Transactions on Comparative Education (2024)
Clausius Scientific Press, Canada

DOI: 10.23977/trance.2024.060603
ISSN 2523-5818 Vol. 6 Num. 6

The "Four Real Three Modernizations" Teaching Innovation and Practice in E-commerce Operations and Management

Binbin Wang

Kunlun Tourism College, Heilongjiang Engineering College, Harbin, Heilongjiang, 150001, China

Keywords: Curriculum Development Model; Multiple Intelligences Theory; Differentiated Teaching; Authentic Learning Environment

Abstract: To fulfill the fundamental task of cultivating virtue and character, course development is essential for training application-oriented talent. Guided by the "Four Real Three Modernizations" curriculum development model and based on the theory of multiple intelligences, this study emphasizes the diversity and individuality of students. It aims to foster students' multiple intelligences, advocating for differentiated and needs-based teaching approaches that adapt to the varied learning styles and strengths of each student. There is no fixed, uniform method; rather, the teaching process should address the challenging areas identified by students, fostering a supportive learning environment where they can acquire genuine knowledge and develop critical thinking skills. By incorporating real-world projects and practical experiences from businesses into classroom instruction, this curriculum reform strives to bridge the gap between theory and practice, enhancing students' readiness for real-world problem-solving. This approach not only promotes authentic learning, mastery, and skill development but also encourages students to apply their unique capabilities to excel in their academic and future professional journeys, nurturing well-rounded, adaptable individuals.

1. Course Overview

1.1 Course Introduction

E-commerce Operations and Management is a core professional course for the Marketing major at our school [1]. It is a highly practical course in the field of economics and trade, designed to train interdisciplinary e-commerce professionals who meet the demands of China’s modern economic development [2]. Introduction to E-commerce operations and management is shown in Figure 1.

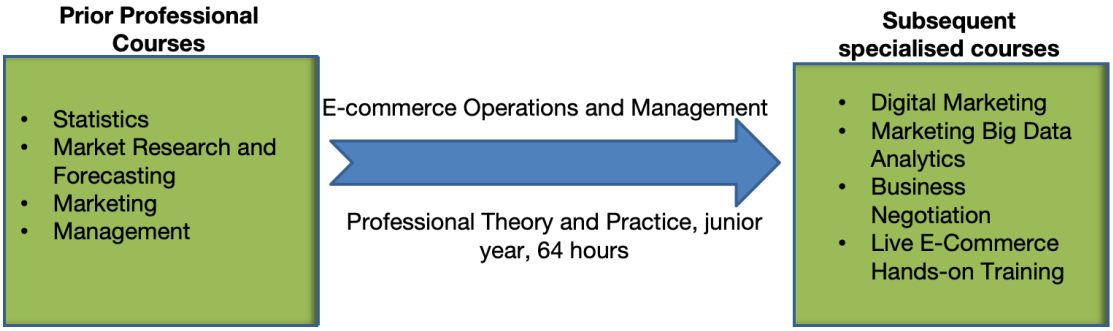

Figure 1: Introduction to E-Commerce Operations and Management Programme

1.2 Course Objectives

Knowledge Objectives: Understand and master fundamental concepts of e-commerce, the basic framework, store operation models, and related theoretical knowledge.

Skill Objectives: Cultivate students' practical skills in store design, market research, store planning and operation, and entrepreneurial abilities.

Character Objectives: Train professionals who can meet the needs of the modern market economy, possessing a humanistic spirit, scientific literacy, and integrity. Students will develop a solid foundation in economic management and modern business principles, along with practical skills, an innovative mindset, entrepreneurial abilities, and a strong sense of social responsibility. They will also cultivate professional ethics, legal awareness, and a dedication to their work.

