Advances in Consumer Research
https://acr-journal.com/
Volume-3 | Issue-1 | Jan 2026
Original Researcher Article

Factors Influencing Continuous Use Intention of MOOCs: A Case Study of Teaching Management Model Application in Hope School, Southwest Jiaotong University

Tan Qian[1] , Kasinee Sokhuma[2], Hui Li[3], Wenyuan Han[4] , Piyaphan Saentaveesuk[5]*
[1]Southwest Jiaotong University Hope College, China. PhD Candidate, Faculty of Education, Shinawatra University, Thailand Email: 66868322@qq.com
[2]Lecturer in the Faculty of Education, Shinawatra University, Thailand Email: Kasinee.s@siu.ac.th, RCID 0009-0008-2618-0122
[3]Shizhen College of Guizhou University of Traditional Chinese Medicineu Email: hui.li@g.swu.ac.th
[4] Lecturer in the International Institute of Management Business, Belarus. Email: hwyphd@imb.by, ORCID 0009-0000-8540-567X
[5]*Lecturer at the College of Music, Mahasarakham University, Thailand.
***Corresponding author:**
Piyapun Santaveesuk
*Email: Piyapun.s@msu.ac.th, ORCID 0000-0002-7083-4815..

ABSTRACT
This study examines the factors influencing postgraduate students' continuous use intention of Massive Open Online Courses (MOOCs) within the context of university teaching information environments. By integrating the Expectation-Confirmation Model of Information System Continuance (ECM-ISC) with Social Cognitive Theory and Self-Regulated Learning (SRL), the study proposes a comprehensive framework to explain long-term MOOC engagement in postgraduate education.
A mixed-methods research design was employed. Quantitative data were collected from 625 postgraduate students at Southwest Jiaotong University Hope College and analyzed using Structural Equation Modeling (SEM) to test hypothesized relationships. In addition, Fuzzy-set Qualitative Comparative Analysis (fsQCA) was applied to identify multiple configurations of conditions leading to high levels of continuous use intention.
The SEM results indicate that learning environment support, intrinsic motivation, and self-efficacy exert significant positive effects on satisfaction and self-regulated learning ability, which function as key mediating mechanisms influencing continuous use intention. The fsQCA findings further reveal that sustained MOOC engagement is driven not by single factors in isolation, but by synergistic combinations of system-level support and individual learner capabilities.
This study contributes theoretically by extending ECM-ISC to the postgraduate MOOC context and empirically demonstrating the complementary value of SEM and fsQCA. Practically, the findings offer strategic insights for higher education institutions to enhance sustainable MOOC adoption through dual strategies of system optimization and individual empowerment within digital learning ecosystems...
Keywords: MOOCs; Continuous Use Intention; Self-Regulated Learning; Higher Education; SEM; fsQCA..

INTRODUCTION:

In recent years, higher education institutions worldwide have undergone an accelerated transition toward comprehensive digital transformation, characterized primarily by the integration of information and communication technologies into teaching and learning processes. Among the most influential innovations driving educational reform are Massive Open Online Courses (MOOCs), which function as large-scale, open, and flexible repositories of educational resources. MOOCs have been widely recognized as a powerful mechanism for promoting autonomous learning. However, despite their global adoption, MOOCs continue to face persistent challenges, particularly high dropout rates and low course completion rates. These challenges are largely attributed to learners' limited self-regulatory capabilities and, critically, the insufficient integration between MOOC platforms and universities' Teaching Management Systems (TMS).

Graduate students constitute a highly specialized group of learners whose academic engagement is strongly oriented toward research competency and innovation development. Such expectations demand a higher level of Self-Regulated Learning (SRL) compared to undergraduate education. Empirical evidence indicates that a key structural issue lies in the outdated nature of many Computer Teaching Information Management Systems,

which often fail to effectively interoperate with MOOC platforms. These deficiencies manifest through disjointed data management, delayed or ineffective learning progress tracking, and assessment processes lacking statistical reliability. Collectively, these limitations directly affect learner motivation and weaken students' intention to continue using digital learning systems.

Although numerous studies have applied the Expectation-Confirmation Model (ECM) to investigate continuance intention in information systems usage, most existing research focuses on general user populations and lacks in-depth analysis linking system-environment factors with psychological and behavioral determinants among graduate students. This study addresses this gap by integrating the ECM-Information System Continuance (ECM-ISC) framework with Social Cognitive Theory and Self-Determination Theory to construct a comprehensive conceptual framework. This framework explains how Learning Environment Support influences continuance intention, with Self-Regulated Learning functioning as a critical mediating mechanism.

