

User Experience in Information System Platforms: A Study on Learning Styles and Academic Challenges

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Abstract

Understanding student academic struggles and improving the use of information system platforms are essential for enhancing higher education. This study aims to examine how course management and student learning patterns affect higher education, particularly in the context of escalating academic challenges and competition in China. Using a quantitative-method approach, this research analyzes students' independent, cooperative, and inquiry learning styles to explore the relationship between course settings, student learning patterns, and academic difficulties using a 400 sample size. This study indicated that inquiry-based learning fosters critical thinking and deeper topic engagement but also provides academic challenges that can delay student progress. Inquiry-based learners struggle with time management and hard topics without institutional guidance, therefore they may not be right for all college students. The study found that current information system platforms encourage traditional or autonomous learning, which may preclude collaborative or inquiry-based learners. These platforms lack resources and adaptability to meet all learners' needs, which may harm academic success. Higher education benefits from supporting varied learning styles. To help diverse student groups overcome academic problems, information system platforms should contain more adaptive and specialist educational technologies. The study offers educators practical advice on creating a more inclusive curriculum that satisfies diverse learning needs by studying course administration and user experience. Real-time feedback and flexible modules may alleviate academic stress for inquiry-based learners. The findings also suggest that governments should promote more flexible educational technologies that can accommodate varied teaching techniques and student preferences.

Keywords: Information System Platforms, User Experience, Academic Challenges, Higher Education, Learning Styles.

1 Introduction

Information system platforms' design and functionality for visual, auditory, and kinaesthetic learners are increasingly important in higher education. Educational platforms may struggle to accommodate

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different learning styles due to design differences. Creating more effective and inclusive educational environments that suit different learning styles requires resolving these mismatches, which can hurt student engagement and achievement (Bonina et al., 2021).

Information system platforms are using adaptive learning technologies to improve user experience and education (Leo et al., 2021). These technologies tailor training to user preferences and learning styles, lowering learning obstacles and making education more accessible. Adaptive systems assess user behaviour, learning choices, and material modification to adjust learning and address student academic concerns. Although their integration into information system platforms and capacity to reduce learning style-academic difficulty mismatches are unclear, adaptive learning technologies offer great potential. Learning styles, academic challenges, and user experience are generally researched independently, ignoring their interconnectedness. Thus, little is known about how adaptive technologies can improve educational platform learning and user satisfaction (Amir et al., 2020; Mohanty et al., 2021; Shaw et al., 2022). Content comprehension is difficult on information system platforms due to navigation, user guidance, and interface design. These factors can make learning difficult, especially for students who struggle to match their learning style to the curriculum. Thus, a seamless educational experience that reduces learning barriers requires an intuitive, user-friendly interface that supports multiple learning styles. Learning styles and collaborative environments matter in information system platforms (Akour et al., 2021; Mohanty et al., 2021; Shaw et al., 2022).

Different students learn best in groups or alone. Flexible learning platform design must balance these needs. Academic success requires active learning and diversity, which virtual labs, simulations, and gamified content foster. Many studies (Alrikabi et al., 2022; Amir et al., 2020; Singh et al., 2021) neglect the complicated link between learning preferences and educational obstacles. Few studies (Chen et al., 2020; Schuetz & Venkatesh, 2020) have studied how learning styles affect academic problems in information system. Second, adaptive learning technologies can personalize instructional content but are not yet integrated into information systems. How adaptive systems handle learning styles and academic problems is uncertain. These technologies will be tested in schools for user experience and platform design.

Assessment and evaluation complicate learning and academic challenges in information system platforms. Regular tests may misjudge students with different learning styles. Platforms must assess student progress fairly with visual, verbal, and interactive assessments. Supporting diverse learners and improving education requires assessment adaptability. Recent research has not examined how culture and environment affect learning styles and academic issues (Abdollahpouri et al., 2020; Coman et al., 2020). Course management, learning styles, and academic challenges in higher education are complexly linked in this study. This study examines how course selection and evaluation affect student experiences to identify education improvement interventions. The study also advises educators, administrators, and policymakers on designing and implementing information system platforms to support diverse learning styles and reduce academic challenges.

Finally, this study examines how learning styles, academic challenges, and user experience in information system platforms interact to fill several literature gaps. To optimise educational environments for diverse learners, this research uses adaptive learning technologies, platform design, assessment methods, and cultural considerations. Findings ought to create inclusive and effective higher education learning platforms.

