
| RESEARCH ARTICLE

Designing and Constructing a PCCC Model to Improve Students' Transferable Skills for Cross-border E-commerce Majors in a Project-based Blended Learning Environment

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| ABSTRACT

This paper introduces the PCCC model as an innovative framework for integrating blended and project-based learning to promote transferable skills. It highlights the model's potential to align educational strategies of "Position - course- competition - certificate" with the Chinese MoE's vision, addressing key challenges in preparing students for future careers. By exploring the interplay of policy, pedagogy, and skills development, this discussion offers valuable insights for educators and institutions aiming to optimize their teaching practices and enhance student outcomes in a dynamic educational landscape.

| KEYWORDS

transferable skills; Cross-border E-commerce; project-based learning; blended learning

| ARTICLE INFORMATION

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1. Introduction

In the context of global educational reform, the development of transferable skills has become a focal point for enhancing students' readiness for the demands of the 21st-century workforce. Transferable skills, often referred to as 21st-century competencies, are essential abilities that support learning and can be further transferred to a wide range of disciplines, workplaces, and life scenarios (Bennett et al., 1999). These include critical thinking, communication, teamwork, problem-solving, digital literacy, etc. (Chan et al., 2017; Zurita et al., 2015; Chan & Fong, 2018; Pellegrino & Hilton, 2012). Unlike domain-specific knowledge, transferable skills are adaptable and versatile, allowing learners to apply their abilities in varied and evolving contexts. In a globalized and technologically advanced world, these skills have become indispensable for employability, career progression, and lifelong learning.

Cross-border e-commerce (CBEC) has rapidly emerged as a transformative model of international trade, driven by globalization and advancements in internet technology (Luan et al., 2019). Meanwhile, CBEC industry is experiencing a critical shortage of qualified talent, which has become a major bottleneck in its rapid development (Cheng et al., 2019). However, candidates seeking jobs related to cross-border e-commerce often find themselves unable to meet the job requirements (Zheng & Shi, 2022). Employers increasingly prioritize candidates who can adapt quickly to new challenges, collaborate in diverse teams, and address complex problems with innovative solutions. For educators, integrating the development of transferable skills into teaching and learning practices is not merely a trend but a necessity to align education with the demands of modern society (Li & Zhu, 2023).

In China, the Ministry of Education (MoE) has spearheaded reforms aimed at bridging the gap between educational outcomes and industry requirements through the integration of "Position - Course - Competition - Certificate" (Li & Pan, 2024). This integration is designed to incorporate practical skill development into academic programs, ensuring that students graduate with not only theoretical knowledge but also the practical competencies needed to thrive in their careers. The PCCC integration comprises four interconnected elements: Position, which emphasizes aligning academic learning with specific job roles; Course, which integrates targeted modules focusing on real-world applications; Competition, which promotes skill-building through innovative and collaborative platforms; and Certificate, which validates students' competencies through recognized qualifications. Together, these

elements aim to prepare students for a competitive job market, enhance their employability, and foster their ability to transfer skills across professional domains.

The learning environment plays a crucial role in fostering students' transferable skills, with blended learning environments being a good example (Li & Zhu, 2023). Blended learning combines the strengths of online and face-to-face instruction, creating a dynamic, flexible, and interactive learning environment (Liu, et al., 2023). Through online platforms, students gain access to a wealth of resources, interactive activities, and asynchronous discussions, allowing them to learn at their own pace. Meanwhile, face-to-face interactions facilitate deeper engagement, immediate feedback, and collaborative problem-solving. This dual approach fosters a student-centered learning experience where learners are actively involved in constructing their knowledge. Research has shown that blended learning not only enhances motivation and engagement but also supports personalized learning paths (Bizami et al., 2023; Rasheed et al., 2020), making it particularly effective in addressing diverse student needs and developing key transferable skills.

Complementing blended learning, Project-Based Learning (PBL) offers a hands-on, student-centered approach that focuses on real-world challenges (Capon & Kuhn, 2004). Research has demonstrated that project-based and problem-based inquiry teaching aligns closely with the cultivation of 21st-century skills. (Odell & Kennedy, 2020). In PBL, students work collaboratively on projects that simulate professional scenarios, enabling them to apply their knowledge in meaningful and practical ways. This approach emphasizes critical thinking, problem-solving, and teamwork, as students must analyze problems, hypothesize solutions, and implement strategies to achieve project goals. When integrated with blended learning, PBL leverages online tools for project management, collaboration, and resource sharing, while in-person sessions provide opportunities for mentorship, peer review, and active engagement.