The present study aims to identify functional deficiencies in current teaching information management systems and examine how information system environments influence graduate students' learning behaviors through Structural Equation Modeling (SEM) and fuzzy-set Qualitative Comparative Analysis (fsQCA). The anticipated outcomes are expected not only to extend ECM theory within the graduate education context but also to propose a dual strategic approach combining system optimization and individual empowerment. This integrated strategy offers practical guidance for universities seeking to develop sustainable digital learning ecosystems that simultaneously enhance system effectiveness and strengthen learner agency.

2. Research Problem

This study examines key challenges associated with integrating MOOCs into graduate-level instruction at Southwest Jiaotong University Hope College. The major issues identified are as follows:

2.1 High Dropout Rates

MOOC-based learning continues to experience high learner attrition and low course completion rates. These challenges are largely attributed to learners' insufficient capacity for autonomous and self-directed learning, which undermines sustained engagement and successful course completion.

2.2 System Limitations

The existing Computer Teaching Information Management System lacks effective interoperability with MOOC platform data, resulting in fragmented management of instructional resources and creating difficulties in efficiently monitoring students' learning processes. Such systemic limitations hinder effective teaching management and reduce the overall efficiency of learning support mechanisms.

2.3 Educational Misalignment

Certain components of the instructional content remain outdated and insufficiently aligned with contemporary knowledge available through MOOC platforms. Furthermore, limited pedagogical innovation restricts the promotion of autonomous learning. In addition, insufficient practical training resources impede students' ability to transform knowledge acquired through MOOCs into applicable professional skills, thereby weakening learning outcomes and real-world applicability.

3. Research Objectives

3.1 To Identify Functional Deficiencies
This study aims to examine operational problems associated with current MOOC platforms, including issues related to user interface (UI) usability, complex operational procedures, missing or inadequate functionalities, and system performance delays that negatively affect user experience.

3.2 To Analyze Influencing Factors
The study seeks to empirically investigate how platform usability, resource diversity, and interactive features together with learners' intrinsic motivation, self-regulated learning capability, and perceived self-efficacy affect graduate students' continuance intention in using MOOC platforms.

3.3 To Propose and Validate a Dual Strategy
The study further aims to develop and evaluate the effectiveness of a dual strategy combining system optimization and individual empowerment. This approach includes improving system functionalities, expanding learning resources, and strengthening personalized support mechanisms in order to enhance both continuance intention and learners' self-directed learning capabilities.

4. Literature Review and Hypotheses

4.1 Information System Continuance Theory (ECM-ISC)

The Expectation-Confirmation Model (ECM) serves as a primary theoretical framework for explaining post-adoption behavior in information system usage. The model posits that user satisfaction and confirmation of expectations are decisive factors influencing continuance intention. However, within the context of MOOCs for graduate students, satisfaction with the system alone may not sufficiently explain continued usage, as learning behaviors are also shaped by educational contexts and psychological determinants (Zheng & Wardzala, 2020).

4.2 Social Cognitive Theory (SCT) and Learning Environment Support

Bandura's Social Cognitive Theory proposes a triadic reciprocal relationship among personal factors, behavior, and environmental influences. In this study, the environment is conceptualized through Learning Environment Support, encompassing institutional computer-based teaching information management systems. When such support systems are effectively integrated with MOOC platforms such as through synchronized learning records and accurate resource recommendation mechanisms they enhance learners' self-efficacy and stimulate intrinsic motivation, both of which are critical drivers of continued system usage (Hair et al., 2021).

4.3 Self-Regulated Learning (SRL) in the Postgraduate Context

Self-Regulated Learning (SRL) refers to the process through which learners set goals, monitor progress, and regulate their own learning behaviors. For graduate students, SRL functions not merely as a learning skill but also as a mediating variable linking intrinsic motivation with actual usage behavior. Within MOOC environments, learners with strong self-regulation capabilities are better able to translate system satisfaction into sustained learning engagement, even when encountering technical or contextual challenges.

4.4 Integration of ECM, SCT, and SRL (Conceptual Framework)

This study integrates these three theoretical perspectives to develop a comprehensive conceptual framework as follows:

Environmental Factors (SCT): Support provided by

university information management systems functions as an antecedent that influences expectation confirmation within the ECM framework.

