

Evaluating the Impact of Blended Learning on Self-Directed Learning and Critical Thinking in Taiwanese Fashion Design Education

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Abstract

Blended learning has become increasingly important in Taiwanese higher education, particularly in creative disciplines such as fashion design. With the rapid advancement of digital tools and the growing emphasis on technology in education, blended learning provides fashion design students with greater flexibility to engage with both theory and practice. Despite its growing adoption, research into its impact on fashion design education remains limited. This study seeks to address this gap by examining how blended learning influences academic achievement, self-directed learning (SDL), and critical thinking within Taiwanese fashion design education. Specifically, it investigates how blended learning enhances creative studio practice and fashion-specific learning outcomes. The findings demonstrate significant improvements in SDL and critical thinking, which are key to developing creativity and problem-solving skills in fashion design students. The study underscores the potential of blended learning to bridge the gap between theory and practice in fashion education, offering valuable insights for its optimisation in similar contexts.

Keywords: Blended Learning; Design Education; Self-directed Learning (SDL); Critical Thinking; Academic Achievement

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1 Introduction

Fashion design education in Taiwan, encompassing a range of disciplines including clothing, makeup, beauty, accessories, styling, and wedding dress design, demands rapid prototyping, material experimentation, and creative iteration. Blended learning, which combines online learning with traditional face-to-face instruction, has become increasingly common in higher education worldwide [1-3]. This approach allows students to access materials such as videos, readings, and online discussions at their own pace. Additionally, they can participate in group activities and receive in-person direct feedback from teachers and classmates [4, 5]. In Taiwan, blended learning has developed significantly since the early 2000s, primarily due to government policies and university investments. A 2003 report by the Economist Intelligence Unit and IBM ranked Taiwan third in Asia and sixteenth globally for e-learning readiness [6]. The COVID-19 pandemic accelerated this trend, making blended learning the standard approach at many Taiwanese universities, particularly in fields such as design, engineering, and languages [7, 8]. Following 2023, there have been further developments, with the government expanding initiatives to build e-learning infrastructure to address gaps in digital access and to support AI-integrated platforms for adaptive learning. Fashion design education benefits from blended learning, as it combines theory, creativity, and practical teamwork [9, 10]. Students can study theoretical ideas independently online before applying them in face-to-face workshops and group projects. Around the world, blended learning methods have focused on flexible course designs that allow students to take control of their learning, particularly in countries such as the US, Korea, and Japan [11-13]. Universities in Taiwan have learned from these examples, but they must also adapt to local cultural and educational contexts. Studies indicate that fashion design students usually prefer models such as “flipped classroom + workshop”, but they often feel uncertain about taking completely online design courses.

Even with its strengths, blended learning in Taiwanese fashion design education faces certain challenges. First, traditional cultural ideas shaped by Confucian values have a strong influence on higher education in Taiwan, emphasising teacher authority, face-to-face interaction, and group harmony [14, 15]. Students in Taiwan often prefer passive learning and may be hesitant to share different opinions openly. Blended learning requires more self-discipline, independence, and active involvement, which sometimes does not align with traditional approaches [16, 17]. Recent studies from 2023 to 2025 highlight ongoing problems, including the digital divide exacerbated by socioeconomic differences, which are causing unequal development in self-directed learning and increased anxiety about technology among students. Second, while many Taiwanese students feel comfortable with digital technology, some still struggle to manage their own learning, cope with anxiety associated with new technologies, and navigate unfamiliar online platforms [18, 19]. Self-directed learning (SDL) can help address these challenges in blended learning settings. SDL motivates students to take responsibility for their learning, giving them more flexibility and independence to explore fashion design ideas on their own before class. This kind of independence is crucial in fashion design education, as it helps students build creativity and essential project management skills [20-22]. Critical thinking is another vital skill that blended learning can improve. It means examining problems from different perspectives, carefully assessing information, and creating thoughtful solutions. Blended learning enhances critical thinking by combining reflective online tasks with face-to-face discussions, fostering deeper engagement with design issues [23, 24]. Because Taiwan has a traditionally teacher-centred education system, it is essential to understand these cultural and technological factors to create