2. Course Challenges

2.1 Analysis of Student Profile

This course is primarily designed for third-year students at private universities, many of whom did not score high enough to gain admission through standard college entrance exams. These students often face challenges such as low motivation, limited self-discipline, and ineffective study methods. Surveys show that our students tend to have a weak foundational knowledge, low academic engagement, and limited interest in purely theoretical content, often engaging in passive learning. However, they also exhibit several strengths: they are active thinkers, show high interest in practical courses, are curious, adapt quickly to new concepts, and have already learned the basics of information technology, which is highly beneficial for this course. Therefore, teachers should understand their students, guide them to leverage their strengths, and conduct a variety of engaging learning activities that align with students' cognitive development.

2.2 Pain Point Analysis

E-commerce Operations and Management is a core course in our Marketing program and serves as a foundational stepping stone for students entering the workforce. However, the current teaching of this course faces multiple issues. For instance, there is a severe shortage of qualified e-commerce faculty; private universities in Heilongjiang lack high-quality teachers well-versed in this field. As a result, many instructors teaching this course are not specialists, which lead to limited knowledge reserves, outdated teaching methods, and an overreliance on traditional, lecture-based approaches. The content often lacks variety and practical application, causing students to focus on exams rather than on learning for real understanding.

Based on the above student profile, the main challenges are as follows:

- Students lack independent learning skills and show low engagement in the course.
- Students resist dry theoretical content and are reluctant to listen.
- Students struggle to understand how conceptual models can be applied in real-world contexts.
- Assessments are limited, making it difficult to stimulate sustained, self-motivated learning.

3. Innovative Approaches

3.1 Concept and Strategy

Training application-oriented talent requires students not only to master fundamental theories but also to develop practical skills and foster innovation. This emphasis on hands-on skills and creativity should be integrated across all programs and reflected in every course. The E-commerce Operations and Management course, taught at the university level, is designed to systematically equip students with real technical skills aligned with industry needs. It serves as both a foundation for entering the workforce in relevant fields and an essential course for cultivating innovation and entrepreneurship.

This paper draws on the teaching experience from the College Physics Lab course at Qiqihar Engineering Institute to explore the FT Curriculum Development Model—the "Four Real Three Modernizations (FT)" model. This approach focuses on student-centered learning and explores talent cultivation through the integration of industry and education, known as the "School-Enterprise Dual System." The "Four Real Three Modernizations" curriculum model, or FT model, is based on the Four Principles outlined by the Ministry of Education and other departments in the Modern Vocational Education System Development Plan (2014–2020). These principles emphasize teaching in "real environments, learning real skills, performing real tasks, and mastering real abilities." The "Three Modernizations" are derived from the National Vocational Education Reform Implementation Plan (Document No. 4, 2019), which encourages "integration of work tasks into courses, work-focused teaching tasks, and systematization of work processes" in application-oriented course development.

The following explains each part:

- Work-Focused Teaching Tasks: Real industry projects are incorporated into classroom instruction, enabling students to learn and practice real-world skills based on actual projects.
- Integration of Work Tasks into Courses: Professional objectives are broken down into phased goals aligned with industry standards. Tasks from enterprise collaborations are adapted to integrate theoretical knowledge.
- Systematization of Work Processes: While traditional course structures organize content based on subject knowledge, action-oriented teaching organizes it around knowledge application.

Given the student profile at our school, where students tend to have weaker foundational knowledge, low motivation, and limited self-discipline, the "Four Real Three Modernizations" model and multiple intelligences theory can help improve course design and foster diverse intelligence development. American educator and psychologist Howard Gardner introduced multiple intelligences theory in his 1983 book Frames of Mind. This theory defines intelligence as the ability to solve practical problems within a specific cultural context or society, accumulating knowledge and experience. It emphasizes diversity, individuality, potential, creativity, and practical application, identifying eight types of intelligence: linguistic, logical-mathematical, musical, spatial, bodily-kinesthetic, interpersonal, intrapersonal, and naturalistic. Each intelligence works in conjunction with others, rather than in isolation.