Psychological and Process Factors (SRL): Intrinsic

motivation and self-regulated learning ability act as reinforcing factors that extend the influence of satisfaction toward sustainable continuance intention.

Mechanism of Influence: Successful MOOC utilization does

not rely solely on the platform itself but emerges from a broader ecosystem in which university systems enhance students' capacity for autonomous learning.

4.5 Hypotheses Development

H1: Learning Environment Support has a positive effect on

Satisfaction. When university information systems effectively support MOOC usage, students experience higher satisfaction levels.

H2: Intrinsic Motivation positively influences Self-Regulated Learning

Ability. According to Self-Determination Theory, learners with strong intrinsic motivation demonstrate greater capacity to plan and regulate their learning processes.

H3: Self-Efficacy positively influences Satisfaction.

H4: Satisfaction positively influences Continuance Intention.

Consistent with ECM, satisfaction serves as a principal determinant of whether learners continue using the system.

H5: Self-Regulated Learning Ability positively influences

Continuance Intention.

Research Conceptual Framework

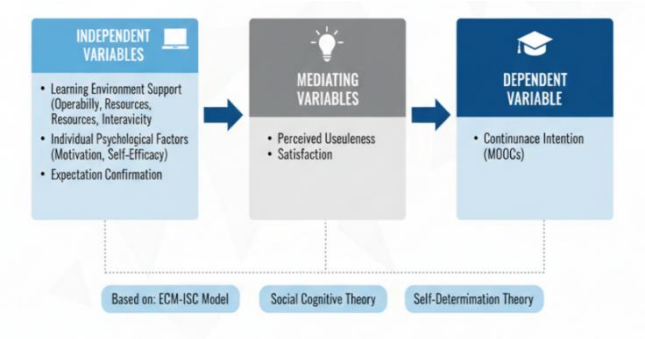

Figure 1. Research Conceptual Framework for Integrating MOOCs to Support Graduate Student Success

This research conceptual framework aims to explain factors influencing graduate students' continuance intention to use MOOCs. The framework consists of independent variables, mediating variables, and a dependent variable that are systematically interconnected under relevant theoretical foundations.

1. Independent Variables. The independent variables in this study comprise three primary components:

Learning Environment Support, which includes system usability,

availability and diversity of learning resources, and interactive functions within MOOC platforms.

Individual Psychological Factors, including learning motivation and

self-efficacy.

Expectation Confirmation, which reflects the extent to which

learners' experiences with MOOCs meet or exceed their prior expectations.

These independent variables are grounded in the Expectation-

Confirmation Model of Information System Continuance (ECM-ISC), which explains users' continuance behavior in information system usage.

2. Mediating Variables. The mediating variables include **Perceived Usefulness** and **Satisfaction**, both of which function as mechanisms linking independent variables to the dependent variable. These variables reflect learners' cognitive evaluations and experiential perceptions of their learning processes, consistent with Social Cognitive

Theory, which emphasizes the influence of perception and experience on behavioral outcomes.

3. Dependent Variable. The dependent variable in this study is **Continuance Intention to Use MOOCs**, referring to learners' intention to continue engaging in learning activities through MOOC platforms in the future. This variable is grounded in Self-Determination Theory, which suggests that satisfaction and perceived value in learning significantly influence intrinsic motivation and learners' decisions to sustain engagement in educational activities.

6. Methodology

6.1 Research Design and Participants. This study employed a quantitative research design using an online questionnaire to collect data from graduate students at Southwest Jiaotong University Hope College. A total of 625 responses met the screening criteria and were included in the final analysis. This sample size is considered sufficient for conducting Structural Equation Modeling (SEM) analysis.

6.2 Instrumentation and Data Collection. The research instrument consisted of a 45-item questionnaire measured using a five-point Likert scale. Content validity was evaluated through the Index of Item-Objective Congruence (IOC) by subject-matter experts. Reliability testing was conducted using Cronbach's Alpha, with all constructs demonstrating values above 0.80, indicating a high level of internal consistency and instrument reliability.

6.3 Data Analysis Techniques.

This study adopted a dual-method analytical approach to enhance the robustness and depth of findings:

Structural Equation Modeling (SEM) was used to examine causal

relationships and test the proposed hypotheses.

Fuzzy-set Qualitative Comparative Analysis (fsQCA) was

employed to analyze configurations of factors leading to continuance intention, an approach increasingly valued in international scholarly publications for its ability to capture complex causal patterns.

