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Bridging Technologies and Techniques: Exploring MALL Strategies Used Among Chinese Undergraduates' Spoken English Learning

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Abstract:- Amidst the surge in the use of mobile technology and the escalating demand for English proficiency in global academia and industry, mobile devices have become increasingly popular among undergraduates in learning English. In exploring Mobile-Assisted Language Learning (MALL) strategies among Chinese undergraduates for enhancing spoken English skills, this study employed a mixed-methods approach, surveying 53 students from a private university. The research focused on identifying when, where, and how students engage with MALL, the applications they use, and the strategies they prefer. Results revealed a tendency to utilize MALL during leisure and evening times, predominantly in comfortable home settings, with a strong inclination towards vocabulary apps alongside a comprehensive use of various language skill-focused apps. Cognitive and social learning strategies emerged as significant, indicating a preference for active and interactive learning modalities. These findings highlight the potential of MALL to significantly enrich traditional language learning methods, with implications for learners, educators, policymakers, and app developers to leverage mobile technologies more effectively in language education.

Keywords*:* Mobile-Assisted Language Learning, Spoken English, Chinese Undergraduates, Language Learning Strategies.

1. Introduction

With the onset of globalization and the increasing prominence of English as a lingua franca (Seidlhofer, 2013), the ability to communicate effectively in spoken English has become a pivotal skill, particularly in academic and professional domains. This evolving linguistic landscape reflects a global trend where English proficiency is not merely an academic requirement but a gateway to broader opportunities in the international arena. In China, this reality is particularly pronounced; mastery of English can significantly enhance one's prospects for professional advancement and foster a deeper understanding of global cultures, aligning with the educational and developmental objectives of the nation (Amoah & Yeboah, 2021).

The proliferation of mobile technology among students has introduced a new dimension to language education, making mobile-assisted language learning (MALL) an important pedagogical tool. Mobile Assisted Language Learning (MALL) leverages the flexibility and accessibility of mobile devices to provide learners with immersive, interactive and personalized language learning experiences, thus offering a promising avenue for improving language proficiency outside the traditional classroom (Hashim *et al.*, 2017). The popularity of smartphones among Chinese university students (Jiang & Zhao, 2016) has also created a fertile ground for MALL to flourish, reshaping the way language skills, especially spoken English, are acquired and refined.

Although MALL has the potential to revolutionize language learning by offering a wide range of applications, from integrated language learning platforms to skill-specific apps, the actual usage of MALL strategies and mobile

applications among undergraduate students in China have yet to be explored. This paper intends to fill this gap by investigating the current state of MALL through a case study of a private university located in Southwest China.

This study explores the adoption of Mobile-Assisted Language Learning (MALL) strategies among Chinese undergraduates, focusing on their impact in enhancing English speaking skills within the context of Chinese higher education. It investigates the preferences and habits of students, examining when, where, and how MALL is employed, including the specific language learning strategies and mobile apps used. By addressing these aspects, the research aims to optimize MALL usage and contribute to discussions on technology-enhanced education, particularly in overcoming language challenges in a globalized world.

2. Literature Review

A. Overview of MALL

The conception of Mobile-Assisted Language Learning (MALL) has evolved as a subset of both Computer-Assisted Language Learning (CALL) and mobile learning (Stockwell & Hubbard, 2013). Recognized for its flexibility, MALL offers a student-centered approach to language education by leveraging the ubiquity and convenience of mobile devices. It reflects an educational paradigm shift towards more accessible and personalized learning experiences, often supported by the proliferation of mobile technology (Golonka *et al.*, 2014; Hashim *et al.*, 2017). With the integration of MALL, the traditional classroom constraints are transcended, allowing learning to occur anytime and anywhere, thus fostering an environment conducive to continuous engagement and practical language application (Kukulska-Hulme, 2020).

B. Mobile Devices and Mobile Applications

Kukulska-Hulme and Shield (2008) have pointed out that MALL is a particular kind of mobile learning that makes use of personal and portable devices such as mobile phones, MP3/MP4 players, PDAs, smartphones, and tablets. The surge in mobile device usage has resulted in the development of applications dedicated to language learning.

