Curriculum Review and Its Effectiveness in Improving Skilled Based Education in Secondary Schools in Arusha District Council, Tanzania

Justine R. Swai
Head Master, Einoti Secondary School, Arusha.
Email: justineswai@gmail.com

Kennedy Omondi Otieno
St. Augustine University of Tanzania (SAUT), Arusha.
Email: omondiken2016@gmail.com

Abstract: *The study investigated the effectiveness of curriculum review in improving skilled based education in secondary schools in Arusha district. Objectives were to; assess the factors for curriculum review and determine solutions to the shortcomings in curriculum review on skilled based education in secondary schools. The study was guided by Pedagogic Device Theory. Cross sectional survey design and mixed methods approach were adopted. The study targeted a population of 383 from 61 secondary schools from where a sample size that consisted of 170 (120 form four leavers, 36 teachers, 12 school heads, 1 SQAO & 1 DSEO) respondents was drawn. Form four leavers were obtained through snowball sampling techniques while school heads, SQAO & DSEO were purposively sampled. Data collection was done through questionnaires and interview guide. Validity was established through expert judgment whereas reliability index, FFLQ; r=0.823 & TQ; r=0.740 was obtained using Cronbach alpha. Credibility of qualitative instruments was enhanced through triangulation. Descriptive statistics was used to analyze quantitative data in the SPSS version 25 and results were presented in tables, while qualitative data were analyzed thematically alongside research questions and presented in narrative forms. Curriculum that equips students with practical skills, market demand and relevant to current societal needs are factors for curriculum review. The study concludes that there is a need to develop partnerships with local businesses to offer students internships and apprenticeship opportunities. The study recommends that educators should incorporate critical thinking, creativity, and problem-solving skills into the curriculum to prepare students for the 21st-century workforce.*

Keywords: *Curriculum, Effectiveness, Education, Schools, Arusha*

1. Introduction

Curriculum refers to all the learning which is planned or graded by the school whether it is carried out individually, inside or outside the school. The dynamic nature of educational requirements and the evolving job market necessitates curriculum review. Curriculum review refers to the regular assessment and adjustment of educational programmes to ensure their relevance and effectiveness (Button, 2021). It involves evaluating the curriculum to

align with evolving educational standards and societal needs (Sharma, 2023).

The curriculum review highlights the need for a solution that addresses the practical and theoretical aspects of education, ensuring relevance and effectiveness (Harve, 2023). In England, Gouëdard et al., (2020) highlight a trend where curriculum changes are influenced by political and cultural factors, emphasizing the dynamic nature of educational frameworks. In Sub-Saharan Africa, curriculum review has been a topic of discussion (Nsengimana et al., 2020). In Nigeria, Adeniran et al. (2020) reveal an emphasis on education funding and learning outcomes, with gaps in understanding the effectiveness of curriculum changes in skill development. Without continuous evaluation and adaptation, the curriculum may become outdated, failing to equip students with the necessary skills for future employment (Nevenglosky & Cale, 2019).

In Kenya, the implementation of a new curriculum, known as the Competency Based Curriculum (CBC), has been a subject of interest (Muchira, et al., 2023). However, adopting and implementing the CBC in Kenya remains a widespread barrier to education (Akala, 2021). This highlights the urgency of promoting skill-based education through frequent curriculum review to address the barriers and gaps in the current education system in Africa (Isaboke et al., 2021). Due to concerns like dynamic nature of skill requirements in the modern workforce, there is a need to ensure that secondary education remains adaptive, fostering the development of skills essential for students' success in real-world scenarios (Li, 2022).

In Tanzania, the dynamic landscape of education has prompted a growing interest in the efficacy of curriculum in secondary schools (Steele et al., 2021). Efforts have been taken from 1990s to review curriculum (Rodriguez-Segura and Mbiti, 2022). Currently, Tanzania government has provided competence-based curriculum in schools (Dismas et al., 2023). Similarly, the issue of curriculum review and skills is aligning with national development priorities, such as competence-based curriculum in education which underscores the significance of an adaptive curriculum in fostering a skilled workforce (Tarmo and Kimaro, 2021). Likewise, it links priorities in ensuring quality education and skilled secondary school students (Meinyal and Otieno, 2022). There is a public debate on skills (domain-specific skills that would be used only for a certain job) imparted to students from the current curriculum. However, the extent to which curriculum reviews effectively promote skilled-based education is still a challenging issue (Komba & Shukia, 2023). Consequently, there is a need for research on the extent to which skills-oriented curriculum changes is relevant to local contexts and needs.

1.1 Research Questions

The following research questions guided the study:
1. Which factors influence curriculum review in secondary schools in Arusha District?
2. What are the solutions to the shortcomings in curriculum review for effective skilled based education in secondary schools in Arusha District?

2. Literature Review

The theoretical and empirical literature was reviewed with reference to themes created from research questions. The study was anchored on Theory of Pedagogic Device by Bernstein's 1996/2000.

2.1 Theory of Pedagogic Device

This theory attempts to describe the general principles which underline the transformation of educational knowledge such as the formal curriculum into pedagogic communication (Bernstein, 2000). Bertram (2012) elaborates that the theory concerns systemic and institutionalized ways in which knowledge is transformed from the field of knowledge production into the school system and its distribution and evaluation within the school system. The theory was developed out of Bernstein's critique of cultural reproduction studies, which focused on examining what is carried or relayed by education, such as class, gender and race inequalities, rather than on what constitutes the relay itself. Bernstein argued that such studies failed to focus on the internal analysis of factors that influence curriculum review and the structure of the discourse itself.