7. Results

The presentation of research findings is divided into three main sections: evaluation of the measurement model, hypothesis testing using Structural Equation Modeling (SEM), and configuration analysis using fuzzy-set Qualitative Comparative Analysis (fsQCA) to identify factors influencing continuance intention in MOOC usage.

7.1 Measurement Model Evaluation.. Results from Confirmatory Factor Analysis (CFA) indicate that all latent constructs demonstrate satisfactory validity and reliability. Composite Reliability (CR) values for all constructs exceed the recommended threshold of 0.70, and Average Variance Extracted (AVE) values are greater than 0.50, meeting the criteria suggested by Hair et al. (2021). These results confirm that the measurement model achieves strong convergent validity and internal consistency, as presented in Table 1.

Table 1. Reliability and Validity Assessment of Research Constructs

Latent Variable (Constructs)	Cronbach's α	Composite Reliability (CR)	Average Variance Extracted (AVE)
Learning Environment (LES)	0.892	0.915	0.684
Intrinsic Motivation (IM) - Group A*	0.875	0.902	0.684
Intrinsic Motivation (IM) - Group B*	0.910	0.931	0.608
Self-Regulated Learning (SRL)	0.910**	0.708	0.665
Continuance Intention (CI)	0.884**	0.942	0.750

7.2 Hypothesis Testing Using Structural Equation Modeling (SEM). The proposed structural model demonstrated a satisfactory fit with the empirical data. The model fit indices indicate acceptable model adequacy ($\chi^2/df = 2.45$, GFI = 0.94, CFI = 0.96, RMSEA = 0.048). Path analysis results reveal that all proposed hypotheses are supported. Detailed results of hypothesis testing are presented in Table 2.

Table 2. Summary of Hypothesis Testing Results

This table displays the causal relationships and the structural model's path coefficients (β).

Hypothesis	Causal Relationship (Path)	Path Coeff. (β)	Result
H1	Learning Environment (LES) $\rightarrow$ Satisfaction (SAT)	0.428	Supported
H2	Intrinsic Motivation $\rightarrow$ Satisfaction (SAT)	3.556	Supported
H3a	Intrinsic Motivation (IM) $\rightarrow$ Self-Regulated Learning (SRL)	2.884	$p < .002$
H3b	Learning Environment (LES) $\rightarrow$ Self-Regulating (SRL)	***	Supported
H4	Satisfaction (SAT) $\rightarrow$ Continuance Intention (CI)	0.511*	Supported
H5	Self-Regulated Learning (SRL) $\rightarrow$ Continuance Intention (CI)	0.399*	Supported

7.3 Fuzzy-set Qualitative Comparative Analysis (fsQCA Results). To better capture the complexity of factors influencing learner behavior, this study employed fsQCA to identify configurations of conditions that lead to high levels of continuance intention in MOOC usage. The analysis revealed the following major configurations:

System-Driven Path (LES*SAT). Satisfaction resulting from strong

support provided by the computer-based teaching information management system emerges as a necessary condition for continuance intention among nearly all learner groups.

Psychology-Driven Path (IM*SRL*SAT). For groups demonstrating

the highest level of continuance intention, a combination of intrinsic motivation and strong self-regulated learning ability, together with satisfaction with the system, is required. Detailed results are presented in Table 3.

Table 3. Configuration Analysis for High Continuance Intention (fsQCA Results)

This table illustrates the combinations of conditions leading to a high level of intent to continue using the system.

Path	Configurations (Conditions)	Analytical Description	Outcome
System-Driven Path	LES $\ast$ SAT	Strong Learning Environment Support (LES) coupled with Satisfaction (SAT) forms a necessary fundamental condition.	High CI
Psychology-Driven Path	IM $\ast$ SRL $\ast$ SAT	The synergy between Intrinsic Motivation (IM) and Self-Regulated Learning (SRL), when combined with Satisfaction (SAT), effectively drives high continuance intention.	High CI

8. Integrated Discussion

The findings indicate that **Satisfaction** serves as the most influential mediating variable in terms of total effect, strongly driven by **Learning Environment Support (LES)**. This result suggests that, at Southwest Jiaotong University Hope College, improving the stability and integration of teaching information management systems with MOOC platforms can significantly enhance graduate students' continuance intention in using MOOCs.

