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From Draped Form to Pattern: Exploring the Potential of AI in Pattern Cutting Education

Keywords: *Artificial Intelligence; Pattern*

Cutting; Inclusive Pedagogy; Fashion Education

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Abstract

Artificial Intelligence (AI) is increasingly influencing fashion education, particularly in areas related to design ideation, visualisation, and creative development. However, its potential application within pattern cutting education remains largely unexplored. As an educator and practitioner specialising in draping and creative pattern cutting, I am interested in how AI might support students in one of the most challenging stages of garment development: translating three-dimensional draped forms into technically resolved two-dimensional patterns.

Beyond facilitating technical translation, this study explores how AI may stimulate new ways of thinking, encourage creative dialogue, and support experimentation within the pattern-cutting process. This study builds upon previous research presented at the HEA Advance Symposium, which explored AI as a co-creative partner in fashion education and highlighted its potential to reduce communication barriers, support diverse learning styles, and increase learner confidence (Stockton and Thomadaki, 2026). While earlier work focused on design ideation and visual communication, the current study extends this discussion into pattern cutting education, where the relationship between three-dimensional form and two-dimensional pattern construction remains fundamental to fashion practice. Within fashion education, students often demonstrate strong creative abilities when developing silhouettes through draping and experimental form-making. However, many encounter difficulties when translating these forms into workable pattern pieces.

This transition requires spatial awareness, technical knowledge, and pattern-cutting expertise. Research suggests that fashion students often struggle to translate conceptual ideas into physical garments and transform abstract visual concepts into tangible construction solutions (An and Park, 2023). Consequently, students may find it difficult to fully realise their creative intentions despite possessing strong conceptual thinking and innovative design ideas. This presentation argues that AI has the potential to function as an inclusive pedagogical tool that supports students in bridging the gap between creative exploration and technical execution. Rather than replacing traditional pattern-cutting knowledge, AI may act as a supportive cognitive and co-creative partner that enables students to analyse draped forms, visualise construction possibilities, identify pattern-cutting strategies, and explore alternative approaches to garment development. By reducing technical barriers and providing opportunities for iterative exploration, AI may encourage students to experiment more freely and develop greater confidence in their creative decision-making (Dweck, 2019).

Drawing upon literature from Artificial Intelligence in Education (AIED), inclusive pedagogy, and fashion design education, the presentation explores how AI-assisted tools may contribute to a more inclusive learning environment. Particular attention is given to how AI can support students with diverse learning styles, varying technical proficiency, and different approaches to problem-solving (Akpen et al., 2024).

The presentation does not report empirical findings but instead proposes a conceptual framework and a future

research agenda for AI-assisted pattern-cutting education. By focusing on translating draped forms into pattern solutions, the study contributes to emerging debates on AI-assisted learning in fashion education and offers a novel perspective on how AI may support inclusivity, creative confidence, and technical development within