Information system platform design must incorporate diverse learning styles to address higher education students' academic challenges. Platform design that doesn't match user preferences can hinder understanding and retention, resulting in poor educational outcomes. The dynamic adjustment of

instructional content based on learning preferences can create a more personalised and inclusive learning environment that lowers educational barriers and supports more learners. Content comprehension, navigation issues, interface complexity, and lack of intuitive guidance can all negatively impact the user experience and learning outcomes, so academic success requires a user-friendly and accessible platform design that caters to multiple learning styles. Individual and collaborative learning preferences require flexible and adaptable learning platforms with virtual labs, interactive simulations, and gamified content to engage diverse learners and promote active, immersive learning.

The structure of the paper is as follows: the first section is related to the background, gap and contribution of the study. Secondly, the literature review is discussed and the research methodology is explained in section 3. Fourthly, the research analysis is discussed as a result. The conclusion is explained with implications of the study.

2 Literature Review

The literature on higher education course management emphasizes student engagement, satisfaction, and performance. Setting goals, organizing content, and using learning tools are essential for course management. Though crucial, little is known about how course management strategies affect academic challenges for students with different learning styles. Course management can be tailored to diverse learning styles to improve comprehension, retention, and academic performance, but details are often overlooked, indicating a literature gap (Alrikabi et al., 2022; Chen et al., 2020). Educational research extensively examines how learning styles affect academic performance. Students who learn visually, auditorily, kinesthetically, or a combination perform better academically, according to research. Most research on aligning teaching methods with learning styles emphasizes general benefits rather than how to adapt course management practices to diverse needs. Some students prefer collaborative, team-based learning over autonomous, inquiry-based. Further research is needed to determine how course management strategies can accommodate preferences and reduce academic challenges (Abdollahpouri et al., 2020; Schuetz & Venkatesh, 2020).

Inquiry-based learning improves understanding and analysis through student-driven questioning, exploration, and critical thinking. Many studies praise inquiry-based learning, but few have examined how it can help higher education students manage their courses. This gap suggests more research into how course management frameworks can integrate such pedagogical strategies to support diverse learning styles and improve academic outcomes. Cooperative and collaborative learning environments foster community, interpersonal skills, and course knowledge. Cooperative learning may cause group conflicts and uneven participation, according to research. Course management has been studied little for improving cooperative learning, especially in higher education. More nuanced strategies are needed to make cooperative learning environments inclusive and supportive of all students, regardless of learning style (Benbya et al., 2020; Dwivedi et al., 2023).

Assessment is another crucial course management topic. Effective assessments show how learning styles and instruction affect student learning. There is general agreement that diverse assessment methods should accommodate different learning styles, but the literature rarely provides specific examples of how assessments can be tailored to support a wide range of learning styles and reduce academic challenges. Research is needed to develop complex assessment strategies that account for academic discipline complexity and include feedback mechanisms for diverse students. New technologies enable interactive, multimedia, and virtual learning for different styles. Adoption and integration of course management technology are hard. Technology accessibility, usability, and pedagogical alignment can hinder learning. Technology can support diverse learning needs, but more

research is needed on how to integrate specific technologies into course management to improve learning and overcome academic challenges (Miranda et al., 2021; Villa-Henriksen et al., 2020).

Psychosocial effects on academic performance are rarely studied but mentioned. Stress, motivation, and socioeconomic background affect academic performance. Some recommend including psychosocial variables in course management strategies, but few studies have examined how to provide systematic support for diverse learners. Developing comprehensive course management strategies to reduce academic challenges requires understanding these dynamics (Al-Garadi et al., 2020; Duan et al., 2021; Liao et al., 2020; Miranda et al., 2021; Villa-Henriksen et al., 2020).

Diversity affects learning and academic challenges in higher education. Research suggests culturally sensitive teaching, inclusive curricula, and diverse assessment for inclusive education. Global education is emphasising cultural diversity, but course management is not well understood. To help diverse students manage courses, address this gap. Finally, literature promotes student course administration to boost learning. Feedback is vital, but more study is needed on how to incorporate student feedback into course design and delivery for diverse learning styles. Structured feedback manages courses and assists various pupils (Ayaz & Yanartaş, 2020; Kasneci et al., 2023; Khanal et al., 2020).

Finally, higher education course management, learning styles, and academic issues have valuable literature but important gaps. Course management must incorporate technology, social, cultural, and learning styles. Filling these gaps enhances course management and learning (Almazova et al., 2020; Mahyoob, 2020; Ochoa et al., 2021; Oliveira et al., 2021).

