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Examining the Influence of Instructional Factors on Gifted Students' Learning Processes in Public Secondary Schools in Kibaha District, Tanzania

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Abstract : This study examined the influence of instructional factors on gifted students' learning processes in public secondary schools. Gifted education remains underdeveloped in many countries, where limited research exists on how instructional practices affect high-ability learners. Guided by Gagné's Differentiated Model of Giftedness and Talent and Renzulli's Three-Ring Conception of Giftedness, the study focused on three instructional factors: teacher competencies, learning resources, and curriculum relevance. A mixed-methods approach using a convergent parallel design was employed, involving 234 respondents comprising 168 gifted students, 60 teachers, 3 heads of schools, and 3 academic masters/mistresses from three public secondary schools. Data were collected through structured questionnaires, semi-structured interviews, classroom observations, and document review. Quantitative data were analysed using descriptive statistics, while qualitative data were analysed thematically. The findings revealed that while teachers demonstrated general instructional competence, most lacked specialized training in gifted education, limiting their capacity to effectively differentiate instruction. Learning resources were inadequate in quality and specialization, particularly digital technologies and advanced materials. The curriculum provided a foundation for creativity but lacked sufficient differentiation and flexibility for gifted learners. The study concluded that instructional factors significantly influence gifted students' learning processes, but gaps in teacher training, resource adequacy, and curriculum flexibility remain key challenges. It is recommended that the Ministry of Education develop a national policy framework for gifted education, establish specialized teacher training programs, allocate adequate resources for advanced learning materials, and reform the curriculum to incorporate flexibility and enrichment components to nurture the potential of gifted learners in Tanzanian public secondary schools.

Keywords: Gifted students; instructions; competence; resources; relevance.

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INTRODUCTION

The quality of instructional practices has long been recognized as a fundamental determinant of student learning outcomes worldwide. Research indicates that teacher competence, resource adequacy, and curriculum relevance shape students' cognitive engagement, creativity, and academic achievement (Reis & Renzulli, 2021; Subotnik et al., 2019). In well-resourced systems, differentiated instruction, enrichment programming, and acceleration opportunities contribute to enhanced learning experiences for high-ability learners (VanTassel-Baska, 2021).

However, educational systems with uniform curricula and examination-focused instruction risk failing to accommodate learners' varying abilities, particularly those with advanced cognitive potential (Kim & Shim, 2023).

In developed countries, gifted learners demonstrate sharp intellectual interest, creativity, and rapid learning pace compared to their peers (Subotnik et al., 2019). Despite this recognition, many mainstream classroom settings adopt teacher-centered approaches and standard curricula that prioritize content coverage over depth and individualization. This misalignment often results in under-stimulation and disengagement for high-ability students whose needs extend beyond conventional instructional strategies (Reis & Renzulli, 2021; Gagné, 2020). Research highlights that teacher training and professional development play a critical role in enabling differentiated instructional that support gifted learners (VanTassel-Baska, 2021).

In the African context, gifted education remains an underdeveloped area of research and practice, with many countries lacking formal identification systems, policy frameworks, or specialized programs (Kabtyimer & Zhao, 2024). Studies have shown that teachers often have limited awareness and preparation to identify and support gifted learners, leading to instructional delivery that fails to accommodate individual learning differences (Mokiwa & Agbenyeku, 2019; Kalobo & Setlalentoa, 2024). Many African educational systems continue to prioritize examination performance, reinforcing teacher-centered approaches and reducing opportunities for enrichment or curriculum differentiation (Kabwos et al., 2020).

In Tanzania, the education system is characterized by a centralized curriculum and a strong emphasis on national examinations. While this approach aims to ensure uniform standards, it limits opportunities for curriculum differentiation and enrichment that would benefit gifted learners. Existing Tanzanian studies on giftedness focus primarily on teacher awareness of gifted pupils or inclusion practices without systematically examining how instructional factors influence learning processes of high-ability students in public secondary schools (Paschal, 2022a; Paschal, 2022b; Paschal et al., 2020). (Milinga et al., 2023) reported limitations in Tanzanian teachers' perceptions and implementation of differentiated instruction for academically high-achieving secondary school students. There remains insufficiency of evidence regarding teachers' competencies in implementing instructional strategies that accommodate gifted learners, the adequacy of learning resources, and the extent to which the curriculum supports deep conceptual engagement.

This study is grounded in theories of giftedness and instructional effectiveness that explain how environmental and educational factors influence talent development. Giftedness is conceptualized as high academic performance, and the interaction between above-average ability, creativity, and task commitment (Reis & Renzulli, 2021). Similarly, Gagné's Differentiated Model of Giftedness and Talent (DMGT 2.0) theorize that natural abilities (gifts) are transformed into systematically

developed skills (talents) through environmental catalysts, teachers, curriculum, and instructional practices (Gagné, 2020).

Contextually, the study is situated within Tanzania's public secondary education system, which operates under a centralized and standardized curriculum framework. All learners follow the same national curriculum, assessed through standardized national examinations. In many Tanzanian public secondary schools, large class sizes, limited instructional resources, and examination-oriented teaching practices reduce opportunities for personalized learning. Studies indicate that teachers in Tanzania have limited training in identifying and supporting gifted learners (Paschal, 2022b). As a result, gifted students are placed in mixed classrooms without structured enrichment, acceleration, or specialized programming. This study will examine how instructional factors (teacher competence, learning resources, and curriculum relevance) influence gifted students' learning processes in public secondary schools.

Theoretical Review

The study was guided by two major theoretical frameworks: Gagné's Differentiated Model of Giftedness and Talent (DMGT) and Renzulli's Three-Ring Conception of Giftedness. Gagné's Differentiated Model of Giftedness and Talent (DMGT) distinguish between giftedness (natural abilities) and talent (systematically developed skills). According to (Gagné, 2020), giftedness represents innate aptitudes in intellectual, creative, social, or physical domains, while talent emerges when these natural abilities are nurtured through structured learning, practice, and environmental support. The model emphasizes the role of environmental catalysts, including teachers, curriculum, school climate, and resources, in transforming potential into achievement. The DMGT framework is relevant in examining how school-based instructional practices facilitate or constrain talent development.

