

BLENDING LEARNING STRATEGIES IN CLOTHING AND TEXTILE EDUCATION: OPPORTUNITIES, CHALLENGES AND FUTURE DIRECTIONS IN THE ERA OF ARTIFICIAL INTELLIGENCE

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ABSTRACT

The rapid integration of digital technologies in higher education has intensified interest in blended learning and Artificial Intelligence (AI) as mechanisms for improving teaching quality, flexibility, and employability outcomes. Although blended learning is well established in higher education and vocational contexts, its application within studio-based disciplines such as Clothing and Textile Education remains under-theorized. Clothing and Textile Education integrates cognitive knowledge with psychomotor skill development, creating pedagogical demands such as demonstration, iterative practice, feedback, and performance-based assessment that complicate technology integration. Drawing on a synthesis of recent empirical literature in higher education and vocational training, alongside global guidance on AI in education, the paper evaluates the opportunities and constraints of integrating digital and AI-enabled tools into practice-based instruction. Anchored in the Technological Pedagogical Content Knowledge (TPACK) framework, the analysis emphasized that effective integration depends on alignment among content demands, pedagogical approaches, and technological competence. Key opportunities include extended practice and skill acquisition, AI-supported feedback, improved engagement, enhanced digital competence, and strengthened industry relevance. However, persistent challenges including infrastructural limitations, educator capacity gaps, assessment validity concerns, digital inequality, and ethical risks such as privacy and bias may undermine implementation if not systematically addressed. The paper argued for discipline-specific, ethically governed, and pedagogically aligned blended learning models to reposition Clothing and Textile Education as a modern, industry-relevant programme that supports skills development and sustainable socio-economic development.

Keywords: Blended learning, Artificial Intelligence, Clothing and Textile Education, Vocational education and TPACK

Introduction

Education remains a critical driver of national development, human capital formation, and economic competitiveness. Contemporary global development discourse consistently positions education as a foundational pillar for sustainable economic growth and social transformation. The World Bank (2018) emphasizes that investments in quality education are directly linked to productivity gains, innovation capacity, and long-term economic resilience. Similarly, UNESCO (2023) underscores that strengthening education systems is central to achieving Sustainable Development Goal 4 (SDG 4), which calls for inclusive, equitable, and quality education that promotes lifelong learning opportunities for all. In knowledge-based economies, education is no longer viewed solely as a social service but as a strategic investment in human capital and national competitiveness (OECD, 2023).

In the 21st century, however, the quality of education is increasingly judged by the extent to which teaching and learning systems leverage digital technologies to expand access, improve learning outcomes, and enhance employability. The rapid advancement of digital transformation across industries has compelled higher education institutions to modernize pedagogical approaches to ensure graduates possess relevant digital and professional competencies (UNESCO, 2023). The World Economic Forum (2023) further notes that future workforce readiness depends on the integration of digital literacy, problem-solving skills, and technology-mediated learning experiences within formal education systems.

As many nations reposition their education systems for innovation-led growth, institutions of higher learning are under pressure to adopt more flexible, learner-centered, and technology-enabled pedagogies that align with workplace realities and emerging technological ecosystems. It is within this context of digital transformation and human capital development that blended learning has emerged as a strategic instructional model capable of bridging traditional classroom practices with digitally enhanced learning environments.

The relevance of blended learning is particularly significant for skill-oriented disciplines such as Clothing and Textile Education in Home Economics, where learners must acquire both conceptual understanding (e.g., textile science, design principles, entrepreneurship) and hands-on competencies (e.g., pattern drafting, garment construction, finishing techniques). Unlike purely theoretical disciplines, Clothing and Textile Education requires repeated demonstrations, guided practice, iterative feedback, and performance-based assessment. In vocational and technical education literature, effective skill development is strongly associated with opportunities for extended practice, scaffolded instruction, and timely feedback (McGrath et al., 2023). Because blended learning extends learning beyond the physical studio through video modeling, digital resources, and structured online activities, it offers additional time and space for rehearsal and reflection.

Recent empirical studies in vocational education further argued that blended learning enhances learner engagement and technical skill acquisition when practical sessions are supported by structured digital materials and guided online tasks (Song & Lai, 2025). Similarly, van Alten et al. (2024) found that well-designed blended learning environments promote deeper engagement and improve learning outcomes by combining active in-class practice with preparatory and reflective online components. In skill-based disciplines such as clothing construction and textile design, this integration enables learners to review procedural demonstrations multiple times, prepare before studio sessions, and consolidate learning afterward thereby strengthening psychomotor mastery and conceptual understanding simultaneously.