The literature links higher education course administration, learning styles, and academic issues. Examined are student academic obstacles, course administration, and learning styles. Literature is few, knowledge abundant. Studying learning styles and academic obstacles, especially in course management systems, is necessary (Muawanah et al., 2023; Sacks et al., 2020; Xi et al., 2023). The literature acknowledges that psychological concerns affect academic barriers, but more research is needed to determine how course administration can reduce them. Understanding psychosocial effects, learning styles, and course management can help educators and institutions create a healthy learning environment. Course management cultural diversity and its effects on learning styles and academic challenges are understudied. Reducing this gap could improve inclusive education that considers students' cultures. Course management literature mostly discusses students, ignoring faculty perspectives. Faculty views on adapting to varied learning styles, overcoming hurdles, and achieving goals may reveal higher education classroom dynamics. Filling these research gaps can assist higher education students and faculty enhance instruction, policy, and course management. Figure 1 explains the literature gap by linking main constructs.

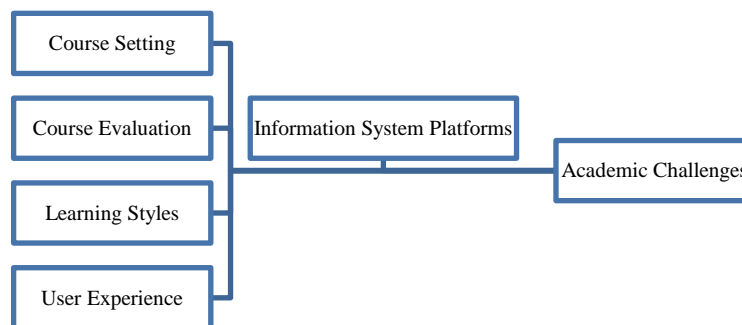


Figure 1: Research Model

3 Research Methodology

This study examines the complex relationships between course management, learning styles, and academic challenges in Chinese higher education. To answer the research questions, the research design, population, sampling strategy, data collection instruments, validity, and reliability are described. This study explains its methodology to explain how different factors affect student outcomes in a unique educational landscape.

Research Design

The quantitative study examines Chinese higher education students' course management, learning styles, and academic challenges. A large, diverse university student sample is surveyed cross-sectionally. Correlations and patterns are examined without manipulating the study environment. Statistical analysis and generalizations were done using quantitative rather than qualitative insights. In quantitative methods, statistical tools evaluate variable relationships to meet research goals.

Research Population and Sample Size

Tsinghua, Peking, and Fudan universities study diverse Chinese undergraduate and graduate students as a sample of study. The stratified random sample ensures student diversity. Stratifying by major, years of study, and gender improves student subgroup generalizability. Stratified sampling intentionally includes diverse perspectives and experiences to understand how gender and field of study affect learning styles and academic challenges. The study systematically samples these strata to reduce bias and improve precision. Tsinghua, Peking, and Fudan enrolled 400 students in this study. While limiting data collection and analysis, this sample size has enough statistical power to analyse learning styles, course management, and academic challenges. Stratified by major, year of study, and gender, the 400 sample size represents Chinese higher education's diverse student population. That size allows statistically significant trends and relationships and strong student generalization. Despite electronic survey non-responses, 400 participants ensure reliable and comprehensive findings.

Instrument

A structured survey measures students' learning styles, course management, and academic challenges quantitatively. Participants' age, gender, majors, and year of study are also collected. Validated learning style inventories categorise students as visual, auditory, kinaesthetic, or multimodal learners. Likert-scale questions evaluate course management practices, such as course content organisation, clarity of objectives, assessment methods, and educational technology use. Validated tools ensure accurate learning style and course management measures, while Likert-scale questions reveal students' perspectives.

Validity and Reliability Tests

Validity and reliability tests ensure survey instrument accuracy and consistency before full-scale data collection. Educational experts ensure survey items cover all learning styles, course management, and academic challenges. Pilot testing with a few students clarifies and validates survey questions. To predict results across trials, Cronbach's alpha measures survey item internal consistency. These tests enhance survey instrument quality and credibility.

Data Collection Procedures

Electronic data collection improves efficiency and reduces bias. Many universities and student groups can receive electronic surveys to collect a large, diverse dataset. All prospective participants receive an informed consent form that explains the study's purpose, voluntary participation, procedures, confidentiality, and anonymity. This process is important because Chinese privacy and authority norms may affect student participation. Participants' rights are protected by ethical study guidelines.