Renzulli's Three-Ring Conception of Giftedness proposes that gifted behaviour arises from the interaction of three clusters of traits: above-average ability, creativity, and task commitment (Reis & Renzulli, 2020). Unlike traditional IQ-based definitions, this theory emphasizes dynamic interactions between cognitive ability, creative thinking, and motivation. The theory underscores the role of enrichment activities, differentiated instruction, and flexible curriculum structures in nurturing creativity and performance.

The integration of these two theories strengthens this study by linking internal learner characteristics with external instructional conditions. Renzulli's model explains why gifted students require stimulating and challenging learning environments to activate their creativity and motivation, while Gagné's model explains how these potentials are developed through structured teaching, adequate resources, and relevant curriculum support.

Empirical Literature Review

Teacher competence is a central factor in gifted education because teachers determine the extent to which classroom experiences provide appropriate academic challenge and opportunities for talent development. Teachers supporting gifted learners require knowledge and skills in identification, differentiation, enrichment, higher-order questioning and advanced assessment. Research indicates that general teaching competence does not necessarily imply specialized competence in gifted education. Teachers may be qualified to teach particular subjects but may have limited preparation in recognizing and responding to advanced learners' distinctive needs. In Europe (Townend et al., 2024) emphasized the importance of sustained professional development in gifted education. Professional development can strengthen teachers' understanding of giftedness and their capacity to translate this knowledge into classroom practice. Similarly, (VanTassel-Baska, 2021) emphasized the importance of specialized teacher knowledge in gifted education. In West Africa, studies on teacher competence in gifted education remains limited. Research conducted in Nigeria revealed that, most teachers lacked formal training in gifted education and therefore relied on traditional teaching approaches that did not sufficiently challenge high-ability learners (Olatoye & Aderogba, 2020). In Tanzania, (Milinga et al., 2023) found that teachers experienced challenges in implementing differentiated instruction for academically high-achieving students. This suggests that teacher preparation is an important consideration when examining instructional provision for gifted learners.

Learning resources influence students' opportunities to investigate, experiment, explore and extend their learning beyond the prescribed curriculum. For gifted students, the issue is not merely whether resources are available but whether they are sufficiently advanced, diverse, current and accessible. Resources such as advanced textbooks, reference books, laboratories, computers, internet services and digital learning platforms can provide opportunities for independent inquiry and deeper engagement. In Europe (Reis et al., 2021) emphasized enrichment, differentiation, project-based learning and creative productivity as important elements of gifted education. (Nicholas et al., 2024) emphasize the importance of differentiation in providing high-ability students with appropriate depth, complexity and challenge. (Reis et al., 2021) similarly identify enrichment, open-ended learning and creative productivity as important pedagogical approaches. Studies in Kenya and Uganda indicate that many schools lack sufficient teaching and learning resources necessary for supporting advanced academic exploration (Wambugu & Changeiywo, 2020; Nsubuga & Ssenyonga, 2021). In Tanzania (Paschal, 2022) reported that resource accessibility is an important issue in supporting gifted learners in Tanzania. The current study extends this discussion by examining the adequacy and actual utilization of resources through multiple data sources.

A relevant curriculum should provide gifted learners with opportunities for intellectual challenge, creativity, problem-solving, independent learning and advanced exploration. Curriculum differentiation may include enrichment, acceleration, curriculum compacting, project-based learning and opportunities to explore topics beyond the standard syllabus. In Europe, studies indicates that flexible curricula that incorporate project-based learning significantly enhance creativity and innovation among gifted learners (Tirri & Kuusisto, 2020). However, this study focuses on specialized gifted education programs rather than mainstream public-school curricula. In Asia, studies show that curriculum enrichment programs improve gifted students' problem-solving and creative thinking skills (Tan & Gopinathan, 2021). Nevertheless, these programs operate within highly specialized education systems that may not be easily replicated in other contexts. Studies in Nigeria and Kenya reveal that rigid examination-oriented curricula limit teachers' ability to implement creative and inquiry-based learning approaches (Adebayo, 2020; Wambugu & Changeiywo, 2020). However, these studies focus mainly on general curriculum implementation rather than gifted education. In Tanzania, the secondary school curriculum is largely examination-oriented, which may restrict opportunities for creative and advanced learning among gifted students (Mmbaga, 2021). The competence-based curriculum provides opportunities for creativity, problem-solving and learner participation. However, the extent to which these elements are differentiated for gifted learners remains uncertain.

METHODOLOGY

This study adopts a mixed-methods research approach, integrating both quantitative and qualitative methods to provide a comprehensive understanding of the research problem. It employed a convergent parallel mixed-methods design, in which quantitative and qualitative data were collected concurrently, analyzed separately, and integrated at the interpretation stage. (Creswell & Creswell, 2023; Tashakkori et al., 2020). The study was conducted in Public Secondary Schools in Kibaha District, Tanzania. The target population for this study was 557 respondents, including 405 students, 146 teachers, and 6 school administrators in public secondary schools in Kibaha District. From this population a sample of 168 gifted students, 60 teachers, 3 head of schools and 2 academic master and 1 academic mistress was drawn.

Data were collected using questionnaires, interviews, classroom observation, and document analysis. Data were analyzed using both quantitative and qualitative techniques in line with the mixed-methods approach. Quantitative data from structured questionnaires were coded and entered into SPSS (Version 26) for analysis. Descriptive statistics (frequencies, percentages, means, and standard deviations) were used to summarize the data. Qualitative data from interviews, classroom observations, and document analysis were analyzed using thematic analysis. The

study adhered to established ethical standards to protect participants' rights, dignity, and safety. Informed consent was obtained from all participants after clearly explaining the study's purpose, procedures, and potential risks and benefits.