However, the integration of blended learning in practical disciplines is not without complexity. Scholars caution that poorly designed blended models may fragment learning experiences or weaken assessment validity if the relationship between online components and hands-on competencies is not clearly aligned (Alammery & Alhazmi, 2023). In studio-based courses, the challenge lies in ensuring that digital resources genuinely enhance not replace guided material practice. Consequently, while blended learning presents strong pedagogical promise for Clothing and Textile Education, its effectiveness depends on coherent instructional design that integrates technology with discipline-specific pedagogical needs.

It is within this evolving landscape of digitally mediated skill development that the role of Artificial Intelligence (AI) becomes increasingly relevant. As blended learning expands opportunities for flexible and technology-enhanced instruction, AI technologies offer new possibilities for personalization, feedback automation, and simulation-based practice.

The emergence of Artificial Intelligence (AI) has further expanded the possibilities of blended learning through adaptive instruction, automated feedback, digital simulations, intelligent tutoring systems, and data-driven learning analytics. UNESCO (2023) notes that AI technologies have the potential to personalize learning pathways and provide scalable feedback mechanisms, particularly in contexts where instructor time is limited. In vocational and technical education, recent analyses indicate that AI-driven systems can simulate workplace scenarios, support error detection, and optimize training efficiency (Adel, 2024; Shen et al., 2024). Within Clothing and Textile Education, AI-enabled tools can support design thinking, provide rapid feedback on pattern accuracy and measurements, and enrich studio practice through virtual garment visualization. However, in many developing contexts, including Nigeria, the integration of blended learning and AI in practical-based programmes remains limited by infrastructural deficits, capacity gaps, digital inequality, and ethical concerns, including data privacy, algorithmic bias, and over-reliance on automated systems (UNESCO, 2023).

It is against this backdrop that this paper examines blended learning strategies in Clothing and Textile Education, highlighting opportunities, challenges, and future directions in the era of Artificial Intelligence, with attention to implications for skills development, innovation, and sustainable socio-economic development.

Conceptual Clarifications

Blended Learning

Given its growing prevalence, higher education institutions increasingly require strategic planning to implement blended learning effectively. Alston-Socha et al. (2022) described blended learning as an approach to education that leverages the strengths of face-to-face teaching and online learning, with technology used to enhance learner control (e.g., time/place/pace/path) while keeping teacher–student engagement central. Also, Istenič (2024) frames blended learning as the use of educational technology to support authentic learning experiences across traditional face-to-face educational contexts and/or online/distance-learning contexts (i.e., integrating and distributing learning across modalities). Hrastinski (2019) views blended learning as an intentional instructional approach in which face-to-face and technology-mediated activities are carefully integrated to improve learning experiences and outcomes. He stresses that its value lies not in merely combining modes of delivery, but in designing meaningful connections among learning activities across formats. It is a structured combination of online and face-to-face instructional components where the integration is designed to leverage the strengths of each mode while minimizing their weaknesses (Alammery, *et al.*, 2014). It refers to the intentional integration of face-to-face studio-based practical instruction (demonstrations, supervised practice, production

tasks) with structured online learning experiences (video demonstrations, LMS-based activities, digital design/pattern tools, simulations) to strengthen both theory mastery and practical competence in Clothing and Textile Education.

Recent scholarship increasingly treats blended learning as a designed integration of face-to-face and online learning that reorganizes resources, activities, and assessment to improve engagement and outcomes. Contemporary work in higher education emphasizes blended learning as an integrated system involving learning objectives, activities, resources, and technology support (Černá et al., 2024). Empirical evidence also linked the effectiveness of blended learning to coherent course design and adequate technology support (Alammary & Alhazmi, 2023). In vocational contexts, recent reviews highlighted blended learning as a strategy for improving engagement and training flexibility, while warning that outcomes depend on infrastructure and teacher capacity (Song & Lai, 2025). These insights are especially relevant for fields that require a careful balance of conceptual understanding and hands-on skill development; therefore, the discussion now turns to Clothing and Textile Education, where studio practice, demonstrations, and production tasks make the design of blended learning particularly consequential.