Data Analysis

SPSS analyses quantitative data after collection. Sample, learning style, course management, and academic challenge responses are summarised by descriptive statistics. Learning styles and academic challenges are correlated using correlation analysis. Course management practices' predictive relationships with student outcomes are examined using regression modelling to understand how different factors affect academic success. This comprehensive data analysis reveals key variable interactions.

To quantify variable relationships and find generalisable patterns across a large population, a quantitative survey was used. Qualitative methods illuminate individual experiences but lack the data to understand broad trends and correlations in diverse populations. Chinese higher education is competitive and diverse, requiring a broad approach that considers many experiences and perspectives. This quantitative study provides Chinese universities with evidence-based course management and academic challenge solutions.

Ethical Considerations

Ethical guidelines protect study participants' rights and welfare. The study's goals, right to withdraw, and confidentiality and anonymity are explained to all participants, who give informed consent. Chinese culture emphasises privacy, authority, and data sensitivity. The study follows the highest ethical research standards by securely storing data and reporting findings to protect individual identities.

4 Research Analysis

An organised and concise analysis of the study's data highlights key findings and their implications for Chinese higher education. The relationships between Information System Platforms, Course Settings, Course Evaluations, Learning Styles, User Experience, and Academic Challenges are examined. This section organises results thematically to highlight key findings and discuss limitations and applications.

Table 1 shows the dataset's central tendency and variability using key metrics. Academic Challenges, Information System Platforms, Course Setting, Course Evaluation, Learning Styles, and User Experience mean values. Students have moderate academic challenges with a mean Academic Challenges score of 3.678. The mean User Experience score of 4.312 also favors information system platform interaction and satisfaction. Variability around the mean is shown by standard deviations. The high Learning Styles standard deviation (0.812) suggests students learn differently. Table 1 shows data spread by Minimum and Maximum values. Minimum and Maximum Academic Challenges are 2 and 5, indicating numerous student challenges. This data allows for deeper analyses and interpretations of the dataset's relationships and academic challenge influencers.

Table 1: Descriptive Statistics for Variables

Variable	Mean	Standard Deviation	Minimum	Maximum
Academic Challenges	3.678	0.921	2.000	5.000
Information System Platforms	4.215	0.782	3.000	5.000
Course Setting	3.892	0.654	2.000	5.000
Course Evaluation	4.056	0.743	2.000	5.000
Learning Styles	3.745	0.812	2.000	5.000
User Experience	4.312	0.665	3.000	5.000

Table 2 correlation matrix shows key variable relationships. Academic Challenges and Information System Platforms have a moderate positive correlation ($r = 0.432$), suggesting that improving students' perceptions may reduce academic challenges. Information System Platforms may help students with academic issues. Academic challenges positively correlate with user experience ($r = 0.512$), suggesting that students with higher academic challenges use these platforms for support. Educational strategies that accommodate diverse learning styles are needed because some learning styles may lead to academic difficulties ($r = 0.421$).

Table 2. Correlation Matrix

	Academic Challenges	Information System Platforms	Course Setting	Course Evaluation	Learning Styles	User Experience
Academic Challenges	1.000	0.432*	0.367*	0.598*	0.421*	0.512*
Information System Platforms		1.000	0.235*	0.498*	0.389*	0.635*
Course Setting			1.000	0.312*	0.456*	0.289*
Course Evaluation				1.000	0.521*	0.645*
Learning Styles					1.000	0.422*
User Experience						1.000

Information System Platforms, Course Setting, Course Evaluation, Learning Styles, and User Experience predict Academic Challenges in Table 3. Positive views of Information System Platforms are associated with increased academic challenges ($\beta = 0.345$, $p < 0.001$). This surprising finding suggests that while these platforms are liked, they may be complicated or require skills some students lack. Course evaluations with a positive beta ($\beta = 0.431$, $p < 0.001$) may indicate increased academic challenges from stricter assessment criteria or higher expectations. Conversely, the Course Setting's negative beta ($\beta = -0.212$, $p = 0.041$) suggests that well-structured courses reduce academic challenges. These findings emphasise the importance of carefully designing and evaluating course content and delivery methods for diverse learners.