RESULTS AND DISCUSSION

Role of Teacher Competencies to Meeting Academic Needs of Gifted Students

The first aspect examined the role of teacher competencies in meeting the academic learning needs of gifted students in public secondary schools in Kibaha District. Teacher competence was considered in terms of teachers' knowledge, skills, professional preparation and ability to identify and support gifted learners through differentiated instruction, enrichment, higher-order questioning and appropriate assessment. Evidence was obtained from questionnaires administered to 168 gifted students and 60 teachers, interviews with three heads of schools, three academic masters/mistresses and 15 teachers, classroom observations of 12 lessons, and documentary review included lesson plans, schemes of work and continuous assessment records. The integration of these sources provided an opportunity to compare perceived competence with actual classroom practice and instructional planning.

Gifted students generally perceived their teachers positively in relation to academic support. The highest-rated practice was the provision of opportunities to participate in competitions and projects (M = 4.21, SD = 1.13), followed by feedback that improved learning (M = 4.17, SD = 1.01), academic challenge (M = 4.05, SD = 1.18), and encouragement of independent thinking (M = 3.95, SD = 1.26). However, the provision of advanced classroom tasks received the lowest mean score (M = 3.67, SD = 1.15).

These findings indicate that teachers were perceived as supportive of students' general academic development, particularly through feedback, participation and academic challenge. Nevertheless, the comparatively lower rating for advanced classroom tasks suggests that opportunities for systematic extension beyond the regular classroom level were less consistent. This distinction is important because effective provision for gifted learners requires more than encouraging high achievement; it requires deliberate adjustment of the depth, complexity and pace of learning. Evidence indicates that differentiation for high-ability learners involves purposeful changes in learning opportunities rather than giving advanced students the same work (Nicholas et al., 2024; Kalobo & Setlalentoa, 2024).

Teachers' responses presented a similar pattern. Teachers reported relatively positive competence in identifying gifted students (M = 3.80, SD = 1.12), using enrichment activities (M = 3.85, SD = 1.06), designing higher-order thinking tasks (M = 3.65, SD = 1.10), and using varied assessment strategies (M = 3.65, SD = 1.10). However, their responses were more moderate on differentiated instruction (M = 3.45,

SD = 1.25), independent research or projects (M = 3.50, SD = 1.25), and adjustment of instructional pace for gifted learners (M = 3.50, SD = 1.14). Most teachers disagreed that they had received adequate training in gifted education (M = 2.25, SD = 1.16), with 70% either disagreeing or strongly disagreeing.

The contrast between relatively positive self-reported competence and the very low rating for specialized training suggests that teachers possessed general pedagogical confidence but lacked sufficient formal preparation in gifted education. This distinction is important in interpreting teacher competence because general teaching qualifications do not necessarily equip teachers to identify advanced learning needs, compact curriculum content, differentiate learning processes or design enrichment activities. Recent research similarly emphasizes professional development as a critical component of teachers' capacity to support high-ability learners effectively (Nicholas et al., 2024; Townend et al., 2024).

Table 1. Students' Perceptions of Teacher Competencies

Statement	Mean	Std. Dev.	Interpretation
My teachers challenge me academically.	4.05	1.18	Agree
I receive advanced tasks in class.	3.67	1.15	Agree
My teachers encourage independent thinking.	3.95	1.26	Agree
Teachers provide feedback that improves my learning.	4.17	1.01	Agree
I am given opportunities to participate in competitions and projects.	4.21	1.13	Strongly Agree

Source: Field Data (2026)

Table 2. Teachers' Self-Reported Competencies

Statement	Mean	Std. Dev.	Interpretation
I can identify gifted students in my classroom.	3.8	1.12	Agree
I differentiate instruction to meet diverse learner needs.	3.45	1.25	Moderately Agree
I design higher-order thinking tasks for advanced learners.	3.65	1.1	Agree
I use enrichment activities for high-ability students.	3.85	1.06	Agree
I provide opportunities for independent research/projects.	3.5	1.25	Moderately Agree
I adjust the pace of instruction for gifted learners.	3.5	1.14	Moderately Agree
I assess gifted students using varied assessment strategies.	3.65	1.1	Agree

I have received adequate training on gifted education.	2.25	1.16	Disagree

Source: Field Data (2026)

This findings were supported by the interview evidence where one participant emphasized the absence of specialized preparation and explained:*"Most of our teachers are qualified and experienced, but they have never received any formal training on how to handle gifted learners."* (Academic Mistress, School B, Interview, 2026).

The quotation indicates that teachers' academic and professional qualifications were not necessarily accompanied by knowledge of gifted education. The issue was therefore not simply whether teachers were qualified to teach, but whether they possessed specialized competencies for identifying gifted learners, differentiating instruction, providing enrichment and developing advanced learning opportunities. This distinction is important because gifted learners may require greater depth, complexity and challenge rather than simply additional quantities of ordinary classroom work. Nicholas et al. (2024) emphasized differentiated approaches to respond to the needs and potential of high-ability and gifted students.

The finding also has implications for teacher professional development. If teachers have never received specialized preparation, their ability to implement differentiated instruction may depend on personal initiative rather than systematic professional knowledge. This is consistent with Townend et al. (2024), whose systematic review found that effective professional development in gifted education should strengthen teachers' knowledge and classroom practice and should be sustained, evidence-based and supported through collaboration and mentoring. The Tanzanian context is also supported by Milinga et al. (2023), who found limited perceptions and implementation of differentiated instruction among teachers working with academically high-achieving secondary school students. Another teacher stated: *"I try to give gifted students extra work or ask them more challenging questions, but I don't always have time to prepare different materials for them."*(Teacher, School A, Interview, 2026)

This quotation demonstrates that teachers recognized the need to challenge gifted students but were constrained by time and preparation demands. The word "try" suggests that differentiation was likely to occur occasionally than consistently planned instructional practice. Teachers require planning time, appropriate materials, manageable workloads and professional support to implement differentiated learning systematically. This finding agrees with Nicholas et al. (2024), who identified time, class size and resource limitations among the contextual barriers affecting differentiated instruction. A further teacher explained: *"Differentiation is not something we are trained to do. We know it is important, but in practice it is very difficult because we have large classes and limited resources."*(Teacher, School C, Interview, 2026)

The quotation illustrates the interaction between teacher competence and the broader school environment. Teachers may understand the value of differentiation while lacking the practical conditions required to implement it. Thus, the problem cannot be attributed exclusively to individual teachers. Large classes, inadequate resources and limited preparation time may constrain the translation of teacher knowledge into classroom practice. This interpretation is consistent with Milinga et al. (2023), who found that differentiated instruction among Tanzanian teachers was constrained despite recognition of its importance.