3.2 Innovative Measures

The instructional approach should be adjusted to form a logical chain that helps students better understand challenging topics [3]. The theory of multiple intelligences strongly emphasizes students' diversity and individuality, advocating differentiated and needs-based teaching approaches. Thus, there should be no single, fixed teaching method. Key innovations include [4]:

- Integrating operational thinking with hands-on skills training.
- Practicing tool usage, from graphic design and simple coding to using online tools that allow students to experience results without coding.
- Breaking down tasks into incremental steps, making practical skills more accessible.
- Interconnecting knowledge points and linking them into a cohesive framework, enabling students to better understand the overall knowledge structure and apply what they learn.

The overall teaching approach is outlined shown in Figure 2.

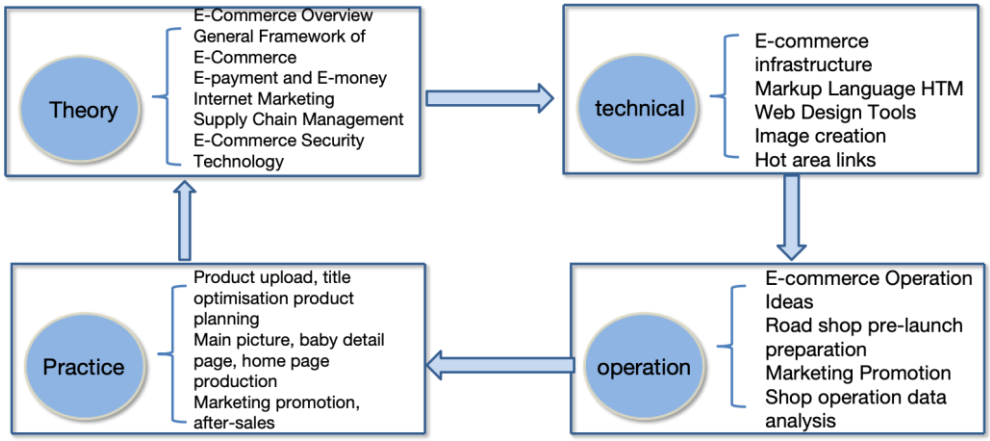

Figure 2: Teaching Ideas for E-Commerce Operations and Management

Using multiple intelligences theory to design the teaching process addresses issues 1, 2, 3, and 4 in detail, as shown in Figure 3.

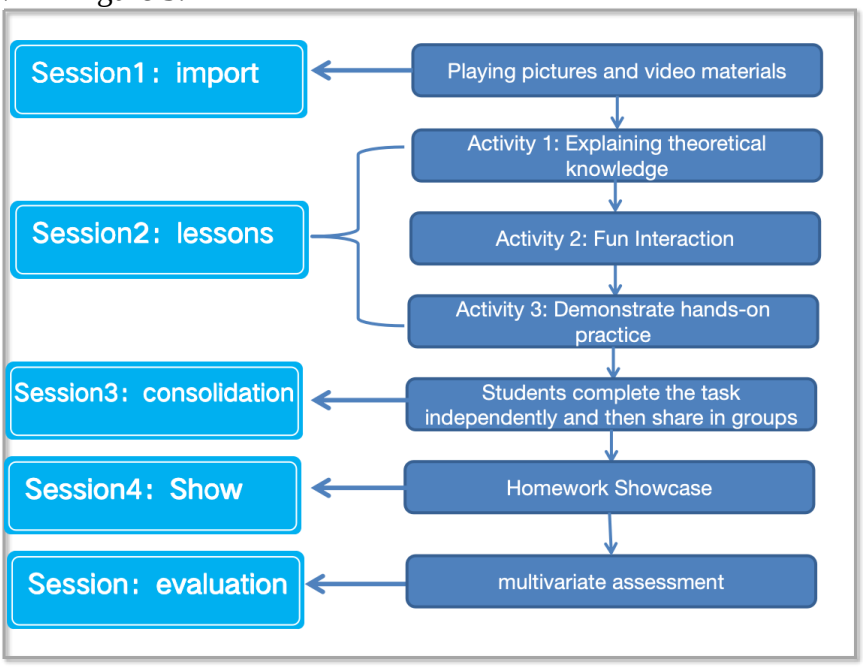

Figure 3: Innovative Approaches

Section 1: Introduction

Teacher's Activity: Display images of e-commerce platforms and play instructional videos.