Clothing and Textile Education

Clothing and Textile Education is a vocationally oriented field that develops learners' understanding and practical competence in areas such as textile science, garment construction, fashion design, and related sustainable clothing practices, with strong emphasis on hands-on learning and creativity. According to the Nigerian Educational Research and Development Council (NERDC) (2025), Home Economics is a skill-oriented area of the curriculum designed to promote functional living, self-reliance, and practical competence. Within this broad field, Clothing and Textile Education refers to the aspect of Home Economics that develops learners' knowledge and practical skills in clothing, textiles, garment construction, personal appearance, and related entrepreneurial activities (Federal Ministry of Education, 2025). It is a branch of Home Economics that emphasizes the acquisition of practical skills and competencies for entrepreneurship, self-reliance, and employment (Obiazi, 2021).

In many curricula, it is positioned as a subject that supports personal and social needs through dress and textile use, while also preparing learners for further study and careers in clothing and fashion-related industries. Within Home Economics, Clothing and Textile Education is a practical-vocational area concerned with building competencies in garment construction, textile knowledge, design, and entrepreneurship typically evaluated through performance outputs (e.g., garments, portfolios, demonstrations). Because its core outcomes are psychomotor and creative, effective instruction requires iterative practice, feedback, and guided studio work. This skills orientation aligns closely with current vocational education discourse that emphasizes employability, competence, and practice-focused pedagogy (McGrath & Yamada, 2023). Operationally, this paper defines Clothing and Textile Education as the Home Economics programme component that develops learners' theoretical understanding and practical competencies in textile science, pattern drafting, garment construction, finishing, and fashion-related entrepreneurship, assessed through both knowledge-based and performance-based measures.

However, providing consistent, high-quality guidance and feedback across repeated studio tasks can be demanding in resource-constrained training environments. This challenge has increased interest in digital innovations that can supplement teaching and support learner progress, particularly Artificial Intelligence in Education, which is discussed in the following section.

Because feedback and coaching demands are high in studio instruction, scalable support tools become especially relevant. This makes Artificial Intelligence in Education a critical development.

Artificial Intelligence in Education

Artificial Intelligence (AI) is revolutionizing education across the globe. It offers transformative tools that can personalize learning, automate administrative tasks, and enhance instructional delivery. Ifenthaler et al. (2024) describe artificial intelligence in education (AIED) as an umbrella term encompassing a wide range of technologies, algorithms, and multimodal data applied across formal, non-formal, and informal educational contexts, including data mining, machine learning, natural language processing, large language models, generative models, and neural networks. Also, Holmes et al (2023) frame AIED as adaptive learning systems, automated feedback supports. These authors further recounted that AI in education is the application of AI techniques to mainstream learning approaches, often reflecting or automating existing educational assumptions and practices. AI in education refers to AI-enabled tools (adaptive learning systems, automated feedback supports, learning analytics, intelligent tutoring, and simulation/visualization tools) applied within blended learning to enhance personalization, feedback quality, and practice opportunities in Clothing and Textile Education, under responsible-use principles (UNESCO, 2023).

Recent global guidance emphasizes AI as a set of technologies that can support teaching, learning, assessment, and curriculum development but must be governed to protect equity, human agency, privacy, and inclusion. UNESCO (2023) provides global guidance on generative AI in education and research and highlights key risks (bias, privacy, equity, over-automation) alongside potential benefits (personalized learning, content support, feedback). In vocational education, recent research shows that AI is increasingly used for personalization, training optimization, and simulation of workplace scenarios, while raising ethical concerns (Adel, 2024; Ran & Han, 2023; Shen et al., 2024).

Blended learning outcome in higher education

Recent empirical evidence report generally positive effects of blended learning on learning outcomes when course structure, assessments, learning activities, resources, and technology support are well aligned. For example, Alammary and Alhazmi (2023) linked blended learning effectiveness to coherent instructional design and robust support systems. A meta-analysis comparing blended and traditional approaches reported that blended learning produces significantly higher learning outcomes (medium effect) and more positive learner attitudes than traditional instruction (Yu *et al.*, 2022). The researchers had maintained that blended learning is associated with improvements in performance/achievement and attitudes, although effects on engagement appear more inconsistent across contexts and samples.

