World Conference on
Teaching, Learning, and Education

16 - 18 October 2026 Milan , Italy

Transforming Apparel Technology Education through Curriculum Development: Driving Commercialisation, Entrepreneurship and the Circular Economy

Winiswa Mavutha

Durban University of Technology, South Africa

Abstract

The apparel and textile industry is experiencing rapid transformation as higher education institutions respond to increasing demands for entrepreneurship, innovation, sustainability and graduate employability. Traditional Apparel Technology programmes have largely prioritised technical competencies such as garment construction, textile science and production processes, often with limited focus on entrepreneurial development, commercialisation and circular economy principles. This paper proposes a transformative curriculum framework that integrates commercialisation, entrepreneurship and circular economy concepts to better prepare graduates for contemporary industry challenges and opportunities. The proposed framework repositions students as innovators, entrepreneurs, product developers and contributors to sustainable industrial transformation. Commercialisation is embedded through experiential learning activities that include product development, market analysis, branding, costing, intellectual property awareness, business modelling and industry collaboration. Entrepreneurship education develops competencies such as creativity, opportunity recognition, innovation, financial literacy, problem-solving and venture creation. A central component of the framework is the integration of circular economy principles, including sustainable material selection, textile waste management, upcycling, recycling, resource efficiency, life-cycle thinking and circular product design. Through a practice-based and interdisciplinary approach, students engage with real-world challenges by collaborating with industry partners, incubators and small enterprises while developing market-oriented products from sustainable and recovered materials. The framework highlights the importance of linking environmental, economic and social dimensions of sustainability and translating knowledge into practical action. It argues that curriculum transformation can enhance graduate employability, entrepreneurship and innovation while supporting the transition from linear

production systems to regenerative and circular models. The paper presents a replicable model for higher education institutions seeking to align Apparel Technology education with industry needs, sustainable development goals and future workforce requirements.

Keywords: Apparel Technology; Circular Economy; Curriculum Development; Entrepreneurship Education; Sustainability