Integrating Generative AI into Project-based ESP Learning: A Fashion Design Case in Chinese Vocational Education

Shiqi Wang[1] [2], Tumennast Erdenebold[3]

[1]Graduate School of International Education Management, Woosong University, Daejeon, South Korea

[2]International Education Exchange Department, Cangzhou Vocational and Technical College, Cangzhou, China

[3]Assistant Professor, Department of AI and Big Data, Woosong University, Daejeon, South Korea

Abstract

This study applies the Craftsmanship unit from New Orientation English 1 to implement an AI-enhanced project-based learning (PBL) model for English for Specific Purposes (ESP) in Chinese vocational colleges. Targeting fashion design majors, the project links English learning with professional skills and cultural heritage promotion through a simulated Fashion Week, where students present their garments with live English commentary. Multimodal generative AI tools (including language models, image generators, and AI-based audio platforms) were integrated across a five-phase PBL cycle consisting of initiation, skill-building, production, presentation, and reflection to scaffold vocabulary development, oral communication, design visualization, and presentation rehearsal. Findings suggest that AI-supported PBL improved linguistic accuracy, professional relevance, and learner engagement, while AI usage logs helped mitigate over-reliance. By integrating ESP learning, vocational skill development, and cultural communication within authentic industry-like contexts, this approach demonstrates practical value for fashion education and offers potential for broader adoption in fields such as art, tourism, and hospitality.

Keywords: project-based learning (PBL), English for Specific Purposes (ESP), generative AI, vocational college English, fashion design

1. Introduction

China's vocational institutions are responsible for preparing students for both local and overseas jobs. Speaking and understanding English is a must for international markets, cross-border cooperation, and cross-cultural interaction in industries like fashion design. The curricular framework is becoming increasingly applicable and globally focused as a result of recent educational reforms that prioritize standardization, digital transformation, and the close integration of industry and education (Yu, Yan, & Jin, 2024). These advancements increase English language proficiency's professional usefulness by providing chances to match it with real-world job responsibilities.

Project-based learning (PBL) has become increasingly popular in vocational education because it replicates industrial workflows, fosters teamwork, and promotes problem-solving in authentic contexts (Eswaran, 2024). It is defined as a learner-centered approach in which knowledge and skills are acquired through sustained engagement with authentic tasks and problems (Thomas, 2000). Well-crafted project-based learning (PBL) materials have been shown to improve learners' oral communication and professional discourse within English for Specific Purposes (ESP), particularly when they are tailored to the demands of specific vocational fields (Zi, 2016; Peachey, 2025). In this paper, ESP refers to language instruction that addresses learners' communicative needs in academic or professional contexts (Hutchinson & Waters, 1987).

English courses for non-language majors at vocational institutions sometimes find it difficult to stay current with their chosen paths. This challenge is especially evident for fashion design and technology majors, where success in the global fashion industry demands not only creative and technical expertise but also the ability to articulate design concepts, explain production processes, and communicate cultural narratives in English (Zhang, Bhattacharyya, Wan, & Hou, 2025). Traditional language teaching models, which compartmentalize listening, speaking, reading, and writing, frequently fail to capture the integrated, context-rich nature of professional communication. Recent reviews confirm that PBL, when combined with AI support, can enhance differentiated instruction, collaborative problem-solving, and authentic assessment in English language learning (Asrifan, 2024; Dai et al., 2025).