Mobile applications or mobile apps, are software applications running in mobile devices (Sánchez *et al.*, 2011). Scholars have developed different ways to categorize mobile learning apps. Goodwin and Highfield (2012) offered a system based on pedagogical design, dividing apps into instructional, manipulative, and constructive types, while Cherner *et al.* (2014) suggested a more detailed classification that includes skill-based, content-based, and function-based apps, incorporating a broader skillset. Further, Toledo (2021) built on this by outlining four categories specifically for higher education; namely, organization, social, practice, and creation, and provided a framework to help educators select mobile learning tools.

In terms of language learning apps, researchers have also worked on categorical studies. For instance, Gangaiamaran and Pasupathi (2017) reviewed the effectiveness of language learning apps, sorting them by the age group they serve. This classification, however, may be imperfect as apps often do not specify a target age, and the categorization may be subjective (Huang, 2020). Rosell-Aguilar (2017) offered a detailed framework for assessing language apps, organizing them based on their design purpose—whether specifically for language learning or not—and providing a separate category for dictionaries and translators. Rosell-Aguilar's classification (2017) provides a solid foundation for navigating language learning apps, but as technology evolves and new apps emerge, it could be further enriched with evaluative guidelines to aid in selecting high-quality resources.

C. Language Learning Strategies and MALL

The exploration of Language Learning Strategies (LLSs) has evolved significantly since the 1970s, with a surge in scholarly interest and a diverse range of definitions and classifications emerging from the field of second language acquisition. Early definitions, like those from Chamot (1987) and Chamot and Kupper (1989), emphasize LLSs as conscious methods or actions undertaken by learners to facilitate the acquisition, retention, and recall of language knowledge. This perspective was expanded by Oxford (1990) and O'Malley & Chamot (1990), who highlighted LLSs as specific, deliberate actions aimed at making language learning more efficient, enjoyable, and applicable to new contexts.

The classification of LLSs varies among scholars, with O'Malley and Chamot (1990) identifying three principal types: metacognitive, cognitive, and social/affective strategies, each with its own set of sub-strategies. Oxford (1990), in contrast, introduced a broader categorization, distinguishing between direct and indirect strategies and offering a more extensive list of specific strategies under each category. This framework aligns closely with O'Malley and Chamot's (1990) categories but differs in the perceived hierarchy and impact of metacognitive strategies.

This research employs Oxford's (1990) taxonomy of LLSs to investigate the MALL strategies used by learners. Oxford's classification is recognized for its comprehensive nature and wide acceptance within the academic community (Ellis, 1994), making it a suitable framework for analyzing the diverse strategies employed in MALL.

MALL strategies incorporate the classic language learning strategies defined by Oxford (1990) into mobile learning contexts. Direct strategies including memory, cognitive, and compensation strategies have found new applications through mobile technology, allowing learners to engage in mnemonic exercises, practice language skills, and overcome communicative challenges directly from their devices. Indirect strategies such as metacognitive, affective, and social strategies also play a pivotal role within MALL, fostering learner autonomy, emotional regulation, and collaborative learning opportunities. The adaptation of these strategies to mobile platforms has empowered learners to personalize their language learning journey and integrate it seamlessly into their daily lives (Chun *et al.*, 2016).

D. MALL and Spoken English Learning

In the realm of spoken English acquisition, MALL applications have demonstrated notable efficacy. For Chinese learners, mobile apps have offered diverse methods to practice and improve spoken English, ranging from AI-based pronunciation tutorials to interactive conversation simulations (Zhang, 2016; Wang & Han, 2021). Studies indicate that these tools not only support the development of language proficiency but also enhance learners' confidence and motivation, crucial factors in successful language acquisition (Amoah & Yeboah, 2021; Yang *et al.*, 2019). Despite the potential of MALL, challenges such as technological barriers, pedagogical effectiveness, and learner readiness must be acknowledged and addressed to fully harness the benefits of mobile technologies in language learning (Ünal & Güngör, 2021).

In sum, the literature indicates that while MALL provides innovative pathways for enhancing spoken English skills among Chinese undergraduates, further research is necessary to understand its full impact. This entails a comprehensive evaluation of mobile applications and strategies within the socio-cultural and educational contexts of Chinese higher education.