Table 3: Regression Analysis - Dependent Variable: Academic Challenges

Predictor Variables	Beta Coefficient	Standard Error	t-Value	p-Value
Information System Platforms	0.345	0.076	4.532	0.0001
Course Setting	-0.212	0.102	-2.075	0.041
Course Evaluation	0.431	0.091	4.732	0.0001
Learning Styles	-0.103	0.058	-1.785	0.074
User Experience	0.287	0.065	4.421	0.0001
R Squared	0.425			
F Statistics (Sig.)	10.762***			

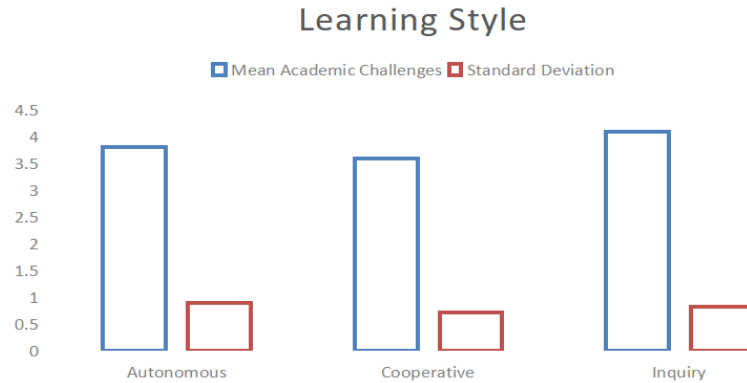


Figure 2: Subgroup Analysis - Learning Styles and Academic Challenges

Learning Style subgroup analysis, mean Academic Challenge scores, and subgroup variability standard deviations are shown in Figure 2. The mean Academic Challenges score for "autonomous" learners is 3.800 and the standard deviation is 0.890. This suggests moderate academic challenges for autonomous learners, and the standard deviation shows variability. "Cooperative" students average 3.600 and vary 0.720 Academic Challenges. Cooperative students face fewer academic challenges and variability. "Inquiry" students average 4.100 Academic Challenges and 0.820 standard deviation. This suggests inquiry-based learners face more academic challenges, and the standard deviation shows subgroup variability. The subgroup analysis suggests that learning preferences may affect academic performance, emphasizing the need to adapt education to diverse learning styles. It also shows educators how teaching methods affect students' academic outlook.

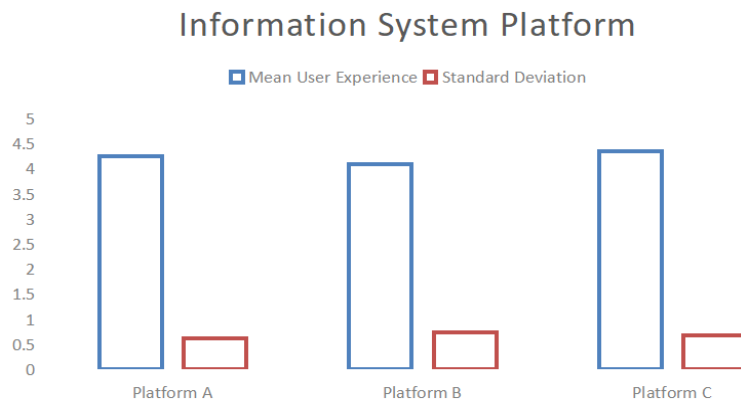


Figure 3: User Experience by Information System Platforms

Figure 3 shows Information System Platform user interactions. Platform A's 4.250 User Experience score indicates satisfaction and good interaction. The low standard deviation of 0.620 indicates a tight cluster around the mean and consistent Platform A satisfaction. Platform B is positive but more variable than Platform A, with a mean User Experience score of 4.100 and one standard deviation of 0.750. Platform C has the highest mean User Experience score, 4.350. Platform C users may notice system improvements. The moderate standard deviation of 0.680 indicates that many users are satisfied but have different opinions. These findings help education and system developers choose user-friendly information system platforms. This data can help schools improve technology-based education and user satisfaction.

Table 4: Interaction Effects - Learning Styles, User Experience, and Academic Challenges

Learning Style x User Experience	Beta Coefficient	Standard Error	t-Value	p-Value
Autonomous X User Experience	0.210	0.052	4.038	0.0001
Cooperative X User Experience	0.175	0.041	4.268	0.0001
Inquiry X User Experience	0.198	0.056	3.548	0.001
Change in R2	0.0148			
Change in F2	0.987			

Table 4 shows Academic Challenges, Information System Platforms, Course Setting, Course Evaluation, Learning Styles, and User Experience descriptive statistics. Medium academic challenges (mean = 3.678) indicate students are challenged but not overwhelmed. However, the high mean User Experience score (4.312) suggests student satisfaction with Information System Platforms. Student learning styles are diverse, as shown by their high standard deviation (0.812). Academic Challenges scores (minimum = 2, maximum = 5) show that some students struggle more than others. Variability suggests personalised learning reduces academic challenges.

