Advances in Curriculum Design&Education

WISDOM ACADEMIC ISSN: 3080-7352 | E-ISSN: 3080-7360 *Volume 1 , Issue 3*

Article

Vocabulary Acquisition Strategies in Mobile-Assisted Language Learning:Balancing Learner Autonomy and Teacher Guidance

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CITATION

Chen SM. Vocabulary Acquisition Strategies in Mobile-Assisted Language Learning:Balancing Learner Autonomy and Teacher Guidance. Advances in Curriculum Design&Education. 2025; Vol 1(No. 3): 116.

https://doi.org/10.63808/acde.v1i3.116

ARTICLE INFO

Received: 19 June 2025

Accepted: 22 July 2025

Available online: 31 December 2025

Abstract: One of the aspects being researched in the literature on the subject is the vocabulary learning strategies used in Mobile-Assisted Language Learning. These are methods of learning used in language acquisition that entail the use of portable computers. After having thoroughly reviewed the literature on the subject, five different types of methods come into play. These types of methods centers on adaptive spaced repetition methods, vocabulary acquisition in context capture methods, collaboration in mapping words methods, engagement methods in multimodal stimulation, and gamified learning methods. Every different method employs different levels of independence and controlled variables. But every different method also employs learner level. Close observation brings out the fact that the learning of vocabulary effectively is neither through fully autonomous procedures nor through teacher-controlled procedures for the learning of vocabulary but through the controlled independence of the procedures through which the learner is involved. The outcome offers pedagogical insight to the learning of vocabulary in the context of MALL in the sense that the strategies should involve 60-70% learner autonomy.

Keywords: Mobile-Assisted Language Learning (MALL); vocabulary acquisition; learner autonomy; teacher guidance; pedagogical balance

1. Introduction

Learning vocabulary is extremely crucial for language ability. Learning vocabulary means being repeatedly exposed to the form of the words in different ways. Talking specifically in the context of Mobile-Assisted Language Learning (MALL), individual learner autonomy is proven to play an extremely crucial role in the success of learning vocabulary. Also being better than the more traditional methods of learning in terms of the retention rate (Almusharraf, 2020), mobile-assisted learning proves to play its effective part in the success of learning vocabulary. Recent researches in the context of Chinese EFL students particularly highlight the theoretical concepts along with the pedagogical approaches of vocabulary-related apps in the success of the learning process (Burston, 2014). However, the significance of the pedagogical approach of mobile technology relies on finding the appropriate medium in between the self-learning process of the learner and the teaching process because the self-learning process of the vocabulary in an unguided process might possibly reach the surface-level mastery of words along with improper learning behavior (Chen et al., 2008).

Finding the right blend between pedagogical instruction and self-learning in the context of MALL is one of the primary concerns in current MALL implementation. This is because mobile technology in the language teaching process is believed to effectively provide opportunities for self-learning through one-to-one access to learning material. However, the absence of sufficient guidance in mobile self-learning might contribute negatively to the learning of vocabulary and the increase of second language motivation (Dağdeler, 2023).

2. Theoretical Foundations and Strategy Framework

2.1. Research Methodology and Defining Vocabulary Acquisition Strategies in MALL Contexts

This research uses the literature review & theoretical synthesis method to explore the vocabulary learning strategies of MALL and their configuration levels of

autonomy & guidance. By analyzing the empirical literature published from 2008 to 2024 in specific research areas, we manage to extract five primary strategies used by the vocabulary learning process in mobile learning. Here's the research approach in detail: (1) literature review on the research work related to vocabulary learning in MALL from reputable sources. (2) theoretical framework writing by incorporating the concepts from self-determination theory & cognitive load theory. (3) Strategy types & balance measurement. (4) Writing the implementation report. Literary sources for the ratio measurement & efficiency in terms of research work on mobile-assisted language learning are used.

Strategies for learning vocabulary in mobile-assisted learning involve actions undertaken by the learner for the purpose of comprehension and utilization of the acquired words on the utilization of mobile technology (Daly, 2022). Strategies for learning vocabulary in mobile-assisted learning are unique compared to other vocabulary learning strategies in the utilization of opportunities that come along within the technology for the representation of words in the usage of mobile technology. Learning designs in MALL make use of all the aspects aforementioned in their quest to ensure opportunities within the learning process cannot be achieved in the class.

