

development of competencies applicable to a particular career.

A respondent retorted that:

*CBC produces competent learners for social needs improvement, self-employment, talents exploration, language flexibility and different careers increment* (Personal interview, June 7, 2021).

The quantitative research findings support that CBC will enable the students to gain competencies that helps them to be self-employed after their studies. The study findings are clear as they show the uniqueness of CBC as compared previous curriculum reform Knowledge Based Curriculum (KCB) which was based on knowledge acquisition leaving a gap for skills' development. The researcher developed that CBC focuses on what students learn and apply in real life situations and not on the time spent in the classroom on book to brain knowledge in completing credits.

The curriculum is described as being integrative, combinatory, developing, contextual, and evolving. A respondent who is one of the school quality assurance officers reported:

*Close supervision SQA on the implementation of CBC by the teachers in each school opens the door for the learners to achieve quality education* (Personal interview, June 14, 2021).

The findings show that the views put forward by participant indicated the school quality assurance officers need to supervise educational activities in all schools for quality teaching and learning processes. The HoS as internal supervisors should focus on close monitoring and evaluation of all curricular activities in their schools. According to this study, CBC is based on the creation of multiple learning situations through which students access and evaluate information. Students turn information into knowledge through a scaffold system of learning experiences which require them to complete complex, informed actions and mobilize resources. These actions support student's competency development in allowing students to complete authentic and complex tasks which mimic their future professional activities in accordance with the CBC curricular model analyzed and interpreted in this research study.

## **5. Conclusion and Recommendations**

### **5.1 Conclusion**

Based on the findings of the study, the following conclusion was drawn: The study discovered that the effects of CBC on students' education achievement depend much on the effective implementation of the curriculum.

On the objective to assess the implementation of CBC in secondary schools in Arusha city Council, the findings of this study reveal that there has been efficiency in implementation of CBC in schools that brought positive change and motivation to the students in their desire to learn and thirst for knowledge. This is evidently assessed in the implementation of CBC by employing learner centered approach that students are able to explore their own world view and the entire hidden multiple competencies. However, there are several teachers who still cling to simple strategies and methodologies of teaching such as teacher centered approach and lecture method which do not provide a room for the learners to discuss, create, innovate and show their abilities. In addition, the findings show that teachers encountered challenges such as overcrowded classes with very large number of students that consume a lot of time in the implementation of CBC. Some schools encounter a challenge of having laboratories and practical rooms which have limited resources (teaching and learning materials) for CBC. Since the educational officers, SQAQO, HOS and teachers are effectively implementing the CBC, the ministry of education and the government need to keep on motivating these stakeholders for effective implementation of this curriculum.

In addition, the study concludes that, the effects of CBC are seen as the outcome of its implementation in the study area. When the learners are equipped with CBC practices while in schools, they are able to use various skills for individual and communal development after their studies. Therefore, all the education stakeholders, both internal and external should collaborate to make sure that timely monitoring and supervision of teachers in schools on CBC

implementation is done. Also, the government should provide enough resources such as more classrooms and equipped laboratories. This will help the learners to reach their goals in academic performance and to achieve the education that helps them in their future life in the society.

## 5.2 Recommendations

Based on the research findings, the following recommendations are given:

- i. Teachers should show commitment in CBC implementation and motivate learners' desire to succeed, explore, and improve in academic achievement not only for the benefits of the individual student but of the entire society.
- ii. The school management team should closely monitor and supervise implementation of CBC activities for the learners to explore their talents, careers and hidden world views.
- iii. Educational officers should play their role in both the academic and the contextual organizational arrangements such as supervision of time management, provision of required instructional materials, organizing workshops and seminars about CBC reforms and addressing initial disparity between the teacher's perspectives and the policies underlying the curriculum modification.

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