The combination of blended learning and PBL aligns seamlessly with the goals of the PCCC integration. Blended learning provides the flexibility and resources needed for self-directed learning, while PBL ensures that students apply their knowledge in collaborative and authentic contexts. It ensures that students are equipped with the necessary skills to succeed in both academic and professional settings. Together, these approaches offer a holistic framework for fostering transferable skills, bridging the gap between education and CBEC practice, and preparing students for the challenges of a rapidly changing world. By integrating these teaching approaches within the PCCC policy, educational institutions can effectively implement the MoE's vision while enhancing students' readiness for the demands of the 21st-century workforce. Therefore, this paper intends to design and construct a PCCC model under the project-based blended learning environment, which enhances both the educational experience and the employability of students for Cross-border E-commerce majors, ensuring their preparedness for the demands of an evolving global workforce.

2. Designing and Constructing a PCCC Model for Transferable Skills Development

To foster transferable skills within a project-based blended learning environment, the paper integrates the key elements of Position, Course, Competition, and Certificate (PCCC) as part of a holistic pedagogical strategy, and thus proposes a PCCC model. This model ensures that academic content aligns with real-world professional demands, practical application, and the validation of acquired competencies. Below is the detailed design and construction of the model, emphasizing the synergy between PCCC and project-based blended learning.

2.1 Constructing the essential elements for the model

The objective of this approach is to align academic activities closely with real-world job roles and industry standards, ensuring students gain practical and relevant skills. The interplay of the essential elements is shown in Figure 1. This begins with job role mapping, where specific requirements of job positions such as E-commerce platform operator, digital marketer, live streamer, logistics coordinator, or customer service are identified and integrated into the curriculum.

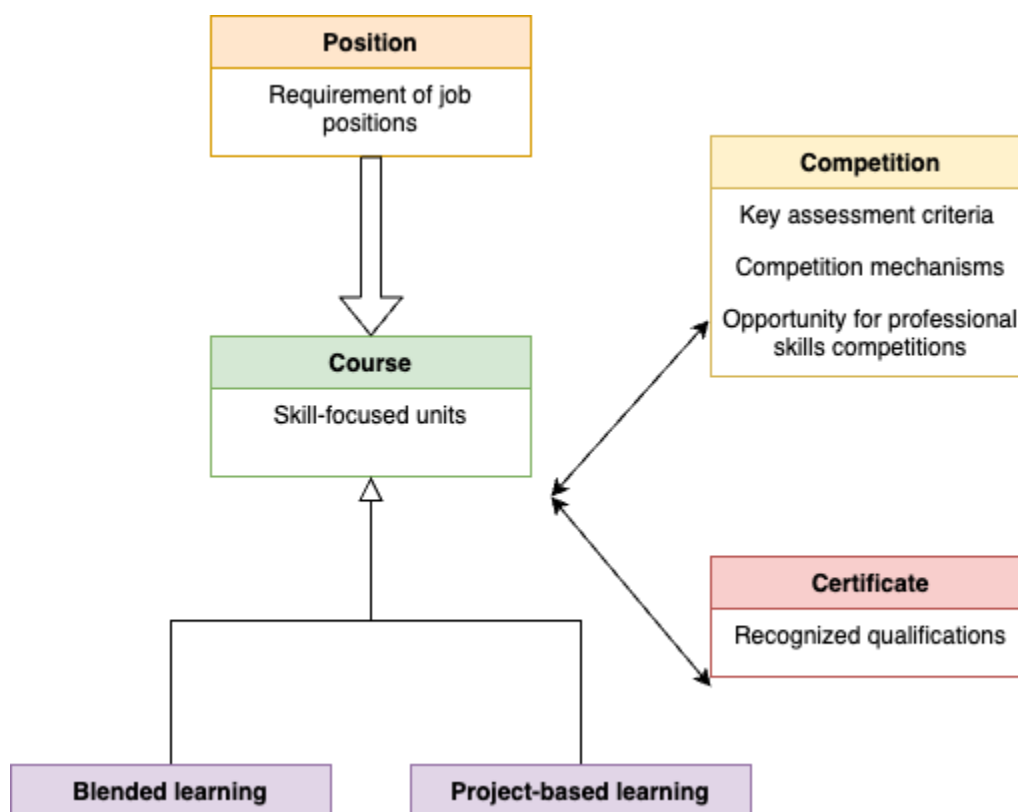


Figure 1. Core elements of PCCC model

Align with the specific requirements of related job positions. The course component focuses on integrating theoretical knowledge and skill development into the curriculum through well-structured, targeted modules. The curriculum is divided into skill-focused units that emphasize essential competencies such as data analysis, customer service communication, teamwork, problem-solving, and critical thinking. To enhance the transferability of these skills, the modules are linked across multiple disciplines, fostering an interdisciplinary learning experience. To deepen this connection with job position, position-specific projects are designed, tasking students with responsibilities such as opening an seller account, developing a product launch strategy, managing a digital marketing campaign, or dealing with customers disputes or complaints.