Student's Activity: View images and videos, forming an initial concept of e-commerce operations.

Design Intention: Help students recognize key visual elements (main images, product detail pages, banners, shop signage). Eye-catching images and image hotspot links are used to capture students' attention and introduce aesthetic and operational thinking.

Section 2: Teaching New Content

Activity 1: Explaining Theoretical Knowledge

Teacher's Activity: Divide the course into four sections—Theory, Technology, Operations, and Practical Application. The first three sections cover foundational knowledge and operational strategies, setting the stage for hands-on practice later.

Student's Activity: Observe demonstrations by the teacher to understand the functions and purposes of each stage, forming an initial conceptual framework.

Design Intention: Enable students to clearly and intuitively grasp the overall course structure and develop a conceptual model.

Activity 2: Interactive Fun

Teacher's Activity: Conduct a fun game session where students observe images, identify issues, analyze, and solve problems.

Student's Activity: Actively participate in the game, engage with the content through an entertaining and intriguing approach.

Design Intention: Grounded in students' daily experiences, this activity uses engaging games to capture their attention, helping them achieve learning goals in a relaxed atmosphere and ensuring lesson quality.

Activity 3: Demonstrating Practical Skills

Teacher's Activity: Use PS, DW, Notepad, and online tools to demonstrate main images, product detail pages, banners, and shop signage. Given students' limited experience with shop image design, demonstration aids in developing a complete creative approach while reinforcing learned content and enhancing observational, aesthetic, and abstract thinking skills.

Student's Activity: Observe the teacher's demonstration to form their creative approach, making the conceptual model more tangible.

Design Intention: For students with limited practical experience, demonstrations offer a structured approach to creative thinking, review learned content, and develop observational and abstract thinking skills.

Section 3: Knowledge Reinforcement

Teacher's Activity: Assign tasks and provide individual guidance on errors, correcting misconceptions and reinforcing learning.

Student's Activity: Complete image design based on collected materials, possibly collaborating with peers for group discussion and scoring.

Design Intention: Group discussions following individual task completion encourage interpersonal intelligence development.

Section 4: Presentation

Teacher's Activity: Supplement after students' critiques, providing further correction of misconceptions and skill gaps.

Student's Activity: Present their work, share design concepts and ideas, critique, and compare outstanding works, learning from each other's strengths.

Design Intention: Sharing design concepts and ideas promotes linguistic intelligence, while reflection and evaluation improve self-awareness and self-management (intrapersonal intelligence).

Peer assessment makes evaluations more diverse and scientific.

Section 5: Multiple Process Assessments

Teacher's Activity: Assessment breakdown: Pre-class preparation 5% + quizzes 10% + project presentation 10% + class participation 5% + attendance 10% + final exam 60%. Collect assignments, display selected works, and share creative shop plans and innovative shop designs with unique selling points on the class communication platform.

Student's Activity: Optimize their work based on peer and teacher feedback and submit the final version.

Design Intention: Foster students' aesthetic abilities and naturalistic intelligence through observation and evaluation.

Considering students' diversity and individuality, emphasis should be placed on developing their multiple intelligences. Therefore, teaching should be tailored to each student's needs and abilities, with no fixed or uniform methods and approaches. For the challenging issues students encounter, a more suitable path should be identified so that they can learn real knowledge in an authentic environment. By integrating real-world business projects into classroom instruction, a practical, mastery-focused course reform can be achieved. The overall implementation process for the course is shown in Figure 4.

Figure 4: Course implementation process

4. Innovation Outcomes

4.1 Student Feedback

I have many devoted followers among my students; they love to interact with me during class. Many students enjoy my course, where they learn theoretical knowledge and practical skills amidst laughter and joy. Numerous students have expressed that they find it amazing to have learned how to create images, make text-image hyperlinks, set up hot area links, open stores, and manage their own store renovations and operations after completing the course. During the first online class amid the pandemic, my 2018 students brought their younger siblings into my live streams, eager to learn more. I offered free online live sessions for two hours every Saturday and Sunday during my break

time. After graduation, some of them pursued careers in e-commerce and graphic design, while others started their own online stores on various e-commerce platforms.