3. Theoretical Framework

The theoretical framework guiding this study is grounded in three principal models that elucidate various dimensions of Mobile-Assisted Language Learning (MALL) and Language Learning Strategies (LLS) within the context of Chinese undergraduate students' acquisition of spoken English.

A. Kukulska-Hulme's (2012) MALL Framework

Kukulska-Hulme's (2012) MALL framework provides an analytical lens for understanding patterns of MALL use that takes into account the learner's context, including where, when, and how mobile learning is integrated into everyday life. It suggests that the use of mobile devices in language learning extends beyond the constraints of the classroom, offering flexible, situated learning opportunities that can adapt to the needs and lifestyles of learners. This study employs Kukulska-Hulme's framework to examine the usage patterns of MALL among students, providing a basis for understanding how MALL strategies are incorporated into their language learning processes.

B. Oxford's (1990) Language Learning Strategies (LLS) Theories

Oxford's seminal work on LLS is pivotal in identifying the strategies employed by learners in a MALL context. The theories categorize LLS into two main types: direct strategies, which are directly involved in language learning and usage, and indirect strategies, which support and manage language learning. In this study, Oxford's

classification is used in discerning which LLS students employ when utilizing MALL applications, shedding light on the approaches that support their spoken English language development.

C. Rosell-Aguilar's (2017) Taxonomy of Apps for Language Learning

Rosell-Aguilar (2017) contributes a taxonomy that categorizes language learning apps based on their features and functionalities. This taxonomy is crucial for this study as it provides a structured method to investigate the variety of MALL applications used by the undergraduates. By employing this taxonomy, the study can identify specific apps preferred by students in the context of spoken English language learning.

By integrating these frameworks, the theoretical foundation of this study is poised to offer a comprehensive view of how MALL is leveraged by Chinese undergraduates in their journey to improve spoken English skills. Kukulska-Hulme's framework guides the exploration of usage patterns, Oxford's LLS theories clarifies the strategic underpinnings of students' approaches to MALL, and Rosell-Aguilar's taxonomy categorizes the tools used, together creating a triangulated perspective that is expected to yield depth and clarity to the research findings (see Fig. 1.).

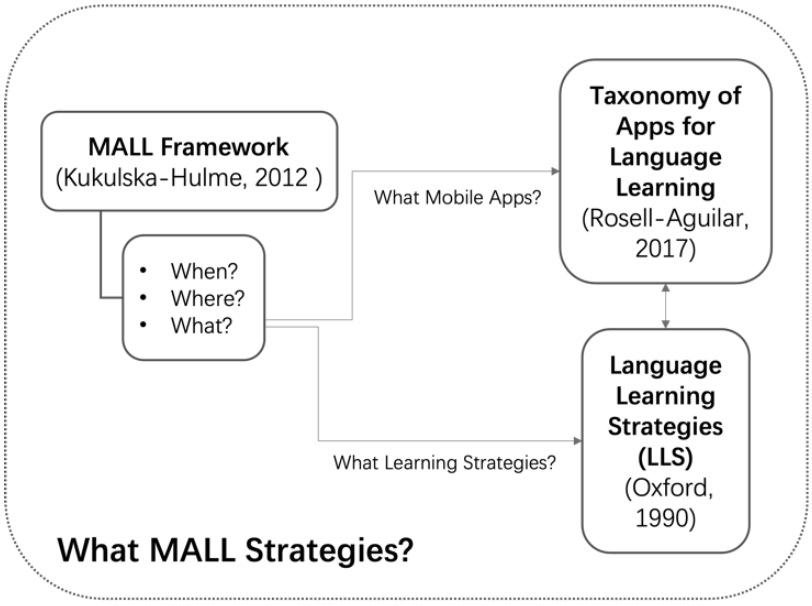

Fig. 2. Theoretical Framework

4. Methodology

The research design, sample, instruments, data collection, and analysis as described in this section provides a clear blueprint for how the research was conducted.

A. Sample

The study focused on a sample of 50 undergraduates enrolled at a private university in China. To construct this sample, a snowball sampling method was employed, wherein initial participants were asked to refer peers who also met the study criteria, thereby expanding the participant pool through networks of acquaintances. This method is particularly effective in reaching a targeted subset of a population that is knowledgeable about or experienced in the subject of interest (Atkinson & Flint, 2001).