Moreover, integrating cultural heritage enhances both the authenticity and the impact of vocational English projects. By embedding elements of Chinese craftsmanship, such as silk weaving or embroidery, students are able to link their designs with national traditions and cultivate a distinctive professional identity (Wang, 2025). At the same time, generative artificial intelligence (generative AI) can be defined as computational models and systems that learn patterns from large-scale data in order to automatically produce new content, including text, images, audio, or video. Unlike tools that simply retrieve or process existing information, generative AI creates novel outputs that resemble human communication and artistic expression (Goodfellow et

al., 2014). Building on this capacity, the integration of generative and multimodal AI tools—such as large language models, image generators, and AI-based music platforms—further expands the potential of PBL by providing personalized feedback, simulating industry scenarios, and visualizing design concepts (Lee & Suh, 2024). Notably, PBL-oriented ESP materials designed specifically for fashion education have been shown to boost learner engagement and better prepare students for industry demands (Lubis, Yudistira, & Saputra, 2025). Against this backdrop, this paper proposes an AI-enhanced PBL design for the Craftsmanship unit in the *New Orientation English 1* textbook, illustrating how generative AI can support self-directed learning, strengthen professional competencies, and promote cultural communication within a simulated international fashion week project.

2. Project Context and Design

This project is grounded in Unit 3, Craftsmanship, from *New Orientation English 1*. It integrates the ideological and professional values of striving for excellence and pursuing dreams with craftsmanship into the English language classroom, with the aim of fostering students' craftsmanship spirit, strengthening their cultural confidence, and enhancing their ability to communicate effectively in English within their professional field.

Table 1. Project Portfolio: Craftsmanship

Task	Description	Expected Output
Task 1: Listen and Speak: Qualities of a Craftsman	Develops students' ability to identify and describe key qualities of craftsmanship in English through listening and speaking activities.	Vocabulary list and oral descriptions of craftsmanship qualities.
Task 2: Read and Reflect: Stories of Craftsmen	Enhances reading comprehension and critical reflection on real-life craftsmen's stories.	Summary and personal reflection notes.
Task 3: Write and Share: My Craftsman Moment	Trains students to write about personal experiences that demonstrate craftsmanship values.	Short essay describing a personal "craftsmanship moment."
Task 4: Show and Tell: The Spirit of Craftsmanship	Encourages students to present their design work and explain its connection to craftsmanship spirit.	Live or video-recorded presentation.

Project Output: My Craftsmanship Story
In the school's Fashion Week event, as models walk the runway, students deliver live English narrations introducing the unique features and design concepts of their garments, highlighting elements of Chinese traditional culture. The Fashion Week showcase is published on social media platforms to enhance international reach, enrich students' portfolios, and strengthen their employability.

The project comprises four interconnected sub-tasks (Table 1) designed for the learning needs of Fashion Design and Craftsmanship students in vocational colleges. The final output, My Craftsmanship Story, integrates multi-modal generative AI tools to support self-directed learning, provide instant feedback, and foster creative expression in authentic, industry-like contexts. In this study, multimodal generative AI tools refer to the integration of language-based systems (ChatGPT, DeepSeek, and Doubao), visual platforms (JiMeng, Midjourney), and audio applications (Sono AI).

3. Implementation Phases

The project follows a five-stage PBL cycle—initiation, skill-building, production, presentation, and reflection—with multi-modal AI tools embedded at each stage to scaffold students' progress toward the final Fashion Week runway presentation, where they will deliver live English commentaries introducing their designs and the Chinese cultural elements they incorporate.

(1) Initiation Phase

Students begin by exploring the concept of craftsmanship through Chinese-language videos of master craftsmen Wang Jin and Zhu Hengyin. In discussions, they extract qualities such as careful, precise, and dedicated. Doubao AI is used to generate vocabulary flashcards with images and example sentences, and to conduct pronunciation drills through simulated Q&A sessions, so students can confidently describe craftsmanship traits in English during their final presentation.

(2) Skill-building Phase

Listening and speaking tasks use AI-generated role-play interviews where students act as designers being questioned by international fashion journalists. ChatGPT helps generate model answers and alternative expressions, while DeepSeek offers real-time feedback on grammar and structure. For reading, students use DeepSeek's summarization and keyword extraction functions to process English texts on craftsmanship, while JiMeng AI visualizes key garment features from the texts, reinforcing vocabulary retention. These outputs become part of the students' "design vocabulary bank" for the final showcase.

