Barriers to Effective Teaching and Learning of Decorative Leatherwork Techniques in Ghanaian Schools: Implications for Vocational and Creative Arts Education

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ABSTRACT

Leatherwork education is vital in Ghana's vocational and creative arts curriculum, promoting practical skills and an appreciation of indigenous craft traditions. However, teaching and learning decorative leatherwork techniques such as stamping, carving, dyeing, embossing, and scorching remain challenging in many Senior High Schools (SHS) and Colleges of Education (CoE). This study explored barriers to effective instruction and learning of these techniques in selected Ghanaian schools. Using a qualitative descriptive design, data was collected through semi-structured interviews with 4 leatherwork teachers and 55 students through classroom observations. The findings revealed that inadequate tools, materials and equipment, insufficient teacher expertise, lack of structured instructional resources, limited demonstrations, minimal hands-on practice, and curriculum time constraints significantly hindered effective teaching and learning of leatherwork. These obstacles negatively affected students' skill mastery, creativity, and readiness for vocational practice. Classroom observations illustrated that 60% of the students struggled to perform assigned tasks. The study concludes that without targeted interventions such as professional development for teachers, provision of instructional resources, enhanced demonstration methods, and adequate instructional hours for skill practice, the potential of leatherwork education to support entrepreneurship and cultural sustainability will remain unrealized.

Keywords: Decorative leatherwork techniques, teaching barriers, vocational education, creative arts education, leatherwork education

BACKGROUND

Leatherwork constitutes a significant component of Ghana's cultural heritage and artisanal economy, particularly in the northern regions where indigenous artisans produce a variety of functional and decorative items, including bags, sandals, belts, wallets, and ceremonial artefacts. These products serve utilitarian, aesthetic, and symbolic purposes within Ghanaian society while also providing livelihoods for many practitioners (Arthur, 2021; Asubonteng, 2011). The craft reflects accumulated indigenous knowledge systems, cultural identity, and creative expressions transmitted across generations. In response to the need for cultural preservation and employable skill development, Ghana's formal education system has incorporated leatherwork into the Visual Arts curriculum at the Senior High School (SHS) and College of Education (CoE) levels. The curriculum is intended to equip learners with practical vocational competencies, creative problem-solving skills, and entrepreneurial capabilities aligned with national education and employment objectives (Ministry of Education, 2020; Curriculum Research and Development Division, 2019). Notwithstanding these policy intentions, evidence suggests that the delivery of practice-based vocational subjects in Ghanaian schools remains constrained by systemic and pedagogical challenges.

Studies on vocational and creative arts education consistently report shortages of tools, materials and equipment, inadequate workshop facilities, limited instructional resources, and insufficient time allocation for practical engagement (Bukari et al., 2023; Opoku-Asare & Siaw, 2015). Such challenges are particularly detrimental to leatherwork education, where learning is inherently experiential and dependent on repeated demonstrations and hands-on practice. Teacher competence further shapes instructional quality and student learning outcomes. Effective teaching of decorative leatherwork techniques requires instructors to possess both theoretical understanding and advanced practical mastery. However, a recent study by Swanzy-Impraim (2023) indicates that many visual arts teachers have limited access to continuous professional development and industry-relevant training, resulting in gaps between curriculum expectations and classroom practice. These constraints collectively undermine students' creativity, technical proficiency, and preparedness for vocational practice. Given Ghana's emphasis on Technical and Vocational Education and Training (TVET), youth employment, and cultural sustainability, it is imperative to systematically examine the barriers affecting the teaching and learning of decorative leatherwork techniques. Therefore, this study investigates the factors hindering effective delivery and acquisition of decorative leatherwork skills in selected Ghanaian SHS and Colleges of Education.

Significance of the Research

This study makes significant contributions to both theory and practice in the field of technical and vocational education, particularly within the context of leatherwork instruction in Ghana. First, the findings provide an empirical basis for designing targeted professional development programmes aimed at enhancing teachers' technical proficiency and pedagogical effectiveness in decorative leatherwork. By identifying specific gaps in teacher expertise and instructional delivery, the study supports the development of capacity-building initiatives that align with contemporary demands in craft-based education.

Second, the study contributes to the sustainability and revitalization of indigenous leatherwork practices by highlighting the critical role of formal education in preserving and transmitting traditional craft knowledge. By strengthening instructional processes, the study supports broader efforts to sustain cultural heritage while promoting innovation within the creative arts industry.