B. Instrument

An online questionnaire was developed and distributed through Wenjuanxing, a popular platform for survey administration in China. This questionnaire was designed to capture a range of data on the students' use of MALL strategies, including their preferences, frequency of use, the specific apps, and the specific learning strategies they employ in their spoken English learning pursuits.

The questionnaire consists of the following sections, each targeting a key aspect of the language learning experience with mobile applications among Chinese undergraduates:

1) Demographics: Gathering essential background information on the participants, such as gender and academic year, to understand the diversity of the sample and potentially correlate these variables with language learning preferences and outcomes.

2) Self-Assessment of Proficiency: Allowing students to evaluate their own English listening and speaking skills provides personal insights into their perceived competencies and challenges, which can be crucial for tailoring language learning tools to different proficiency levels.

3) Learning Habits: Identifying when and how frequently students use mobile apps for language learning offers valuable data on the integration of mobile learning into daily routines.

4) Learning Environment Preferences: Understanding where students prefer to engage with language learning apps can inform the contextual design and functionality of these apps.

5) Language Learning Activities: Exploring the types of activities students conduct via mobile apps, such as vocabulary building or pronunciation practice, can provide insights into the perceived effectiveness of different learning modalities.

6) Specific Apps or Resources for Spoken English Learning: This section captures the range of tools utilized by students, revealing preferences for holistic language learning suites versus specialized apps for particular skills like speaking or vocabulary.

7) Preferred Apps: Students articulate their preferred apps for learning spoken English and explain their choices, offering qualitative data on user satisfaction and app selection criteria.

8) Strategy Usage of Mobile Apps for Oral Practice: Students' responses to how they use mobile apps for various oral practice strategies paint a picture of how mobile technology supports or enhances traditional language learning methods.

By dissecting the MALL process through this detailed questionnaire, the study seeks to understand the efficacy of mobile applications as educational tools for improving English language proficiency, particularly spoken English, within the context of higher education in China.

The reliability of the questionnaire was measured using Cronbach's alpha (α), which yielded a coefficient of 0.868. This high level of internal consistency suggests that the instrument is reliable, with a strong correlation among the questions. Moreover, the structural validity was established through factor analysis, confirming that the questionnaire items effectively reflect the respondents' English learning situations, attitudes, and habits. The high reliability and validity of the questionnaire corroborate its suitability for this research.

C. Data Collection

The data collection process involved disseminating the online questionnaire to the sample participants. Participation was voluntary and anonymous, ensuring the integrity of the responses. Finally, there were 53 questionnaires collected for the analysis purpose.

D. Data Analysis

Data obtained from the questionnaire were analyzed using Statistical Package for the Social Sciences (SPSS) and Microsoft Excel. SPSS was employed for its robust statistical capabilities, particularly for factor analysis and reliability testing, while Excel aided in the organization and visualization of data. Descriptive analysis focused on identifying patterns in MALL usage, correlating strategy use with self-reported language improvement, and determining the prevalence of various apps and learning strategies among the sample population.

5. Result and Discussion

Through analyzing data from the questionnaire, the answers to the research question are presented in the following section.

A. Sub Question 1: When?

The temporal distribution of spoken English language learning activities showcases that learners engage with mobile apps throughout the day, indicating a flexible approach to integrating language study into their daily routines. The pronounced preference for utilizing language learning apps during "rest time" and "evening" hours suggests that learners favor periods of leisure and the tranquility of the evening for their studies. While the time slots of "early morning" and "on the way to and from school" have a comparatively lower proportion, the data still reflects a dedicated segment of learners who capitalize on these times, demonstrating diligence and a commitment to language learning. The minimal inclination towards using apps "during meals" might be indicative of a cultural preference for mealtimes to remain undisturbed by educational activities, or it may point to a time conflict with other popular study periods.

In synthesizing these findings, it is clear that the use of mobile phone apps to learn oral English is primarily designed to fit in with learners' leisure and evening schedules, but there are also various preferences and habits. In order to improve user experience and efficiency, app developers could consider optimizing functionality to align with prevailing study schedules. In addition, introducing specialized content or functionality for less-used time periods, such as early mornings and commuting times, can expand app usage during these times.