(3) Production Phase

Students design garments incorporating craftsmanship values and Chinese cultural motifs. JiMeng AI produces 360° garment models, Midjourney or similar platforms

create high-fidelity design renderings, and Sono AI generates music tracks to be used in the runway show video. ChatGPT assists in drafting and refining the English design narratives, ensuring that the vocabulary from earlier stages is embedded. This ensures that visual, auditory, and textual elements are all ready for the final presentation.

(4) Presentation Phase

During the school's Fashion Week event, models wear the student-designed garments on the runway while the designers deliver unscripted English commentary. To prepare, students rehearse with virtual human AI tools, adjusting pacing, tone, and audience engagement strategies. They also synchronize JiMeng-generated 3D visuals and Sono music with their commentary for social media release, enhancing international reach and portfolio value.

(5) Reflection and Evaluation Phase

Students maintain an AI usage log documenting the specific tools and outputs used at each stage, how these aided their learning, and whether the AI suggestions were incorporated. This log, together with peer and teacher evaluations, ensures that while AI accelerates production and preparation, the final performance reflects the students' own linguistic and creative abilities.

4. Outcomes and Observations

The results indicate that multimodal AI played a positive role at every stage of the project. In the initiation stage, voice-interactive tools such as Doubao AI supported students in pronunciation correction and oral warm-up activities, simulating interview scenarios with international journalists so that they entered the topic with greater language confidence and a clear expressive framework. During the skill-building stage, DeepSeek and ChatGPT helped students understand and apply fashion-related technical vocabulary while providing instant feedback to optimize grammar and structure, thereby improving both linguistic accuracy and professional precision. In the production stage, visualization platforms such as JiMeng AI and Midjourney enabled students to transform their design concepts into 360-degree virtual garment models, while SonoAI generated background music to enhance the immersive and artistic quality of their presentations. In the presentation and reflection stage, Virtual Human AI allowed students to rehearse live commentary for an international fashion week setting, helping them adapt to real professional contexts in advance.

5. Discussion

In vocational ESP contexts, improving students' oral communication skills is directly related to their professional preparedness; research with cohorts of fashion majors demonstrates that employability-oriented competences are enhanced by specific oral proficiency activities (Zi, 2016). Adding to this, the current project's AI-enhanced PBL model combines language learning with professional design tasks and cultural

communication, which is consistent with research showing that generative-AI support can scaffold project workflows and increase language task accuracy and engagement (Dai et al., 2025; Peachey, 2025). The method builds on previous AI-in-education work by utilizing generative AI across the whole cycle of language preparation, design development, and public presentation, including multimodal tools for everything from vocabulary building to portfolio creation.

This model's importance for vocational education stems from its capacity to close the gap between conventional language instruction and professional courses, allowing students to acquire language skills in the context of real-world professional tasks and forming their professional identities through cross-cultural communication. This multimodal AI-supported PBL method has the potential to be widely adopted in various fields, including art and design, tourism, and hospitality management, in addition to fashion design programs.

But the initiative also has a number of obstacles to overcome. First, more instruction in digital literacy may be necessary for pupils who have never used AI technologies before. Second, teachers must continue to monitor the correctness and cultural suitability of AI-generated information to prevent technical or cultural misunderstandings. Third, when planning big events like fashion week simulations, vocational institutions could run into problems with time, money, or venue availability.

The current study indicates good benefits and gives a thorough account of integrating AI across the five PBL phases; nevertheless, the conclusions lack systematic quantitative proof and are mostly based on descriptive summaries and classroom observations. To compare the AI+PBL technique with traditional training in terms of increases in professional vocabulary acquisition, English oral fluency, and the completeness of design narratives, future research might use a pre-test–post-test control group design. The association between AI usage frequency, usage patterns, and learning results may also be examined by merging student usage records with self-efficacy surveys.

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