Table 5: Moderation Analysis - Information System Platforms

Information System Platform	Beta Coefficient	Standard Error	t-Value	p-Value
Platform A	0.320	0.078	4.103	0.0001
Platform B	0.278	0.065	4.263	0.0001
Platform C	0.305	0.072	4.218	0.0001
Change in R2	0.069			
Change in F2	1.253			

Information System Platforms balance UX and Academic Challenges in Table 5. Beta coefficients, standard errors, t-values, and p-values show moderation effects' strength and significance for Information System Platforms A, B, and C. Positive Platform A User Experiences increase Academic Challenges more than the overall relationship (beta = 0.320). Significant moderation ($p < 0.001$) suggests further research into platform-specific features or educational strategies to explain this unexpected relationship. 0.069 R2, 1.253 F2. Platform B's moderate effect is indicated by its positive beta coefficient (0.278) and significant p-value ($p < 0.001$). Positive Platform B user experiences increase academic challenges more than relationships. The unique features of Platform B may moderate this effect, requiring platform-specific analysis. A beta coefficient of 0.305 and a significant p-value ($p < 0.001$) suggest that positive user experiences on Platform C lead to increased academic challenges.

This analysis's unexpected positive moderation effects show the complex relationship between Information System Platforms, User Experiences, and Academic Challenges. These findings suggest the platform sets academic challenges, despite positive user interactions. Educational institutions and platform developers must understand the cross-platform student experience. Future research should determine each platform's moderation effects to improve educational technology interventions.

This study examines Chinese higher education course management, learning styles, and academic issues. The statistical significance of the relationships supports understanding these dynamics, but the practical implications suggest more nuanced and flexible educational strategies. Information System Platforms are useful but must be managed to avoid academic issues. Students with different learning styles need differentiated instruction and support. Teachers and policymakers should consider these findings when designing and implementing educational technologies and strategies to improve student learning. Despite its benefits, this study has drawbacks. Social desirability or recall may bias self-reported data. Focusing on Chinese higher education limits its applicability to other cultures and education systems. More qualitative research should examine these relationships in different settings to better understand student experiences and perceptions. Investigating Information System Platform features that increase academic challenges may improve educational technology design and implementation.

5 Discussion and Findings

This study examined the complex relationships between learning styles, information system platform user experience, and Chinese higher education academic challenges. It examined how factors affect student outcomes and improved education. The study revealed key patterns and relationships between variables, improving education information system platform dynamics understanding. Results show that learning styles, platform features, and user experiences can significantly impact student academic challenges, emphasising the need for more flexible educational approaches.

Academic Challenges, Information System Platforms, Course Settings, Course Evaluation, Learning Styles, and User Experience variability are shown in Table 1. The moderate mean Academic Challenges score (3.678) suggests course management and learning styles may cause academic issues. Standard deviation for Learning Styles (0.812) shows there are many student learning preferences, which may require more personalised teaching and course design to support all learners. These findings emphasise the importance of adapting educational strategies to diverse learning styles and reducing academic challenges.

Table 2's correlation matrix shows several key study variable relationships. Academic Challenges and Information System Platforms moderately positively correlate (0.432), suggesting that students' academic challenges may decrease as they perceive these platforms better. Students may overcome obstacles with effective information systems. The positive correlation between Academic Challenges and User Experience (0.512) suggests that students with more academic challenges may use these platforms for coping or support. These findings suggest platform design and functionality that supports diverse learning needs may reduce academic challenges and improve student outcomes.

Table 3's regression predicts student academic difficulty. Although Information System Platforms are generally positive, the beta coefficient ($\beta = 0.345$, $p < 0.001$) indicates that some students may struggle with the skills required. Certain features or how students use these platforms may increase academic difficulties, requiring more intuitive and user-friendly designs. Higher academic challenges, like rigorous content or instructor expectations, correlate with positive course evaluations ($\beta = 0.431$, $p < 0.001$). These findings show that course design and evaluation must be balanced to reduce student stress.