Third, the findings offer actionable insights for educational policymakers, school administrators, and curriculum developers. Specifically, the study underscores the need for strategic investment in tools, materials, and workshop infrastructure to support effective hands-on learning. It also emphasizes the importance of developing structured instructional manuals and visual learning resources to enhance teaching consistency and facilitate independent student learning. Additionally, the study highlights the necessity of adopting smaller group teaching strategies to improve supervision, feedback, and learner engagement during practical lessons.

Finally, the study demonstrates the direct relationship between instructional conditions and student learning outcomes. By revealing how resource constraints, limited teacher expertise, and inadequate instructional support affect students' technical competence, creative expression, and readiness for self-employment, the study provides critical evidence for improving vocational training outcomes. These insights are particularly relevant within the context of Ghana's Technical and Vocational Education and Training (TVET) agenda, where the development of employable skills and entrepreneurial capacity remains a national priority.

Teaching and Learning Leatherwork as a Vocation

Leatherwork remains one of Ghana's indigenous craft traditions with historical roots in pre-colonial societies. Contemporary studies describe the craft as encompassing processes such as tanning, cutting, stitching, tooling, dyeing, and finishing, all of which contribute to the functional and aesthetic value of leather products (Arthur, 2021; Asubonteng, 2011). Despite the cultural and economic relevance of leatherwork, production methods within informal settings have seen limited technological advancement, affecting quality consistency and competitiveness (Arthur, 2021). The integration of leatherwork into formal education was intended to bridge this gap by providing structured skill development and fostering innovation. The SHS and CoE Visual Arts curricula emphasize experiential learning, creativity, and entrepreneurship, positioning leatherwork as a viable pathway to self-employment (Curriculum Research and Development Division, 2019; Ministry of Education, 2020). Decorative techniques including tooling, embossing, dyeing, appliqué, burning, and stamping are

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highlighted as essential competencies that enhance product value and marketability. However, empirical studies on vocational and creative arts education in Ghana revealed persistent implementation challenges. between curriculum intentions and actual classroom practice due to funding limitations, Opoku-Asare and Siaw (2015) identified inadequate resources and weak industry–school linkages as major constraints in vocational art programs. More recently, Bukari et al. (2023) reported misalignment overcrowded classes, and insufficient instructional materials. Teacher competence has also been shown to be a decisive factor, with Swanzy-Impraim (2023) emphasizing the need for continuous professional development to ensure effective skills transmission. These implementation issues can be theoretically framed in complementary ways. Bloom's mastery-learning perspective (Bloom, 1968) suggests that, where sufficient time, corrective feedback and formative supports are absent, attainment of reliable leatherwork competencies across cohorts will be uneven explaining variability in learner outcomes despite curricular specification. Kolb's experiential learning cycle (Kolb, 1984) provides a proximate rationale for the curriculum's emphasis on hands-on practice: productive skill formation in leatherwork depends on cycles of concrete experience, reflective observation, abstract conceptualization and active experimentation, which are disrupted when materials, time, or guided practice are lacking. From a sociocultural vantage, Vygotsky's zone of proximal development (ZPD) and the applied construct of scaffolding (Vygotsky, 1978; Wood et al., 1976) underscore the importance of on-the-spot teacher mediation and graduated support for novices learning complex manual techniques; insufficient scaffolding and large class sizes therefore impede learners' progression from assisted to independent competence. Finally, Shulman's concept of pedagogical content knowledge (PCK) posits that effective teaching requires both deep subject-matter knowledge and the pedagogical skills to translate that knowledge into meaningful instruction (Shulman, 1986). Instructional strategies that support experiential cycles, and curriculum structures that allow time and formative feedback thus justifying an empirical focus on resource availability, teacher knowledge and classroom enactment at SHS and CoE levels. Collectively, the literature suggests that the effectiveness of leatherwork education is shaped by the interaction of resources, teacher expertise, instructional strategies, and curriculum structures. This study builds on existing studies by providing context-specific evidence on decorative leatherwork instruction at the SHS and CoE levels in Ghana.

Contribution of Leatherwork to Local Industries and the Economy

Leatherwork education contributes directly to local industries and Ghana's economy by equipping students with skills that can lead to self-employment or employment in small and medium-sized enterprises (SMEs) (Seini, Essel, and Tachie-Menson, 2024; Akyeampong, 2005; Edusei, 2004). Leatherwork is a viable career path in Ghana, where artisans produce a wide range of leather goods for both domestic and international markets. As students graduate with technical proficiency in leatherwork, they have the potential to establish their own businesses or join the growing creative industry. The leather industry supports the local economy by providing employment opportunities, reducing unemployment rates, and promoting entrepreneurship. Moreover, leather products made in Ghana are increasingly gaining recognition for their craftsmanship, further boosting exports and contributing to foreign exchange earnings.