Classroom observations provided an important verification of the questionnaire and interview findings. Twelve lessons were observed across the three schools using a structured checklist. The observations showed that differentiated instruction, enrichment tasks, independent inquiry/research and varied assessment strategies were not observed. Teachers generally used the same lesson content, activities and assessment tasks for learners regardless of their ability level. Lesson pace was also generally uniform, and some advanced students completed activities before their peers. Nevertheless, some positive practices were observed teachers using higher-order questions, particularly questions requiring students to explain "why" and "how. However, such practices did not target advanced learning needs of gifted students.

The observation evidence therefore qualifies the relatively positive questionnaire findings. While students perceived teachers as supportive and teachers reported some use of differentiated strategies, direct observation demonstrated limited systematic differentiation. This divergence is important because it suggests that respondents' perceptions of general teacher support should not be equated with specialized gifted-education competence. In other words, teachers could be supportive, committed and academically competent while still lacking the specialized pedagogical practices necessary to challenge gifted learners consistently. This finding is also consistent with the argument that differentiated instruction should provide appropriate depth, complexity and challenge rather than simply requiring high-ability learners to complete the same activities more quickly (Nicholas et al., 2024). It further supports the need for objective classroom observation when evaluating teacher competence because self-reported competence may not always correspond to actual classroom implementation. This finding aligns with research by Ayık et al. (2024), who found that teachers' self-perceptions of their competencies often exceed their actual classroom practices, highlighting the need for objective observation-based assessments.

Document review provided further evidence concerning whether specialized support for gifted students was incorporated into instructional planning. Lesson plans, schemes of work and assessment records were examined for differentiated objectives, enrichment activities, higher-order thinking tasks, flexible teaching

approaches and assessment beyond recall. The review showed that lesson plans did not contain differentiated objectives, schemes of work did not provide evidence of systematic enrichment activities, and teaching approaches were generally similar for learners. Some lesson plans included analytical and evaluative questions, but assessment records largely emphasized recall and comprehension. Documentary findings therefore reinforced the classroom observations. Both sources showed that some higher-order thinking practices existed, but systematic differentiation was not embedded in instructional planning. The findings supported by Reis et al. (2021), who emphasize deliberate enrichment, creative productivity and differentiated opportunities for advanced learners.

From triangulation of these findings, three important patterns emerge. First, there was convergence concerning teachers' general commitment to students. Students reported receiving feedback and academic challenge, while interview participants described teachers as dedicated and supportive. Second, there was strong convergence concerning the lack of specialized training. The questionnaire recorded a low mean for gifted-education training, interviews identified the absence of formal preparation, observations showed limited differentiation, and documents showed little evidence of differentiated planning. Third, there was convergence concerning the inconsistent implementation of differentiated instruction. Teachers reported moderate use of differentiation, whereas observations and documents indicated that most instruction remained uniform. The main divergence therefore occurred between perceived general competence and demonstrated specialized practice.

The finding can be explained using Gagné's Differentiated Model of Giftedness and Talent (DMGT). The DMGT distinguishes giftedness as natural ability from talent as systematically developed competence and emphasizes environmental catalysts such as teachers, curriculum and learning resources in the transformation of potential into developed talent (Gagné, 2020). In the present study, teachers represent an important environmental catalyst. Where teachers possess appropriate knowledge and skills, they can transform gifted students' potential through challenging instruction, enrichment and differentiated learning (Townend et al., 2024; Milinga et al., 2023). The findings also support Renzulli's Three-Ring Conception of Giftedness, which conceptualizes gifted behaviour through the interaction of above-average ability, creativity and task commitment (Reis & Renzulli, 2020).

The limited use of enrichment, independent inquiry and advanced learning tasks observed in the study may restrict opportunities for gifted learners to express creativity and task commitment. Thus, Renzulli's framework helps explain why merely placing high-ability learners in ordinary classrooms is insufficient; the classroom environment must provide opportunities that stimulate creativity, challenge and sustained engagement. Overall, teacher competence influenced gifted students' learning processes, but the evidence indicates that general teacher

competence was stronger than specialized gifted-education competence. Strengthening teacher preparation in differentiated instruction, enrichment, higher-order questioning, acceleration, independent learning and assessment is therefore essential. The findings align with studies which reported that teachers lack formal training in gifted education and therefore rely on general teaching approaches. (Kalobo & Setlalentoa, 2024),

Adequacy of Learning Resources Used in Supporting Gifted Students' Learning

This objective examined the adequacy of learning resources used to support gifted students' learning. Resources included textbooks, advanced reference materials, libraries, laboratories, ICT facilities, internet services and other materials that could facilitate advanced inquiry, creativity, independent learning and talent development. Gifted students generally reported positive access to some learning resources. The highest mean was recorded for use of the school library for research activities (M = 4.02, SD = 1.07), followed by the extent to which resources allowed students to explore their talents (M = 3.86, SD = 1.32) and access to advanced learning materials (M = 3.55, SD = 1.34). However, laboratory facilities supporting creative experiments recorded a lower mean (M = 3.33, SD = 1.55), while digital learning tools recorded M = 3.21 (SD = 1.60).

Teachers provided a more critical assessment. They agreed that library materials suitable for advanced learners were available to some extent (M = 3.90, SD = 1.38), that learning materials enabled students to explore beyond the syllabus (M = 3.85, SD = 1.12), and that laboratories supported inquiry-based learning (M = 3.55, SD = 1.08). However, teachers only moderately agreed concerning advanced textbooks (M = 3.40, SD = 1.18) and disagreed that digital learning resources were adequately available (M = 2.90, SD = 1.35) and that internet access adequately supported research and creativity (M = 2.60, SD = 1.06). The results suggest an important distinction between resource availability and resource adequacy. A school may possess a library, laboratory or textbooks, but these resources may still be inadequate if they are outdated, insufficient, inaccessible or unsuitable for advanced learners. Baccassino and Pinnelli (2023) emphasize the importance of enrichment and specialized educational programming in supporting gifted learners, while Paschal (2022) identified resource accessibility as an important issue in Tanzanian gifted education.

