

Collective Case Study on Fashion Merchandising Course Development in the U.S. and China Higher Education Within the Digitalization Context

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Digital technologies are transforming the fashion industry's products, processes, and operations (Brahma et al., 2020). Today, fashion merchandising is filled with digital technologies, such as smart retailing, social media, and big data analytics. Such digitalization in merchandising also creates new challenges for workforce development and, therefore, calls for educational transformation. Then, how are the curricula in merchandising from different countries being updated to stay on the leading edge of the industry trends? The research on this topic is very limited, leaving a huge gap in our understanding. Therefore, the goal of the study is to understand course design approaches that merchandising educators are using in fashion merchandising courses in higher education within the digitalization context.

Two theoretical perspectives were used in this study: (a) the Technological Pedagogical Content Knowledge (TPACK) framework (Koehler et al., 2013) and (b) the cultural dimensions theory (Hofstede et al., 2010). TPACK emphasizes the complex interactions among teachers' pedagogy knowledge (PK), technology knowledge (TK), and content knowledge (CK) during course design processes (Koehler et al., 2013). TPACK is essential in both empirical and theoretical framework development for technology integration in course design (Ning et al., 2022). Second, the cultural dimensions theory is useful because culture, as "the software of our minds" (Hofstede et al., 2010, p. 5), plays a significant role in exploring the schooling systems, the relationship between teachers and students, and pedagogical approaches (Cortina et al., 2017).

The U.S. and China were foci in this study, given that the U.S. is the leader in fashion merchandising, and China is the world's largest apparel manufacturer/exporter (Ma 2022). Merchandising and digital innovation are taking place in both countries but in different ways. However, virtually little is known about how higher education teachers in both countries develop cutting-edge curricula. Thus, we raised the following research questions (RQs): (1) How are fashion merchandising courses designed from the TPACK framework perspectives in the U.S. and China? (2) Are there any major empirical and/or cultural differences in the results of the RQ1 between the countries? If so, what do the differences look like?

A collective case study method was used because it can involve studying multiple cases in the U.S. and China simultaneously to generate a broader appreciation of the differences between the two countries while investigating personal experiences or approaches in fashion merchandising course development (Crowe et al., 2011). One program in the U.S. and another in China were selected, and eight (four in each country) courses with seven instructors (one instructor in the U.S. taught two courses) were investigated (see the full list of the courses in Table 1). The first data set was collected from syllabi and course contents. The second data set was collected from semi-structured interviews (on average 1 hour per person) in January 2023 after approval from the Institutional Review Board. The study data were analyzed using deductive (based on the two theoretical frameworks) and inductive (to generate themes) coding schemes using MAXQDA. Multiple data and investigator-reviewed triangulation methods were used for reliability and validity (Golafshani, 2015).

For RQ1, the study findings (see Table 1) showed that the U.S. program has a higher PK (54.7%) and TK (59.8%) than China's PK (45.3%) and TK (40.2%). China's program has a higher CK (52.4%) than the U.S. CK (47.6%). The top main themes in each of the PK, TK, and CK dimensions in the U.S. program were student-centered (86.2%), knowledge of various digital technologies (74.2%), and knowledge of details (60.9%), whereas China's program showed academically oriented (87.9%), standard technology (71.1%), and understanding structure (84.7%). For RQ2, the most significant differences in TPACK between the two countries were explained by Hofstede's (2010) cultural dimensions theory: specifically (a) power distance and (b) collectivism-individualism culture. As a high power-distance country with academically oriented teaching values, China's participants used textbooks as the authoritative source for course design. The U.S. is a low power-distance country, with student-centered teaching values, participants referred to advanced technology as the main source for course design. Secondly, for CK, participants in China, as a collectivist culture, relied on top-down educational guidelines on the structure of the course design, while the U.S. participants relied on their expertise and experiences for their course content selections.

The study highlighted the differences in course development strategies between the U.S. and China programs and explained the possibility of cultural differences. This clearly showed diverse ways to involve PK, TK, and CK in designing fashion merchandising courses. The study also showed potential benefits and challenges for new course development that could be affected by policies, cultures, and student-teacher relationships in both countries. With cultural awareness, instructors in both countries may want to use appropriate teaching strategies for their TPACK

implementation. More merchandising programs in different countries and additional empirical research are recommended to investigate and evaluate the TPACK implication.

Table 1 TPACK Code Themes, Percentages, and Examples in the U.S. and China

Code Themes	China	the U.S.	Examples
PK-Pedagogical Knowledge	45.3%	54.7%	
PK-T1: Academically-oriented teaching value	87.9%	12.1%	"Teaching to me, first, is related to my research interests. Second, this discipline needs it. Third, I feel a sense of achievement if I can get student acknowledgment."
PK-T2: Student-centred oriented teaching value	13.8%	86.2%	" I will adjust content based on students' needs and feedback. "
PK-T3: Methods of teaching and learning	46.5%	53.5%	"Students also participated in case study, and I also let them read what is recently happening in fashion industry."
PK-T4: Selection of appropriate strategies and assessments according to students	51.2%	48.8%	"In the final project, I will let them create video content (based on the goal of this course)."
PK-T5: Understanding students	43.5%	56.5%	" The students with different backgrounds, and the foundations, you cannot expect them to have the same learning outcomes."
TK-Technology Knowledge	40.2%	59.8%	
TK-T1: Standard technology	71.1%	28.9%	"I will rely on the textbooks to convey the basic idea and concepts."
TK-T2: Advanced technology	38.4%	61.6%	" Canvas, Simulation, Excel, Email, Adobe Illustrator, Social Media."
TK-T3: Knowledge of various digital technologies	25.8%	74.2%	"I am a user of different types of social media, like Instagram, Facebook, and I know the pros and cons of these platforms."
TK-T4: Effective on use of different technologies	31.3%	68.8%	" In this course, we give you some good demonstration to the software."
CK-Content Knowledge	52.4%	47.6%	
CK-T1: Knowledge of related subject matter	57.0%	43.0%	"I used to be an industry professional, so that provides me the foundation of this subject."
CK-T2: Knowledge of details of major concepts, theories, and ideas.	39.1%	60.9%	"They will understand the difference between digital marketing and merchandising"
CK-T3: Organization of subjects	45.2%	54.8%	"I updated the course content and reorganized it as the industry changed."
CK-T4: Understanding structure	84.7%	15.3%	"All the content will be delivered in 32 hours and 20 hours for application." / In the whole structure, I will start with an intro to industry, and then..."
SUM	46.4%	53.6%	

The U.S. (a) Digital Marketing Strategies, (b) Digital Merchandising, (c) Omnichannel Retailing, (d) Advanced Data Analytics.
China: (a) Digital Content Creation, (b) Apparel Merchandising and Practice, (c) Apparel Retail Management, (d) Fashion Data Analytics

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