Infrastructural and Resource Limitations

One of the major challenges facing leatherwork education in Ghana is the lack of modern tools, facilities, and adequate funding (Kwame, 2021). Many Senior High Schools (SHSs) offering leatherwork courses lack essential equipment, such as sewing machines, cutting tools, and design software, which are critical for delivering high-quality training. In addition, classrooms and workshops are often under-equipped, with outdated or inadequate resources that hinder students' ability to gain hands-on experience with the latest industry practices. Without access to proper materials, students may not acquire the technical skills required to compete in the job market or start their own businesses in leather production. These infrastructural limitations significantly affect the quality of leatherwork education and stifle the creative potential of students, leaving them ill-prepared for employment.

The lack of funding compounds these problems, as schools are unable to invest in upgrading their facilities or purchasing essential raw materials (Swanzy-Impraim, 2023). In some cases, students are required to bring their own materials for practical lessons, creating inequity among students from different socioeconomic backgrounds. Limited funding also impacts on the maintenance of existing facilities, meaning that even basic tools and equipment may not function properly, further diminishing the learning experience. Addressing these

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resource gaps will ensure that leatherwork education in Ghana meets both national and international standards of vocational training.

Theoretical Instruction vs. Practical Application

In leatherwork education, the balance between theoretical instruction and practical application is crucial for effective learning. Theoretical lessons cover the properties of leather, the history of leatherworking, design principles, and the economics of the leather industry. These theoretical foundations help students understand the importance of leather in cultural and economic contexts. However, the leatherwork curriculum is centered on practical application (Curriculum Research and Development Division, 2010). Students spend significant time in studios where they learn by doing practicing skills like pattern cutting, stitching, and product finishing. This practical focus ensures that students can transform theoretical knowledge into tangible skills that are applicable in real-world settings.

Practical Demonstration in Skill-Based Education

Practical demonstration is widely recognized as a foundational pedagogical strategy in vocational and craft education. Theoretical perspectives such as experiential learning (Kolb, 1984) and situated learning (Lave & Wenger, 1991) emphasize learning through observation, participation, and contextual engagement, positioning demonstration as central to skill acquisition.

In leatherwork education, demonstration enables teachers to externalize tacit knowledge related to tool handling, sequencing, pressure control, and safety practices. Research indicates that effective demonstration involves segmentation of tasks, pacing, visibility, repetition, and guided practice (UNESCO, 2015). However, studies in Ghanaian contexts show that demonstrations are often informal and unsystematic, depending heavily on individual teacher expertise (Arthur, 2021).

Issah et al. (2025) argue that inadequate demonstration structures contribute to uneven skill outcomes among learners, particularly in decorative techniques requiring precision. Without step-by-step breakdowns and opportunities for guided rehearsal, learners struggle to internalize complex procedures such as embossing depth control or dye layering.

Furthermore, empirical studies in vocational education highlight that demonstration alone is insufficient for deep learning unless supported by reflection and documentation (Kolb, 1984). In Ghanaian SHSs, demonstration frequently ends once a product is completed, with minimal emphasis on process analysis or error correction (Ministry of Education, 2019). This practice limits transferability of skills and undermines competency-based assessment.

The literature therefore supports the need for structured, pedagogically informed demonstration models that are explicitly documented and aligned with curriculum objectives

Theoretical Framework

The study is underpinned by three complementary learning theories: Experiential Learning Theory, Situated Learning Theory, and Constructivist Learning Theory. Together, these theories justify the emphasis on practical demonstration, learner engagement, and systematic documentation in leatherwork education.

Experiential Learning Theory

Experiential Learning Theory posits that learning occurs through concrete experience, reflective observation, abstract conceptualization, and active experimentation. It emphasizes the importance of learning through experience (Ferreira, 2020; Kolb, Boyatzis & Mainemelis, 2014). This theory is particularly relevant to leatherwork education, where learners acquire skills through doing, reflecting on outcomes, and refining techniques through repeated practice. In visual arts education, such as leatherwork, hands-on learning plays a crucial role in skill acquisition. Kolb's theory outlines a cyclical process where students engage in concrete experiences, reflect on their experiences, conceptualize what they have learned, and then apply their knowledge

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in new situations. Leatherwork education, by its nature, requires students to actively engage in the process of making leather goods, from designing to crafting. This hands-on approach not only deepens students' understanding but also enhances their ability to apply these skills in real-world contexts.

