Educational and Humanities
ISSN Print: 3104-4352
ISSN Online: 3104-4360
CD ISSN: 3104-4379
https://doi.org/10.63313/EH.9058

Beyond One-Size-Fits-All: Narratives of Personalization among Chinese university Students Using English Learning Applications

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How to cite this paper: Ma, X. Y., & Gong, S. Y. (2026). Beyond one-size-fits-all: Narratives of personalization among Chinese university students using English learning applications. Educational and Humanities, 3(1), 52-59. ISSN Print: 3104-4352; ISSN Online: 3104-4360.
https://doi.org/10.63313/EH.9058
Published: 2026-04-28

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Abstract

This study explores how Chinese university students perceive and engage with personalization features in English learning applications. Grounded in a situated learning perspective, it investigates the complex interplay between algorithm-driven customization and students' self-defined needs within China's exam-oriented cultural context. Through mixed methods, we uncover a tension between the desire for efficient, exam-aligned recommendations and the need for learner agency. Findings reveal that the perceived effectiveness of personalization is contingent upon its deep alignment with localized pedagogical practices and individual learning scenarios. The study argues that successful personalization must negotiate between technological adaptivity, cultural embeddedness, and the learner's autonomy.

Keywords

Personalization; Chinese university students; English Learning Applications; Learner agency

1. Introduction

1.1. Research Background

With the rapid development of mobile internet technology, English learning applications have seen widespread adoption among Chinese students. Concurrently, the concept of "personalized learning" is gaining increasing emphasis in the field of educational technology, prompting various apps to provide customized learning plans through intelligent algorithms. However, whether these features labeled as "personalized" truly align with the learning needs of Chinese students requires in-depth exploration.

1.2. Research Gap

Existing research primarily focuses on quantitative analyses of technological implementation and learning outcomes, lacking exploration from the learner's perspective regarding their subjective perceptions of personalized features. Chinese students operate within a unique educational environment characterized by rote learning and a single evaluation culture. Their understanding and expectations of personalized learning may differ from mainstream international theories, and research in this area remains insufficient.

The core gap this study aims to fill is: Under the distinctive Chinese exam-oriented culture and high-stakes testing context, how do students, starting from their own needs, understand and evaluate technology-driven "personalization."

1.3. Research Objectives

This study aims to achieve the following core objectives: first, to explore how Chinese university students define and understand the concept of "personalization" in English learning applications. Second, to analyze the extent to which and the ways in which the personalized features offered by these applications match or fail to match students' actual learning needs. Third, to investigate how specific educational and cultural contexts in China, such as the exam-oriented culture and Confucian learning concepts, influence and shape students' expectations and evaluation criteria for personalized features. Finally, to assess the specific impact of using personalized features on students' learning mindset, such as their motivation, confidence, and anxiety. Through these four specific research questions, the overall objectives of this study are broken down and clarified, with the aim of systematically revealing the complex experiences of Chinese students as they interact with technology-driven personalized learning within their unique educational ecosystem.

2. Literature Review

With the rapid development of mobile internet technology, English learning applications have become widely popular among Chinese students, and the concept of personalized learning has gradually become a core issue in educational technology. However, existing research largely focuses on quantitative analysis of technological implementation and learning outcomes, with insufficient exploration of learners' subjective experiences and their personalized needs within their cultural and educational contexts. Sadaf et al. (2025) found that pre-service teachers' AI competencies and willingness to use AI are generally low, particularly with weak knowledge of AI ethics, highlighting the importance of affective attitudes and ethical awareness for AI integration in teaching; Atias and Mawasi (2025) pointed out that AI literacy education programs for children and youth overemphasize operational skills while neglecting socio-cultural and critical literacy cultivation. Meanwhile, Chai Nan and Cao Bingqing (2025), from an educational