Beyond achievement, blended learning is also associated with improvements in student engagement when designs intentionally target multiple engagement dimensions (behavioral, cognitive, social, and emotional) (Van Alten et al., 2024). Similarly, El Messaoudi (2024) showed that blended learning can improve students' digital literacy skills, an outcome relevant for employability in creative and vocational fields. These findings suggest blended learning can improve not only content learning but also digital competence important for textile CAD, portfolio development, and modern fashion workflows.

Blended Learning in Vocational Education

The evidence base in vocational education (VE/TVET) increasingly supports blended learning as a response to the need for flexibility and technology-aligned skills. A recent systematic review of blended learning in vocational education reports benefits such as improved engagement

and learning flexibility, while identifying recurring barriers including infrastructure limitations, teacher readiness gaps, and uneven learner access (Song & Lai, 2025). Complementing this, vocational blended learning activity designs particularly those aligned with problem-based learning have been found effective for strengthening technical skills by extending practice opportunities across space and time (Shen *et al.*, 2024). Because sewing and patternmaking require repeated guided practice, blended models that extend “practice time” via structured online supports (videos, guided steps, peer critique, quizzes) can improve mastery if practical assessment remains well designed. These constraints mirror studio-based textile programmes where equipment, materials, power supply, and instructor expertise shape feasibility.

AI to Support Practical Skill Acquisition and Feedback

AI is increasingly discussed as an enabler of personalization, feedback, and simulation especially in vocational contexts where hands-on coaching is resource-intensive. A recent vocational teacher-education study found that analytical AI systems can support lesson planning by providing detailed individualized feedback, addressing a key challenge in scaling quality feedback (Hofmann *et al.*, 2025). In the TVET literature, analyses of AI trends highlight emerging directions such as intelligent tutoring, simulation of workplace scenarios, and adaptive learning systems, alongside concerns about privacy and algorithmic bias (Adel, 2024; Shen *et al.*, 2024). AI-enabled tools can support (i) pattern drafting error detection, (ii) measurement checking, (iii) virtual garment visualization/fitting, and (iv) structured feedback on design choices helping reduce material waste and accelerating iterative improvement.

While blended learning research is substantial in higher education generally, fewer studies focus specifically on studio-based Clothing and Textile Education where assessment validity, hands-on competence, and material constraints create unique conditions. Also, AI studies in vocational education are rapidly growing but remain uneven across disciplines (TVET attention is often concentrated in manufacturing/engineering). This supports the need for discipline-specific discussion and empirical inquiry in clothing and textiles.

Technological Pedagogical Content Knowledge (TPACK)

This study was anchored on Technological Pedagogical Content Knowledge (TPACK). TPACK was proposed by Mishra and Koehler (2006) in their foundational paper in Teachers College Record. TPACK is a highly practical and widely used framework for understanding effective technology integration. It explains that strong technology-enhanced learning occurs when teachers align:

1. Content Knowledge (CK): clothing construction, textile science, pattern drafting, design principles
2. Pedagogical Knowledge (PK): demonstration, guided practice, critique-based learning, competency assessment
3. Technological Knowledge (TK): LMS, video modeling, CAD tools, simulations, and AI feedback systems.

In Clothing and Textile Education, TPACK is especially appropriate because it explicitly addresses the common failure mode of tech adoption: using tools without redesigning pedagogy and assessment to fit practical skill learning. Recent blended learning scholarship continues to emphasize that successful blended learning is systematic and design-dependent (Černá *et al.*, 2024; Alammary & Alhazmi, 2023).

Opportunities of Blended Learning in Clothing and Textile Education

1. Enhanced Skill Acquisition: Blended learning increases practice exposure through repeated viewing of demonstrations and structured step-by-step learning tasks. In

- vocational education, blended designs have been shown to extend training opportunities across time and space, improving technical skills development (Shen et al., 2024).
2. **Personalized Learning through AI:** AI-enhanced feedback systems can scale individualized support an important advantage in skill training where one instructor supports many learners (Hofmann et al., 2025).
 3. **Flexible Access:** Blended learning supports flexible engagement and can improve learning outcomes when course components are coherently structured and supported (Alammary & Alhazmi, 2023).
 4. **Creativity and Innovation:** Digital platforms and visualization tools broaden exposure and support design experimentation, aligning with technology-integrated learning that promotes student engagement (van Alten et al., 2024).
 5. **Industry relevance and employability:** Blended learning can strengthen digital literacy and work-related technology competence (El Messaoudi, 2024), a critical asset for modern textile and fashion workflows.