Practical exposure is fundamental to leatherwork education, as it provides students with real-world experience that cannot be replicated through theoretical learning alone. Thus, students gain practical exposure by working with materials, tools, and techniques that are directly applicable to the trade. This exposure helps students build confidence in their skills and develop a mastery of the craft, which is essential for their future careers. Experiential learning foster creativity, problem-solving, and adaptability, all of which are critical for success in vocational fields like leatherwork. Kolb's theory (Kolb & Kolb, 2009) underscores the value of these experiences, demonstrating that practical education not only enhances learning outcomes but also prepares students for the challenges they will face in the workforce.

Situated Learning Theory

Situated Learning Theory, articulated by Lave and Wenger (1991), argues that learning is inherently embedded in social and cultural contexts and occurs through participation in authentic practices. Knowledge is not decontextualized but developed through engagement in communities of practice, where novices progress from legitimate peripheral participation to fuller involvement. Decorative leatherwork is traditionally learned through apprenticeship-style systems where novices observe experts, imitate processes, and gradually assume more complex tasks. Situated learning underscores the importance of authentic workshop environments, access to professional tools, and social interaction with skilled practitioners. Learning is therefore inseparable from the physical setting, cultural values, and social relationships surrounding craft production. In Ghanaian schools, leatherwork is often taught in conventional classrooms with limited workshop facilities, inadequate tools, and weak links to industry or local artisans. Such environments disconnect learning from authentic practice, preventing learners from participating meaningfully in communities of practice. The absence of industry exposure, mentorship, and real production contexts restricts learners' progression from peripheral to competent participation, thereby weakening skill mastery (Lave & Wenger, 1991).

Constructivist Learning Theory

Constructivist Learning Theory posits that learners actively construct knowledge through experiences, reflection, and interaction with their environment, rather than passively receiving information. In visual and vocational arts, this theory underscores the importance of structured demonstration modules with hands-on practice, experimentation, and scaffolding to guide learners while allowing room for exploration and creativity.

The core principles of Constructivist Learning Theory are

1. Active Knowledge Construction: Learners build understanding through engagement with materials and tasks (Bruner, 1966; Piaget, 1952). In leatherwork, students learn by handling tools, manipulating leather, and observing the effects of different techniques.

2. Learning as Contextual: Knowledge is shaped by the learner's experiences and environment. Classroom constraints, such as lack of materials, limit the ability to construct meaningful skills (Fosnot, 2013).

3. Scaffolding: Teachers provide guidance, support, and modeling to help learners progress from simple to complex skills (Vygotsky, 1978). In decorative leatherwork, teachers demonstrate embossing or carving techniques while allowing students to practice under supervision.

4. Reflection and Iteration: Learning involves trial, error, and reflection. Constructivism emphasizes iterative practice, where learners refine techniques through repeated attempts and feedback (Bruner,1966; Daodu et al.,2024).

5. Social Interaction: Learning is enhanced through collaboration and dialogue. Peer observation and collaborative projects in vocational art classes promote skill development and shared understanding.

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Relevance to Decorative Leatherwork Education

- Practical Engagement: Constructivist theory highlights that skills such as carving, embossing, or dyeing leather are learned best through active experimentation. Learners who observe demonstrations but do not practice constructively fail to internalize techniques.
- Teacher as Facilitator: Teachers guide skill acquisition, providing scaffolding for complex tasks. Limited teacher expertise, as identified in the study, restricts learners' capacity to construct practical knowledge.
- Resources as Cognitive Tools: Materials, equipment, and instructional guides act as mediating tools in the constructivist model. Inadequate resources prevent learners from engaging fully with the learning process, reducing skill mastery.
- Reflection and Iterative Learning: Constructivist theory supports repeated practice with feedback. Limited instructional time and practice opportunities hinder learners' ability to refine leatherwork techniques.

METHODOLOGY

The study adopted a qualitative descriptive research design to explore barriers to the effective teaching and learning of decorative leatherwork techniques. Creswell and Poth (2018) explained that the descriptive research design allows for in-depth exploration of participants' experiences and perceptions within their instructional contexts. Data was collected using predominantly interviews and observations.59 participants made up of 2 tutors from the CoE,20 CoE students,2 SHS teachers and 35 SHS students were sampled from the two schools. The schools were the Seventh-Day Adventist Senior High School, Asokore-Koforidua and the Presbyterian College of Education, Akropong-Akuapem, all in the Eastern Region of Ghana.