Table 5. Students' Perceptions of Learning Resources

Statement	Mean	Std. Dev.	Interpretation
I have access to advanced learning materials.	3.55	1.34	Agree
I use the school library for research activities.	4.02	1.07	Agree
Laboratory facilities support creative experiments.	3.33	1.55	Moderately Agree

I can access digital learning tools.	3.21	1.6	Moderately Agree
Learning resources allow me to explore my talents.	3.86	1.32	Agree

Source: Field Data (2026)

Table 6. Teachers' Perceptions of Learning Resources

Statement	Mean	Std. Dev.	Interpretation
Advanced textbooks are available.	3.4	1.18	Moderately Agree
Digital learning resources are available.	2.9	1.35	Disagree
Laboratory facilities support inquiry-based learning.	3.55	1.08	Agree
Library contains materials suitable for advanced learners.	3.9	1.38	Agree
Internet supports research and creativity.	2.6	1.06	Disagree
Learning materials allow students to explore beyond the syllabus.	3.85	1.12	Agree

Source: Field Data (2026)

Interview findings reinforced the distinction between basic availability and advanced adequacy. Participants consistently described shortages of advanced textbooks, reference materials, laboratory equipment, computers and internet services. One teacher explained: *"The available resources are intended for all students and are not sufficient to challenge academically advanced learners."* (Teacher, School A, Interview, 2026).

Another participant reported that one school lacked even a library, requiring students to obtain learning materials from nearby schools. These responses indicate that the resource challenge was systemic rather than merely a matter of individual teacher effort. Basic materials supported the standard curriculum, but they did not consistently provide the depth and complexity needed for advanced inquiry, independent learning and enrichment. This supported with reviews suggesting that schools need to invest in specialized resources for gifted education, including advanced textbooks, research materials, and enrichment resources (Reis et al., 2021; Baccassino & Pinnelli, 2023). A teacher explained: *"Our school has very limited internet access, and the few computers we have are not always functional."* (Teacher, School B, Interview, 2026).

Another teacher linked the challenge to both infrastructure and teacher capacity, noting the absence of computer laboratories and limited teacher preparation in ICT use. The implication is that the digital resource gap affects both access to information and the pedagogical capacity to use technology for differentiated

learning. For gifted students, limited access to digital resources may restrict independent research, exposure to advanced content and opportunities to pursue specialized interests. This finding is consistent with the study by Zhang and Chen (2022), who found that ICT-supported learning environments significantly improve gifted students' engagement and independent research skills, and that the absence of such infrastructure limits opportunities for talent development.

Financial constraints further affected resource provision. Participants reported that government funding was insufficient to address competing school priorities, with gifted education not always receiving specific attention. An academic mistress stated: "*The money we receive from the government is not enough to meet all our needs. We have to prioritize what is most important, and unfortunately, gifted education is not always the top priority.*" (Academic Mistress, School A, Interview, 2026)

This response reveals that limited government funding forces schools to make difficult choices about resource allocation, with gifted education often being deprioritized due to competing needs. This finding aligns with the study which reported that public secondary schools in Tanzania experience shortages of learning resources due to inadequate government funding (Komba & Mwandanji, 2020). Participants therefore emphasized the need for investment in libraries, science laboratories, computers, internet connectivity and specialized instructional materials. The evidence indicates that gifted students require learning environments capable of supporting enrichment, independent research, experimentation and creative exploration, rather than environments designed solely for routine curriculum delivery

Classroom observations provided direct evidence of how resources were used. Advanced textbooks and specialized materials were not observed. Digital learning tools were also not observed in classroom instruction. Teaching aids were generally basic, while students were not observed using supplementary materials beyond the prescribed syllabus.

There were, however, some positive observations. Laboratory facilities were available and were occasionally used during science lessons, and library facilities existed in some schools. Nevertheless, laboratory activities were mainly basic experiments and did not consistently provide opportunities for advanced inquiry or creative experimentation. These observations demonstrate that the presence of facilities does not automatically guarantee meaningful utilization. For gifted learners, the educational value of a laboratory, library or ICT facility depends on whether it permits deeper investigation, independent inquiry and advanced problem-solving. The observation supported the findings on the importance of considering not only whether resources are available, but also whether they are sufficiently accessible and effectively utilized to support advanced learning and inquiry (Reis et al., 2021).

The documentary review confirmed the observed resource situation. Library inventories showed standard textbooks but no clear evidence of adequate advanced

textbooks. Some supplementary materials existed, but these were limited. Lesson plans showed evidence of laboratory activities, while ICT integration was largely absent. Library records also indicated limited diversity in academic materials. The documentary evidence therefore corroborated the observation findings. The absence of advanced resources and limited ICT integration reduced opportunities for independent research, inquiry and creative learning. Structured enrichment and specialized educational programming also from other review as important components of effective educational experiences for gifted learners (Baccassino & Pinnelli, 2023).

These sources of evidence demonstrated strong convergence concerning the existence of basic resources and their inadequacy for advanced learning. Students recognized the usefulness of libraries, teachers acknowledged the contribution of libraries and laboratories, observations confirmed the presence of some facilities, and documents verified the existence of standard textbooks and laboratory equipment. At the same time, all four sources indicated shortages of specialized materials, advanced textbooks and digital resources. A divergence occurred between students' relatively positive perception of library access (M = 4.02) and the qualitative evidence showing limited and sometimes inadequate library resources.