ethics perspective, reveal that the deep embedding of intelligent technology in school education has led traditional ethical paradigms to face risks such as virtual presence obscuring bodily perception and data-feeding degrading educational functions. They advocate shifting from "value alignment" to "value symbiosis" to address ethical dilemmas. Although these studies explore multiple dimensions including technology integration, literacy education, and ethical governance, none delve deeply into the personalized learning needs of Chinese students within the unique context of exam-oriented culture and rote learning, especially their subjective cognition and experience of personalized features in English learning applications. Existing research often remains at the level of technological implementation or macro-ethics, lacking systematic analysis from the learner's perspective, and fails to reveal how cultural factors shape students' expectations and evaluation criteria for personalized features. This study fills this cognitive gap by integrating in-depth interview and questionnaire survey data, systematically analyzing Chinese students' diverse definitions of "personalization," feature relevance, cultural influences, and effects on learning mindset. It provides theoretical foundations and practical insights for developing personalized learning solutions more suited to the local educational ecosystem. Future research needs to further integrate technological and cognitive perspectives to improve the implementation mechanisms and application strategies of personalized features.

While existing literature addresses technological implementation, AI literacy, and ethical governance, there is a paucity of research that situates the subjective experience of personalization within the specific sociocultural and educational ecosystem of Chinese learners. Few studies have examined how the entrenched exam-oriented culture, Confucian learning dispositions, and high-stakes testing environments collectively shape students' definitions, expectations, and evaluations of what constitutes effective "personalization." This study aims to fill this gap by prioritizing the learner's voice and analyzing their narratives through a theoretical lens that integrates personalized learning, situated cognition, and technology acceptance.

3. Methodology

3.1. This study adopts a mixed-methods approach combining qualitative research (in-depth interviews) and quantitative research (questionnaire surveys) to comprehensively capture Chinese students' experiences and perceptions of personalized features in English learning applications.

3.2. Sample selection includes:

1. Interview sample: 300 university students were selected from universities in Jiangsu Province. Participants were required to have used applications such as iFluency, HelloEnglish, or Youdao Dictionary for more than 30 days in the past year,

ensuring diversity in academic majors, English proficiency levels (CET-4/6, IELTS/TOEFL), and usage patterns. 2. Survey sample: Data was collected through a publicly distributed questionnaire.

3.3. Data collection includes:

1. Conducting 30-60 minute semi-structured interviews focusing on themes such as frequency of use, learning contexts, and interaction with personalized features. 2. Designing a questionnaire containing single-choice, multiple-choice, and open-ended questions to collect data on students' usage of personalized features, evaluation of their effectiveness, and future expectations.

3.4. Data analysis includes:

1. Qualitative data: Using thematic narrative analysis, themes were extracted through open coding and axial coding, with cross-validation. 2. Quantitative data: Using statistical software for descriptive statistical analysis to quantify students' attitudes and needs regarding personalized features.

4. Findings

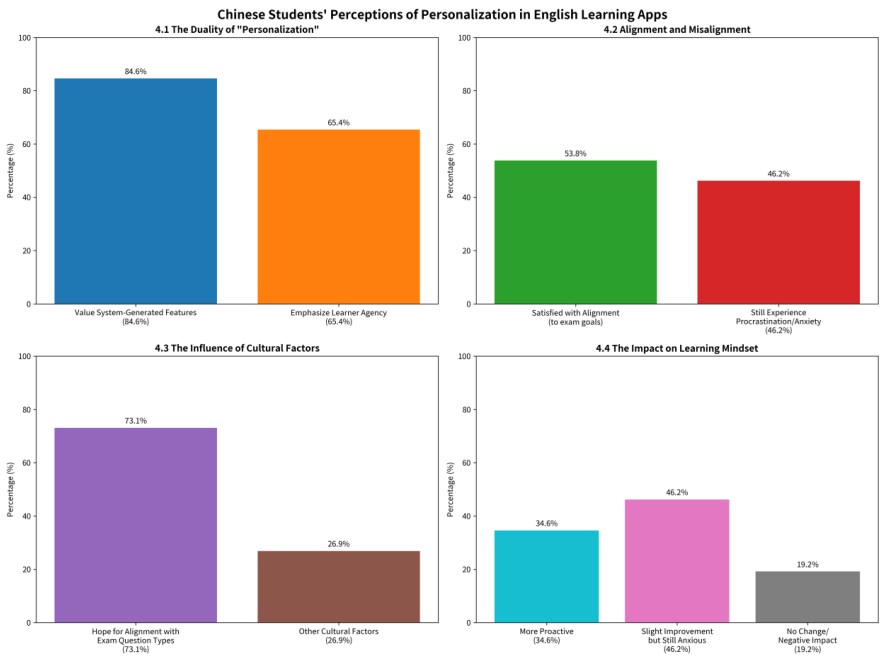


Table 1. Chinese Students'Perceptions of Personalization in English Learning Apps

This study moves beyond the technological imperative prevalent in much educational technology research by centering the learner's subjective experience within a specific cultural milieu. Our findings challenge a universalist assumption of personalization by demonstrating that its meaning and value are culturally co-constructed. The dual expectation of algorithmic efficiency and learner agency

reflects a negotiation between the instrumental rationality fostered by the high-stakes exam system and a latent desire for autonomy that the same system often suppresses. This aligns with and extends situated learning theory, positing that the "situation" for Chinese learners is irrevocably defined by the exam culture; thus, personalization features gain relevance only when deeply embedded in this practice.

This study, by integrating interview and questionnaire data, reveals the complex experiences of Chinese university students regarding "personalization" features in English learning applications. The main findings cover the following four aspects:

4.1. The Duality of "Personalization": Between Algorithmic Recommendation and Learner Agency

Students' narratives revealed a dual expectation towards personalization. While a majority (84.6%) valued and frequently used system-generated features like automated reminders and progress tracking—seeing them as efficient aids that "save me the time to find materials myself"—this technological efficiency was not equated with optimal personalization. A significant proportion (65.4%) simultaneously emphasized the necessity of learner agency, defining true personalization as the ability to self-plan and adjust their learning path. This duality suggests that for Chinese students, personalization is not a passive reception of tailored content but an interactive process of negotiation with the technology, where the utility of algorithmic recommendations is judged against the degree of control they retain.

4.2. Alignment and Misalignment: The Match Between Personalized Features and Student Needs

Satisfaction is higher when personalized features align with students' explicit exam-oriented goals. For instance, in scenarios like preparing for CET-4/6, precisely pushed vocabulary banks and practice tests make students feel "the app understands me."

However, 46.2% of students reported that even after using personalized features, they still experience procrastination and anxiety, reflecting limitations in meeting actual needs. Content recommendations often create a sense of misalignment due to being detached from real learning contexts. For example, an engineering student mentioned that the system kept recommending articles in the humanities, despite him repeatedly clicking "not interested."

This shows that the effectiveness of a personalization system depends not only on technical accuracy but more crucially on a deep understanding of users' contextualized needs, including their academic background, learning stage, and motivation. Ignoring these dimensions, even if recommendations are "correct" at the data level, can easily lead to mismatched experiences.

4.3. The Influence of Cultural Factors

73.1% of students hope personalized designs can align with exam question types and connect with textbook systems. This data highlights the central role of exam-oriented culture in shaping personalized needs. The influence of cultural factors is mainly manifested in three aspects: Confucian learning values lead students to trust "professional" algorithmic recommendations, especially in exam contexts where standardized learning paths are more readily accepted. The group-oriented learning tradition creates a latent expectation among students for learning paths that lead to "socially recognized" standards. The high-stakes exam culture amplifies the instrumental value of learning, causing students to primarily consider "whether it directly helps with the exam" when evaluating personalized features. These cultural factors collectively form an "invisible template," simultaneously explaining why some personalized features that seem perfect under a globalized design logic may encounter "failure to adapt locally" in the Chinese market. Successful personalization must be the result of negotiation with localized academic culture, not simply the imposition of a technological solution.

4.4. The Impact of Personalized Features on Learning Mindset

Quantitative data shows a divergent impact of personalized features on learning mindset: 34.6% of students became more proactive and willing to explore new content after use; while 46.2% of students showed slight improvement in mindset, they still experienced procrastination and anxiety. Interviews revealed that this difference is closely related to content relevance. When personalized features highly align with learning goals, such as accurately pushing CET-6 vocabulary, students reported "feeling more confident and less anxious." However, when recommended content is mismatched, students experience frustration and irritability. Thus, the impact of personalized features on learning mindset is significantly conditional: the exertion of their positive effects highly depends on the match between recommended content and individual student needs. Higher relevance can stimulate learning initiative and confidence; conversely, it may exacerbate negative emotions and weaken effectiveness. This suggests that product designers must prioritize improving content-matching accuracy as the core direction for optimizing personalized features. They need to focus not only on surface-level behavioral data but also deeply understand students' learning scenarios and real needs, so that personalized features can truly become effective tools for fostering positive learning mindset development.

5. Discussion

This study moves beyond the technological imperative prevalent in much educational technology research by centering the learner's subjective experience within a specific cultural milieu. Our findings challenge a universalist assumption of

personalization by demonstrating that its meaning and value are culturally co-constructed. The dual expectation of algorithmic efficiency and learner agency reflects a negotiation between the instrumental rationality fostered by the high-stakes exam system and a latent desire for autonomy that the same system often suppresses. This aligns with and extends situated learning theory, positing that the "situation" for Chinese learners is irrevocably defined by the exam culture; thus, personalization features gain relevance only when deeply embedded in this practice.

While existing research extensively explores the potential of educational technology in promoting personalized English learning experiences, it mostly focuses on the technological implementation and quantitative effectiveness of adaptive systems. There is a lack of in-depth analysis from the learner's subjective perspective regarding the actual experience and perception of personalized features, and a systematic analysis of Chinese students' personalized needs within their unique cultural and educational contexts is also insufficient. This study, by integrating in-depth interview and questionnaire data, reveals the complex perceptions and experiences of Chinese university students regarding "personalization" features in English learning applications. The study finds that students hold diverse definitions of "personalization," expecting both technology-enabled automatic recommendations and emphasizing the agency of self-planning; satisfaction is high when personalized features align with exam-oriented goals, but content recommendations detached from real contexts can still trigger procrastination and anxiety, highlighting the misalignment between feature suitability and student needs; cultural factors such as exam-oriented culture and Confucian values constitute an "invisible template" for evaluating personalized features, with cultural factors playing a core role in shaping needs; the impact of personalized features on learning mindset shows conditional divergence—high relevance boosts confidence and reduces anxiety, while low relevance increases frustration. This study adopts a mixed-methods approach combining qualitative and quantitative methods, comprehensively capturing student experiences and needs, providing rich material for understanding their unique learning needs. However, limitations such as insufficient sample representativeness, lack of stage subdivision, and inadequate depth in exploring mechanisms objectively exist. Compared to existing research, this study, starting from learners' subjective experiences, fills the gap in cognitive exploration, systematically analyzes the influence of cultural factors, achieving innovation in perspective and cultural dimension, though with less discussion at the technological level. This study holds significant theoretical and practical value. Theoretically, it enriches personalized learning theory; practically, it provides specific suggestions for educational product designers, such as optimizing content recommendations, designing flexible paths, and enhancing cultural suitability. However, the study also leaves unanswered questions, such as differences in needs

among students at different English learning stages, how to optimize algorithm implementation by combining cognitive science, and the long-term effects of personalized features. Future research needs to further integrate technological and cognitive perspectives, improve the implementation mechanisms and application strategies of personalized features to better meet the unique learning needs of Chinese students.

6. Conclusion

This study, by integrating results from in-depth interviews and questionnaire surveys, comprehensively reveals Chinese students' experiences and perceptions of personalized functions in English learning applications. The findings indicate that students' definitions of personalization are diverse, valuing both the precise recommendations of intelligent algorithms and their own learning agency. Simultaneously, the effectiveness of personalized features highly depends on their deep understanding of students' genuine learning needs and their deep integration with the Chinese educational and cultural context. In the future, the design of personalized learning applications needs to find a balance between technological adaptation, cultural adjustment, and data ethics to provide learning paths that more closely align with student needs. Furthermore, this study also reveals the potential and challenges of personalized features in improving the learning mindset of Chinese students. Future research should further explore how to combine the Chinese educational and cultural context to design personalized learning applications that can both accurately match learning needs and effectively regulate the learning mindset. At the same time, attention should be paid to students' ethical concerns regarding data usage, establishing a transparent and trustworthy technological environment.

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