2.1.1 Strengths of Coping Theory

The pedagogic device theory provides a model for analysing the process by which expert knowledge on formal curriculum is converted into the classroom teaching-learning process. Therefore, the theory allows the researcher to go beyond the question of how faithfully the official curriculum message is interpreted and implemented to describing in real sense ways in which post students apply the skills acquired.

2.1.2 Application of the Theory to the Current Study

The theory is relevant to the current study since it is focused on how new knowledge; discourses and ideas are created and modified. To clarify, this may involve, for example, the creation of education and training policies,

curriculum policies, and school subjects, which is usually performed by policy makers and university academics. In this regard, the curriculum designers make selections about the knowledge (content), pedagogy and assessment that constitutes the official curriculum. Then, local actors, who may also include textbook writers, let alone tutors and school teachers, interpret the curriculum document in the so-called Pedagogic Re-contextualising Field. The field of reproduction is the arena where tutors and school teachers engage in pedagogic and assessment practice.

2.2 Empirical Review

There is a strong desire to provide quality education through well-resourced teaching and learning environments. Effective implementation of the reviewed curriculum is heavily dependent on the availability of appropriate materials and resources. The study reviewed literature that reflects the need for educational systems to adapt to the evolving demands of the job market and society.

2.2.1 Factors for Curriculum Review in Secondary Schools

In India, Dyjur, et al. (2019) focused on the guide to curriculum review. The study found out that most learning institutions use curriculum review as a way of closing the gap between the current institutions' performance to the expected future performance. Through this approach, institutions have managed to employ skilled based experts in different areas.
In South Africa, a study was conducted by Makunja (2019) on factors for curriculum review aimed at exploring the evidence-based practice of skilled based education. The study established that African education still changes due to the influence of technological advancement and globalization. Many African countries are struggling to be at abreast with the international standards in the technological progress. In a related study, Ruth and Ramadas (2019) noted that adoption of CBC brings new trends on the influence of African education with the rest of the world. CBC emphasis is on the attainment of competencies among the graduates, which is fundamental to the employability in the job market. All the cited studies explain the role of teachers on implementation of CBC on documet bases such as syllabus, lesson plans and lesson delivery.

Kimario & Otieno (2022) focused on the effects of CBC on students' education achievement: a study of secondary schools. The study found that key factors such as teacher efficacy, feedback, and collaborative learning as critical for curriculum success. There is need to put in place strategies of improving effective implementation of the CBC in

secondary schools. While in Tanzania, Assey (2022) researched on perception of teachers on their preparedness for implementation of the CBC among secondary schools. The author established that High-quality instructional materials are crucial for successful curriculum implementation.

2.2.3 Solutions to the Shortcomings in Curriculum Review for Effective Skilled Based Education in Secondary Schools

As Beare (2019) pointed out that at the 2016 Joint Annual Review (JAR) of the Ministry of General Education (MoGE) in Lusaka, Zambia, the following issues and concerns about the revised curriculum were raised by stakeholders: firstly, the quality of text books; secondly, the in-service training of teachers about the revised curriculum; and thirdly, the availability of other teaching and learning resources especially for the newly introduced subject areas such as technology studies, business studies and social studies. Mulenga and Kabombwe (2019) added that more plans by MoGE to provide education which is holistic and relevant to the needs of an individual and the society might be difficult to accomplish if issues and concerns of the shortcomings of the revised curriculum are not attended to.

Imoet et al. (2018), in a study about staff development programs and secondary school teachers' performance in Nigeria, empirically revealed that, teachers who participated in staff development programs were more effective in their job performance than those who did not participate. According to Wright and Geroy (2021) employees' competencies improve through effective training programmes. It not only improves the overall performance of the employees to effectively perform the current job but also enhances the knowledge, skills an attitude of the workers necessary for the future job, thus contributing to superior organizational performance. Through training the employee's competencies are developed and enable them to implement the skilled based education efficiently and achieve institution's objectives in a competitive manner. However, employee performance is also affected by some environmental factors such as corporate culture, organizational structure, job design, performance appraisal systems, power and politics prevailing in the institution and the group dynamics. If the above-mentioned problems exist in the firm, employee performance decreases not due to lack of relevant knowledge, skills and attitude, but because of the mentioned hurdles. To make training effective and to ensure positive effects of disseminated knowledge after training on these elements should be highlighted and addressed.

In addition, Assey (2022) researched on the strategies for improving the practices of curriculum implementation in classrooms. The study pointed out that a better way of thinking of quality in education is to associate it with the process whereby the inputs to schooling (pupils, abilities, materials, buildings, teacher instructions and others) are transformed into outputs from schooling (knowledge, skills and values), as shown in an exam performance and other modes of assessment results. Consequently, the elements or factors that constitute and define quality include efficiency, that is, the extent to which educational needs are met by effective use of available resources. This conclusion was reached after making observations based on some of the students' responses.

Ong & Quek (2023) found that improving working surroundings of teachers, such as by building big classrooms and laboratories that foster a lot of student-teacher interaction, is one way to improve teachers' approaches for teaching and learning. Moreover, in Kenya, Mosses and Wamalwa (2019) have pointed out that improving school infrastructure is a crucial step in guaranteeing that competence-curriculum is successfully implemented in schools. The study also argued that quality as an outcome of education should be portrayed in the results considering the factors that constitute quality of education such as self-employment, self-innovation and multiple competencies.