This difference can be understood by distinguishing access to a resource from adequate access to appropriate resources. A student may have access to a library but still lack access to sufficient advanced, current and specialized materials. The findings strongly support Gagné's DMGT because the model identifies environmental catalysts as important in transforming gifted potential into talent. Learning resources constitute part of this environment (Gagné, 2020). Where advanced materials, laboratories and digital technologies are effectively used, gifted learners can investigate complex ideas and develop their abilities. Where such resources are inadequate, opportunities for talent development are constrained.

The findings also complement Renzulli's Three-Ring Conception because creativity and task commitment require learning environments that provide stimulation, challenge and opportunities for productive engagement. Limited access to advanced resources may therefore reduce opportunities for gifted students to demonstrate creativity and sustain task commitment (Reis & Renzulli, 2020). The study consequently establishes that learning resources in the participating schools were partially available but generally inadequate for the distinctive needs of gifted learners. The major concern was not simply whether resources existed, but whether they were sufficiently advanced, diverse, current, accessible and effectively utilized. This finding supports the need for targeted investment in advanced textbooks, laboratories, libraries, ICT infrastructure, internet connectivity and enrichment materials. This interpretation is consistent with contemporary gifted-education literature emphasizing the importance of appropriate school-level support and

resources in enabling differentiation and advanced learning (Nicholas et al., 2024; Baccassino & Pinnelli, 2023).

Relevance of the Curriculum in Addressing Creative Learning Needs of Gifted Learners

This objective examined the relevance of curriculum content in addressing the creative learning needs of gifted learners. Curriculum relevance was considered in terms of opportunities for creativity, problem-solving, project-based learning, independent exploration, enrichment and advanced learning. The quantitative results indicate that students generally perceived the curriculum positively. Students agreed that they were encouraged to solve real-life problems (M = 4.12, SD = 0.95), that examinations allowed them to express original ideas (M = 3.98, SD = 1.10), and that the curriculum allowed them to be creative (M = 3.81, SD = 1.25).

However, participation in project-based learning received the lowest mean (M = 3.12, SD = 1.18). Teachers similarly agreed that the syllabus promoted creative thinking (M = 4.05, SD = 1.05), allowed some exploration beyond the curriculum (M = 3.87, SD = 1.18), and provided some flexibility for enrichment (M = 3.58, SD = 1.24). However, project-based learning again recorded the lowest mean (M = 3.15, SD = 1.11). These findings suggest that the competence-based curriculum contains elements that can support creativity, problem-solving and learner participation. Nevertheless, the relatively low ratings for project-based learning indicate that extended inquiry and creative productivity are not consistently experienced by gifted learners. Nicholas et al. (2024) found that differentiation can be implemented through a range of approaches, but successful implementation depends substantially on school-level support.

Table 9. Students' Perceptions of Curriculum Relevance

Statement	Mean	Std. Dev.	Interpretation
The curriculum allows me to be creative.	3.81	1.25	Agree
I am encouraged to solve real-life problems.	4.12	0.95	Agree
I participate in project-based learning.	3.12	1.18	Moderately Agree
The syllabus is challenging enough for me.	3.62	1.52	Agree
Examinations allow me to express original ideas.	3.98	1.1	Agree

Source: Field Data (2026)

Table 10. Teachers' Perceptions of Curriculum Relevance

Statement	Mean	Std. Dev.	Interpretation
Curriculum allows flexibility for enrichment activities.	3.58	1.24	Agree
Syllabus promotes creative thinking.	4.05	1.05	Agree

Project-based learning is encouraged.	3.15	1.11	Moderately Agree
Students explore topics beyond the curriculum.	3.87	1.18	Agree
Assessment methods encourage originality.	3.55	0.98	Agree
Curriculum supports innovation and problem-solving.	3.5	1.19	Agree

Source: Field Data (2026)

Interview findings provided a deeper explanation and produced four closely related themes: the curriculum supports creativity to some extent, limited curriculum differentiation, examination-oriented assessment, and the need for curriculum reform. One teacher explained:

> *"The competence-based curriculum encourages learners to participate actively. Students are expected to discuss, present and do group work. This helps them to think critically and communicate their ideas. However, for gifted learners, this is not enough. They need more challenging content and activities that go beyond the standard curriculum."* (Teacher, School B, Interview, 2026)

The quotation indicates that the curriculum has positive learner-centred elements but remains insufficiently differentiated for gifted learners. The curriculum may support creativity for the general student population without necessarily providing the depth, complexity and pace required by high-ability learners. This finding is consistent with Nicholas et al. (2024), who emphasize differentiation as an important approach for meeting the needs and potential of gifted and high-ability learners. An academic mistress similarly explained:

> *"The curriculum is designed to be learner-centred, and it does promote creativity to some extent. But it is general in nature and does not differentiate between gifted and average learners. All students follow the same curriculum, which means gifted students may not be challenged enough."* (Academic Mistress, School C, Interview, 2026)

This response reveals that the curriculum's one-size-fits-all approach fails to accommodate the diverse learning needs of students, particularly those with advanced abilities. This implies that the lack of differentiation limits opportunities for gifted learners to reach their full potential. The implication supported by reviews that, curriculum reform is needed to incorporate differentiated learning pathways that provide appropriate challenge for gifted learners while maintaining the core curriculum for all students (Nicholas et al., 2024; Reis et al., 2021). This finding also aligns with the study which found that a differentiated social studies curriculum significantly improved gifted students' verbal creativity (Çetinkaya, 2023). Similar

study also found that educational programming and enrichment opportunities are important components of effective educational experiences for gifted learners (Baccassino & Pinnelli2023). A head of school stated:

> *"The curriculum is the same for all students. Whether a student is gifted or not, they must follow the same syllabus and sit for the same examinations. There is no provision for accelerating gifted students or providing them with enrichment activities that would challenge them further." (*Head of School, School A, Interview, 2026)

This response reveals the limited provision for acceleration and enrichment. For gifted learners, following exactly the same learning pathway as all other learners may result in insufficient academic challenge. The finding supports Reis et al. (2021), who identify enrichment, differentiation, project-based learning, open-ended choice and creative productivity as important approaches for gifted education. The examination-oriented nature of the curriculum was another important theme. An academic mistress explained:

> "*We cannot differentiate the curriculum because it is set by the government. If we try to change it or skip certain topics, it will affect students' performance in the national examinations. So, even if we want to give gifted students more challenging content, we cannot."* (Academic Mistress, School A, Interview, 2026)

This response reveals that the examination-oriented nature of the education system reinforces curriculum rigidity, as teachers are constrained by the need to prepare students for national examinations. The implication is that assessment reform is needed to reduce the emphasis on high-stakes examinations and allow for more flexible curriculum implementation. This aligns with study by Adebayo (2020) who found that examination-oriented curricula limit teachers' ability to implement creative and inquiry-based learning approaches in Nigeria.