Furthermore, fsQCA results provide additional insight by demonstrating that even when students possess strong **Self-Regulated Learning (SRL)** capabilities, deficiencies in institutional support systems can rapidly weaken their intention to continue using MOOC platforms.

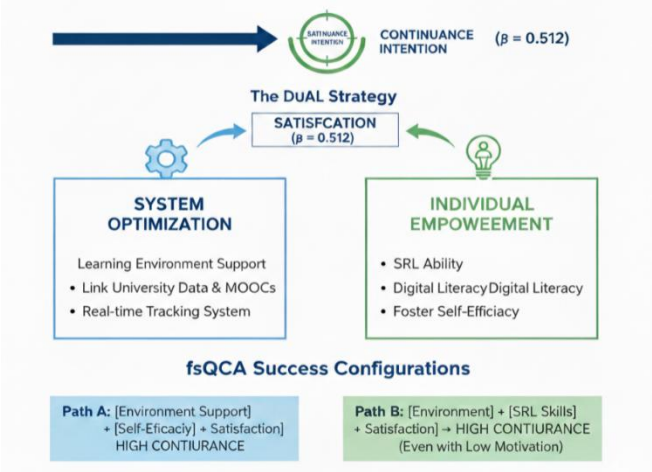

Figure 3. The Integrated Role of Satisfaction and Learning Environment Support in Influencing Continuance Intention

9. Discussion

The findings indicate that **Learning Environment Support** serves as a foundational factor driving learners' continuance intention to use MOOCs, consistent with Social Cognitive Theory (SCT), which emphasizes that environmental factors significantly shape individual behavior. The presence of university information management systems effectively integrated with MOOC platforms helps reduce students' cognitive load, enabling them to concentrate more fully on deep learning processes. Beyond technical support systems, learners' social and behavioral adaptability also plays a crucial role in achieving systematic learning success. This finding aligns with Hu and Prompanyo (2021), who emphasized that environmental factors and interactive activities are essential in shaping adaptability among higher education students. When applied to MOOC contexts, it becomes evident that Self-Regulated Learning (SRL) does not develop in isolation but depends on behavioral adaptation within a digital ecosystem structured by educational institutions to support Sustainable Development Goal 4 (SDG 4), which focuses on quality education.

Furthermore, the role of SRL ability as a critical mediating factor indicates that, within graduate education contexts, satisfaction alone is insufficient to sustain engagement. Instead, strengthening learners' self-regulation skills is necessary to ensure systematic and sustainable learning processes (Zheng & Wardzala, 2020).

10. Conclusion and Recommendations

10.1 Conclusion

This study successfully identified structural and psychological factors influencing graduate students' continuance intention to use MOOCs. Findings derived from both SEM and fsQCA analyses confirm that **Satisfaction** serves as the primary determinant of long-term system usage, with **Learning Environment Support** forming its foundational driver. Results indicate that when university teaching information management systems are effectively integrated with MOOC platforms, students experience reduced cognitive load and develop more positive attitudes toward learning.

Moreover, **Self-Regulated Learning (SRL) ability** functions as a

crucial mechanism enabling students to transform intrinsic motivation into sustainable learning behaviors, even in technologically challenging environments. The development of digital learning ecosystems through MOOCs aligns not only with national educational policies but also with global sustainability agendas, particularly **Sustainable Development Goal 4 (SDG 4): Quality Education**, which seeks to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all (United Nations, 2015). Consequently, this study contributes practical and theoretical guidance on leveraging educational technology to reduce inequalities in higher education access while fostering sustainable intellectual development.

10.2 Practical Recommendations

To achieve practical and sustainable development, universities and relevant stakeholders are encouraged to undertake the following actions:

- System Optimization. Institutions should enhance their computer-

based information management systems to enable real-time synchronization with MOOC platforms (e.g., automatic import of grades and learning records), thereby enabling systematic monitoring of graduate students' learning progress while reducing administrative redundancy.

- Individual Empowerment. Beyond technological improvements,

universities should organize workshops and training programs to strengthen students' Self-Regulated Learning skills and digital literacy competencies, as these internal capabilities are essential for sustaining long-term engagement in digital learning environments.

- Profession-Oriented Content Design. Institutions should carefully

select or design MOOC courses aligned with professional standards and advanced research competencies to strengthen learners' intrinsic motivation and academic engagement.