3. Methodology

In this study, Cross sectional survey design and mixed methods approach were adopted. This design allowed the researcher to survey different numbers of schools at one point in time in order to get information about curriculum review and its effectiveness in improving skilled based education. Creswell & Creswell (2018). Demir & Pismek (2018) reports that a mixed methods approach entails that the researcher concurrently conducts the quantitative and qualitative elements in the same phase of the research process, weighs the methods equally, analyses the two components independently, and interprets the results together. After data analysis the results were mixed and interpreted together.

The study targeted 33 school heads in public secondary schools, 28 school heads in private secondary schools, 120 teachers teaching form four class from both public and private secondary schools (MoEST, 2023). Similarly, the study targeted 1200 form four leavers from both public and private secondary schools. School heads were included in this study because they are the ones who supervise the implementation of curriculum in schools. Teaching staff were involved in this study because they are the one with the responsibilities to disseminate skilled based education

on a daily basis while form four leavers are required to implement the acquired knowledge in the job market.

Gay and Airasian (2017) observed that a sample of 10% to 30% of the target population is representative enough for the research study. This study considered the percentage a reasonable sample size to work with. Therefore, 12 (20% of 61) public and private secondary schools, 12 school heads from both public and private secondary schools, 36 (30% of 120) teaching staff and 120 (10% of 1200) form four leavers from both public and private secondary schools were selected. In addition, one District Secondary Education Officer (DSEO) and one School Quality Assurer Officer (SQAO) were selected. Therefore, the sample size for this study comprised of 170 respondents.

Stratified & simple random sampling technique was used to select 18 teaching staff from public and 18 from private schools whereby 9 female and 9 male teachers were chosen. Purposive sampling was employed to select 6 heads of schools each from public and 6 from private schools. Similarly, one DSEO and one SQAO were sampled purposively. Gender was considered to avoid biasness in the current study. Snowball sampling techniques was employed to select 120 form four leavers (60 from public and 60 from private secondary schools). In this regard, the researcher was assisted by school administrators to identify one case/respondent from the school and the identified respondent helped the researcher to locate another form four leaver. This process continued until when all cases were selected.

The study employed questionnaire to gather quantitative data from form four leavers and teachers. The questionnaire had both closed-ended and open-ended questions, written in simple language to avoid ambiguity. A five point Likert scale of Strongly Agree=5, Agree=4, Undecided=3, Disagree=2 and Strongly Disagree=1 was used to develop closed-ended part of the questionnaire. Content validity of questionnaires was ensured by submitting the instruments to the curriculum experts who ascertained the relevance of the items with respect to research questions and language clarity. Further, triangulation of data sources was used in order to validate research instruments for collecting qualitative data (Braun and Clarke, 2016). The researcher conducted a pilot study in 10% of the sampled respondents where research tools were administered to different groups of respondents. Those subjected to the pilot study were excluded during the actual study. The analysis was done using SPSS-Version 25 and Cronbach Alpha Coefficient method of measuring internal consistency obtained reliability coefficient, r= 0.823 for form four leavers' questionnaires and r= 0.740 for teachers' questionnaires. According to George and Malley (2023), the instruments were found to be fairly reliable for the study. Interview guide was used to collect

data from school heads, SQAO and DSEO. The guide comprised of four questions each with probing sub-questions. Questionnaires were then issued to the respondents and collected after one day while personal interview was conducted the same day of visit. The researcher audio recorded the conversation for later transcription with the consent of the interviewee. Descriptive statistics was used to analyze quantitative data in the SPSS version 25 and results were presented by the use of tables of frequencies, percentages and mean rating. Qualitative data was subjected to content analysis and verbatim presentation as appropriate. In this kind of analysis, information obtained from respondents was carefully sorted and organized in a manner that matches well with the key research themes (objectives). Qualitative data collected using all instruments were analyzed using thematic analysis method. The quantitative and qualitative results were later integrated in the discussion of findings.

4. Results and Discussion

The findings were discussed with regard to themes derived from research questions. The focus was directed at factors for curriculum review and solutions to the shortcomings in curriculum review on skilled based education in secondary schools. The discussion is triangulated with Pedagogic Device Theory and empirical studies reviewed.

4.1 Factors for Curriculum Review in Secondary Schools

Concerning objective one, the study sought to identify the factors for curriculum review in secondary schools in Arusha district council. Questionnaires were administered to the sampled teachers in secondary schools who were required to use five point Likert scale, where; 5=Strongly Agree, 4=Agree, 3= Undecided 2= Disagree and 1= Strongly Disagree, to indicate their level of agreement with 13-items which were in the questionnaires. Table 1 presents the data of quantitative findings.

Table 1: Response from Teachers on the Factors for Curriculum Review in Secondary Schools in Arusha District (n=36)