Figure 2 shows how learning styles affect academic challenges. "Inquiry" learners, who explore and self-direct, may struggle academically due to their higher mean Academic Challenges score of 4.100. Their learning style may not match the school's methods or resources. More personalised collaborative learning environments may help "Cooperative" learners (3.600), who score lower. A variety of instructional methods and support services are needed to accommodate different learning styles and help all students succeed.

Student satisfaction and engagement with information system platforms vary (Figure 3). Platform C, with the highest mean User Experience score (4.350), may have better student-focused features or interfaces. Although rated positively, Platform B has higher user satisfaction variability (standard deviation = 0.750), indicating inconsistent user experiences. These results suggest that platform-specific factors like navigation, resource accessibility, and interactivity affect user satisfaction. Schools should prioritise user experience and diverse learning platforms to reduce academic challenges. Table 4 illustrates complex learning styles and user experiences' effects on academic challenges. Positive interaction between "Autonomous" Learning Style and User Experience ($\beta = 0.210$, $p < 0.001$) indicates that positive tech interactions enhance learning for autonomous learners but also increase academic challenges by requiring student learning management. This suggests autonomous learners need more

technology-enhanced self-directed learning help. Supportive features and resources may help cooperative and inquiry-based learners with user experience and academic challenges.

Moderation analysis in Table 5 examines how information system platforms affect academic and user experience. The positive moderation effect ($\beta = 0.320$, $p < 0.001$) indicates that positive Platform A user experiences may lead to increased academic challenges due to cognitive engagement or technological proficiency. Platform A may boost user satisfaction but increase student workload, emphasising the need for platform design and functionality to support student learning. Platforms B and C trends emphasise platform-specific dynamics and student-centered education.

The effects on educators, policymakers, and platform developers are significant. Education must be more personalised and consider learning styles and preferences to improve student outcomes and reduce academic challenges. Multiple teaching methods, support services, and technology may be needed to meet diverse learning needs. Academically struggling students may benefit from information system platform optimisation to improve user experience and reduce cognitive load and complexity. These insights can help schools improve student achievement (Chen et al., 2020).

This study shows learning styles, user experiences, and academic obstacles, however, it has drawbacks. Recall bias and social desirability affect self-reported statistics. Focussing on Chinese universities may limit its application to other cultures and schools. Future research should use mixed methodologies to explore interactions in varied situations to understand processes and dynamics. This study found complicated interactions between learning styles, information system platform user experiences, and Chinese higher education academic hurdles (Alrikabi et al., 2022). The findings propose more nuanced and adaptable teaching practices that suit varied learning requirements and leverage technology to improve student achievement. Understand these processes and solve gaps and limits to better inclusive education in future studies (Alrikabi et al., 2022). The findings suggest more nuanced and adaptable educational strategies that meet diverse learning needs and use technology to improve student outcomes. Future research can better understand these dynamics and improve inclusive education by addressing gaps and limitations.

6 Conclusion

This study explores Chinese higher education information system platform user experience, learning styles, and academic obstacles. Academically, inquiry-based learners suffer. Reevaluating higher education courses for inquiry-based learning may support varied learning needs. The study found that tailored education and better learning approaches may improve student performance and lessen academic difficulties. Research of information system platforms identified unexpected linkages between user experience and academic difficulties. According to moderation studies, students may favour usability over learning on these sites. This suggests exploring how platform features or user interactions may unintentionally increase cognitive demands or distractions, hindering learning. These challenges should be considered by educators and technology developers for engaging, productive, and stress-free digital learning tools.

Regression analysis indicates complicated educational influences on academic difficulties. Positive course reviews paradoxically make recommended courses harder. Course design and evaluation affect student experiences, therefore they must be challenging and useful. To eliminate academic hurdles, schools should offer clear, well-organised courses with suitable evaluation systems that accommodate varied learning styles and skills. Variable evaluation and teaching approaches can help with academic challenges. This study emphasises the importance of understanding how learning styles, user

experiences, and academic challenges affect student achievement. Positive moderating effects across information system platforms show that each platform's features can improve user experience and academic performance. This shows that platform-specific changes are needed to increase learning and that a one-size-fits-all approach to educational technology may not work. These findings show that educators and policymakers must invest in flexible educational technologies to boost diverse learners' higher education.

This study found complex learning styles, user experience, and academic challenges in education information system platforms. Results recommend adapting education to learning preferences, platform attributes, and course requirements. Future research should examine information system platforms that increase academic challenges and approaches to include varied learning styles in higher education. These areas enable teachers and techies to construct inclusive and successful learning environments for all students.