B. Sub Question 2: Where?

The locales of oral English learning via mobile apps are telling of learners' preferences for comfort and conducive environments. A significant majority, accounting for 71.15%, select their home or dormitory as the prime location, emphasizing the importance of a relaxed atmosphere. The study room and library are chosen by 53.85% of the learners, which highlights the importance that learners attach to the quiet and learning atmosphere. Classrooms, with a substantial 44.23%, indicate that mobile apps are leveraged as supplementary aids to traditional learning, serving as tools for consolidation and review.

Mobile and fragmented learning during commutes, at 30.77%, and while waiting, at 32.69%, are also prominent, demonstrating learners' proclivity to exploit transient moments for language acquisition. Conversely, the lower prevalence of outdoor settings, at 17.31%, may suggest that distractions inherent to these spaces detract from their viability as learning environments.

In summary, the preference for using mobile apps at home, at school, or while travelling highlights the adaptability of MALL, while infrequent outdoor use sheds light on the environmental factors that influence mobile language learning. This knowledge can help to tailor language apps to learners' preferred environments, thereby supporting a more effective and engaging language learning experience.

C. Sub Question 3: What mobile Apps?

An examination of the students' app usage for spoken English enhancement reveals diverse preferences:

1) Whole package LL apps: 33.96% of students engage with all-in-one language learning platforms.

2) Separate LL skills Apps (Speaking): The most utilized category, with 50.94% of students selecting apps focused on spoken language skills.

3) Separate LL skills Apps (Vocabulary): The predominant choice, used by 71.70% of students, reflecting a strategic emphasis on vocabulary mastery.

4) Separate LL skills Apps (Listening): Chosen by 47.17% of students, indicating a comprehensive approach to language skills development.

5) Separate LL skills Apps (Speaking): Used by 18.87% of students for practice with native speakers or AI interfaces.

6) Translators and dictionaries: Essential tools for 43.40% of students in their language learning journey.

7) Communication tools: Adopted by 22.64% of students, facilitating conversational practice.

8) Additional apps: Engaging 26.42% of students, these platforms offer innovative, immersive language learning opportunities.

9) Others: No participants reported using resources beyond those listed, suggesting the thorough coverage of language learning tools in the questionnaire.

This array of choices showcases the multifaceted nature of spoken English learning, where vocabulary development takes precedence, yet there is a balanced engagement with apps catering to various language competencies. The popularity of vocabulary apps may signify their foundational role in language learning, while the significant use of apps for speaking and listening skills demonstrates a holistic approach to language proficiency.

Focusing on individual choices among mobile apps, some interesting results are discovered.

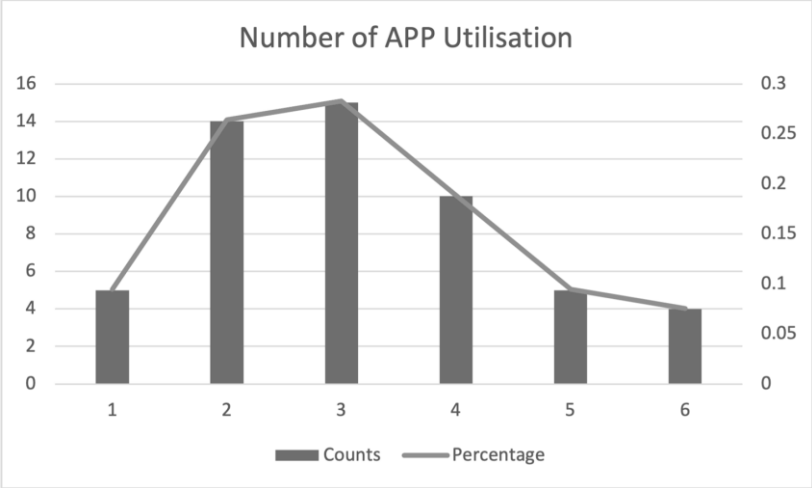

Fig. 2. Number of APP Utilization

The graph (Fig. 2.) shows the distribution of the number of applications or resources used by the participants (n=53) for language learning. In Fig. 2, the X-axis represents the number of apps or resources each student uses, ranging from 1 to 6. The left Y-axis indicates the count of students using each specific number of apps, while the right Y-axis shows the corresponding percentages, reflecting the proportion of the total participants that each bar represents. The following analysis is based on the counts provided:

A small number of students (n=5) use only one application or resource. This may indicate a strong preference or loyalty to a particular platform, or it may reflect a targeted approach to language learning that focuses on a particular skill.