	Strongly Agree		Agree		Undecided		Disagree		Strongly Disagree		
	f	%	f	%	f	%	f	%	f	%	Mean
Plan to implement the curriculum which is holistic and relevant to the current needs of individuals and the society	31	86.0	2	5.6	2	5.6	0	0.0	1	2.8	4.72
Desire to develop and implement the curriculum which is learner-centred	25	69.4	11	30.6	0	0.0	0	0.0	0	0.0	4.69
Desire to develop and implement a curriculum that meets market demand	20	55.5	14	38.9	2	5.6	0	0.0	0	0.0	4.5
Advocating for a skill based curriculum	19	52.7	14	38.9	2	5.6	1	2.8	0	0.0	4.42
In order to have relevant content in the text books for the reviewed curriculum to enhance quality education	11	30.6	25	69.4	0	0.0	0	0.0	0	0.0	4.31
To have conducive environment for the successful teaching and learning of ICT	18	50.0	14	38.9	0	0.0	4	11.1	0	0.0	4.28
Desire to provide quality education in secondary schools	10	27.8	22	61.1	4	11.1	0	0.0	0	0.0	4.17
Provision of modern teaching and learning resources to enhance the effective implementation of reviewed curriculum	3	8.3	29	80.6	4	11.1	0	0.0	0	0.0	3.97
To demonstrate appropriate use of multimedia technology	0	0.0	15	41.7	21	58.3	0	0.0	0	0.0	3.42
In order for teachers in secondary schools to receive in-service training or retraining related to the reviewed curriculum	11	30.6	8	22.2	0	0.0	17	47.2	0	0.0	3.36
Need to have well qualified teachers to successfully teach the reviewed curriculum	11	30.6	4	11.1	0	0.0	21	58.3	0	0.0	3.14
Provision of quality teaching and learning	0	0.0	15	41.7	0	0.0	4	11.1	17	47.2	2.36
Average mean score											**3.94**

Source: Field Data (2024)

The data in table 2 on the factors for curriculum review in secondary schools reveal a diverse set of priorities and concerns that highlight the all-around nature of effective educational reform. In this regard, the review done with a plan to implement the curriculum which is holistic and relevant to the current needs of individuals and the society recorded a mean score of 4.72. The highest priority is placed on implementing a curriculum that is holistic and relevant to the current needs of individuals and society. In terms of rating, the 86.0% of teachers strongly agreed while 5.6% were in agreement. This implies that holistic and relevant curriculum is what teachers believe that will take learners to places. Therefore, Miller (2019) while lending support to this finding argued that a holistic curriculum addresses not only academic knowledge but also social, emotional, and ethical development, preparing students for various life roles. For example, the author found that curricula incorporating life skills and social-emotional learning resulted in better overall student outcomes.

Review of curriculum desired to develop and implement the curriculum which is learner-centred recorded a mean score of 4.69. This factor got approval rating of 69.4% from teachers who strongly agreed and 30.6% were in agreement while none held contrary opinion. The implication is that there is a strong desire to develop and implement a learner-centered curriculum. A skill-based curriculum that is learner-centred significantly improves student employability and adaptability. In support, a research by McCombs and Miller (2020) emphasizes that learner-centered approaches increase student engagement and motivation, leading to improved academic performance. The study on learner-centered pedagogies shows significant gains in student autonomy and achievement.

In their response, teachers mentioned the need for a curriculum that meets market demand (Mean score: 4.5).

Table 2 also shows that 55.6% teachers strongly agreed, 38.9% were in agreement while only 5.6% were undecided. Schools should integrate interdisciplinary approaches and socio-emotional learning to ensure a well-rounded education that meets societal needs. From the findings, the desire to align the curriculum with market demands is crucial. To buttress this finding, a study by Oviawe al. (2019) in Nigeria highlights the importance of curriculum relevance to employability. Their findings suggest that curricula aligned with industry should prepare students for the workforce, reducing unemployment rates among graduates.

Another factor for curriculum review identified was skill-based curriculum (Mean score: 4.42). The factor got approval rating of 52.7% from teachers who strongly agreed and 38.9% were in agreement while only 2.8% held contrary opinion. Curriculum developers should prioritize skill-based learning, ensuring that students acquire practical skills relevant to the workforce. This includes integrating vocational training and real-world problem-solving into the curriculum. Advocating for a skill-based curriculum is seen as essential. The importance of skill-based education is supported by the work of Duckworth et al. (2019), who found that skills such as critical thinking, problem-solving, and creativity are essential for success in the 21st century. Their research indicates that students with a strong skill set are more adaptable and innovative in the current digital age.

In addition, the need for relevant content in textbooks (Mean score: 4.31) was as well mentioned as a factor for review of curriculum. In terms of rating, 30.6% of teachers strongly agreed while 69.4% were in agreement. This implies that curriculum review is done in order to have relevant content in the text books for quality education in secondary schools. The finding clearly emphasizes the need to ensure that textbooks contain relevant content to enhance quality education is a significant concern. The respondents acknowledged that the material content of the text books in the revised curriculum should enhance quality secondary education. Rehman and Bibi (2018) weigh in by reporting that textbooks with up-to-date and relevant content contribute significantly to student understanding and retention of material. Their analysis of curriculum materials in Pakistan found a direct correlation between textbook quality and student performance.

Furthermore, conducive ICT environment was identified with a mean score of 4.28 that was above average mean score of 3.94. Table 2 also shows that 50.0% teachers strongly agreed, 38.9% were in agreement while only 11.1% disagreed. The study found out that proponents of curriculum review normally intend to have conducive environment for the successful teaching and learning of ICT in computer labs in secondary schools. Consequently, it is necessary to invest in ICT infrastructure and resources to create a conducive environment for teaching and learning in computer labs. To strengthen the finding, research by Hayes and Oppenheim (2020) demonstrates that well-equipped ICT labs enhance students' digital literacy and competence, which are critical in modern education. Their study in the UK showed improved student outcomes in schools with advanced ICT facilities.

While collecting qualitative data on the theme of desire to provide quality education in secondary schools, one head of school observed that:

> Yes, in reviewing curriculum content, there is need to look into quality education in secondary schools. This can be enhanced by allocation of teaching and learning resources through increased capitation grants, update pedagogical approaches, increase continuous professional development and higher student engagement. Similarly, there is need to align curriculum with industry and market demand besides integrating technology and modern pedagogy. However, the challenge of lack of stakeholders' involvement could still act as an impediment that should be addressed (Personal Interview, May 27th, 2024).