The competition component is designed to complement the course curriculum, with competition content seamlessly integrated into the learning process. Key assessment criteria from professional skills competitions are reflected in the course design, ensuring alignment between what students learn and how they are evaluated. Additionally, the course incorporates competition mechanisms as part of its assessment methods, allowing students to experience the dynamics of real-world challenges within their academic framework. Outstanding students are selected to participate in professional skills competitions organized by educational authorities and organizations, providing them with opportunities to showcase their skills on broader platforms and gain valuable experience beyond the classroom. This integration fosters a cohesive and practical approach to learning and skill development.

The certificate component is designed to support course assessments by linking learning outcomes with recognized qualifications. Upon completing the course, students are encouraged to pursue certification exams to obtain industry-recognized skill certificates such as Cross-border B2B data operations, live-streaming, or practical English communication vocational skill level certificates. These certifications not only validate the practical skills gained during the course but also provide students with a competitive advantage in the job market.

Blended learning and project-based learning collaboratively create a learning environment that integrates online and offline activities, combining the flexibility of digital resources with the engagement of face-to-face interactions. This environment is driven by projects and tasks, enabling students to apply theoretical knowledge to real-world scenarios while fostering active problem-solving and collaboration.

2.2 Implementation Pathway of the PCCC Model in Blended Learning and Project-Based Learning

The PCCC model leverages the strengths of blended learning and project-based learning to create a highly effective pedagogical framework. The graphical representation of the pathway of implementing the PCCC model in a project-based blended learning environment is shown in Figure 2.