Purposive and Convenience sampling techniques were employed to obtained the 59 sampled size. The participants were selected based on their voluntary acceptance. They were assured that the research is solely for academic purpose and that their identity was going to be kept anonymous. All participants had relevant experience with leatherwork instruction and practice. Table 1 shows breakdown of tutors and students sampled for the study.

Table 1: Participants for the Study

Participants	Frequency
CoE Tutors	2
CoE Students	20
SHS Teachers	2
SHS Students	35
Total	59

Source: Field Survey,2025

Data was collected using two main instruments. First, semi-structured interviews were conducted with the four (4) teachers and fifty-five (55) students. The interviews focused on topics such as the availability of tools, materials and equipment, teaching strategies, teacher training, instructional time for practical works, access to instructional resources, and opportunities for hands-on practice. This process allowed participants to discuss issues in detail, while keeping the conversation aligned with the study's objectives. Secondly, non-participant classroom observations were conducted with the fifty-five (55) students during leatherwork practical sessions.

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Researchers used a checklist to record factors such as teacher demonstrations, student engagement, and the availability and use of tools, materials and equipment. The interview guide and observation checklist were then reviewed repeatedly to identify recurring patterns and themes related to teaching barriers after gathering the primary data. These themes were then organized into categories such as resource constraints, teacher expertise, instructional practices, and curriculum challenges. The analysis was grounded in participants' own responses and connected to existing literature. The use of interviews and observations ensured data triangulation which enhanced credibility, while detailed documentation of procedures supported dependability and confirmability.

Research Findings

The study revealed four major themes representing barriers to effective teaching and learning of decorative leatherwork techniques.

Table 2: Participants' Responses to Barriers to Effective Teaching and Learning

Responses	Frequency	Percentage
Inadequate Tools, Materials, and Equipment	18	30.5
Insufficient Teacher Expertise and Professional Development	15	25.5
Lack of Instructional Resources and Documentation	13	22.0
Limited Demonstrations, Hands-on Practice, and Time	13	22.0
Total	59	100

Field survey, 2025

Table 2 presents respondents' views on the major barriers affecting the effective teaching and learning of decorative leatherwork techniques in Ghanaian schools.

The findings indicate that inadequate tools, materials, and equipment constituted the most significant barrier, reported by 18 respondents (30.5%). This suggests that the absence of essential leatherworking tools and consumable materials significantly constrains instructional delivery and learners' opportunities for skill development.

Insufficient teacher expertise and professional development was identified by 15 respondents (25.5%), highlighting challenges related to teachers' technical competence, pedagogical skills, and access to continuous professional training in specialized leatherwork techniques.

Furthermore, lack of instructional resources and documentation, including manuals, visual guides, and structured lesson materials, was reported by 13 respondents (22.0%). An equal proportion (22.0%) identified limited demonstrations, hands-on practice, and instructional time as critical barriers, indicating that learners have inadequate exposure to practical engagement and guided practice during instructional sessions.

Overall, the results reveal that barriers to effective leatherwork education are both resource-based and pedagogical, affecting the quality of instruction and the depth of learners' practical engagement. These findings align with other studies indicating that resource limitations and curricular issues undermine practical arts education in Ghana (Bukari et al., 2023; Swanzy-Impraim, 2023). The observed low mastery rate (12.7%) of students fully competent in the observed cohort illustrates how these factors combine to diminish learning outcomes. The lack of instructional materials in leatherwork education limited opportunities for self-directed practice and standardization. These results support the view that without proper resources, students cannot independently refine their skills.

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The constraints on practical time and large class sizes are also noteworthy. They indicate a mismatch between the experiential learning needs of leatherwork and the current curriculum structure. Consistent with (Bukari et al., 2023; Opoku-Asare & Siaw, 2015), the insufficient time allocated to practical lessons resulted in superficial skill development. This suggests that curriculum adjustments such as increasing instructional hours for leatherwork and reducing student–teacher ratios during practical session's may be necessary to ensure learners acquire the intended competencies. Below are the vivid discussions of the findings and analysis.

Research Analysis

Inadequate Tools, Materials, and Equipment

The findings reveal that shortages of essential tools, materials, and equipment significantly constrain the teaching and learning process in leatherwork, with 18 respondents (30.5%) identifying this issue as a primary challenge. This pattern of responses suggests that material scarcity is not isolated but systemic across the sampled institutions, shaping both instructional practices and students' experiences.