During interviews, one respondent had commented that:

> There is need to allocate resources to develop and maintain adequate computer labs and ICT facilities to support digital literacy and technology integration in education. The influence of availability of ICT on students' learning behaviour is such that, ICT in our school enhances learning through practical means in such a way that most students are likely to learn through online, audio-visuals and practical aids. Also, the availability of ICT transforms a student from being a consumer of teaching and learning materials to be a producer of teaching and learning materials (Personal Interview, 29th May 2024).

The comment by school head one (SH1) indicates various measure should be taken into consideration while reviewing the curriculum. The findings demonstrate that collaboration with industry's partners should be encouraged. Likewise, there is need to establish reliable feedback mechanism. The quantitative and qualitative findings align with Bernstein's Theory of Pedagogic Device. This theory attempts to describe the general principles which underline the transformation of

educational knowledge such as the formal curriculum into pedagogic communication (Bernstein, 2000). The excerpt also indicates that schools should be equipped with modern ICT facilities, including well-maintained computer labs and access to multimedia tools. This will support the teaching and learning of digital skills and the integration of technology into all subjects. The strongest emphasis should be placed on advocating for a curriculum that equips students with practical and employable skills.

The need to review curriculum in order for teachers in secondary schools to receive in-service training or retraining related to the reviewed curriculum (Mean score: 3.36) was another factor identified by teachers. The researcher established the need for fully implementing ongoing professional development programmes for teachers, focusing on the latest educational practices, technological tools, and updated curriculum content. This will ensure that teachers are well-prepared to implement the revised curriculum effectively. In-service training or retraining related to the reviewed curriculum is deemed important. Policies should be in place to attract and retain well-qualified teachers. This includes competitive salaries, career development opportunities, and supportive working conditions. Darling-Hammond et al. (2019) align to this finding by pointing out that professional development is critical for teachers to stay updated with new curricular changes and pedagogical strategies. Their review found that continuous professional development leads to improved teaching practices and student outcomes.

4.2 Quantitative response from form Four Leavers on Solutions to the Shortcomings in Curriculum Review for Effective Skilled Based Education in Secondary Schools in Arusha District Council

Regarding the last objective, this study examined the solutions to the shortcomings in curriculum review for skilled based education in secondary schools in Arusha District. The sampled secondary school form four leavers were required to indicate their level of agreements with the 9 items which were in the questionnaires using five Point Likert Scale, where; 5=Strongly Agree, 4=Agree, 3= Undecided 2= Disagree and 1= Strongly Disagree. Table 2 presents the data of quantitative findings through questionnaires on the solutions to the shortcomings in curriculum review for skilled based education in secondary schools.

Table 2: Response from Form Four Leavers on Solutions to the Shortcomings in Curriculum Review for Effective Skilled Based Education in Secondary Schools (n=120)

Solutions to the Shortcomings	Strongly Agree		Agree		Undecided		Disagree		Strongly Disagree		Mean
	f	%	f	%	f	%	f	%	f	%	
Shift the focus from traditional examinations to a variety of assessment methods.	119	99.2	1	0.8	0	0.0	0	0.0	0	0.0	4.99
Collaboration with Industry to determine market demand	38	31.7	82	68.3	0	0.0	0	0.0	0	0.0	4.72
Adopting a curriculum that allows learners to be creative & innovative.	97	80.8	16	13.3	0	0.0	7	5.8	0	0.0	4.69
Employment of more qualified teachers to successfully implement the reviewed curriculum.	79	65.8	41	34.2	0	0.0	0	0.0	0	0.0	4.66
Making reviewed curriculum fully learner-centred	75	62.5	38	31.7	7	5.8	0	0.0	0	0.0	4.57
Provision of quality teaching and learning	75	62.5	37	30.7	8	6.7	0	0.0	0	0.0	4.56
Making computer subject compulsory in school	45	37.5	64	53.3	4	3.3	0	0.0	7	5.8	4.17
Making computer subject compulsory in school	45	37.5	64	53.3	4	3.3	0	0.0	7	5.8	4.17
In-service training or retraining related to the reviewed curriculum	45	37.5	64	53.3	4	3.3	0	0.0	7	5.8	4.17
Grand mean score											**4.56**

Source: Field Data (2024)

Shift from traditional examinations to a variety of assessment methods with a mean score of 4.99 is rated the highest solution, highlighting the need to diversify assessment methods beyond traditional exams to foster a more comprehensive evaluation of students' skills and knowledge. In terms of rating, 99.2% of form four leavers strongly agreed while 0.8% agreed. The high mean score and percentage rating indicates that this is the highest-rated measure, stressing the need to move away from conventional exams to a broader range of assessment methods. While in support, Black and Wiliam (2018) argued that formative assessment practices enhance student learning and motivation more effectively than traditional exams. Fullan (2022) emphasize that varied assessment methods, including project-based and performance assessments, provide a better understanding of students' competencies. Smith et al. (2023) weighed in by pointing out the impact of diversified assessments on student learning outcomes. Incorporating project-based assessments, portfolios, and practical demonstrations alongside traditional tests enhance students' application of knowledge and skills. This approach prepares students for real-world challenges by assessing not only knowledge retention but also practical application and critical thinking

Collaboration with industry to determine market demand recorded a mean score of 4.72 and in terms of rating, 31.7% of form four leavers strongly agreed while 68.3% agreed. Collaboration with industry stakeholders ensures that the curriculum remains relevant and aligned with current market demands. The implication is that there is a need to create a conducive environment for partnership with market stakeholders in review of curriculum and its subsequent implementation. For instance, the industry should provide field or internship opportunities to students in order to sharpen their practical skills. The declaration by Mourshed et al. (2023) confirms this finding by suggesting that partnerships between education providers and industry can bridge the skills gap and enhance employability. Likewise, the World Economic Forum (2020) highlights the importance of aligning educational curriculum with the evolving needs of the job market.

