

## How Fashion Merchandising Courses Designed Within the Digitalization Context? Collective Case Study on Higher Education in the U.S. and China

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**Keywords:** digital fashion merchandising, higher education, case study, instructional design (ID)

Fashion merchandising has been redefined and accelerated by digital technology, such as smart retailing, artificial intelligence, social media, and big data analytics. Furthermore, such technology has digitized today's students' lives and learning environments to a great extent. Digitalization proposes disruptive yet exciting changes and challenges to many fashion programs in higher education and the way we teach students. One of the main goals of higher education is to cultivate and prepare talents that meet the needs of evolving industries and address digitalization issues (Akour & Alenezi, 2022). Yet, we are all challenged by what and how digital-related curricula should be designed in higher education communities worldwide. Thus, we raised the following research questions (RQs): (1) How does instructional design in digital-related fashion merchandising courses react to the demands of digitalization? Especially those in the U.S. and China? (2) What are the challenges in designing digital-related fashion merchandising courses faced by instructors in the U.S. and China? 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 currently taking place in both countries, but we believe in different ways.

Instructional design (ID) theory was used in this study, because it offers explicit guidance on "how to better help people learn and develop" in the post-industrial paradigm of instruction (Reigeluth, 2013). ID theory is defined as the "systematic and reflective process" of integrating learning and instruction principles into curriculum design (Smith & Ragan, 2004, p4). The researchers argue that ID should be considered under specific cultural contexts because culture serves an essential function in learning and teaching (NASEM, 2018), and it affects cognitive processes and shapes the contents instructors design, learn, and think (Heaster-Ekholm, 2020; Boykin, 1994). ID theory consists of five principles (Merrill, 2002): (a) problem-centered principle (PC); (b) activation (AC); (c) demonstration (DE); (d) application (AP); (e) integration (IN).

We used a collective case study method because it can involve studying the U.S. and China cases simultaneously to generate a broader appreciation of the differences between the two countries while investigating personal experiences or approaches in digital fashion merchandising course development (Crowe et al., 2011). Given the explorative nature of this study and these courses were available for the researchers, also represented the digital fashion merchandising curriculum in both programs (Seawright & Gerring, 2008), 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, such as PowerPoints, assignments, and additional reading/teaching resources. The second data set was collected from semi-structured interviews (with an average of 1 hour per person and a total of seven instructors) in January 2023, after approval from the Institutional Review Board. We asked how they designed their courses and what challenges they were faced with. We analyzed the data using deductive (based on the ID theoretical frameworks) and inductive (to generate findings) coding schemes using MAXQDA. We triangulated the study through multiple data and investigator-reviewed interpretation which established the reliability and validity of our findings (Golafshani, 2015).

For RQ1, the study findings (see Table 1) showed that all five principles of ID were used by the study participants. Relatively, Chinese participants had a higher PC (59.3%) than the U.S. PC (40.7%). The U.S. participants had a higher AP (57.6%) and IN (58.6%) than China's AP (42.4%) and IN (41.4%). Among all the ID principles, the U.S. participants showed higher AC-PE (60.0%), DE-LG (78.6%), AP-GF(69.2%), AP-PE(70.0%), AP-VP(70.0%), IN-RE(55.6%), and IN-WM(71.4%) than China's, on the contrast, Chinese participants showed higher PC-TC(60.0%), PC-PP(58.3%), and DE-DC(76.5%) than the U.S.'s. For RQ2, Chinese participants were more likely to promote learning by solving problems through practice and demonstration. Chinese participants said they had high challenges with limited teaching resources, lack of compatible instructors, limited database sources, and disconnects with the industry. Whereas the U.S. participants were more likely to promote learning by encouraging students' collaboration, application, and exploration. However, the U.S. participants faced challenges on different levels of knowledge and compatibilities between students to provide customized teaching approaches.

The study showed diverse ways to involve ID principles in designing digital fashion merchandising courses. These differences seem to be culturally rooted as well as policies set by each country's education systems. These differences might be affecting student learning outcomes differently, which poses new research questions for future research. The study findings also showed differences in challenges of course design between the U.S. and China programs.

Instructors in both countries may want to use ID principles appropriately for their course implementation. More digital merchandising programs in different countries and additional empirical research are recommended to investigate and evaluate the ID principles' implications in the digital era.

**Table 1:** Code Themes, Percentages, and Examples between China and the U.S.

Code Themes	China	the U.S.	Example
ID1- Problem-Centered Principle	59.3%	40.7%	
PC-TC: Task-centered	60.0%	40.0%	"Solving practical entrepreneurship issues in terms of social media for the specific brand."
PC-PP: Problem progression	58.3%	41.7%	"In a simulation, students were asked to complete 9 rounds based on different stages of progress."
ID2- Activation Principle	49.0%	51.0%	
AC-PE: Previous experience	40.0%	60.0%	"Students were asked to recall their memories about statistics and analyze the data."
AC-SE: Share experience	50.0%	50.0%	"Students were asked to share their previous experience on social media and their difficulties."
AC-KS: Knowledge structure	53.3%	46.7%	"This course aims to present the whole picture of social media operating process, and students were asked to master the whole structure."
ID3- Demonstration	50.8%	49.2%	
DE-DC: Demonstration consistency	76.5%	23.5%	"Instructors demonstrate a case study by using social media strategy."
DE-LG: Learner guidance	21.4%	78.6%	"Detailed guidelines about these resources will be provided in class."
DE-PD: Peer-discussion	52.9%	47.1%	"Group discussion"
DE-RM: Relevant media	46.7%	53.3%	"Instructors provide media resources for students to learn the contents"
ID4- Application	42.4%	57.6%	
AP-PC: Practice consistency	54.5%	45.5%	"Students were asked to carry out a research project related to clothing/textile consumers."
AP-GF: Giving feedback	30.8%	69.2%	"At that time, I will give them feedback on how to handle this situation."
AP-PE: Peer-collaboration	30.0%	70.0%	"Group project"
AP-VP: Varied problems	30.0%	70.0%	"Students were asked to analyze several aspects including economic, social, and marketing."
ID5- Integration	41.4%	58.6%	
IN-RE: Reflection	44.4%	55.6%	"Students were asked to attend professional development events, and turn in a paper on what they have learned."
IN-WM: Watch me	28.6%	71.4%	"Group presentations"
IN-CE: Creation and exploration	46.2%	53.8%	"Students were asked to create solutions to overcome challenges and opportunities faced by multi-channel business."

Notes: Courses lists  
 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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