Teachers consistently described how insufficient supplies and equipment limited their ability to deliver authentic, hands-on instruction. All the two (2) SHS teachers explained that "*Most of the time, we do not have enough leather sheets and tools. We end up demonstrating with one set of tools while the students only watch instead of practicing."* This quote illustrates a shift from active learning in which students engage directly with materials toward a model of passive observation forced by resource shortages. The consequence is a narrowing of pedagogical options: instead of facilitating iterative skill refinement through practice, instructors are compelled to demonstrate once with a single tool set, leaving students to learn by watching rather than doing.

A parallel concern expressed by the two (2) tutors from the Colleges of Education further highlights the qualitative impact of material constraints. The instructors reported that *"some of the tools we use are improvised. This affects the quality of the techniques, especially the nature of the stamping and embossing techniques."* Though improvisation is often advised in the absence of certain tools, it sometimes undermines the fidelity of technique execution, particularly for specialized tasks that require precision tools. The implication is that not all competencies can be sufficiently approximated through makeshift alternatives; certain skills demand specific instruments to achieve both technical accuracy and pedagogical integrity.

Aligning with the teachers' reports, students' perspectives underscore the lived consequences of these shortages. Four (4) students stated, *"We rarely touch the materials ourselves; the teacher shows once and then we only observe because there are not enough tools."* This directly echoes the pedagogical shift described by teachers and suggests that students are aware of and affected by the modified instructional format. Three (3) of the students' articulated the affective dimension of this experience, noting that *"when tools are improvised, we don't feel confident trying the techniques because the finished pieces often look different from what we are taught and supposed to create."* This observation draws attention to the correlation between resource quality and learner confidence: thus, when instructional artifacts diverge from the originals due to inferior materials, students' self-efficacy and perception of skill authenticity may be compromised.

Seven (7) other students' comment captured how material shortages intersect with time constraints: *"Practical lessons feel rushed. We need more materials and time so each of us can practice."* This sentiment highlights that resource scarcity not only reduces the availability of tools but also compresses the temporal space for meaningful engagement with content. Together, these qualitative insights demonstrate that tool shortages shape both the structure and quality of pedagogical interactions. This finding reveal that inadequate tools, materials, and equipment constitute a major constraint to effective teaching and learning of decorative leatherwork techniques. It corroborates earlier studies which identified resource inadequacy as a persistent challenge in vocational and visual arts education in Ghana (Bukari et al., 2023; Opoku-Asare & Siaw, 2015).

This finding relates to the experiential learning theory, which emphasize that knowledge and skills are constructed through direct engagement and active experimentation (Kolb, 1984). In the absence of adequate materials, learners are deprived of concrete experiences, thereby disrupting the experiential learning cycle. Similarly, the findings align with the concept of deliberate practice, which posits that expertise develops through

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repeated, structured practice with appropriate tools and feedback (Ericsson et al., 1993). When students are unable to engage in repeated practice due to material shortages, skill acquisition becomes superficial and inconsistent.

Insufficient Teacher Expertise and Professional Development

The findings underscore a persistent gap in specialized teacher preparation and continuing professional development within leatherwork education. All four (4) instructors indicated that opportunities for in-service training were limited, a condition that appears to have contributed directly to deficits in technical proficiency. This concern is illustrated by Teacher C (SHS), who acknowledged, "*Leatherwork was part of my training, but we were not taught all these decorative techniques in detail. I mostly rely on my own practice."* The reliance on self-directed practice rather than structured professional learning suggests that pre-service education alone is insufficient for sustaining competency in craft-based disciplines that demand evolving technical expertise.

Similarly, Teacher D (CoE) emphasized the structural absence of professional renewal, noting, *"There are no refresher courses for leatherwork teachers. Once you leave college, you are on your own."* This statement reflects a systemic challenge rather than an individual limitation, pointing to institutional neglect in supporting teacher growth after initial certification. Research consistently shows that ongoing professional development enhances pedagogical content knowledge and improves instructional delivery, particularly in technical and vocational education where practical demonstration is central to learning (UNESCO, 2020; Darling-Hammond et al., 2017).

Classroom observations further validated the interview data, revealing that demonstrations were occasionally improvised or incomplete. Such instructional patterns may indicate limited mastery of advanced techniques such as tooling and embossing, both of which require precision and sequential modeling. Kolb (1984) explained that effective skills transmission in vocational settings depend heavily on expert demonstration followed by guided practice; when this structure is absent, learners may struggle to internalize procedural knowledge. The observed improvisation therefore signals not only a skill gap but also a pedagogical constraint that could undermine instructional coherence.