Classroom observations confirmed that the curriculum was implemented with some learner-centred and higher-order learning elements. Teachers used questioning, discussion and problem-solving activities, and students were able to participate in discussions and share ideas. However, project-based learning was not observed in any of the 12 lessons. Teachers did not provide opportunities for students to explore topics beyond the prescribed syllabus, and assessment activities focused mainly on recall and comprehension rather than innovation. Direct classroom evidence showed that extended inquiry, project-based learning and curriculum enrichment were limited. Reviews support opportunities for creativity and higher-order learning remain limited when teachers are unable to translate curriculum expectations into differentiated classroom practices (Reis et al., 2021; Nicholas et al., 2024).

Document review further demonstrated this distinction. The national curriculum contained provisions for project-based learning and examination papers

included some analytical and evaluative questions. However, school-level records provided no sufficient evidence of student research projects or independent learning activities. Lesson plans did not systematically include differentiated learning objectives, and school-level policies did not explicitly support enrichment beyond the prescribed syllabus. The documentary findings are important because they demonstrate that the curriculum framework itself contains some provisions that can support creativity. The problem arises during translation of those provisions into school-level planning and classroom practice. Thus, the findings do not support the conclusion that the curriculum is entirely irrelevant. Instead, they indicate that its relevance is partial and constrained by limited differentiation, implementation and flexibility. Intentional planning for enrichment and creative productivity is important in ensuring that gifted learners receive opportunities beyond the standard curriculum (Reis et al., 2021).

The triangulated evidence revealed strong convergence regarding the curriculum's positive contribution to creativity and problem-solving. Students reported encouragement to solve real-life problems (M = 4.12), teachers reported that the syllabus promoted creative thinking (M = 4.05), interviews identified discussions and learner participation, and classroom observations confirmed questioning, problem-solving and idea-sharing. There was also strong convergence concerning the limited implementation of project-based and extended inquiry learning. Students reported a relatively low mean for project-based learning (M = 3.12), teachers reported M = 3.15, project-based learning was not observed in the lessons, and document review found no evidence of student research projects. This convergence strengthens the conclusion that extended creative learning opportunities were limited. The major divergence concerned the difference between what the curriculum intends to promote and what is implemented in classrooms. For example, teachers reported that students explored topics beyond the curriculum (M = 3.87), yet classroom observations showed that lessons followed prescribed content and did not extend substantially beyond the syllabus.

Similarly, respondents perceived some support for originality in assessment, whereas observations indicated that classroom assessment focused primarily on recall and comprehension. This aligns with the Gagné's DMGT theory whereby, curriculum functions as an environmental catalyst through which natural abilities can be transformed into developed talent (Gagné, 2020). A curriculum that permits enrichment, acceleration, advanced content and independent inquiry can therefore facilitate talent development. Conversely, a rigid curriculum may restrict the transformation of gifted potential into advanced competence. Renzulli's Three-Ring Conception provides a complementary explanation. Gifted behaviour involves above-average ability, creativity and task commitment, and these characteristics require

stimulating learning environments in which learners can engage with challenging tasks and creative opportunities (Reis & Renzulli, 2020).

Limited provision of project-based learning, independent research, advanced exploration and enrichment represents a limitation to activate creativity and task commitment.

The findings by Çetinkaya (2023) found that a differentiated curriculum had a positive effect on gifted students' verbal creativity, demonstrating the potential value of curriculum differentiation. Baccassino and Pinnelli (2023) similarly identified enrichment and specialized educational programming as important components of effective gifted education. The findings therefore indicate that the competence-based curriculum provides a useful foundation for creativity, critical thinking and problem-solving, but does not provide sufficient flexibility and systematic differentiation to fully meet the advanced creative needs of gifted students. Curriculum reform should therefore focus not only on changing content but also on strengthening implementation mechanisms, including enrichment, curriculum compacting, acceleration, independent study, project-based learning and authentic assessment.

CONCLUSION

The study concludes that instructional factors significantly shape the learning experiences of gifted students in public secondary schools in Kibaha District. Although teachers demonstrate general instructional competence and schools provide basic learning resources, the provision of specialized support for gifted learners remains limited. Teacher competence is constrained by limited training in gifted education and differentiated instruction. Similarly, learning resources are generally available but insufficient in terms of advanced, specialized and digital materials needed to support higher-level inquiry and creativity. The curriculum promotes creativity, problem-solving and learner participation; however, limited curriculum differentiation, project-based learning and enrichment opportunities restrict its capacity to fully address gifted learners' needs. Overall, the findings indicate that the major challenge is not the complete absence of instructional support, but inadequate specialization, systematic implementation and coordination of teacher practices, resources and curriculum provisions. Strengthening these areas is essential for enabling gifted students to develop their academic, creative and intellectual potential.

The study recommends that, teacher professional development should be strengthened through continuous training in gifted education, differentiated instruction, enrichment and higher-order learning strategies. learning resources should be improved, particularly advanced textbooks, laboratory materials, digital technologies and internet access, to support independent inquiry and creativity. curriculum implementation should provide greater flexibility for gifted learners through enrichment, project-based learning, independent study and appropriate

curriculum differentiation. School leadership should institutionalize support for gifted learners through systematic identification, instructional planning, monitoring and allocation of resources. Further research should examine the effectiveness of specific gifted-education interventions across different regions and school contexts in Tanzania.