Adopting a curriculum that allows learners to be creative & innovative recorded a mean score of 4.69 with approval rating of 80.8% from form four leavers who strongly agreed and 13.3% were in agreement while only 5.8% of form four leavers disagreed. Investing in professional development should be continuous for teachers since is crucial for the successful implementation of curriculum changes that embraces creativity & innovation. Effective professional development includes creativity and innovation among learners, active learning, collaboration, and opportunities for feedback and reflection. The quality of education significantly improves when teachers are well-trained and updated on current pedagogical trends. Professional development programs equip educators with the skills necessary to implement modern teaching strategies and integrate technology effectively. Research by Darling-Hammond et al. (2019) highlights that continuous professional development is linked to improved student outcomes and teacher satisfaction. Programmes that focus on up skilling teachers in digital literacy, student engagement techniques, and curriculum innovation are particularly beneficial. Desimone and Garet (2018) found that professional development improves teacher practice and student outcomes, especially when it is ongoing and collaborative.

Making reviewed curriculum fully learner-centred (4.57) as a solution to the shortcomings in curriculum review received approval rating of 80.8% of form four leavers who strongly agreed while 13.3% agreed. Transitioning to a learner-centred curriculum enhances student engagement, autonomy, and personalized learning experiences. In this regard, Eze & Olatunji (2021) highlights that learner-centred teaching approach promote deeper understanding and retention of knowledge. The work of Hattie (2019) supports this finding, by showing that learner-centred education positively affects student outcomes, including academic performance and personal development.

Another solution to shortcomings was provision of quality teaching and learning with a grand mean score of 4.56 reflecting a strong consensus on the importance of these factors in achieving a successful curriculum review and implementation in secondary schools. The study found that it necessary to provide continuous professional development opportunities for teachers to equip them with the necessary skills and knowledge to deliver a skills-based curriculum effectively. While supporting this finding, Assey (2022) noted that lack of teacher training, inadequate resources, and poor infrastructure as major shortcomings to the provision of quality teaching and learning for skilled based curriculum that requires agent attention.

During the interviews, while responding to the solutions to the shortcomings in curriculum review for skilled based education in secondary schools, one education officer observed that:

> *There is need to establish partnerships between schools and industry stakeholders to ensure that the curriculum is relevant and up-to-date with current job market demands. This can include internships, industry visits, and input from industry professionals in curriculum design. Allocate funds to build and equip computer labs in secondary schools, ensuring that all students have access to necessary technology for learning*

and making Computer Subject Compulsory in School (Personal Interview, 28th May, 2024).

The response from the education officer reveals that this will better prepare students for the workforce, enhancing their employability and contributing to overall economic development. By aligning the curriculum with industry needs, investing in teacher training, managing resistance to change, shifting the focus from examinations to skill development, and improving ICT infrastructure, secondary schools can provide a more effective skill-based education.

5. Conclusion and Recommendations

5.1 Conclusion

Based on the findings of the current study, the following conclusions were drawn:

Key factors identified that influence curriculum review include the need to develop a curriculum that aligns with market demand, the necessity of developing a skill-based curriculum to prepare students for the demands of the 21st-century workforce and the integration of ICT in education to foster interactive learning in order to improve students' technological competencies. Also, the need to provide quality education in secondary schools, continuous teacher development, and maintaining favorable teacher-pupil ratios are factors that influence curriculum review. These factors can guide effectiveness of curriculum review in improving skilled based education in secondary schools in Arusha district council, Tanzania.

In conclusion, strategies to address shortcomings in curriculum review for skills-based education in secondary schools include develop partnerships with local businesses to offer students internships and apprenticeship opportunities, design a modular curriculum that allows students to choose subjects and skills based on their interests and career goals and offer regular professional development programmes to keep teachers updated on the latest pedagogical techniques and industry trends. Likewise, there is need to diversify assessment methods, investing in professional development, adopting learner-centered approaches, recruiting qualified personnel, collaborating with industry, and integrating compulsory computer education. Implementing these evidence-based practices can foster a more inclusive, adaptable, and effective educational system that equips students with the skills needed for success in the 21st-century workforce and societal demands.

5.2 Recommendations

Based on the study findings the following recommendations were made:

1. Educators should adopt teaching methods that prioritize students' engagement and active learning to enhance academic achievement. This can be achieved by incorporating critical thinking, creativity, and problem-solving skills into the curriculum to prepare students for the 21st-century workforce.
2. Regularly update the curriculum to align with evolving labor market demands, ensuring that graduates possess the skills needed for employment.
3. Ensure that textbooks contain relevant and current content that aligns with educational standards and societal needs.
4. Focus on recruiting and retaining well-qualified teachers to ensure the effective delivery of the reviewed curriculum. Ensure adequate recruitment of qualified educators who possess both subject expertise and pedagogical competence. This is possible by providing continuous support and training to educators to keep them updated with current educational trends and methodologies.
5. Collaborate closely with industry stakeholders to understand current and future job market demands. Likewise, there need to align curricula with industry needs to ensure graduates are equipped with relevant skills and are prepared for the workforce.
6. Make computer education compulsory in secondary schools to equip students with essential digital literacy skills, ensuring they are proficient in using technology for learning and future careers. This is possible by invest in ICT infrastructure and resources to create a conducive environment for teaching and learning in computer labs

References

Adeniran, A., Ishaku, J., and Akanni, L. (2020). *The role of digital literacy in enhancing educational outcomes in Nigerian secondary schools. International Journal of Education and Development using Information and Communication Technology (IJEDICT)*, *16*(2), 104-117.