10.3 Limitations and Future Research

This study focuses on a single specialized higher education institution; therefore, future research should expand the investigation to institutions with diverse cultural and disciplinary contexts to enhance the generalizability of the proposed model. In addition, future studies should explore the influence of emerging technologies, particularly **Generative Artificial Intelligence**, in supporting learners' self-regulated learning processes, as such technologies are likely to play a significant role in the evolving landscape of Education 3.0.

.

REFERENCES

1. Alraimi, K. M., Zo, H., & Ciganek, A. P. (2015). Understanding the MOOCs continuance: The role of openness and reputation. Computers & Education, 80, 28–38. https://doi.org/10.1016/j.compedu.2014.10.016
2. Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. Advances in Behaviour Research and Therapy, 1(4), 139–161. https://doi.org/10.1016/0146-6402(78)90002-4
3. Bandura, A. (1986). Social foundations of thought and action: A social cognitive theory. Prentice Hall.
4. Bhattacharjee,A.(2001).Understanding nformation systems continuance: Anexpectation-confirmation model. MIS Quarterly, 25(3), 351–370. https:// doi.org/10.2307/3250921
5. Bonk, C. J., Lee, M. M., Kou, X., Xu, S., & Sheu, F.-R. (2015). Understanding the self-directed online learning preferences, goals, achievements, and challenges of MIT OpenCourseWare subscribers. Journal of Educational Technology & Society, 18(2), 349–368.
6. Deci, E. L., Ryan, R. M., & Williams, G. C. (1996). Need satisfaction and the self-regulationoflearning. Learning and Individual Differences, 8(3), 165–183. https://doi.org/10.1016/S1041-6080(96)90016-6
7. Department of Higher Education, Ministry of Education. (2019, April 12). Notice on further standardising and strengthening postgraduate training management. Ministry of Education of China.
8. Douglas, E. J., Shepherd, D. A., & Prentice, C. (2020). Using fuzzy-set qualitative comparative analysis for a finer-grained understanding of entrepreneurship.Journal of Business Venturing, 35(1), Article 105970. https: //doi.o rg/10. 1016/ j.jbusvent.2019.105970
9. Hew, K. F. (2016). Promoting engagement in online courses: What strategies can we learn from three highly rated MOOCs? British Journal of Educational Technology,47(2),320–341. https://do i.org/10.1 111/bjet.12298
10. Holec, H. (1979). Autonomy and foreign language learning. Pergamon.
11. Hu, L., & Prompanyo, M. (2021). The Influence of Sports Activities on College Students' Social Adaptability. International Journal of Interactive Mobile Technologies (iJIM), 15(14), 204–214. https: //doi.org/ 10.3991 /ijim .v15i 14.24801
12. Lee, M. C. (2010). Explaining and predicting users' continuance intention toward e- learning: An extension of the expectation-confirmation model. Computers & Education,54(2), 506–516. http s:// mdo i .org /10.101 6/j.com pedu .2 009.09.002
13. Ministry of Education of China. (2023, February 15). Empowering the connotative education through digital transformation. http:// w w w. mo e.gov.cn/
14. Oliver, R. L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions. Journal of Marketing Research, 17(4), 460–469. https://doi.org/10.2307/3150499
15. Pang, W. (2001). On students' self-regulated learning.Journal of East China Normal University (Educational Science Edition), 2, 78–83.
16. Ragin, C. C. (2008). Redesigning social inquiry: Fuzzy sets and beyond. University of Chicago Press.Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. Contemporary Educational Psychology, 25(1), 54–67. https: //doi. org/1 0.100 6/ceps.1999.1020
17. Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. MIS Quarterly, 27(3), 425–478. https: //d oi. org/10.2307/30036540
18. United Nations. (2015). Transforming our world: The2030AgendaforSustainable Development. UN Publishing.
19. Wu, M. (2010). Practical questionnaire statistical analysis. Chongqing University Press.
20. Xue, X., & Hu, L. (2020). Self-directed learning in postgraduate courses: Connotation, function and practical strategies. Postgraduate Education Research, 4, 35–40.
21. Yang, M., Shao, Z., & Liu, Q. (2017). Understanding the quality factors that influence the continuance intention of students toward participation in MOOCs. Educational Technology Research and Development, 65(5), 1–20. https://doi.org/10.1007/s11423-017-9513-6
22. Zhou, M. (2016). Chinese university students' acceptance of MOOCs: A self-determination perspective. Computers & Education, 92–93, 101–115. https://doi.org/10.1016/j.compedu.2015.11.012..

.

.