The consequences of limited teacher expertise were particularly evident in students' learning experiences. Without consistent expert guidance, students were reportedly compelled to rely on experimentation to master techniques. Several students described this challenge directly. Six (6) of the students narrated, *"Sometimes the teacher shows us quickly, and we have to try it ourselves until it works."* Five (5) also remarked, *"When we make mistakes, we are not always sure what went wrong because there is not enough explanation."* These accounts suggest that learners often operate without adequate scaffolding, increasing the likelihood of frustration and inefficient skill development.

Theoretically, the findings can be explained through constructivist and social learning perspectives. According to Vygotsky (1978), effective learning occurs within the Zone of Proximal Development (ZPD), where learners benefit from guided instruction and expert support. In this study, limited teacher expertise reduced the quality of scaffolding provided to students, thereby constraining their ability to progress from basic understanding to mastery.

Lack of Instructional Resources and Documentation

The findings reveal that the scarcity of formal instructional resources constitutes a major barrier to effective teaching and learning in leatherwork decoration. Across the observed settings, neither textbooks nor specialized practical manuals were available, resulting in an over-reliance on oral explanations and spontaneous demonstrations. Teacher C (SHS) captured this instructional reality by stating, *"There is no step-by-step manual for teaching leather decoration. We teach based on experience rather than structured guides."* This reliance on experiential transmission rather than documented pedagogy suggests a gap, which may undermine consistency in content delivery and skill acquisition.

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In the absence of manuals, visual aids, or sequenced guides, students are deprived of the external support necessary to internalize multi-step decorative techniques. Consequently, learning becomes heavily teacher-dependent, limiting opportunities for rehearsal beyond the classroom. Nine (9) students (CoE) asserted that "*they could not practice outside class or revisit the steps of a technique on their own because there were no written or visual aids to consult, thereby reducing rehearsal opportunities".*

Leatherwork decoration involves intricate procedures such as pattern alignment, pressure control, and finishing that can overwhelm novice learners when delivered solely through verbal instruction. Without written or visual references, students must simultaneously recall instructions and execute tasks, thereby increasing extraneous cognitive load and potentially impeding mastery.

Again, the absence of photographic sequences or instructional videos restricts observational learning, a process Bandura (1977) identified as central to skill development. Modeling enables learners to replicate expert behaviour accurately; however, when demonstrations occur only once and are not documented, students lose the opportunity to revisit critical steps. This limitation was evident when students were unable to practice outside class or review techniques independently. Such constraints conflict with principles of self-regulated learning, which emphasize the importance of readily accessible materials for rehearsal, reflection, and error correction (Simón-Grábalos et al., 2025; Zimmerman, 2002).

The findings further suggest that instructional inconsistency may arise when teaching is grounded primarily in individual experience rather than standardized guides. Experiential knowledge is valuable in craft education, yet without documentation it remains largely tacit and difficult to transfer systematically. The concept of tacit knowledge explains that skills embedded in personal experience often require deliberate articulation to become teachable (Fleischmann, 2024; Lyng et al., 2023; Polanyi, 1966). Teacher C's assertion that instruction is *"based on experience rather than structured guides"* therefore points to a pedagogical gap between practitioner expertise and formal curriculum representation.

Additionally, the absence of learning resources may widen achievement disparities: learners who grasp techniques quickly during live demonstrations progress further than those needing repeated exposure to master a skill, echoing the scaffolding gap noted above. This uneven progression is particularly critical in vocational education, where training must align with industry standards to enhance graduate employability (UNESCO, 2020).

Bruner's (1960) scaffolding theory provides a useful lens for understanding this issue. The absence of structured instructional materials limits the support available to learners, making it difficult for them to internalize complex, multi-step processes. Consequently, learning becomes heavily dependent on the teacher, reducing opportunities for independent practice and reinforcement.

Limited Demonstrations, Hands-on Practice, and Time

The classroom observations provided compelling evidence that structural constraints specifically limited instructional time and large class sizes undermine effective skills acquisition in leatherwork education. In the observed lesson with 55 students, only 7 learners (12.7%) demonstrated correct execution of decorative techniques, while the majority either displayed partial competence (27.3%) or struggled significantly (60%). These outcomes strongly suggest that students were not afforded adequate opportunities for repeated, guided practice, which is essential for mastering psychomotor skills.

Teachers explicitly attributed these learning challenges to insufficient time allocation. Teacher A (CoE) stated, *"The period allocated for practical work is too short. By the time you demonstrate, there is little time left for students to practice."* This statement highlights a fundamental misalignment between curriculum expectations and scheduling realities. Leatherwork decoration involves complex, sequential actions that require slow, deliberate modeling and sustained practice. When demonstration time consumes a substantial portion of a short lesson, students are left with minimal opportunity to engage meaningfully with the task.