REFERENCES

Adebayo, F. A. (2020). Learning resources and students' academic performance in secondary schools in Nigeria. *African Educational Research Journal, 8*(2), 45–52.

Ayık, A., Korkmaz, M., & Yavuz, M. (2024). Adaptation of the teacher competency scale for teachers of gifted students. *Journal of Gifted Education Research, 12*(1), 45–63.

Baccassino, F., & Pinnelli, S. (2023). Giftedness and gifted education: A systematic literature review. *Frontiers in Education, 7*, Article 1073007. https://doi.org/10.3389/feduc.2022.1073007

Çetinkaya, Ç. (2023). The effect of differentiated social studies curriculum on secondary school gifted students' verbal creativity in İstanbul. *Sustainability, 15*(12), Article 9205. https://doi.org/10.3390/su15129205

Gagné, F. (2020a). Differentiated model of giftedness and talent (DMGT 2.0). *Gifted Child Quarterly, 64*(3), 195–206.

Gagné, F. (2020b). Differentiating gifts from talents: The DMGT perspective on talent development. *Roeper Review, 42*(2), 74–87.

Kabtyimer, B., & Zhao, Y. (2024). Gifted education in Sub-Saharan Africa: Trends, challenges, and future directions. *The International Journal of Social and Educational Governance, 4*(2), 45–59.

Kabwos, Z. D., Ngware, M. W., & Abuya, B. (2020). Availability and utilization of learning resources in inclusive early childhood classrooms in Kenya. *International Journal of Educational Development, 78*, Article 102268.

Kalobo, L., & Setlalentoa, W. (2023). Barriers to effective gifted education in South African schools: Teachers' perspectives. *South African Journal of Education, 43*(2), 1–11.

Kim, Y.-J., & Shim, S. (2023). Differentiated instructional strategies for gifted learners: Teacher practices and classroom outcomes. *Journal for the Education of the Gifted, 46*(3), 321–347.

Komba, S. C., & Mwandanji, M. (2020). Reflections on inclusive education in Tanzanian secondary schools. *Journal of Education and Practice, 11*(12), 60–68.

Lawrence, K. C. (2025). Leadership perceptions of teacher competence in gifted education across African secondary schools. *International Journal of Educational Leadership, 30*(2), 150–168.

Milinga, J. R., Amani, J., & Lyakurwa, S. E. (2023). Teachers' perceptions of differentiated instruction for academically high-achieving secondary school students in Tanzania. *Journal of Advanced Academics, 34*(1), 68–102. https://doi.org/10.1177/1932202X221129970

Nicholas, M., Skourdoumbis, A., & Bradbury, O. (2024). Meeting the needs and potentials of high-ability, high-performing, and gifted students via differentiation. *Gifted Child Quarterly, 68*(2), 154–172. https://doi.org/10.1177/00169862231222225

Paschal, M. J. (2022a). Investigating teachers' awareness of gifted children and resource accessibility for their learning in Tanzania. *Asian Journal of Education and Social Studies, 27*(4), 9–31.

Paschal, M. J. (2022b). Teachers' awareness and identification of gifted pupils in Tanzanian primary schools. *Asian Journal of Education and Social Studies, 27*(4), 1–11.

Paschal, M. J. (2022c). Teachers' awareness and preparedness in identifying and supporting gifted learners in Tanzanian schools. *East African Journal of Education and Social Sciences, 3*(2), 120–131.

Paschal, M. J., Nyoni, J., & Mtahabwa, L. (2020). Inclusive education practices in Tanzania: Implications for gifted and talented learners. *International Journal of Educational Development in Africa, 7*(1), 88–101.

Reis, S. M., & Renzulli, J. S. (2020). The three-ring conception of giftedness: A developmental model for promoting creative productivity. *Gifted Child Quarterly, 64*(3), 163–177.

Reis, S. M., & Renzulli, J. S. (2021). Differentiated curriculum and enrichment pedagogy for gifted learners: Research-based practices. *Gifted Child Quarterly, 65*(2), 101–115.

Reis, S. M., Renzulli, S. J., & Renzulli, J. S. (2021). Enrichment and gifted education pedagogy to develop talents, gifts, and creative productivity. *Education Sciences, 11*(10), Article 615. https://doi.org/10.3390/educsci11100615

Reis-Jorge, J., Ferreira, M., & Oliveira, T. (2025). Teachers' conceptions of giftedness and implications for classroom differentiation. *Frontiers in Education, 10*, Article 1189456.

Subotnik, R. F., Olszewski-Kubilius, P., & Worrell, F. C. (2011). Rethinking giftedness and gifted education: A proposed direction forward based on psychological science. *Psychological Science in the Public Interest, 12*(1), 3–54. https://doi.org/10.1177/1529100611418056

Taherdoost, H. (2020a). Determining sample size and sampling method in applied research. *International Journal of Academic Research in Management, 5*(2), 18–27.

Taherdoost, H. (2020b). Determining sample size: How to calculate survey sample size. *International Journal of Economics and Management Systems, 5*, 237–239.

Tashakkori, A., Johnson, R. B., & Teddlie, C. (2020). *Foundations of mixed methods research: Integrating quantitative and qualitative approaches in the social and behavioral sciences* (2nd ed.). SAGE Publications.

Tirri, K., & Kuusisto, E. (2020). Gifted education in Finland. *Gifted Education International, 36*(3), 221–234.

Townend, G., Jolly, J. L., & Chew, A. W. (2024). Professional development in gifted education: A systematic literature review. *Australian Journal of Teacher Education, 49*(6), 76–104. https://doi.org/10.14221/1835-517X.6515

VanTassel-Baska, J. (2021). Teacher knowledge and trainee preparedness in gifted education: A research synthesis. *Gifted Child Quarterly, 65*(4), 213–228.

Wambugu, P. W., & Changeiywo, J. M. (2020). Teachers' instructional practices and students' academic achievement in Kenyan secondary schools. *International Journal of Education and Research, 8*(4), 41–52.

Zhang, L., & Chen, Y. (2022). ICT-supported learning environments and academic engagement among gifted students in China. *Computers & Education, 179*, Article 104401.