Challenges of Blended Learning Implementation

Despite its pedagogical potential, the implementation of blended learning in Clothing and Textile Education is constrained by a combination of infrastructural, pedagogical, socio-economic, and ethical challenges.

First, inadequate infrastructure remains a major barrier. Effective blended learning in studio-based disciplines depends on access to stable electricity, internet connectivity, suitable devices, software, and functional learning spaces, yet vocational education studies consistently identify these resources as unevenly available, particularly in resource-constrained contexts (Song & Lai, 2025). Nigerian evidence in clothing-related instruction similarly points to insufficient computers, weak technical support, poor power supply, lack of internet services, and the high cost of relevant software as practical obstacles to digital integration (Ugwu et al., 2023).

Second, lecturer preparedness remains uneven. The mere availability of technology does not guarantee effective teaching; lecturers must be able to design learning tasks, demonstrations, feedback systems, and assessments that meaningfully connect online activities with hands-on studio performance. Where such competence is limited, technology may be added superficially rather than pedagogically integrated.

Third, assessment remains particularly complex in practical disciplines because tactile competence, process skill, finishing quality, and studio judgment are not always easily captured through online tasks alone. Poor alignment between digital activities and practical outcomes may therefore weaken assessment validity (Alammary & Alhazmi, 2023).

Fourth, the digital divide among students can undermine the promise of flexibility, since some learners are better positioned than others to access devices, data, power, and conducive study conditions.

Finally, the use of AI within blended learning introduces ethical concerns related to privacy, transparency, bias, authorship, and overreliance on automated feedback. As UNESCO (2023) argues, the educational use of AI must be guided by principles that preserve human agency, fairness, and inclusion. Taken together, these challenges suggest that the success of blended learning in Clothing and Textile Education depends not simply on adopting technology, but on addressing the wider structural and pedagogical conditions that shape its use.

Future Direction

Future improvements in blended learning for Clothing and Textile Education should begin with the development of departmental digital studios that are tailored to the practical demands of

the discipline. In this perspective, a digital studio should not be understood as an expensive, fully automated facility from the outset, but as a phased instructional space equipped with essential resources such as internet-enabled computers, reliable power backup, projection facilities, pattern-design software, video-recording tools, and where possible, virtual visualization applications. The justification for this recommendation is clear. Studies on blended learning in vocational education show that technology-supported practical instruction is most effective when learners can move repeatedly between demonstration, practice, reflection, and feedback (Song & Lai, 2025; Chen & Huang, 2024). This recommendation is also relevant in Nigeria, where inadequate ICT facilities, poor power supply, software cost, and lack of practical laboratories have already been identified as barriers to the use of CAD and related digital approaches in clothing instruction (Ugwu et al., 2023). A phased digital-studio model is therefore more realistic than proposing immediate large-scale investment, especially in resource-constrained institutions. Local precedents also suggest that such integration is achievable, as the University of Nigeria, Nsukka includes Computer Aided Design in both Fashion Design and Textile Design curricula, while Yaba College of Technology sustains Fashion Design and Textile Design as recognized programme areas. Rather than presenting digital studios as a luxury, they should be framed as core infrastructure for modern studio-based teaching.

A second priority is the development of hybrid competency-based assessment models that can capture both practical performance and digital learning processes. One of the main weaknesses in the current discussion of blended learning in practical disciplines is the tendency to assume that traditional practical examinations alone are sufficient for judging competence. In Clothing and Textile Education, however, competence involves more than a finished garment; it incorporates design reasoning, measurement accuracy, procedural understanding, creativity, and the ability to revise work based on feedback. For this reason, assessment in blended environments should combine physical garment evaluation with digital portfolios, short process videos, annotated design sketches, and reflective commentaries. Such a model would improve assessment validity by ensuring that online engagement remains meaningfully connected to studio performance rather than becoming an isolated add-on. This recommendation is supported by blended learning scholarship which emphasizes that effectiveness depends on coherent alignment among objectives, activities, resources, and assessment (Alammary & Alhazmi, 2023). It is also especially appropriate in skill-based fields because students often benefit from documenting stages of production, receiving feedback at multiple points, and demonstrating learning as a process rather than only as an end product. In practical terms, departments can begin with low-cost assessment innovations such as smartphone-recorded process clips, LMS-based submission folders, and rubric-guided portfolio reviews before moving to more advanced digital assessment systems.

