Action Research Journal Indonesia (ARJI)
Volume 8 Number 4 Year 2026 | Pages 1289 -1305
E-ISSN : 2775-0787 | P-ISSN : 2774-9290 | DOI : 10.61227
Address : Tuesday Block No. 76 Rt/Rw 01/003 Jatitengah Village, Jatitujuh District, Majalengka Regency, West Java
e-mail : arjijournal@gmail.com
Url Web : https://journal.nahnuinisiatif.com/index.php/ARJI

From Curriculum Intent to Classroom Reality: Resource Adequacy for Job Creation in Secondary Schools in Kibaha Town Council, Tanzania

Article Information :
Articles Submitted : 2026-10-19
Articles Received : 2026-11-26
Published Articles : 2026-11-27

Julius Petro Aroko[1*]
Mkulu Demetria[2]
Georgina Mugisha[3]

[1] National Extermination Council of Tanzania
[2,3] Department of Education Foundations, St Augustine University of Tanzania

Email Correspondence * : jparoko@2022@gmail.com

Keywords:
Teaching and learning resources: curriculum changes: job creation: competency-based education: secondary schools: Kibaha Town Council: Tanzania.

Abstract: *This study examined the adequacy of teaching and learning resources for implementing curriculum changes aimed at promoting job creation in secondary schools in Pwani Region, Tanzania. Guided by Human Capital Theory, the study employed a mixed-methods approach under a convergent parallel design. A total of 357 students participated in the quantitative data collection through structured questionnaires, while qualitative data were obtained through focus group discussions with 98 students and interviews with 5 head teachers, 4 Ward Education Officers, and 1 District Education Officer. Quantitative data were analysed using descriptive statistics and independent samples t-tests in Stata version 14.1, while qualitative data were analysed thematically. The reliability of the resource adequacy scale was assessed using Cronbach's alpha. Findings showed that overall resource adequacy was moderate (Mean = 3.18, SD = 0.76), with workshops and laboratories rated highest (M = 3.69), and school-business partnerships (M = 2.70) and tools and equipment (M = 2.73) rated lowest. Significant differences were found by school type ($t = 4.07$, $p < 0.001$) and sex ($t = 5.24$, $p < 0.001$). Qualitative findings corroborated these results, revealing inadequate tools, limited ICT resources, weak school-business partnerships, overcrowded classrooms, and unreliable electricity. The study concludes that teaching and learning resources were only moderately adequate, with critical gaps constraining effective curriculum implementation and limiting learners' acquisition of practical competencies for job creation. It recommends increased government investment in resources, strengthening school-business partnerships, equitable resource access, proper resource management, enhanced teacher training, and community and private sector support..*

Authors Contribution
Conceptualization: all authors
Methodology: all authors
Investigation: all authors
Writing original draft preparation: all authors
Writing review and editing : all authors
Visualization: all authors

Acknowledgments
All praise and gratitude to God for the successful completion of this article. The author expresses his gratitude to all parties involved and those who contributed to its preparation. Thanks to their constant prayers and support, this article was successfully completed.

All authors have read and agreed to the published version of the manuscript.

Copyright © 2026, Authors
This is an open-access article under the CC BY 4.0



INTRODUCTION

Education is widely recognized as a fundamental driver of national development because it equips individuals with the knowledge, skills, values, and competencies required to participate productively in economic, social, and technological advancement (Fullan, 2025). As globalization and economic transformation reshape employment patterns, countries have increasingly acknowledged that education must move beyond traditional content transmission towards competency development that prepares learners not only for employment but also for self-employment and job creation (D & Kumar, 2020). Consequently, curriculum change has become a key reform strategy, with contemporary reforms emphasizing competency-based education that develops practical knowledge, problem-solving abilities, creativity, communication skills, collaboration, digital literacy, and entrepreneurial competencies rather than rote memorization (Banks, 2015).

Evidence from developed countries demonstrates that curriculum reforms emphasizing competency development have significantly influenced educational quality and workforce preparedness. Finland has become internationally recognized for phenomenon-based learning, an interdisciplinary approach that organizes learning around authentic societal problems (Schaffar & Wolff, 2024). The United Kingdom has integrated employability skills, entrepreneurship education, digital competencies, and workplace experiences within secondary education (Silander, 2019). Germany's dual vocational education and training system combines classroom instruction with structured workplace learning (Pilz, 2012; Zutavern & Seifried, 2022). These international experiences demonstrate that curriculum reforms are most effective when supported by appropriate institutional capacity, adequate resources, and strong stakeholder collaboration.

The growing emphasis on competency-based education has similarly influenced educational reforms across Africa. Many African countries have recognized that conventional education systems often produce graduates whose knowledge and skills do not adequately correspond with labour market requirements, contributing to persistent youth unemployment. Kenya introduced the Competency-Based Curriculum in 2017 to develop learners' creativity, innovation, communication skills, and entrepreneurial competencies (Akala, 2021). Rwanda has adopted competency-based reforms to strengthen skills development (Saine & Moses, 2025), while South Africa has expanded Technical and Vocational Education and Training programmes (Mthembu, 2022). Despite these reforms, implementation challenges including inadequate funding, shortages of qualified teachers, insufficient instructional resources, weak industry linkages, and limited monitoring mechanisms continue to constrain the realization of intended educational outcomes.

In Tanzania, the adoption of the Competence-Based Curriculum in primary and secondary education represented a significant shift from content-oriented teaching towards competency development, learner-centred instruction, critical thinking, entrepreneurship, and practical problem-solving (Mrutu et al., 2022; Ochieng'Opalo, 2023). Despite these policy initiatives, implementation continues to face significant challenges, including shortages of qualified teachers, inadequate teaching and learning materials, overcrowded classrooms, insufficient infrastructure, and limited opportunities for practical learning (Mrutu et al., 2022). These constraints reduce teachers' capacity to implement competency-based pedagogies effectively and limit learners' opportunities to acquire practical competencies required for

employment and entrepreneurship. The situation is particularly important in Pwani Region, where implementation of the Competence-Based Curriculum continues across diverse rural, peri-urban, and urban secondary schools.

Research Problem

Implementation of the curriculum seeks to develop practical competencies, entrepreneurial capabilities, and self-employment skills among graduates (Ngodu et al., 2024). This enables youth to acquire competency-based learning, entrepreneurship, and practical skills, as many secondary school graduates still cannot secure employment or create sustainable livelihoods. Despite education reforms promoting competency-based learning, entrepreneurship, and practical skills, many schools continue to experience shortages of qualified teachers, inadequate instructional resources, limited infrastructure, and overcrowded classrooms. Previous studies in Tanzania have examined competency-based education and curriculum implementation, relatively little empirical attention has been directed towards understanding the adequacy of teaching and learning resources for the effective implementation of curriculum changes aimed at promoting job creation. It is against this background that the present study examined the adequacy of teaching and learning resources for the effective implementation of curriculum changes aimed at promoting job creation among secondary school graduates in Kibaha Town Council, Tanzania, Tanzania.

Literature review

1. Theoretical Issues

This study was guided by the Human Capital Theory (Popoola, 2025), which explains that education and training are investments that improve individuals' skills, knowledge, and productivity, making them more capable of participating in employment and entrepreneurship (Popoola, 2025). The theory supports the idea that effective implementation of curriculum changes, supported by adequate teaching and learning resources, can help students acquire skills necessary for job creation (Nwachukwu, 2024), and provides a measurable framework for assessing the relationship between educational inputs, such as teaching and learning resources, and outputs such as job-creation skills (Grugulis, 2024). However, it has been criticized for assuming that education alone directly leads to economic productivity, without considering structural barriers such as poverty and weak labour markets (Auerbach & Green, 2025).

2. Empirical Review

Empirical studies consistently indicate that the adequacy of teaching and learning resources including workshops, equipment, textbooks, ICT, and teaching aids is critical for translating curriculum intentions into practical job creation competencies (Kayır & Toraman, 2021).

In Sweden, Samuelsson and Education (2019) investigated resource adequacy for entrepreneurship education and found that Swedish schools generally had adequate workshops and digital resources due to strong government funding. However, even in this well-resourced context, teachers lacked pedagogical training on how to effectively utilise these

resources for job creation instruction. The study concluded that resource availability alone is insufficient; teacher capacity to deploy resources pedagogically matters equally.

In Brazil, Scott et al., (2019) examined teaching resources for vocational curriculum implementation in São Paulo State, revealing a stark divide: urban affluent schools had well-equipped workshops while rural schools suffered severe resource shortages, creating unequal student outcomes in practical competencies. The study highlighted an important equity dimension that is often overlooked in policy discussions.

In South Africa, Samuelsson and Education (2019) conducted a study in KwaZulu Natal where over 60% of schools lacked workshops, tools and equipment. Schools with strong private sector partnerships had better resource access, but poor maintenance hindered utilization.

In Uganda, Cross (2024) examined resource adequacy for an entrepreneurship curriculum in Western Uganda, finding student-to-textbook ratios as high as 10:1, absence of ICT resources, and lack of basic workshops, forcing teachers to rely on chalk and talk methods. The study concluded that curriculum reforms promoting hands-on, experiential learning cannot be implemented as intended when basic resources are absent.

In Zambia, Mchia and Mwila (2024) investigated resource adequacy for the competency-based curriculum in Zambian secondary schools, revealing a lack of specialized workshops, outdated materials and no computer access. Even more concerning, existing resources were often locked away due to fear of theft. The study pointed to a critical but under-researched dimension: resource management and school leadership practices.

In Tanzania, Assey (2022) examined the adequacy of teaching and learning resources for competency-based curriculum reforms focused on job creation in Tanzanian secondary schools. Using a case study design with 50 teachers and 10 head teachers in Dodoma and Arusha regions, findings revealed severe inadequacy of workshops, outdated and insufficient textbooks, rare availability of teaching aids and absent or locked away ICT resources. Even where resources existed, teachers lacked confidence in using them due to insufficient training. The study concluded that resource inadequacy forced teachers to rely on theoretical instruction, failing to equip students with employable skills.

Similarly, Chepkonga (2021) examined the implementation of competency-based curriculum reforms in Tanzanian secondary schools with a focus on promoting practical skills for self-employment. Using a qualitative case study design involving interviews, classroom observations and document analysis in six secondary schools in Dar es Salaam and Morogoro regions, findings revealed that although the curriculum policy emphasized entrepreneurship and practical skills, schools had insufficient workshops and equipment for vocational skills training. The study recommended strengthening pre-service and in-service teacher training, improving infrastructure and learning resources, and reforming national examinations to assess practical competencies.

Despite these studies, limited empirical evidence exists on how curriculum changes for job creation are implemented in Kibaha Town Council, and few studies have employed a convergent parallel mixed-methods design. Therefore, this study examined the adequacy of teaching and learning resources for curriculum implementation and job creation in secondary schools in Kibaha Town Council, Tanzania.

METHODOLOGY

This study adopted a mixed-methods approach, using a cross-sectional research design to collect quantitative and qualitative data from a total of 380 respondents: comprising 357 students, who were selected through probability proportional to size, 18 head of schools, 4 WEOs and 1 DEO who were selected using purposive sampling. Quantitative data were collected among students using structured questionnaires containing pre-designed closed-ended questions with Likert scale responses, designed based on the research objective and variables, including adequacy of resources, and promotion of job creation skills. Qualitative data were collected through focus group discussions with students and semi-structured interviews with head teachers, the District Education Officer (DEO), and Ward Education Officers (WEOs), using open-ended interview guides. A total of 15 focus group discussions were conducted across five schools, comprising three government schools and two private schools, with each school hosting three focus group sessions. Each focus group consisted of 6 to 8 students, and each session lasted approximately 30 to 45 minutes and was audio recorded. The researcher transcribed the recordings for analysis. To ensure validity of instruments, expert review and pilot testing were employed and internal consistency reliability was assessed using Cronbach's alpha coefficient (Kvale & Brinkmann, 2015), while trustworthiness for qualitative instruments was established based on credibility, transferability, dependability, and confirmability (Guba & Lincoln, 1994), with the researcher comparing interview and focus group responses to identify consistent patterns. Quantitative data were analysed using Stata version 14.1, whereas qualitative data were analysed thematically through content analysis to identify patterns, themes, and categories related to the adequacy of teaching and learning resources. Microsoft Excel was used to organise and code the transcribed qualitative data. Ethical principles, including informed consent, confidentiality, anonymity, voluntary participation, and use of data for academic purposes, were observed throughout the study.

RESULT AND DISCUSSIONS

This study examined the adequacy of teaching and learning resources for implementing curriculum changes aimed at promoting job creation in Secondary Schools in Pwani Region, The study objective was addressed using quantitative and qualitative data collected from respondents. The integration of quantitative questionnaire responses and qualitative interview and Focus Group Discussions findings provided a comprehensive understanding of how adequacy of teaching and learning resources for implementing curriculum changes aimed at promoting job creation in Secondary Schools in Kibaha Town Council, Pwani Region.).The findings and discussions are presented as follows.

1. Students Demographic Characteristics

Table 1. Social Demographic and Education Characteristics of Students

Variable	Student category	Frequency.	Percent
Sex of Student	Male	160	44.82
	Female	197	55.18
Age of student (In years)	12	30	8.40
	13	39	10.92
	14	45	12.61

	15	62	17.37
	16	47	13.17
	17	43	12.04
	18	35	9.80
	19	28	7.84
	20	28	7.84
Class of student	Form 1	59	16.53
	Form 2	59	16.53
	Form 3	59	16.53
	Form 4	59	16.53
	Form 5	60	16.81
	Form 6	61	17.09
School category	Public	197	55.18
	Private	160	44.82

***Source**: Field data 2026*

Table 1 presents the demographic characteristics of student respondents, covering sex, age, class level, and school category. Regarding sex, female students were the majority at 197 (55.18%), while males numbered 160 (44.82%). Respondents' ages ranged from 12 to 20 years, with the largest proportion aged 15 years (62, 17.37%), followed by 16 years (47, 13.17%), 14 years (45, 12.61%), 17 years (43, 12.04%), 13 years (39, 10.92%), and 18 years (35, 9.80%), while ages 12, 19, and 20 recorded 30 (8.40%) and 28 (7.84%) respectively. Class distribution was relatively even, with Form 6 having the highest number (61, 17.09%), followed by Form 5 (60, 16.81%), and Forms 1 to 4 each recording 59 (16.53%). Regarding school category, 197 respondents (55.18%) were from public schools and 160 (44.82%) from private schools. In addition to the 357 students who completed the questionnaire, qualitative data were collected from 98 students who participated in 15 focus group discussions conducted across five schools (three public and two private), with three focus group sessions per school. Key informant interviews were conducted with 5 head of schools, 4 Ward Education Officers, and 1 District Education Officer.

2. Reliability of the Teaching and Learning Resources Adequacy Scale

Table 2. Reliability of the Teaching and Learning Resources Adequacy Scale

Scale	Number of items	Average inter-item covariance	Cronbach's alpha
Teaching and learning resources adequacy	10	0.410	0.713

***Source**: Field data 2026*

Table 2 presents the reliability results of the ten-item Teaching and Learning Resources Adequacy Scale. The scale recorded an average inter-item covariance of 0.410 and a Cronbach's alpha coefficient of 0.713, which exceeds the commonly accepted threshold of 0.70. This indicates that the ten items had acceptable internal consistency and reliably measured the same underlying construct of teaching and learning resources adequacy.

3. Adequacy of Facilities and Learning Materials

Table 3. Adequacy of Facilities and Learning Materials

Statement on adequacy of resources	Strongly disagreed	Disagree	Neutral	Agree	Strongly agree	Mean	SD
My school has workshops or laboratories where we practice practical skills	49 (13.7)	32 (9.0)	45 (12.6)	87 (24.4)	144 (40.3)	3.69	1.42
There are enough tools and equipment (e.g., sewing machines, farming tools, cooking equipment, computers) for all students to use	94 (26.3)	82 (23.0)	60 (16.8)	67 (18.8)	54 (15.3)	2.73	1.42
Our textbooks contain information about entrepreneurship and starting a business	58 (16.2)	66 (18.5)	76 (21.3)	75 (21.0)	82 (23.0)	3.16	1.39
The school has computers and internet access for learning job creation skills	83 (23.3)	53 (14.8)	54 (15.1)	68 (19.1)	99 (27.7)	3.13	1.54
The school library has books and magazines about self-employment and small business	62 (17.4)	87 (24.4)	46 (12.9)	79 (22.1)	83 (23.2)	3.10	1.44
We have enough materials (paper, pens, charts, samples) for practical learning activities	32 (9.0)	56 (15.7)	56 (15.7)	89 (24.9)	124 (34.7)	3.61	1.34
The school has space (garden, workshop, kitchen, farm) for practicing income-generating activities	58 (16.2)	66 (18.5)	48 (13.5)	76 (21.3)	109 (30.5)	3.31	1.48
The tools and equipment at school are in good working condition	39 (10.9)	49 (13.7)	92 (25.8)	84 (23.5)	93 (26.1)	3.40	1.30
Every student gets a chance to use the available practical learning materials	79 (22.1)	70 (19.6)	66 (18.5)	75 (21.0)	67 (18.8)	2.95	1.43
The school has partnerships with local businesses where we can learn practical skills	130 (36.4)	51 (14.3)	40 (11.2)	67 (18.8)	69 (19.3)	2.70	1.57

***Source** : Field data 2026*

Table 3 above presents students' perceptions of the adequacy of facilities and learning materials for implementing curriculum changes aimed at promoting job creation, measured using ten statements on a five-point Likert scale. The highest mean scores were recorded for the availability of workshops or laboratories for practical skills (Mean = 3.69, SD = 1.42) and enough materials for practical learning activities (Mean = 3.61, SD = 1.34), indicating that these were perceived as relatively adequate. Moderate mean scores were recorded for the condition of tools and equipment (Mean = 3.40), space for income-generating activities (Mean = 3.31), entrepreneurship textbooks (Mean = 3.16), computers and internet access (Mean = 3.13), and library books on self-employment (Mean = 3.10). The lowest mean scores were recorded for sufficiency of tools and equipment for all students (Mean = 2.73), every student getting a chance to use practical learning materials (Mean = 2.95), and school partnerships with local businesses (Mean = 2.70).

The finding that workshops and laboratories received the highest mean score (M = 3.69) suggests that a considerable proportion of students have access to physical facilities that can support practical learning. This is important because curriculum approaches that emphasise competency development require learning environments that allow learners to move beyond theoretical knowledge and engage in active and practical learning. However, the finding that sufficient tools and equipment (M = 2.73) and equitable access to practical materials (M = 2.95) received low ratings suggests that the existence of practical facilities does not necessarily

guarantee sufficient or equitable access to the resources required for hands-on learning. This distinction is important because curriculum implementation involves changes in actual teaching and learning practices that depend on the conditions within which teachers and learners operate (Fullan, 2007).

When key informants were asked about the availability of teaching and learning resources, they presented different views. Majority said that tools and equipment for practical skills training were insufficient. In an interview, one Head of School narrated that:

> *"We have a workshop, but the tools are old and not enough for all students. Many students share equipment, which limits their practice time*. *We also have a computer lab, but it is not enough for all students. Many computers are broken and cannot be repaired due to budget constraints"* (Interview, Head of School A).

The quote above imply that while some physical facilities exist, their capacity and functionality are limited, restricting students' opportunities for hands-on practice. The findings corroborate with those of Batsa et al., (2025), who emphasise that effective transformative education should address not only learning content but also pedagogy and the learning environment. and supports Watt (2004),who noted that successful curriculum implementation depends on appropriate resources, demonstrating that the mere presence of facilities is insufficient without adequate tools and functional equipment. A District Education Officer further explained that:*"Most schools lack modern equipment for vocational training. The available tools are outdated and do not meet current industry standards" (Interview, DEO).*

This finding is consistent with Mwila and Banda (2022), who found that Zambian secondary schools lacked specialised workshops and computer access, and with Assey (2022), who reported severe inadequacy of workshops and locked-away ICT resources in Dodoma and Arusha. Regarding ICT resources, a Ward Education Officer noted that:*"Computers are few, and internet connectivity is unreliable. Students cannot practice digital skills like online marketing or e-commerce" (Interview,WEO).*This response corroborates Nyamboga (2024), who emphasizes the importance of developing competencies that enable learners to respond to changing technological environments.

During focus group discussions, students expressed inadequacy of resources for practical learning. This is what they said:

> *"I wish we had a school-based enterprise or mini-market where students could actually run small businesses... That way we could practice managing money, serving customers, and keeping records in a real setting, not just in a notebook. We need a workshop with tools and materials for practical subjects like carpentry, tailoring, or mechanics. Right now, we only read about these trades in textbooks* " (FGD, School C).

Another student narrated that:

> *"I wish our school had a proper computer lab with reliable internet. Most job creation today involves digital skills like online marketing, graphic design, and freelancing. Without computers, we can't practice these skills*" (FGD, School E).

These responses suggest students' desire for startup funds and practical materials. Thanapornsangsuth et al., (2025) review stress the importance of action-oriented learning and collaboration in developing competencies for real-world challenges, while Fullan (2007) emphasises that educational change requires attention to both structural and cultural conditions. Sullanmaa et al., (2024) note that education for sustainable development should equip learners with knowledge, skills, values, and attitudes that enable them to respond to contemporary social and economic challenges.

The integration of the survey, focus group, and key interview findings reveals that resource adequacy is multidimensional, with some resources relatively available while others are critically inadequate. The findings corroborate the study by Assey (2022), who found severe inadequacy of workshops, outdated textbooks, and locked-away ICT resources in Dodoma and Arusha, and Cross (2024), who reported student-to-textbook ratios as high as 10:1 and lack of workshops in Uganda. Similarly, Mwila and Banda (2022) found that Zambian secondary schools lacked specialised workshops and computer access, while Samuelsson and Education (2019) found that over 60% of schools in KwaZulu-Natal lacked workshops, tools, and equipment. The findings are in line with the Human Capital Theory, which suggests that educational investments yield returns only when adequate resources translate curriculum intentions into practical competencies (Buabeng & Amo-Darko, 2025). This implies that the moderate adequacy of teaching and learning resources, particularly shortages in tools, ICT, entrepreneurship materials, and school-business partnerships, constrains the effective implementation of curriculum changes and limits learners' opportunities to acquire practical competencies required for employment and self-employment in Kibaha Town Council. The consistency across the three data sources strengthens the credibility of the findings, supporting Stamatis et al., (2023) emphasis on learning environments that enable active, participatory, and competency-oriented learning. From a curriculum implementation perspective, the finding is consistent with Fullan's, (2007) argument that successful educational change depends not only on the introduction of new curriculum ideas but also on the conditions that enable those changes to be implemented in practice, and similarly, Thanapornsangsuth et al., (2025) emphasise the importance of appropriate learning environments and resources in supporting active, participatory, and competency-oriented learning.

4. Level of Teaching and Learning Resource Adequacy

Table 4. Overall Level of Teaching and Learning Resource Adequacy

Statistic	N	Mean	SD	Variance	Minimum	Maximum	Skewness	Kurtosis
Value	357	3.18	0.76	0.58	1.20	4.70	- 0.41	2.70

***Source**: Field Data, 2026*

The overall level of teaching and learning resource adequacy as perceived by students in Table 4 yielded a mean score of 3.18 (SD = 0.76), with scores ranging from 1.20 to 4.70, indicating moderate overall adequacy of resources for implementing curriculum changes aimed at promoting job creation. The skewness value of -0.41 indicates a slight negative skew, while the kurtosis value of 2.70 suggests a relatively normal distribution. Overall, the findings indicate that resource adequacy was moderate, falling within the moderate range (2.34-3.66), suggesting that resource constraints continue to limit effective implementation of curriculum

changes aimed at promoting job creation. The moderate overall score is consistent with the item-level findings, and although workshops and laboratories for practical skills recorded a relatively high mean of 3.69, other indicators such as the availability of sufficient tools and equipment (M = 2.73), opportunities for every student to use practical learning materials (M = 2.95), and partnerships with local businesses (M = 2.70) received lower ratings, meaning the composite mean of 3.18 reflects the combined contribution of both relatively stronger and weaker resource indicators. This suggests that the schools may have some important facilities and materials to support practical learning, but gaps in equipment availability, equitable access, and school business linkages may limit the extent to which these resources can fully support curriculum changes aimed at promoting job creation.

The moderate overall level of resource adequacy was corroborated by focus group discussions and key informant interviews, in which participants described both the presence of some facilities and critical gaps in others. During focus group discussions, students acknowledged the availability of some practical spaces while expressing the need for more specialised resources. One student explained:

> *"Our school has a workshop, but it is not enough for all students. We share tools, and sometimes we don't get a chance to practice*" (School C).

Another student added:

> *"I wish our school had a proper computer lab with reliable internet. Most job creation today involves digital skills like online marketing, graphic design, and freelancing. Without computers, we can't practice these skills" (*School A).

A third student noted:

> *"We have enough materials for practical learning activities like paper, pens, and charts, but we lack specialised equipment for vocational skills" (School E).*

These responses align with the survey finding that basic materials for practical learning received a relatively high mean (M = 3.61), while sufficient tools and equipment (M = 2.73) and ICT resources (M = 3.13) were rated lower, confirming that resource adequacy is multidimensional. Key informant interviews with Head Teachers, WEOs, and the DEO further confirmed this pattern. One Head Teacher explained:

> *"We have a workshop, but the tools are old and not enough for all students. Many students share equipment, which limits their practice time"* (Head Teacher School B).

A District Education Officer noted:

> *"Most schools lack modern equipment for vocational training. The available tools are outdated and do not meet current industry standards"* (DEO).

A Ward Education Officer added:

"Computers are few, and internet connectivity is unreliable. Students cannot practice digital skills like online marketing or e-commerce" (WEO).

The integration of the survey, focus group, and key informant findings reveals that resource adequacy is moderate overall, with some resources relatively available while others are critically inadequate. The findings corroborate the study by Assey (2022), who found severe inadequacy of workshops, outdated textbooks, and locked-away ICT resources in Dodoma and Arusha, and Cross (2024), who reported student-to-textbook ratios as high as 10:1 and lack of workshops in Uganda. Similarly, Mwila and Banda (2022) found that Zambian secondary schools lacked specialised workshops and computer access, while Samuelsson and Education (2019) found that over 60% of schools in KwaZulu-Natal lacked workshops, tools, and equipment. The findings are in line with the Human Capital Theory, which suggests that educational investments yield returns only when adequate resources translate curriculum intentions into practical competencies (Buabeng & Amo-Darko, 2025). This implies that the moderate adequacy of teaching and learning resources, particularly shortages in tools, ICT, entrepreneurship materials, and school-business partnerships, constrains the effective implementation of curriculum changes and limits learners' opportunities to acquire practical competencies required for employment and self-employment in Kibaha Town Council. The consistency across the three data sources strengthens the credibility of the findings, supporting Stamatis et al., (2023) emphasis on learning environments that enable active, participatory, and competency-oriented learning. From a curriculum implementation perspective, the finding is consistent with Fullan (2007) argument that successful educational change depends not only on the introduction of new curriculum ideas but also on the conditions that enable those changes to be implemented in practice. Similarly Thanapornsangsuth et al., (2025) emphasise the importance of appropriate learning environments and resources in supporting active, participatory, and competency-oriented learning

5. Variation in Perceived Teaching and Learning Resource Adequacy by Student Characteristics

Table 5. Comparison of Students' Perceived Adequacy of Teaching and Learning Resources by Selected Characteristics

Variable	Categories	Mean	SD	t	Df	p-value
School type	Public	3.32	0.75	4.07	355	<0.001
	Private	3.00	0.73			
Class type	O level	3.14	0.73	- 1.18	355	0.88
	A level	3.24	0.79			
Age of student	Below18 years	3.11	0.76	-2.96	355	0.9984
	At least 18 years	3.38	0.73			
Sex of respondents	Male	3.40	0.69	5.24	355	<0.001
	Female	2.99	0.76			

***Source**: Field data 2026*

Table 5 presents independent samples t-test results comparing students' perceived adequacy of teaching and learning resources across selected characteristics. Statistically significant differences were found for school type ($t = 4.07$, $df = 355$, $p < 0.001$), with public school students reporting higher perceived adequacy (Mean = 3.32, SD = 0.75) than private school students (Mean = 3.00, SD = 0.73), and for sex of respondents ($t = 5.24$, $df = 355$, $p < 0.001$), with male students reporting higher perceived adequacy (Mean = 3.40, SD = 0.69) than female students (Mean = 2.99, SD = 0.76). No statistically significant differences were found for class type ($t = -1.18$, $p = 0.88$) or age of student ($t = -2.96$, $p = 0.9984$), indicating that perceived resource adequacy did not differ significantly between O-Level and A-Level students or between students below 18 years and those aged 18 years and above.

The finding that students in public schools reported higher perceived resource adequacy (M = 3.32) than students in private schools (M = 3.00) suggests that public schools in Kibaha Town Council may have relatively better access to practical facilities, learning materials, and equipment than private schools, which may reflect differences in government investment in public school infrastructure and resources. During focus group discussions, among students from public schools they explained having access to some practical facilities, while students from private schools expressed greater need. For example, a student from a private school explained:

> *"I wish our school had a proper computer lab with reliable internet. Most job creation today involves digital skills like online marketing, graphic design, and freelancing. Without computers, we can't practice these skills*" (FGD, School C).

A student from a public school also noted:

> *"Our school needs a workshop with tools and materials for practical subjects like carpentry, tailoring, or mechanics. Right now, we only read about these trades in textbooks"* (School D).

These qualitative responses align with the quantitative finding that public school students perceived relatively higher resource adequacy than private school students, as public school students described the presence of some facilities while private school students expressed greater unmet needs, particularly in ICT and updated learning materials. Fullan (2007) emphasises that successful curriculum implementation depends partly on the availability of appropriate resources and organisational conditions that support educational change.

The finding that male students reported higher perceived resource adequacy (M = 3.40) than female students (M = 2.99) suggests that male and female students did not perceive their access to or experience with teaching and learning resources in the same way, and this may reflect differences in participation in practical activities, access to equipment, or opportunities to engage with particular learning resources. This finding was supported by focus group discussions, in which female students expressed concerns about access to practical learning materials. One female student explained:

> *"Every student should get a chance to use the available practical learning materials, but sometimes boys dominate the equipment, and girls are left behind.We need more materials for practical learning activities because sometimes we share the few available tools, and not everyone gets to practice" (FGD,School A).*

A male student, however, expressed a different view:

> *"In our school, we have enough materials for practical learning activities, and every student gets a chance to use them"* (FGD, School A).

These responses suggest that female students experience greater challenges in accessing practical learning resources, which aligns with the quantitative finding that male students reported higher perceived resource adequacy. However, the finding should be interpreted as a difference in students' perceptions rather than evidence that resources were objectively more available to male students. Jacobs (2010) highlights the importance of ensuring that the conditions supporting curriculum implementation enable all learners to participate meaningfully in educational activities.

The absence of significant differences by class type and age suggests that perceived resource adequacy was relatively consistent across educational levels and age groups. This finding was supported by focus group discussions, in which students from both O-Level and A-Level expressed similar concerns about resource adequacy. One O-Level student explained that*"we have a workshop, but the tools are old and not enough for all students. Many students share equipment, which limits their practice time" (School C).*

An A-Level student also noted that*"most schools lack modern equipment for vocational training. The available tools are outdated and do not meet current industry standards" (School B).*These responses suggest that resource adequacy challenges are experienced across all educational levels, which is consistent with the quantitative finding that class type did not significantly influence perceived resource adequacy. Buabeng and Amo-Darko (2025) emphasise that effective learning for skills development requires appropriate learning environments and resources across educational settings rather than at only one level of education.

CONCLUSION

The study concludes that findings on adequacy of teaching and learning resources for implementing curriculum changes for promoting job creation in secondary schools in Kibaha Town Council revealed moderate overall resource adequacy. There are critical gaps in tools and equipment, equitable access to practical materials, ICT resources, entrepreneurship materials, and school-business partnerships. Students expressed the need to have adequate workshops, computer labs, startup funds, and business partnerships, while key informants confirmed outdated tools, insufficient computers, and limited school-business linkages. The study indicated that resource constraints limit effective curriculum implementation and learners' acquisition of practical competencies for employment and self-employment.

Recommendations

Therefore, the study recommends that the government and education stakeholders invest in teaching and learning resources, including workshops, laboratories, ICT facilities, and up-to-date entrepreneurship learning materials; promote school-business partnerships to provide students with mentorship, internships, and real-world exposure to entrepreneurial practices; and establish school-based enterprises and startup funds to support students in developing and testing business ideas.

REFERENCE

Adam, A. M. (2020). Sample size determination in survey research. *Journal of Scientific Research and Reports*, *26*(5), 90–97.

Akala, B. M. (2021). Revisiting education reform in Kenya: A case of Competency Based Curriculum (CBC). *Social Sciences & Humanities Open*, *3*(1), 100107.

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*, *6*(3), 13–33.

Auerbach, P., & Green, F. (2025). Reformulating the Critique of Human Capital Theory. *Journal of Economic Surveys*, *39*(5), 1839–1851. https://doi.org/10.1111/joes.12675

Banks, J. A. (2015). A curriculum for empowerment, action, and change. In *Cultural Diversity and Education* (pp. 183–201). Routledge. https://api.taylorfrancis.com/content/chapters/edit/download?identifierName=doi&identifierValue=10.4324/9781315622255-12&type=chapterpdf

Batsa, A. S., Li, S., & Khajuria, A. (2025). Action Competence in Sustainable Development (ACiSD): A systematic review of the contributing factors and learning strategies. *International Journal of Development and Sustainability*, *14*(1), 29–70.

Buabeng, I., & Amo-Darko, B. (2025). Curriculum reforms without foundation: The effects of inadequate preparation in curriculum reforms on Ghanaian teachers and the education system. *Curriculum Perspectives*, *45*(2), 133–147. https://doi.org/10.1007/s41297-025-00309-7

Cartwright, T., & Nancarrow, C. (2022). A Question of Gender: Gender classification in international research. *International Journal of Market Research*, *64*(5), 575–593. https://doi.org/10.1177/14707853221108663

Chepkonga, M. C. (2021). East African Journal of Education Studies. *East African Journal of Education Studies*, *4*(1). https://pdfs.semanticscholar.org/cc46/ced107413acce7c041e2d35d745db1209e74.pdf

Cross, S. A. (2024). *Private Institutions of Higher Learning in Uganda: A Case Study*. Notre Dame of Maryland University. https://search.proquest.com/openview/0cad57bdc16be383f6f19f927eec4342/1?pq-origsite=gscholar&cbl=18750&diss=y

D, S. P., & Kumar, R. (2020). *Concepts of Learner-Centred Teaching* (SSRN Scholarly Paper No. 4004513). Social Science Research Network.

Fullan, M. (2007). Change the terms for teacher learning. *The Learning Professional*, *28*(3), 35.

Fullan, M. (2025). *The new meaning of educational change*. Teachers college press. https://books.google.com/books?hl=en&lr=&id=BggrEQAAQBAJ&oi=fnd&pg=PT10&dq=educational+change+requires+changes+in+practice+and+supportive+conditions,+&ots=BnD3id_mBO&sig=3cI6cMiwFOzdoS5EtJC8kISds6Y

Grugulis, I. (2024). Human capital theory. In *A guide to key theories for human resource management research* (pp. 93–99). Edward Elgar Publishing. https://www.elgaronline.com/abstract/book/9781035308767/ch10.xml

Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. *Handbook of Qualitative Research*, *2*(163–194), 105.

Jacobs, H. H. (2010). *Curriculum 21: Essential education for a changing world*. ASCD.

Kayır, G., & Toraman, Ç. (2021). Development of curriculum changes perception scale and teachers' perceptions of curriculum changes. *Educational Policy Analysis and Strategic Research*, *16*(2).

Kvale, S., & Brinkmann, S. (2015). *Interviews*. Sage.

Mchia, A. M., & Mwila, P. M. (2024). The Impact of Parents Involvement in Pupilsâ€™ Academic Performance in Public Primary Schools: A Case of Ilala City, Tanzania. *International Journal of Research and Innovation in Social Science*, *8*(3s), 4922–4930.

Mrutu, N., Kajoro, P., Mtenzi, F., Nkota, H., Kova, J., & Hoka, A. (2022). Beyond educational reforms: A review of teacher preparation in Tanzania. *International Journal of Learning, Teaching and Educational Research*, *21*(12), 197.

Mthembu, M. J. (2022). *A comparative analysis of technical vocational education and training as an instrument for prosperity attainment in South Africa* [PhD Thesis, University of KwaZulu-Natal, Westville]. https://www.researchgate.net/profile/Mlungisi_Mthembu/publication/.pdf

Mwila, F. C., & Banda, M. (2022). *The Head Teachers' Leadership Styles on Learners' Academic Performance: An Exploratory Study of Catholic Grant-Aided Secondary Schools in Lusaka and Central Provinces*. https://www.researchgate.net/profile/Martin-Banda-5/publication/394967320_martin/links/68adb1106327cf7b63d973f4/martin.pdf

Ngodu, A., Ndibalema, P. M., & William, F. (2024). Context-relevant strategies for ICT integration in teaching and learning science subjects in Tanzania secondary schools. *Educational Technology Quarterly*, *2024*(1), 20–37.

Nwachukwu, G. O. (2024). Human capital development: A driver for educational improvement in Nigeria. *British Journal of Education*, *12*(6), 30–39.

Nyamboga, T. O. (2024). Sustainable Development through Competence-Based Education Strategy: Empowering Learnersl Progression for Self-Reliance. *Newport International Journal of Current Issues in Arts and Management*, *5*(2), 8–22.

Ochieng'Opalo, K. (2023). What Is the Point of Schooling? Education Access and Policy in Tanzania since 1961. *RISE Political Econ. Pap.* https://pdfs.semanticscholar.org/20fc/0f92140aa75d07fd55478939baf34a8ac4c3.pdf

Pilz, M. (2012). International Comparative Research into Vocational Training: Methods and Approaches. In M. Pilz (Ed.), *The Future of Vocational Education and Training in a Changing World* (pp. 561–588). VS Verlag für Sozialwissenschaften. https://doi.org/10.1007/978-3-531-18757-0_30

Popoola, B. G. (2025). Human capital theory. *Editors: Martins Fabunmi Michael Amakyi Ayo Alani Abiodun O. Ayeni*, 23.

Saine, E., & Moses, M. (2025). Competence Based Curriculum Implementation in Rwanda: Strategies and Challenges. *International Journal of Research and Innovation in Social Science (IJRISS)*, *9*(11).

Samuelsson, K., & Education, S. (2019). Teachers' work in times of restructuring. *On Contextual Influences for Collegiality and Professionality [Doktorsavhandling]. Göteborgs Universitet*. https://gupea.ub.gu.se/server/api/core/bitstreams/c90418d5-9e06-4c21-862d-cf8c92d20911/content

Schaffar, B., & Wolff, L.-A. (2024). Phenomenon-based learning in Finland: A critical overview of its historical and philosophical roots. *Cogent Education*, *11*(1), 2309733. https://doi.org/10.1080/2331186X.2024.2309733

Scott, D. M., Kawalilak, C., Dressler, R., & De Paiva, W. A. (2019). Investigating Educational Responses to Diversity in Brazil during a Time of Curriculum Change. *Comparative Education Review*, *63*(3), 377–397. https://doi.org/10.1086/703982

Silander, D. (2019). The European Commission and Europe 2020: Smart, sustainable and inclusive growth. In *Smart, sustainable and inclusive growth* (pp. 2–35). Edward Elgar Publishing.

Stamatis, P. J., Nikolaou, E. N., & Papavasileiou, V. V. (2023). From Transfer of Knowledge to Skills' Acquisition. *Contemporary Challenges in Education: Paradoxes and Illuminations*, 59.

Sullanmaa, J., Pyhältö, K., Pietarinen, J., & Soini, T. (2024). Relationships between change management, knowledge sharing, curriculum coherence and school impact in national curriculum reform: A longitudinal approach. *International Journal of Leadership in Education*, *27*(6), 1395–1419. https://doi.org/10.1080/13603124.2021.1972165

Thanapornsangsuth, S., Park, J., Sato, F. E., Boadie-Ampong, M., Li, S., & Konishi, M. (2025). Action-oriented pedagogies for education for sustainable development and climate action: Insights from Regional Centres of Expertise. *International Review of Education*. https://doi.org/10.1007/s11159-025-10156-3

Watt, M. G. (2004). The Role of Curriculum Resources in Three Countries: The Impact of National Curriculum Reforms in the United Kingdom, the United States of America, and Australia. *Online Submission*.

Zutavern, S., & Seifried, J. (2022). Vocational Education and Training in Germany: Benefits and Drawbacks of the Dual Approach as Preparation for Professional Employment. In C. Harteis, D. Gijbels, & E. Kyndt (Eds.), *Research Approaches on Workplace Learning* (Vol. 31, pp. 347–365). Springer International Publishing. https://doi.org/10.1007/978-3-030-89582-2_16