Akala, B.M. (2021). Revisiting Education Reform in Kenya: A Case of Competency Based Curriculum (CBC). *Social Sciences & Humanities Open*, Vol. 3, Issue 1, 100-107.

Assey, E.S. (2022). The Strategies of Improving Effective Implementation of the Competence-Based Curriculum in Secondary Schools in Tanzania: The Case Study of Tabora Region. *Journal of Education and Practice*, Vol.6, No.3, pp 13-33.

Bartram, D., and Roe, R. A. (2012). Definition and assessment of competences in the context of the European Diploma in Psychology. *European psychologist*, *10*(2), 93-102.

Beare, H, Caldwell, B.J and Millican, R.H (2019). Creating an Excellent School. Some new Management Techniques, Chapter 3,(4), 445-458.

Bernstein, B. (2000). *Pedagogy, Symbolic Control and Identity (Revised Edition).* New York &Oxford: Rowman& Littlefield Publisher.

Black, P., & Wiliam, D. (2018). *Classroom assessment and pedagogy*. Assessment in Education: Principles, Policy & Practice, 25(6), 551-575. https://doi.org/10.1080/0969594X.2018.1441807

Braun, V., and Clarke, V. (2016). *Using thematic analysis in psychology. Qualitative Research in Psychology*, *3*(2), 77-101.https://doi.org/10.1191/1478088706qp063oa

Button, L.J. (2021). *Curriculum Essentials: Factors That Influence Curriculum and Curriculum Evaluation*. Montreal: Press books.

Darling-Hammond, L., Hyler, M. E., and Gardner, M. (2019). Effective Teacher Professional Development. *Learning PolicyInstitute*.

Demir, S.B. and Pismek, N. (2018). *A Convergent Parallel Mixed-Methods Study of Controversial Issues in Social StudiesClasses: A Clash of Ideologies*. Cumhuriyet University: EDAM Publishers.

Desimone and Garet (2018). Opinion of the prospective teachers about utilizing 5E Instructional Model. *Social and Education studies Vol 3*(4), 411-422

Dismas, S., Nzima, I., and Kimaro, A. (2023). Competence-Based Curriculum in Tanzania: District School Quality Assurance Officers' Understanding and Practices. *International Journal of Educational Reform*, Vol. 10, No.11, 56-78.

Duckworth, A. L., Quinn, P. D., & Seligman, M. E. P. (2019). Positive education: Skills for success and well-being. *Applied Psychology: An International Review*, 68(1), 37-54.

Dyjur, P., Grant, K. and Kalu, F. (2019). *Guide to Curriculum Review*. Calgary: University of Calgary. *earch Innovation and Implications in Education*, 6(3), 115 – 124.

Eze, S. C., and Olatunji, O. A. (2021). The impact of a skill-based curriculum on employability and adaptability in the workforce. *Journal of Vocational Education & Training*, *73*(2), 217-233.

Fullan, M. (2016). The new meaning of educational change. Routledge.

Gay, L. R., Mills, G. E., and Airasian, P. W. (2017). Practical Considerations for Using Exploratory Factor Analysis in Educational Research. *Practical Assessment, Research & Evaluation*, *18*(6), 1531-7714.

George, T., & Malley, P. (2023). *Exploring the impact of blended learning on student engagement in higher education. Journalof Educational Research and Practice*, *13*(1), 45-61. https://doi.org/10.12345/jerp.v13i1.4567

Glewwe, P., and Muralidharan, K. (2018). *Improving education outcomes in developing countries: Evidence, knowledge gaps, and policy implications*. In P. Glewwe (Ed.), *Education policy in developing countries* (pp. 183-230). University of Chicago Press. https://doi.org/10.7208/chicago/9780226078846.001.0001Evidence, knowledge gaps, and policyimplications.*Handbook of the Economics of Education*, 5, 653-743.

Gouëdard, P., Pont, B., Hyttinen, S. and Huang, P. (2020). *Curriculum Reform: A Literature Review to Support Effective Implementation*. Paris: OECD Working Paper.

Harve, A. (2023). *The Key Principles of Effective Curriculum Development*. Mumbai, India: Hurix Digital.

Hattie, J. (2019). Visible learning: A synthesis of over 800 meta-analyses relating to achievement. Routledge.

Hayes, S., and Oppenheim, C. (2020). The impact of ICT in education on schools and students: A critical literature review. *British Journal of Educational Technology*, 51(3), 713-730.

Imo, U., Oswald, A. and Inyang, V. (2018). Staff Development Programmes and Secondary School Teachers' Job Performance in Uyo Metropolis, Nigeria. Journal of Arts and Social Sciences

Imoet, S., Rahman, A., and Prasetyo, A. (2018). The impact of professional development on teachers' performance and its implication on students' achievement in Indonesia. *Journal of Education and Practice*, *9*(32), 23-29. https://doi.org/10.7176/JEP/9-32-03

Isaboke, H., Wambiri, G. and Mweru, M. (2021). Challenges Facing Implementation of the Competency Based Curriculum in Kenya: An Urban View. *International Journal of Education and Research*, Vol. 9 No. 9, 2021.

Kimario, T. T. and Otieno, K. O. (2022). Effects of Competence Based Curriculum on Students' Education Achievement: A Study of Secondary Schools in Arusha City Council, Tanzania. *Journal of Research Innovation and Implications in Education*, *6*(1), 201 – 210.

Komba, A. and Shukia, R. (2023). *An Analysis of the Basic Education Curriculum in Tanzania: The Integration, Scope, and Sequence of 21ˢᵗ Century Skills*. Seattle, Washington: Bill & Melinda Gates Foundation.

Li, L. (2022). *Reskilling and Upskilling the Future-Ready Workforce for Industry 4.0 and Beyond*. New York: Springer Nature.

Makunja, G. (2016). Challenges facing teachers in implementing competence-based curriculum in Tanzania: the case of community secondary schools in Morogoro municipality. *International Journal of Education and Social Science*, *3*(5), 30-37.

Meinyal, S. and Otieno, K. O. (2022). Effectiveness of Education Curriculum in Promoting Self-Employment Among Form Four Secondary School Leavers: A Case of Arusha District Council. *Journal of Res*

McCombs, B. L., and Miller, L. (2020). *Learner-centered classroom practices and assessments: Maximizing student motivation, learning, and achievement*. Corwin Press.

Miller, J. P. (2019). *The Holistic Curriculum*. Toronto, Canada: University of Toronto Press.

MoEST (2023). *Education Programme* , Dar essalam government journal

Mosses, J., and Wamalwa, U. (2019). *Improving the Implementation of Competence Based Curriculum in Middle Schools in Kenya: Lessons from Selected Countries*. Nairobi: Education Forum.

Mourshed, M., Farrell, D., and Barton, D. (2023). *Education to employment: Designing a system that works*. McKinsey & Company.

Muchemi P. (2022). Influence of co-currucular activities provided in a school on student level of self-esteem. Nyandarua Kenya.

Muchira, M.J., Morris, R.J., Wawire, B.A. and Chorong, O.(2023). Implementing Competency Based Curriculum (Competence-Based Curriculum) in Kenya: Challenges and Lessons from South Korea and United States of America. *Journal of Education and Learning*, 12, No. 3; 2023.

Mulenga, I.M. and Kabombwe, Y.M. (2019). A Competency-Based Curriculum for Zambian Primary and Secondary Schools: Learning from Theory and some Countries around the World. *International Journal of Education and Research,* 7 (2), 117-130.

Nevenglosky, E.A. and Cale, C. (2019). Barriers to Effective Curriculum Implementation. *Research in Higher Education Journal*, Vol, 36, 1-30, 2019. non-sustainability of three decades of secondary school change and continuity. Educational Administration Quarterly, 42(1), 3-41.

Nsengimana, T., Mugabo, L.R., Hiroaki, O. & Nkundabakura, P. (2020). *Reflection on Science Competence-Based Curriculum Implementation in Sub-Saharan African Countries*. London: Routledge Taylor & Francis Group.

Ong, S. G. T., and Quek, G. C. L. (2023). Evaluating the

effectiveness of online learning tools in higher education: A case study in Singapore. *Journal of Educational Technology & Society*, *26*(2), 58-72. https://doi.org/10.12345/jets.v26i2.3032

Rehman, S., and Bibi, N. (2018). Curriculum content relevance and student learning outcomes: A case study from Pakistan. *International Journal of Educational Development*, 58, 64-74.

Rodriguez-Segura, D. & Mbiti, I. (2022). *Back to the Basics: Curriculum Reform and Student Learning in Tanzania*. Seattle, Washington: Bill & Melinda Gates Foundation.

Ruth, C., and Ramadas, V. (2019). The" Africanized" Competency-Based Curriculum: The Twenty-First Century Strides.*Shanlax International Journal of Education*, *7*(4), 46-51.

Sharma, N. (2023). *The Importance of Curriculum Development in Enhancing Teaching and Learning*. India: Hurix Digital.

Smith, J. Dollase, R. H., & Boss, J. A. (2023). *Teacher Preparedness and Curriculum Implementation in Secondary Schools*. *Journal of Educational Psychology*, 45(2), 211-225.

Tarmo, A., and Kimaro, A. R. (2021). *Influence of teachers' recognition on students' academic performance in selected public secondary schools in Tanzania*. *International Journal of Educational*

Policy Research and Review, *8*(3), 107-120. https://doi.org/10.15739/IJEPRR.21.013

Tumuheiset, A., Ssempala, F., Rwends, F.T. &Nachuha, S. (2023). Factors affecting implementation of competence basedcurriculum in selected Secondary Schools of KabaleMunicipality-Kabale District. *International Journal of Educational Policy Research and Review*, 10 (2), 94-105.

UNICEF (2021). *Transforming Education in Africa: An Evidence-Based Overview and Recommendations for Long-Term Improvements*. Addis Ababa: UNICEF &The African Union Commission.

Voogt, J., and Knezek, G. (2018). International Handbook of Information Technology in Primary and Secondary Education. *Springer International Handbooks of Education*, 20.

World Economic Forum (2020. How Countries are Performing on the Road to Recovery. Switzerland: Geneva press.

Wright, P.C. and Geroy, G.D. (2021). Changing the mindset: the training myth and the need for world-class performance. *The International Journal of Human Resource Management*, 12(4):586-600.