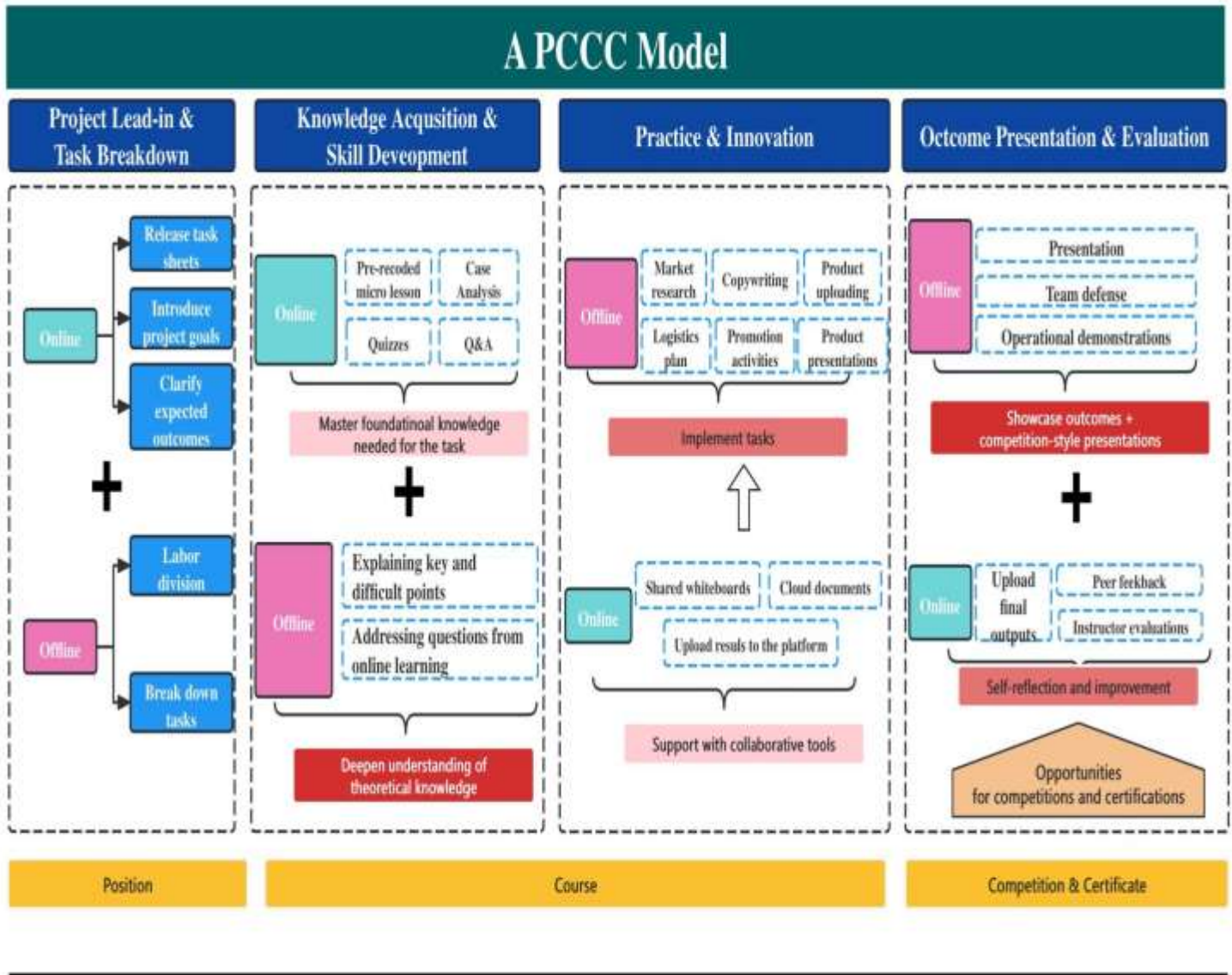


Figure 2. Implementation Pathway of the PCCC Model in Project-Based blended Learning

The teaching pathway begins with a project introduction and task breakdown, employing a blended approach that combines online and offline activities. Online platforms are used to release project task sheets, outlining the project's goals, background, and expected outcomes. These sheets highlight the task's relevance to specific job roles, task requirements, and key points aligned with the competition assessment criteria. In offline sessions, students engage in group discussions to divide labor and break down the tasks into manageable components. Together, they design sub-tasks, such as research, solution design, implementation, and optimization, ensuring a step-by-step progression toward completing the overall project. This stage sets a solid foundation by aligning tasks with real-world demands and preparing students for the subsequent phases.

The second stage focuses on knowledge acquisition and skill development, primarily through online learning supplemented by offline support. Modularized theoretical content is delivered via pre-recorded micro lessons. Furthermore, case analyses, exercises or quizzes are posted, enabling students to master foundational knowledge in order to handling the real-world tasks. A real-time Q&A platform is established to provide instant clarification and support during online study. Offline sessions complement this by explaining complex and challenging concepts in depth and addressing any questions or issues arising from the online learning activities.

The Practice and Innovation phase shifts the focus to project implementation, primarily conducted offline with online tools providing support. During offline sessions, students tackle the core tasks in controlled settings such as labs or enterprise environments. These tasks stimulate real-work tasks in workforce such as CBEC targeted market research, product selling point copy writing, product uploading, logistics plan designs, promotion activities launch, or product presentations. Online collaborative tools like shared whiteboards and cloud documents facilitate data recording and team discussions, ensuring that students can work seamlessly across platforms. Once the task is completed, the group submits their results to the platform. The integration of offline and online activities allows students to innovate while receiving timely feedback from peers and instructors on their progress.

Finally, the process concludes with outcome presentation and evaluation, adopting a blended approach to assessment. Offline, students showcase their project outcomes through competition-style presentations, which include team defense or operational demonstrations, providing them with real-world experience. Online platforms are used to upload final outputs for peer and instructor evaluations, allowing for comprehensive feedback on both the process and performance. This stage not only assesses students' mastery of transferable skills but also provides valuable opportunities for self-reflection and improvement, ensuring that learning outcomes align with professional expectations. Students will further participate in professional skill competitions and certification exams to validate their knowledge and skills learned from the course.

2.3 Expected Outcomes

The proposed model emphasizes skill development, equipping students with critical, transferable skills such as problem-solving, communication, and teamwork. These competencies are essential for adapting to diverse professional roles, ensuring students are well-prepared for the dynamic demands of the modern workforce. By embedding these skills into both theoretical learning and practical applications, the model fosters a comprehensive learning experience that supports long-term career growth.

Additionally, the combination of PCCC and blended learning significantly enhances student engagement. The integration of real-world scenarios, collaborative projects, and interactive learning platforms encourages active participation and intrinsic motivation. This approach transforms students from passive recipients of information into active learners, empowering them to take ownership of their educational journey and remain fully engaged throughout the process.