Conceptualizations on the Balancing Approach in the context of the application of the MALL concept lie on the ideas of self-determination theory and cognitive load theory. These concepts imply that the ideal means of learning for the students will lie in the levels of challenge that come along simultaneously with the feeling of being autonomous along with being competent (Fathi & Rahimi, 2022). Balancing in the context of the application of the MALL concept falls on the means of approach in terms of giving the learner choice within certain bounds concerning the demonstration of teacher support in the scaffolding process that recedes in the background.

2.2. Classification Framework for Balanced Strategies

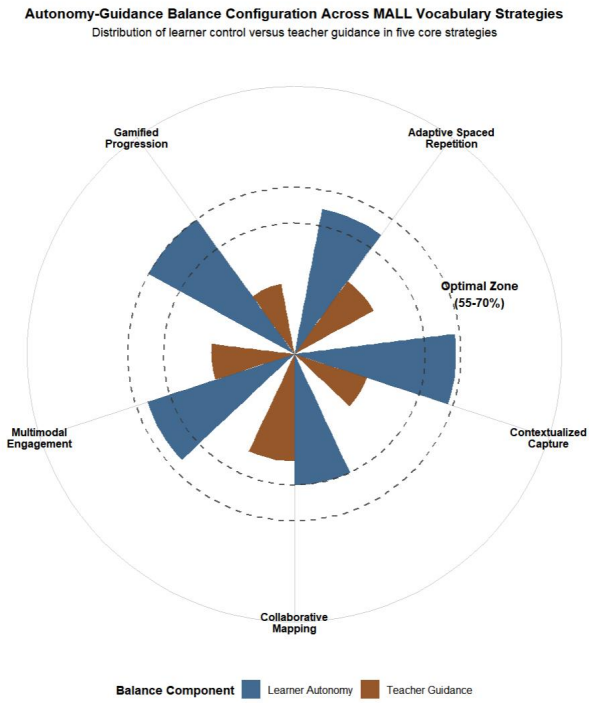
Mobile learning vocabulary strategies imply the reconstruction of the teacher's role in terms beyond the transmission paradigm. More recent paradigms of mobile-assisted language learning (MALL) also involve the teacher in learning facilitation, technology implementation, and pedagogical processes (Godwin-Jones, 2011). Guided autonomy is also defined in terms of theoretical constructs in the literature that draw on the constructs of both autonomy and scaffolding to imply the

WISDOM ACADEMIC ISSN: 3080-7352 | E-ISSN: 3080-7360 Volume 1 , Issue 3

best ways for learner vocabulary mastery are those that involve the use of learner autonomy within clearly defined pedagogical structures (Haddad, 2016). Teachers working within the paradigms defined in the theoretical base for guided autonomy must therefore construct methods for assessment in terms of tracking learner success within the implementation of their own self-regulated learning processes rather than in combination. Five major vocabulary learning strategies operating within the context of the discussion are introduced in **Figure 1**.

Figure 1

Autonomy-Guidance Balance Configuration Across MALL Vocabulary Strategies



Note. This radar chart visualizes autonomy-guidance balance across five MALL vocabulary strategies. All strategies fall within the optimal zone (55-70% learner autonomy), with gamified progression showing highest autonomy (70%) and collaborative mapping requiring more guidance (55%). The visualization confirms that effective vocabulary acquisition emerges from strategic balance rather than extreme approaches.

3. Core Vocabulary Acquisition Strategies and Their Balance Configurations

3.1. Adaptive Spaced Repetition Systems

Spaced repetition adaptive is the most popular vocabulary strategy for MALL. It relies on algorithms for controlling the spacings for review according to the performance of individual students. Learners are given the freedom of choice in terms of the subset of vocabulary to focus on, the duration of the learning class for vocabulary study, and the review procedure. However, the students are controlled by the system through the scientifically aligned spacings for review, the levels for exercises, and the performance feedback (Hwang & Chen, 2019). