

Teachers' Pedagogical Competence in Promoting Higher-Order Thinking Skills under the Competency-Based Curriculum in Public Secondary Schools in Bariadi Town Council, Tanzania

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Abstract

This study examined teachers' pedagogical competence in promoting higher-order thinking skills (HOTS) under the Competency-Based Curriculum (CBC) in public secondary schools in Bariadi Town Council, Tanzania. Specifically, the study aimed to assess teachers' ability to design HOTS-oriented learning activities, examine their use of learner-centered teaching strategies, and analyze how they integrate real-life situations in teaching. The study employed a convergent parallel mixed-methods design involving 112 respondents, including teachers, Heads of Schools, the District Secondary Education Officer (DSEO), and the District Quality Assurance Officer (DQAO). Data were collected using questionnaires and semi-structured interviews. Quantitative data were analyzed using descriptive statistics (means and standard deviations), while qualitative data were analyzed thematically. The findings indicated moderate to relatively high levels of self-reported pedagogical competence in designing HOTS-oriented activities ($M = 4.12$), using learner-centered strategies ($M = 3.99$), and integrating real-life situations ($M = 3.84$). However, classroom implementation was reported to be inconsistent and often superficial, particularly in inquiry-based learning and authentic problem-solving tasks. These findings suggest a gap between pedagogical knowledge and actual practice. The study concludes that while teachers demonstrate awareness of HOTS-oriented pedagogy, learner engagement remains limited. It recommends strengthening professional development, improving instructional resources, and enhancing instructional supervision to support effective implementation of HOTS.

Keywords: *Pedagogical competence, higher-order thinking skills, competency-based curriculum, learner-centered teaching, Tanzania*

INTRODUCTION

The promotion of higher-order thinking skills (HOTS) has become a central goal of contemporary education systems. Rooted in Bloom's Taxonomy (Bloom, 1956) and later revised by Anderson and Krathwohl (2001), HOTS encompass cognitive processes that go beyond recall and comprehension to include analysis, evaluation, and creation. These skills enable learners to critically engage with knowledge, solve complex problems, and generate new ideas.

In response to the growing importance of HOTS, education systems across the globe have implemented various reforms to ensure that learners acquire these competencies. At the global level, there has been a strong shift toward learner-centered pedagogical approaches, which emphasize active engagement, inquiry-based learning, collaboration, and formative assessment. Evidence shows that such approaches significantly enhance students' critical thinking and problem-solving abilities (Darling-Hammond et al., 2020; Higgins et al., 2021). Similarly, in African contexts, reforms have focused on transitioning from rote learning to competency-based education. However, the implementation of these reforms has faced challenges, particularly due to limited resources and inadequate teacher preparedness (Mahlobo, 2021; Abadiga et al., 2026).

In Tanzania, the government introduced the Competency-Based Curriculum (CBC) in secondary schools in 2005 with the aim of improving the quality of education and producing graduates who are socially competent and economically productive (Hamidu & Peter, 2025; Lupeja & Komba, 2021). The curriculum promotes learner-centered teaching, active learning, and the application of knowledge to real-life situations.

Policy and curriculum frameworks further emphasize key 21st-century competencies such as problem-solving, collaboration, creativity, and critical thinking as central learning outcomes (Komba & Shukia, 2023). To realize these outcomes, the CBC advocates for learner-centered and activity-based pedagogical approaches, supported by formative assessment and authentic learning tasks that actively engage students in inquiry and knowledge construction (Issa et al., 2024; Mwakyobwe & Shawa, 2023; Mwila & Wambiya, 2025; Lupeja & Komba, 2021).

In principle, these pedagogical approaches are expected to facilitate the development of higher-order thinking skills, as they require learners to actively explore concepts, test ideas, solve real-life problems, and construct

meaning, rather than passively receive information (Galimova et al., 2025; Loyens et al., 2023; Rahayuningsih et al., 2025).

Despite the clear policy emphasis on competency-based teaching in Tanzania, evidence from national examinations consistently indicates that students struggle with higher-order cognitive tasks, particularly those requiring analysis, evaluation, and application of knowledge (NECTA, 2021–2023). Reports from the National Examination Council of Tanzania (NECTA) reveal persistent weaknesses in students' higher-order thinking skills across subjects. For instance, in the 2021 Certificate of Secondary Education Examination (CSEE), approximately 63.84% of students failed to adequately demonstrate the application of statistics in Geography (NECTA, 2021). Similarly, in 2022, about 75.42% of students experienced difficulties in answering a biology question that required evaluation of family planning methods, while in 2023, 64.43% underperformed in a poetry analysis task (NECTA, 2022; 2023). Notably, only 9.5% of students demonstrated the ability to provide insightful and well-structured responses, with the majority offering descriptive answers lacking analytical depth.

This persistent pattern raises concerns about the extent to which classroom pedagogy under the CBC effectively supports the development of HOTS. Research across contexts suggests that teachers' pedagogical competence plays a critical role in mediating the relationship between curriculum intentions and student learning outcomes (Darling-Hammond et al., 2017; Higgins et al., 2021). However, empirical evidence directly linking teachers' HOTS-oriented pedagogical practices to students' higher-order thinking outcomes in Tanzanian secondary schools remains limited, particularly at the local district level. This indicates a critical gap between curriculum intentions and actual classroom practice, as most Tanzanian studies focus on teachers' general readiness, training, and resource constraints rather than direct impacts on students' higher-order thinking outcomes (Kasuga & Kalolo, 2025; Mpate, 2023; Shiboko & Mrema, 2024). Therefore, this study seeks to examine how teachers' pedagogical competences in relation to the promotion of higher-order thinking skills in classroom practice in Bariadi Town Council.

Specific objectives of the study

- i) To examine teachers' ability to design learning activities that promote higher-order thinking skills among students in public secondary schools in Bariadi Town Council.

- ii) To assess the extent to which teachers use learner-centered teaching strategies associated with HOTS
- iii) To analyze how teachers integrate real-life situations in teaching in ways that support HOTS among students

Theoretical Framework

This study is anchored in Constructivism Theory, as advanced by Jean Piaget (1972) and Lev Vygotsky (1978). Constructivism posits that learning is an active and dynamic process in which learners construct knowledge through interaction with their environment, experiences, and social engagement, rather than passively receiving information from the teacher. The theory emphasizes that meaningful learning occurs when learners are actively involved in exploring, questioning, and reflecting on concepts. According to Piaget (1972), learners develop cognitive structures by integrating new information with prior knowledge through processes such as assimilation and accommodation. This process enables learners to progress from simple understanding to more complex cognitive operations, including analysis, evaluation, and creation, which are core components of higher-order thinking skills (HOTS). On the other hand, Vygotsky (1978) highlights the importance of social interaction and guided learning, particularly through the concept of the Zone of Proximal Development (ZPD), where learners achieve higher levels of understanding with the support of teachers or more knowledgeable peers.

In the context of this study, Constructivism Theory provides a strong foundation for understanding how teachers' pedagogical competence supports the promotion of higher-order thinking skills among students. The Competency-Based Curriculum (CBC) in Tanzania emphasizes learner-centered teaching approaches that align closely with constructivist principles. These include activity-based learning, collaborative learning, inquiry-based teaching, and the use of real-life situations in instruction. Such approaches require teachers to design meaningful learning activities, facilitate discussions, ask open-ended questions, and create opportunities for students to actively engage in knowledge construction.

The theory assumes that when teachers effectively apply learner-centered pedagogical strategies, students are more likely to develop higher-order thinking skills such as critical thinking, problem-solving, and creativity. For instance, designing learning activities that require students to analyze and evaluate information encourages deeper cognitive engagement. Similarly, the use of open-ended questions stimulates reasoning and

reflection, while the integration of real-life situations enables students to apply knowledge in practical contexts, thereby enhancing understanding and innovation.

Furthermore, Constructivism Theory underscores the role of the teacher as a facilitator rather than a transmitter of knowledge. This implies that teachers' pedagogical competence is crucial in creating an interactive and supportive learning environment that promotes active participation and intellectual growth. However, the effectiveness of such pedagogical practices may be supported by contextual factors such as class size, availability of teaching resources, and teacher professional development. Therefore, this study adopts Constructivism Theory to explain the relationship between teachers' pedagogical competence and students' higher-order thinking skills. The theory provides a lens through which the study examines how instructional practices such as designing learning activities, using learner-centered strategies, and integrating real-life situations contribute to the development of HOTS in public secondary schools in Bariadi town council.

EMPIRICAL LITERATURE REVIEW

This literature review examines empirical findings regarding teachers' roles in fostering students' higher-order thinking skills (HOTS), focusing on three primary themes: instructional design competence, the implementation of learner-centered strategies, and the integration of authentic, real-life contexts.

Teachers' Ability to Design HOTS Learning Activities

Teachers' ability to design learning activities that promote higher-order thinking skills (HOTS) is widely recognized as a key aspect of pedagogical competence. HOTS-oriented activities require learners to analyze, evaluate, create, and solve problems rather than simply recall information. Although teachers across different contexts generally acknowledge the importance of HOTS, empirical evidence shows that their ability to translate this understanding into effective classroom practices varies depending on factors such as pedagogical training, curriculum alignment, and contextual support.

Studies from different countries consistently reveal a gap between teachers' awareness of HOTS and their actual instructional practices. For example, Assaly and Jabarín (2021) found that teachers in Israel recognized the importance of higher-order thinking but struggled to design tasks that

promote analysis and creativity due to limited pedagogical knowledge. Similarly, Fenyi and Jones-Mensah (2022) in Ghana reported that instructional activities often remained focused on recall, even in teacher education institutions. In Ethiopia, Abadiga et al. (2026) also found that classroom teaching was dominated by memorization, largely due to limited training and inadequate resources.

Further evidence highlights how contextual and systemic factors influence teachers' instructional design. Krause (2025) showed that exam-oriented systems can limit the use of higher-order tasks, while Rachmawati et al. (2023) found that although teachers in Indonesia produced lesson plans aligned with HOTS, their implementation was only partial. Overall, the literature suggests that while teachers may understand HOTS conceptually, their ability to design and implement effective HOTS-oriented learning activities remains constrained, particularly by limited pedagogical competence and contextual challenges.

Learner-Centered Teaching Strategies for HOTS

Learner-centered teaching strategies are widely recognized as essential for fostering higher-order thinking skills (HOTS), as they engage students actively in inquiry, collaboration, and critical reflection. Although these strategies are strongly emphasized in educational policy and theory, empirical evidence shows that their implementation in classrooms varies in both depth and consistency. In many cases, teachers report using learner-centered approaches, but their actual classroom application remains limited.

Studies across different contexts highlight a consistent gap between reported use and effective implementation. For example, Cain (2020) and An and Mindrila (2020) found that while teachers in the United States frequently reported using learner-centered strategies, these were often applied at a moderate or superficial level. Similarly, Guzman (2016) showed that although teacher trainees preferred student-centered methods, this preference did not always translate into practice due to contextual constraints such as time, class size, and institutional demands. Evidence from developing contexts reinforces this pattern. Studies in Cameroon (Nalova & Shalanyuy, 2017) and Malaysia (Sulaiman et al., 2017) revealed that teaching remains largely teacher-centered despite awareness of HOTS.

Further evidence suggests that the effectiveness of learner-centered strategies depends on both context and teacher competence. Liu and Zhang

(2022) demonstrated that structured approaches such as flipped classrooms can significantly enhance HOTS, although such models may be difficult to implement in resource-constrained settings. Similarly, Silfani et al. (2025) found that while teachers attempt to use learner-centered strategies, their success depends on pedagogical skills and classroom management. Overall, the literature indicates that learner-centered strategies are often implemented in form rather than in depth, limiting their potential to fully promote higher-order thinking skills.

Integration of Real-Life Situations in Teaching to Enhance Higher-Order Thinking Skills

The integration of real-life situations in teaching is widely recognized as an effective approach for enhancing higher-order thinking skills (HOTS), as it connects classroom learning to learners' everyday experiences. Grounded in constructivist theory, this approach encourages students to actively construct knowledge through meaningful engagement with real-world problems. Empirical evidence across different contexts shows that contextualized teaching can significantly improve students' critical thinking, problem-solving, and application of knowledge, although its effectiveness depends on how well it is implemented.

Studies from various countries demonstrate the potential of real-life integration in promoting HOTS. For example, Haryanto and Arty (2019) found that contextual teaching improved students' higher-order thinking and self-efficacy in Indonesia, while Mutegi (2023) reported enhanced problem-solving and analytical skills among students in Kenya. Similarly, Giacomazzi (2022) showed that when teachers are supported through professional development, the integration of real-life learning experiences can significantly improve students' critical thinking. However, these studies were often conducted under controlled or supported conditions, which may limit their applicability to everyday classroom settings.

Evidence from Tanzania suggests a more limited implementation of this approach. Hezron et al. (2024) found that teachers generally use real-life examples at a basic level, often as simple illustrations rather than as the basis for authentic, problem-solving activities. This limited integration is attributed to factors such as lack of instructional resources, insufficient training, and time constraints. Generally, the literature indicates that although teachers recognize the importance of contextualized teaching, its classroom application remains largely superficial, thereby limiting its potential to fully support the development of higher-order thinking skills.

METHODOLOGY

Participants and Sampling Techniques

Bariadi Town Council has a total of 21 public secondary schools. The study employed a multistage sampling procedure. In the first stage, 10 public secondary schools were selected from the council to represent diverse school contexts. The selection was guided by geographical location (covering all 10), variation in school size, and availability of key informants. Although the wider target population comprised teachers in all public secondary schools in Bariadi Town Council, the accessible population for this study consisted of teachers from the 10 selected schools. Across these 10 schools, the number of teachers was 133. The sample size for teachers was determined using Yamane's (1967) formula at a 5% level of precision: $n = \frac{N}{1 + N(e)^2}$ where n = required sample size, N = Population size, and e = level of precision. Thus, the final sample included 100 teachers selected using simple random sampling. The teacher sample was proportionately allocated across the selected schools using proportional stratified sampling. The proportional allocation was calculated using the formula: $n_i = \frac{N_i}{N} \times n$ where N_i represents the teacher population in each school, N is the total population across selected schools, and n is the required teacher sample size.

In addition, 10 Heads of Schools from the selected schools were included using purposive sampling due to their leadership roles in supervising teaching and learning processes. Furthermore, district-level administrators, namely the District Education Officer (DEO) and the District School Quality Assurance Officer (DSQAO), were also included to provide supervisory perspectives on curriculum implementation and pedagogical practices. Therefore, the total sample for the study comprised 112 respondents as indicated in Table 1.

Table 1:
Sample Distribution by Participant Category and School (n = 112)

School Code	Teacher Population	Teachers Sampled	Head of School	Total per School
School A	18	14	1	15
School B	13	10	1	11
School C	17	13	1	14
School D	11	8	1	9
School E	14	11	1	12
School F	15	11	1	12
School G	12	9	1	10
School H	11	8	1	9
School I	10	8	1	9
School J	12	8	1	9
Sub-total (Schools)	133	100	10	110
DEO	-	-	1	1
DSQAO	-	-	1	1
Grand Total	133	100	12	112

Procedures

The study was conducted in a systematic and ethical manner to ensure the credibility and reliability of the data collected. The researcher began by obtaining an official introduction letter from the relevant authorities to facilitate access to the selected secondary schools in Bariadi Town Council. Subsequently, visits were made to the ten selected schools, where the researcher met with the Heads of Schools to explain the purpose, objectives, and significance of the study, thereby building trust and securing formal permission to conduct the research. After approval was granted, the researcher coordinated with school leadership to schedule data collection at appropriate times that would not disrupt teaching and learning activities. The study was then introduced to the selected teachers, who were informed about the purpose of the research, the nature of their participation, and their rights, including voluntary participation, confidentiality, and anonymity. For the quantitative component, questionnaires were distributed to the teachers, with clear instructions provided, and adequate time given for completion, while the researcher remained available to offer clarification where needed. Completed questionnaires were collected either immediately or at an agreed time to ensure a high response rate. For the qualitative component, semi-structured interviews were conducted with Heads of Schools and the District Secondary Education Officer (DSEO), with sessions scheduled at convenient times and conducted in quiet

environments to minimize disruptions; with participants' consent, notes were taken to capture key responses.

Instrument

Data were collected using two complementary instruments: a structured teacher questionnaire and semi-structured interviews with school heads and the district education officer. The teacher questionnaire was designed to measure three key constructs aligned with the study's specific objectives: (a) teachers' ability to design learning activities that promote higher-order thinking skills (HOTS); (b) the extent of teachers' use of learner-centered teaching strategies to foster HOTS; and (c) how teachers integrate real-life situations in teaching to enhance HOTS among students in public secondary schools in Bariadi town council.

The questionnaire consisted of four sections: demographic information, teachers' ability to design HOTS-oriented activities, use of learner-centered strategies, and integration of real-life contexts. Sections measuring HOTS-related practices used a five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree). Items were adapted from validated tools emphasizing HOTS lesson design, questioning techniques, collaborative learning, and contextualized tasks (Hashim et al., 2023; Rampean & Rohaeti, 2025).

Semi-structured interviews were conducted with school heads and the district education officer to gain deeper insights into institutional support, policy implementation, and challenges related to fostering HOTS in schools. The interview protocol included open-ended questions exploring perceptions of teacher preparedness, resource availability, professional development opportunities, and integration of real-life contexts in teaching. This qualitative approach complements the quantitative data by providing contextual understanding of systemic factors influencing HOTS promotion (Cojorn & Sonsupap, 2024; Yusoff & Che Seman, 2018).

Instrument Reliability

Both instruments underwent expert review for content validity by specialists in pedagogy and educational measurement. Subsequently, pilot testing was conducted with a small sample of 19 teachers and 3 head teachers outside the study area to assess clarity and reliability. Reliability analysis of the pilot data showed Cronbach's alpha coefficients of 0.65, 0.69 and 0.72 for the three subscales as indicated in Table 2.

Table 2:

Teachers' Pedagogical Competence in Promoting Higher-Order Thinking Skills

S/N	Dimensions of sustainability attitudes	Number of Items	Cronbach's α
1	Teachers' Ability to Design HOTS-Promoting Learning Activities	8	0.65
2	Use of Learner-Centered Strategies to Foster HOTS	10	0.69
3	Integration of Real-Life Situations to Enhance HOTS	7	0.72

Source: *Piloting Data 2026*

Although two values were slightly below the commonly cited 0.70 threshold, this benchmark is not absolute, and lower values can occur with small samples, few items, or complex constructs (Tavakol & Dennick, 2011; Kılıç, 2016). Moreover, instruments with alpha values below 0.70 can still provide meaningful results when supported by other evidence (McNeish, 2017). In this study, the subscales were retained due to expert validation and the use of triangulation through qualitative interviews, which strengthened the overall credibility of the findings.

Data Analysis Process

The collected questionnaire responses were entered into SPSS software (version 28.0), with each response numerically coded on a five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree) to facilitate quantitative analysis. Descriptive statistics, specifically means and standard deviations, were computed using SPSS version 28 to summarize central tendencies and variability, with results presented in tables for clarity. For qualitative data, content analysis was conducted through a systematic process beginning with transcription of interviews to convert audio data into textual form. This was followed by coding meaningful units segments of text relevant to the research questions and grouping these codes into categories and themes that reveal patterns across the data. The process involved iterative interpretation to uncover latent meanings beyond the explicit content, enhancing depth and insight. Finally, conclusions were drawn by linking themes back to study objectives, ensuring rigor through transparency, reflexivity, and adherence to established qualitative content analysis phases of preparation, organization, and reporting.

Findings and Discussion

This section presents and discusses the findings of the study in relation to the three specific objectives. Quantitative data obtained from teachers' questionnaires are interpreted using descriptive statistics particularly the

Mean and Standard deviation, while qualitative insights from interviews with Heads of Schools and the District Secondary Education Officer (DSEO) are integrated to provide deeper contextual understanding.

Teachers' Ability to Design HOTS-Promoting Learning Activities

Table 3 presents teachers' responses regarding their ability to design learning activities that promote higher-order thinking skills.

Table 3:

Teachers' Ability to Design HOTS-Oriented Learning Activities (n=100 Teachers)

Item Description	Mean	SD
Designing objectives targeting analysis, evaluation, and creation	4.42	0.74
Use of action verbs reflecting HOTS	4.58	0.69
Designing comparison and classification tasks	4.36	0.81
Designing evaluation-based tasks	4.21	0.85
Designing creative/product-based tasks	3.15	0.88
Use of open-ended tasks	4.47	0.77
Constructing HOTS assessment questions	3.78	0.82
Confidence in designing HOTS materials	3.96	0.79
Overall Mean	4.12	0.79

(Source: Data field, 2026)

The findings presented in Table 3 indicate that teachers in public secondary schools in Bariadi Town Council demonstrate a relatively high level of self-reported competence in designing learning activities that promote higher-order thinking skills (HOTS), with an overall mean score of 4.12. Specifically, teachers reported strong ability in formulating learning objectives targeting higher-order cognitive processes such as analysis, evaluation, and creation ($M = 4.42$), as well as in the use of appropriate action verbs aligned with Bloom's higher levels ($M = 4.58$). Similarly, the frequent use of open-ended tasks ($M = 4.47$) suggests that teachers attempt to incorporate elements that potentially stimulate critical thinking and multiple perspectives in classroom instruction. However, despite this generally high self-reported competence, relatively lower mean scores were observed in more demanding pedagogical practices, particularly in designing creative or product-based tasks ($M = 3.15$) and constructing assessment questions that effectively measure higher-order thinking ($M = 3.78$). These areas require deeper pedagogical expertise and practical experience, indicating that while teachers are confident in planning for HOTS, they face challenges in operationalizing complex instructional tasks that fully engage students in higher-level cognition.

Qualitative findings further revealed that although teachers are generally familiar with HOTS concepts, there is a notable gap between planning and actual classroom practice. Interview responses from District School Quality Assurance officer (DSQAO) and Heads of Schools indicated that many teachers include higher-order verbs in lesson plans without designing corresponding learning activities that genuinely engage students in analysis, evaluation, and creation. In addition, reliance on textbooks was reported to limit the development of innovative, inquiry-based, and student-centered tasks.

District School Quality Assurance officer (DSQAO) noted:

Teachers can write objectives using words such as 'analyze' or 'evaluate', which suggests an awareness of higher-order thinking requirements in lesson planning. However, this understanding often remains at a superficial level, as the actual classroom tasks implemented do not consistently reflect these cognitive demands. In many cases, lessons that are intended to promote higher-order thinking end up focusing on lower-level activities such as recall, description, or simple comprehension. This indicates a disconnect between what is planned on paper and what is practiced in the classroom, highlighting limitations in teachers' ability to translate theoretical knowledge of HOTS into meaningful, task-based learning experiences that genuinely engage students in analysis, evaluation, and creation (Interview with DSQAO 16th Jan 2026)

Similarly, one of the head of school coded HOS2 commented that;

In our school, we encourage teachers to use learner-centered strategies that promote critical thinking and problem-solving. However, some teachers still struggle to fully implement higher-order thinking activities due to large class sizes and limited teaching resources. Continuous professional development is necessary to strengthen pedagogical competence and improve classroom practices (Interview with HOS2 15th Jan 2026)

The coexistence of relatively high self-reported competence and weaker classroom implementation can be explained by several interrelated factors. First, social desirability bias may influence teachers' responses, as they tend to report practices aligned with expected standards under the Competency-Based Curriculum (CBC), even when such practices are not consistently enacted in practice (Podsakoff et al., 2003). Second, contextual constraints, including large class sizes, limited resources, and time pressure, may restrict teachers' ability to implement cognitively demanding HOTS-oriented activities (OECD, 2019). Third, there is often a gap between pedagogical knowledge and classroom enactment, where teachers understand HOTS concepts theoretically but struggle to translate them into

structured and sustained learning experiences (Shulman, 1987; Darling-Hammond et al., 2017).

These findings suggest that teachers' competence is stronger at the level of planning than implementation, reflecting what can be described as a "pedagogical depth gap." This means that HOTS-oriented practices are present in form but not fully realized in ways that promote deep cognitive engagement. This pattern is consistent with studies by Assaly and Jabarin (2021) and Rachmawati et al. (2023), which found that teachers often demonstrate awareness of higher-order thinking but face challenges in operationalizing these practices effectively.

From a constructivist perspective, promotion of HOTS requires carefully designed learning experiences that actively engage students in inquiry, problem-solving, and knowledge construction. Therefore, the findings of this study highlight the need for targeted professional development, improved instructional support, and enabling classroom conditions to bridge the gap between pedagogical knowledge and actual classroom practice.

Use of Learner-Centred Teaching Strategies to Foster HOTS

Table 4 presents teachers' responses regarding the extent to which they use learner-centred teaching strategies to promote higher-order thinking skills (HOTS).

Table 4:

Use of Learner-Centered Teaching Strategies (n = 100 Teachers)

Item Description	Mean	SD
Use of group discussion to promote critical thinking	4.31	0.72
Use of problem-solving activities	4.05	0.80
Use of project-based learning	3.68	0.89
Asking open-ended questions	4.27	0.76
Encouraging justification of answers	3.94	0.78
Supporting inquiry-based learning	3.74	0.84
Active student engagement (debates, role play)	3.96	0.83
Use of think-pair-share or small group tasks	4.02	0.79
Reflection activities	3.71	0.86
Progressive questioning (simple to complex)	4.25	0.75
Overall Mean	3.99	0.80

(Source: Field Data, 2026)

The findings in Table 4 indicate that teachers demonstrate a moderately high level of use of learner-centred teaching strategies, with an overall

mean score of 3.99. Strategies such as group discussions ($M = 4.31$), open-ended questioning ($M = 4.27$), and progressive questioning techniques ($M = 4.25$) were frequently reported, suggesting that teachers are aware of and actively attempt to implement practices that support student engagement and critical thinking. These strategies are central to the Competency-Based Curriculum (CBC), which emphasizes active learning and student participation. However, relatively lower mean scores were observed in more cognitively demanding and student-driven approaches such as project-based learning ($M = 3.68$), inquiry-based learning ($M = 3.74$), and reflection activities ($M = 3.71$). These findings suggest that while teachers are comfortable using structured and teacher-guided strategies, they are less consistent in implementing approaches that require sustained student autonomy, deep inquiry, and extended problem-solving.

Qualitative findings further revealed that although learner-centred strategies are commonly used, their application is often surface-level and inconsistent. Interviews with Heads of Schools indicated that group discussions are frequently conducted without clear structure or follow-up activities that promote deeper analysis and reflection. In addition, large class sizes and time constraints were identified as major barriers limiting effective implementation.

One Head of School (HOS3) explained:

Teachers use group discussions and questions in class, but sometimes these activities are not well guided. Students discuss, but they are not always pushed to think deeply or justify their answers (Interview with HOS2 15th Jan 2026)

Similarly, the District Secondary Education Officer (DSEO) noted:

“Learner-centered methods are being used, but not at the level required to fully develop higher-order thinking. Many teachers still control the learning process, and students are not given enough opportunity to explore and discover knowledge on their own.”
(Interview with DSEO, January 2026)

These findings suggest that although teachers report a moderately high use of learner-centred strategies, the quality and depth of implementation remain limited. This indicates a gap between the presence of learner-centred activities and their effectiveness in promoting higher-order thinking skills. This observation is consistent with studies by Cain (2020) and Nalova and Shalanyuy (2017), which found that teachers often adopt

learner-centred approaches in form but not in substance. From a constructivist perspective, learner-centred teaching requires meaningful engagement, inquiry, and reflection. The findings of this study therefore imply that while teachers are moving toward learner-centred pedagogy, further support is needed to enhance the depth and effectiveness of these strategies in fostering higher-order.

Integration of Real-Life Situations in Teaching to Enhance HOTS

Table 5 presents teachers' responses regarding how they integrate real-life situations into teaching to enhance higher-order thinking skills.

Table 5: Integration of Real-Life Situations in Teaching

Item Description	Mean	SD
Connecting lessons to students' daily lives	4.36	0.73
Designing real-life problem-solving tasks	3.98	0.84
Using of local examples and cases	4.28	0.76
Analysis of real-world scenarios	3.92	0.84
Assigning community-based projects	3.54	0.92
Linking learning to future careers	3.01	0.80
Use of media (news, videos)	3.76	0.88
Overall mean	3.84	0.82

The findings in Table 5 indicate that teachers demonstrate a moderately high level of integration of real-life situations in teaching, with an overall mean score of 3.84 (SD = 0.82). Teachers reported strong practices in connecting lesson content to students' daily lives (M = 4.36, SD = 0.73) and using local examples and cases (M = 4.28, SD = 0.76), suggesting that they recognize the importance of contextualizing learning to enhance understanding and relevance. Similarly, relatively high mean scores were observed in designing real-life problem-solving tasks (M = 3.98, SD = 0.84) and analyzing real-world scenarios (M = 3.92, SD = 0.84), indicating that teachers make some effort to move beyond basic content delivery toward application-oriented instruction.

These findings are consistent with empirical evidence from different contexts, which shows that linking instruction to real-life situations enhances students' engagement and higher-order thinking skills (HOTS). For instance, Haryanto and Arty (2019) in Indonesia found that contextual teaching significantly improved students' HOTS and self-efficacy, demonstrating the effectiveness of real-life integration in promoting both cognitive and motivational outcomes.

However, despite this moderately high level of reported practice, relatively lower mean scores were observed in more complex and authentic pedagogical practices, particularly assigning community-based projects ($M = 3.54, SD = 0.92$), linking learning to future careers ($M = 3.01, SD = 0.80$), and the use of media resources such as news and videos ($M = 3.76, SD = 0.88$). These practices require higher levels of pedagogical competence, creativity, and resource availability, which may explain their less frequent implementation. The lower score on linking learning to future careers is particularly notable, as it suggests a missed opportunity to help students see the long-term relevance and application of their learning.

Qualitative findings further reinforce this interpretation by showing that although teachers frequently provide real-life examples during instruction, they rarely design structured learning activities that engage students in authentic investigation and problem-solving. Heads of Schools reported that contextualization is often limited to verbal explanations rather than extended tasks that promote inquiry, application, and critical thinking. As one Head of School (HOS1) explained:

“Teachers try to relate topics to students’ daily lives, but they do not always go further to design activities where students can investigate real problems or apply what they have learned in practical situations.”
(Interview with HOS1 15th Jan 2026)

This disconnect between awareness and practice reflects a broader pattern observed in empirical studies. For example, Giacomazzi (2022) in Uganda demonstrated that when teachers were supported through professional development to integrate contextualized learning experiences, students showed improved critical thinking and engagement. Similarly, Mutegi (2023) in Kenya found that students exposed to real-life instructional approaches performed better in problem-solving and analytical tasks, indicating that authentic contextualization has a direct impact on higher-order thinking outcomes. However, studies conducted in Tanzania by Hezron, Deogratias, and Lupeja (2024) revealed that teachers’ use of real-life situations is often limited to simple illustrations rather than complex, problem-solving tasks, which aligns closely with the findings of the present study.

Overall, the findings suggest that while teachers demonstrate awareness of the importance of integrating real-life situations in teaching, their practices remain largely illustrative rather than experiential. This limits students’ opportunities to engage in meaningful problem-solving, inquiry, and

application of knowledge, which are essential components of higher-order thinking skills. From a constructivist perspective, meaningful learning occurs when students actively engage with real-world problems and construct knowledge through experience. Therefore, the moderately high but incomplete integration observed in this study underscores the need to strengthen teachers' capacity to design authentic, context-based learning experiences that go beyond simple examples to fully engage learners in higher-order cognitive processes.

CONCLUSION AND RECOMMENDATIONS

Conclusion

This study examined teachers' pedagogical competence related to the promotion of higher-order thinking skills (HOTS) under the Competency-Based Curriculum (CBC) in public secondary schools in Bariadi Town Council, Tanzania. The findings indicate that teachers report moderate to relatively high levels of competence in designing HOTS-oriented learning activities, using learner-centred strategies, and integrating real-life situations in teaching. In particular, teachers demonstrated awareness of key HOTS principles, such as formulating higher-order objectives, using open-ended questions, and linking content to students' daily experiences.

However, the findings also reveal a gap between reported pedagogical competence and classroom practice. Teachers appear less consistent in implementing more demanding instructional approaches, such as inquiry-based learning, authentic problem-solving tasks, and project-based activities. In addition, the integration of real-life situations is often limited to illustrative examples rather than structured, experiential learning opportunities. These patterns are associated with contextual factors such as large class sizes, limited instructional resources, and constrained opportunities for professional development. Guided by constructivist theory, the study suggests that while teachers demonstrate awareness and reported use of HOTS-oriented practices, the depth and consistency of classroom implementation remain limited. These findings should be interpreted as indicative of a gap between pedagogical knowledge and enactment, rather than evidence of direct effects on students' higher-order thinking outcomes.

RECOMMENDATIONS

To strengthen the promotion of HOTS in classroom practice, targeted and continuous professional development is recommended to support teachers in designing and implementing inquiry-based, context-driven, and higher-

order assessment tasks. Such initiatives should emphasize practical classroom application to bridge the gap between knowledge and practice. In addition, improving the availability of instructional resources, including ICT tools and context-based teaching materials, may support teachers in implementing more engaging and cognitively demanding learning activities. Addressing structural challenges such as large class sizes and heavy syllabus demands may further create conditions that are more conducive to learner-centred teaching.

Strengthening instructional supervision through regular feedback, mentoring, and collaborative professional practices may also support teachers in refining their classroom implementation of HOTS-oriented strategies.

Finally, future research is recommended to employ classroom observations and intervention-based designs to more directly examine how pedagogical practices are enacted and how they relate to students' higher-order thinking outcomes.

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