The model also prioritizes practical application, providing students with hands-on experience that bridges the gap between academic theory and workplace demands. Through real or simulated tasks, students apply their knowledge in authentic contexts, gaining valuable insights into industry practices. This alignment of education with professional environments ensures that students graduate with both the knowledge and practical expertise needed to excel in their chosen fields.

Finally, the inclusion of a certification component validates the skills and competencies students acquire during their learning process. These certifications, recognized by industry standards and the MoE, enhance students' employability and provide tangible proof of their readiness for professional roles. By leaving with validated qualifications, students are better positioned to enter the job market with confidence and credibility.

3. Discussion

This section discusses the model's contributions to skill development, its comparison with traditional teaching approaches, and its implications for curriculum design, educator roles, and institutional policies. Additionally, potential limitations and recommendations for future improvement are addressed.

3.1. The Role of the PCCC Model in Improving Transferable Skills

The PCCC model enhances transferable skills by creating a structured, multidimensional learning environment that mirrors real-world professional demands. Through the position, students engage in tasks aligned with specific job roles, fostering contextual understanding and practical application. The course modules systematically build core skills by integrating theoretical knowledge

with practical activities, ensuring that learning outcomes are directly relevant to workplace requirements. Competition introduces an element of active learning, encouraging innovation, teamwork, and problem-solving in a collaborative setting. Finally, a Certificate validates these skills, motivating students to achieve competency benchmarks while providing evidence of their abilities to prospective employers. This comprehensive approach ensures that students not only develop essential skills but also gain confidence in applying them across varied contexts.

3.2. Comparison with traditional teaching approaches

Compared to traditional teaching approaches, the PCCC model offers a more targeted and outcome-driven approach. Traditional methods often focus on knowledge acquisition through lectures and assessments, which may lack the practical application needed to prepare students for real-world roles. In contrast, the PCCC model integrates learning activities with professional contexts through job position mapping and validates student outcomes with industry-recognized certifications via certificates. Additionally, while traditional models may overlook elements like teamwork and innovation, the PCCC model incorporates a competition mechanism to foster creativity and collaboration in authentic, challenge-based scenarios. This makes the PCCC model a more practical and effective framework for developing both professional and transferable skills.

3.3 Implications for Curriculum Design, Educator Roles, and Institutional Policies

The PCCC model has significant implications for curriculum design. It calls for modular, interdisciplinary courses that emphasize skill-building and practical application. Educators must transition from traditional instruction to facilitation roles, guiding students through hands-on projects, mentoring their progress, and providing continuous feedback. This shift requires professional development programs to equip educators with the necessary skills and strategies for effective implementation. At an institutional level, policies must support the integration of PCCC by investing in technology infrastructure, fostering industry partnerships, and encouraging certification programs. Institutions should also adopt flexible evaluation systems that measure students' transferable skills alongside traditional academic achievements, ensuring a holistic assessment of learning outcomes.

3.4. Limitations

While the PCCC model offers a comprehensive framework, its implementation poses several challenges. Firstly, aligning course content with industry demands requires significant input from industry stakeholders, which may not always be feasible. Secondly, the competition component may inadvertently disadvantage students who lack prior experience in collaborative or competitive environments. Thirdly, the certificate aspect relies heavily on partnerships with certification bodies, which can be resource-intensive to establish. Additionally, the model's reliance on technology may widen the gap for institutions and students with limited access to digital tools.

Future research should focus on addressing these limitations by exploring feasible solutions, such as developing open-access resources and low-cost certification programs. Further, longitudinal studies are needed to evaluate the long-term impact of the PCCC model on students' career trajectories and adaptability in the workforce. Additionally, piloting the model in diverse educational and cultural contexts can provide insights into its flexibility and effectiveness, ensuring that it meets the needs of a broad range of learners.

4. Conclusion

In conclusion, the PCCC model represents a significant advancement in fostering transferable skills through project-based blended learning. By aligning learning activities with professional roles, integrating skill-building modules, encouraging active learning through competitions, and validating outcomes via certification, the model addresses key gaps in traditional educational practices. Its implications for curriculum design, educator roles, and institutional policies highlight the need for systemic support to fully realize its potential. Addressing the identified limitations and building on its strengths will ensure the model's sustainability and scalability, ultimately equipping students with the competencies required for success in the 21st-century workforce.

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