A third future direction is sustained lecturer development based on the Technological Pedagogical Content Knowledge (TPACK) framework. The problem in many discussions of educational technology is that digital adoption is treated mainly as a matter of equipment availability, whereas evidence increasingly shows that the pedagogical use of technology depends heavily on teacher competence and course design. In Clothing and Textile Education, lecturers require more than basic digital literacy; they need the ability to decide when a sewing demonstration should remain fully face-to-face, when a video replay would improve learning, when AI-supported feedback can assist pattern correction, and when practical assessment must be teacher-led to preserve authenticity and fairness. This is why lecturer training should focus on the integration of content knowledge, practical pedagogy, and appropriate technologies rather than on isolated software workshops. Nigerian evidence already points in this direction: Ugwu et al. (2023)

identified lack of ICT skills, inadequate training, and insufficient technical support as key barriers, while also highlighting training workshops, blended teaching approaches, and in-service capacity building as important responses. More broadly, studies of blended learning and AI in education indicate that digital tools improve outcomes only when instructors use them intentionally and critically. Continuous professional development should therefore include instructional design for blended studio courses, digital assessment practices, use of CAD tools, responsible use of AI feedback systems, and peer mentoring within departments.

Equity support should also become a central policy direction if blended learning is to be effective rather than exclusionary. Although blended learning is often praised for flexibility, that flexibility is unevenly experienced when students differ sharply in access to devices, internet connectivity, electricity, and quiet spaces for study. This problem is likely to be particularly serious in practical programmes where students already face costs related to materials, tools, and studio production. In such settings, asking students to participate in digital learning without institutional support risks reproducing existing inequalities. For this reason, institutions should adopt targeted inclusion measures such as device-loan schemes, subsidized data support, open-access departmental labs, downloadable offline materials, and flexible submission arrangements for students with unstable connectivity. This recommendation is strongly supported by the literature in vocational and blended learning, which repeatedly identifies unequal access and infrastructure limitations as major barriers to successful implementation (Song & Lai, 2025; UNESCO, 2023). In Clothing and Textile Education, equity measures are not merely welfare interventions; they are pedagogical necessities because students cannot fully benefit from demonstrations, digital tutorials, AI-assisted practice, or online collaboration when they are systematically excluded from the technological environment on which those activities depend.

Finally, the future of blended learning in the era of artificial intelligence requires clear institutional guidelines for ethical and pedagogically responsible use of AI and generative AI tools. AI offers considerable promise in Clothing and Textile Education through rapid feedback, personalized support, design visualization, error detection, and simulation-based learning. However, these possibilities also create significant risks, including data privacy concerns, algorithmic bias, overdependence on automated outputs, and uncertainty about authorship and academic integrity. UNESCO (2023) has already stressed that AI in education must be governed in ways that protect equity, transparency, human agency, and inclusion. In practical disciplines such as clothing and textiles, these concerns are especially important because creative work may be easily reshaped by generative systems in ways that blur the line between student skill and machine assistance. Institutions should therefore establish explicit policies on what forms of AI support are acceptable, how AI use should be disclosed in assignments, how student data will be protected, and which elements of assessment must remain fully human-evaluated. Such guidelines should not be framed as anti-technology restrictions, but as quality-assurance mechanisms that ensure innovation does not erode originality, fairness, or disciplinary standards. In this way, AI governance becomes part of educational modernization rather than an obstacle to it.

Conclusion

Blended learning, enhanced by responsibly deployed AI tools, can strengthen Clothing and Textile Education by improving flexible access to learning resources, enabling repeated observation of demonstrations, supporting timely and personalized feedback, and building employability-related digital competencies. However, evidence from vocational and higher education research indicates that these outcomes are contingent on intentional course design, lecturer capacity, adequate infrastructure, equitable learner access, and ethical governance of AI

(including privacy, bias, and transparency). Anchored in the TPACK framework and aligned with global guidance on AI in education, the effective integration of blended and AI-enabled approaches can support the modernization of Clothing and Textile Education as an industry-relevant, innovation-oriented programme with potential contributions to skills development and sustainable socio-economic development.

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