The highest number of students (n=15) used three apps or resources. This suggests that students take a balanced approach to language learning and that they may use different apps for a variety of skills such as speaking, vocabulary and listening. It is worth noting that about two-thirds of the participants of this group employ vocabulary apps in their apps mix. This may indicate that students have a strong focus on building vocabulary as a foundation for language learning.

The use of two apps or resources was a close second with 14 students choosing this approach. Students may pair one integrated app with a specialized app for a more focused learning experience.

The use of four apps or resources was also prevalent (n=10), suggesting that these students may be looking for a wide range of learning experiences or combining learning apps with utilities such as translators or dictionaries.

Fewer students used five or six different apps or resources. This level of diversity may reflect a highly holistic approach to language learning, but it may also indicate that students are exploring options to determine what works best for them.

Overall, the data suggests that most students preferred to use a variety of apps or resources, which may have provided them with a well-rounded learning environment in which to develop a variety of language skills. It also suggests a potential trend in language learning whereby students are no longer relying on a single solution but are curating their own set of tools to help them develop their language.

D. Sub Question 4: What Mobile-assisted language learning strategies?

The deployment of MALL strategies among learners is varied, with certain preferences emerging:

Memory Strategies (MS): Contextualized learning and review features are effectively used to reinforce memory.

Cognitive Strategies (CS): Pronunciation practice and engagement with media are actively pursued, with a notable trend towards imitating sentences and employing set phrases to enhance speaking skills.

Compensation Strategies (CPS): Selecting familiar topics and utilizing AI for conversational prediction are indicative of learners' tactical approaches to overcoming language barriers.

Metacognitive Strategies (MCS): Goal setting and progress monitoring are undertaken with a clear purpose, reflecting a strategic approach to language learning.

Affective Strategies (AS): Managing speaking anxiety and boosting confidence through app usage are recognized as critical to language acquisition success.

Social Strategies (SS): Sharing experiences, seeking clarification, and practicing with peers are social engagements that complement the language learning process.

The data underscores a pronounced preference for cognitive strategies that actively involve learners in spoken English practice, such as through dialogue simulations and pronunciation exercises. Additionally, social strategies emerge as crucial, emphasizing the importance of communication and interaction in learning spoken English. Learners demonstrate a readiness to integrate diverse approaches into their daily routines, exploring innovative methods that facilitate oral language proficiency. This trend reflects a strong conviction among learners in the efficacy of MALL to enhance their journey toward spoken English mastery.

6. Conclusion

This research has illuminated the multifaceted nature of Mobile-Assisted Language Learning (MALL) strategies among Chinese undergraduates in learning spoken English. The findings of the study reveal that students often use mobile apps to learn oral English during their downtime, especially in the evenings and during breaks, when they can study on their own in a relaxed setting. Vocabulary apps emerged as a primary tool, pointing to a strategic emphasis on building a strong linguistic foundation. Moreover, a significant lean towards cognitive and social strategies underscored the learners' preference for interactive learning experiences that foster active language use and collaboration.

These insights suggest a shift towards diversified and autonomous language learning approaches, facilitated by mobile technologies. For educators, these findings emphasize the importance of integrating versatile, easy-to-use MALL strategies into language instruction to meet diverse needs and schedules of students. App developers are encouraged to create adaptable MALL solutions that align with learners' preferences. Policymakers might consider these trends in language education to foster environments that support mobile learning infrastructures.

Future research can further explore the connection between MALL apps and language learning strategies through inductive methods. It should also consider experimental studies to assess the enduring effects of MALL on linguistic proficiency. Additionally, exploring the influence of emerging technologies, such as artificial intelligence (AI) and augmented reality (AR), could offer insights into how these innovations enhance student engagement and the overall effectiveness of MALL (Ahmad *et al.*, 2019).

In conclusion, the integration of MALL apps and language learning strategies represents a potent enhancement to traditional language learning methods, offering a dynamic and adaptive pathway for students to achieve English language proficiency in an increasingly interconnected world.

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