4.2 Student Development

(1) Significant Improvement in Student Competence

After two years of practice, the application of the "Four Principles and Three Methods" curriculum construction model in the "E-commerce Operation and Management" course has begun to show results. Throughout the course, student teams have gained practical experience through real projects, participating as project members and personally experiencing the implementation process. They understand the various tasks and responsibilities of different personnel at each stage of the project, which is beneficial for cultivating their practical skills. When faced with complex operational issues, students can respond quickly, enhancing their ability to analyze and solve problems. Moreover, the "Four Principles and Three Methods" model focuses on assessment based on course points, providing strong operability for measuring learning outcomes. This allows students' learning achievements to be visualized and evaluated. By examining learning outcomes, teachers can obtain a more intuitive and objective understanding of students' current learning status and provide timely and effective feedback. This has greatly enhanced students' learning enthusiasm and autonomy. Additionally, during discussions of real project tasks, positive interactions between teachers and students, as well as among peers, have stimulated students' initiative to actively engage in independent research, review prior knowledge, and consolidate new knowledge. This has led them to complete planning documents, store renovations, operations, and marketing tasks, thereby improving their practical and entrepreneurial abilities.

(2) Remarkable Learning Achievements

In 2021, I led my students to win third place in the inaugural Heilongjiang Province University Student Alibaba Cross-border E-commerce Innovation and Entrepreneurship Competition. In December 2022, at the sixth National University Student Cross-border E-commerce Professional Skills Competition, organized by the China Foreign Trade Economic Cooperation Enterprise Association, I guided my students to win several second and third prizes. In 2023, students were awarded the project completion certificate for the University Student Innovation and Entrepreneurship Training Program, successfully completing their research tasks.

5. Conclusions

In conclusion, curriculum reform should aim to cultivate application-oriented talent and emphasize the development of students' character and comprehensive qualities. Based on the "Four Real and Three Modernizations" curriculum development model and the theory of multiple intelligences, this study underscores the importance of respecting students' diversity and individualized needs. Through differentiated and needs-based teaching methods, the curriculum should focus on addressing the challenging areas students encounter in their learning, fostering an authentic and effective learning environment. Integrating real-world business projects into the classroom facilitates the connection between theory and practice, enabling students to acquire skills and enhance their ability to solve practical problems. This teaching approach not only promotes the internalization of knowledge and skill mastery but also helps students leverage their potential in future professional and personal development, ultimately achieving holistic growth and adaptability.

Acknowledgement

Research results of the 2023 Key Project of the Heilongjiang Province Education Science

Planning, "Research on the Intelligent Curriculum Development of Cross-Border E-commerce Major and CSSO Optimization Enabled by Information Entropy in Multidisciplinary Integration" (GJB1423311).

References

[1] Zhi K. Research on Innovation and Practice of School-enterprise Cooperative Education Model Based on E-commerce [C]. 2021 International Conference on Education, Information Management and Service Science (EIMSS). IEEE, 2021: 490-494.

[2] Zhong S. Exploration of Higher Vocational E-commerce Teaching Reform Guided by Innovation and Entrepreneurship [J]. Contemporary Education and Teaching Research, 2024, 5(5): 163-168.

[3] Huang K, Qiu Y, Kong T. Research on the Teaching System and Innovative Talent Development in E-Commerce Major [J]. Advances in Educational Technology and Psychology, 2023, 7(13): 50-56.

[4] Zhuoqun L, Liying W, Jianping H. The Innovative Models of e-Commerce Practice Teaching[C]. 2009 International Conference on Scalable Computing and Communications; Eighth International Conference on Embedded Computing. IEEE, 2009: 498-502.