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The impact of large class sizes further compounded the problem. Teacher B (SHS) explained, *"With large classes, it is difficult to supervise each student properly during practical lessons."* This constraint limited teachers' ability to provide individualized feedback, a key component of effective skills training. From the perspective of situated learning theory, learning is optimized when novices receive immediate, context-specific guidance from more experienced practitioners (Lave & Wenger, 1991). In overcrowded classrooms, such interaction becomes difficult, leaving many students to practice without corrective input.

Students' experiences echoed these instructional limitations. Several learners reported that they often practiced without knowing whether they were applying techniques correctly. Four (4) students mentioned that "*due to time constraints, when we try a technique, the teacher cannot interact and correct all of us".* Six (6) other students added, *"Sometimes you understand the idea, but you need to do it many times before it works."* These statements underscore the centrality of repetition and feedback in developing technical competence elements that were largely absent due to time and supervision constraints.

As in 6.1, this pattern reflects a disrupted Kolb (1984) experiential cycle: students were largely confined to abstract conceptualization and brief observation, with little room for the concrete experience and active experimentation needed to build procedural fluency. The low proportion achieving correct performance (12.7%) points to the same deliberate-practice deficit practice here was fragmented and insufficiently supervised to allow the sustained, feedback-guided repetition that expertise requires (Ericsson et al., 1993).

Moreover, the imbalance between theoretical exposure and practical engagement raises concerns from a vocational pedagogy perspective. Technical and vocational education is inherently practice-oriented, and insufficient hands-on time contradicts its foundational purpose (UNESCO, 2020). When scheduling structures prioritize content coverage over skill rehearsal, students may complete courses with conceptual awareness but with limited operational competence an outcome evident in the high percentage of struggling learners.

Large class sizes compounded this scaffolding gap: consistent with the ZPD framework discussed above, teacher support was diluted across many students, narrowing each learner's zone of guided progress and leaving those needing more scaffolding disproportionately disadvantaged exacerbating performance disparities within the class.

CONCLUSION

Decorative leatherwork techniques are central to the vocational and cultural objectives of Ghanaian leatherwork education because they enhance both the aesthetic and functional value of leather products and support entrepreneurship. However, this study found that multiple systemic and classroom-level challenges hinder their effective teaching and learning. Key barriers included inadequate tools and materials, limited teacher expertise, lack of documented instructional resources, and insufficient time for hands-on practice. If these issues are not addressed, students will continue to be under prepared for craft occupations and entrepreneurship, limiting the potential impact of leatherwork education on economic development and cultural preservation.

RECOMMENDATIONS

It is important for education authorities and school administrators to ensure that leatherwork practical studios are stocked with basic tools (e.g., punches, stamps, specialized cutting implements) and sufficient materials (leather, dyes, adhesives). Local fabrication of simple tools from affordable materials can supplement shortages. Regular, funded in-service training and hands-on workshops should be provided for leatherwork teachers. These programmes should cover advanced decorative techniques and modern practices, while encouraging partnerships and exchanges with skilled artisans or industry experts to build teachers' expertise and learning experience. Inviting guest artisans for demonstrations, arranging apprenticeship placements, or securing material donations from community partners can provide students with real-world insights and resources.

Again, structured teaching resources for leatherwork techniques should be developed and distributed. For instance, creating step-by-step printed manuals, photographic guides, and short demonstration videos for each decorative method. Integrating these materials into lesson plans will support both instruction and student review.

The instructional period for leatherwork and other practical oriented subjects should be reviewed to allocate more time for practical lessons. Strategies such as smaller rotating groups of students can reduce the student–teacher ratio during workshops, allowing each learner more individualized coaching and practice time. School-level monitoring of practical skill development should be implemented to monitor activity checklists, practical exams, or portfolio reviews to track students' progress. This data can inform decisions on resource allocation and identify areas where teachers may need additional support.

Implications for Research and Practice

For educational practice, the findings suggest that policymakers and school leaders should prioritize practical resource provision and vocational teacher development within national education strategies. Ensuring that leatherwork studios are well-equipped and that instructors receive ongoing training could significantly improve vocational arts programmes. The study highlights the need to evaluate targeted interventions in leatherwork education. Future studies might use experimental or quasi-experimental designs to measure the effectiveness of interventions such as instructional manuals, teacher training programmes, or resource investments on student skill outcomes.

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