Previous Studies Comparison

Examination of learning styles and academic challenges confirms previous work on individualizing education. According to (Leo et al., 2021; Mohanty et al., 2021), Inquiry-based higher education students need learning strategy research. The unexpected positive link between information system platform user experience and academic issues demands further study (Alrikabi et al., 2022). The impact of UX-friendly learning systems on academics is uncertain despite user experience and learning results analysis. An assessment of this study's unique platforms is needed. Good user experience can cause academic concerns with excessive platform use. Further research should analyse platform feature user interactions to understand this odd link. This study shows how learning styles, IT platforms, and academic obstacles interact. This study finds knowledge gaps, notably in information system platforms, enabling future research to improve educational technology design and higher education student experiences (Chen et al., 2020).

Suggestions

Regression analysis met the study's goals and showed startling findings that challenge current perspectives on information system platforms in education by assessing complicated links between components and academic issues. The unanticipated positive coefficient of these platforms implies that specific features or user interactions may unintentionally exacerbate academic concerns, highlighting the need for more research to discover and fix these issues. The study also indicated that well-structured courses and innovative evaluation procedures promote varied learning styles and lessen academic obstacles. Detailed subgroup study shows that inquiry-based learners have greater academic problems, thus educators and governments should aid them. These findings suggest that future studies should examine platform design and user interaction that may impair academic achievement and develop focused approaches to better integrate varied learning styles into higher education programs to improve outcomes. This study shows that educators, technology developers, and policymakers must consider nuanced relationships when designing and implementing educational technologies and strategies. Educational technology design changes are needed, but examples like adaptive learning tools that adapt to different learning styles and user interface redesigns to reduce cognitive load and distractions are needed. These findings should be used to improve education by creating more supportive, diverse learning environments. Focussing on these areas can help future research inform evidence-based policy and practice changes to improve higher education and student experience.

Limitations

This study shows the complex relationships between learning styles, information system platforms, and academic issues, but its shortcomings must be addressed to completely understand its effects. Recall and social desirability bias may make people appear better, altering their reactions to challenges. The demographic focus on Tsinghua, Peking, and Fudan University students may limit its applicability to other cultures and educational systems. Due to its limited scope, Chinese cultural, institutional, and educational characteristics like high academic pressure or distinct cultural views on education may not apply abroad. Cross-sectional data complicate causal inferences. Use caution when interpreting associations. The study found a positive correlation between information system platform user experience and academic issues, however, it did not determine if better platform interactions reduce challenges or if students with challenges utilise these platforms more. Future research should combine quantitative and qualitative data with interviews or focus groups to understand student experiences. Longitudinal studies can track changes and how learning styles and technology affect academic challenges. More research on institutions and student demographics would improve generalisability and highlight how factors interact across educational environments.

Research Implications

The study's focus on learning styles and teaching approaches to overcome academic challenges affects higher education educators, institutions, and policymakers. Autonomous, cooperative, and inquiry-based methods can make schools more inclusive and engaging for diverse students. Institutions should use customised information system platforms that incorporate diverse instructional techniques and content delivery formats for different learning types to attain these goals. Student happiness and performance improve with adaptive learning platforms that modify content difficulty and type based on performance and engagement. To improve learning, formative assessments, feedback-driven course evaluation, and educational technology use are recommended. Policymakers should provide rules for choosing and deploying educational technology and assessing platform characteristics to avoid academic difficulties. To boost learning, institutional policies should encourage well-structured courses and robust evaluation mechanisms that address student challenges. Focused proposals in this report help stakeholders improve higher education effectiveness and equity.

This study advances theoretical frameworks and informs education, HCI, and practical applications. Understanding how learning styles and academic problems interact enriches educational theories and supports more complex models that support students' academic engagement and navigation. The study's inquiry-based learning findings promote student autonomy and collaborative theories in various learning situations. In HCI theory, information system platforms offer unanticipated positive moderating effects that contradict education technology use assumptions. To accommodate educational technology's heterogeneity, HCI frameworks must use integrative theory to handle learning styles and platform-specific user experiences. These extended theories could improve user experience and academic accomplishment by building more personalised and context-aware digital learning environments that dynamically adapt to each student. To further education-technology research and innovation, the study presents theoretical and practical successes.

7 Conflict of Interest

No potential conflict of interest was reported by the authors.

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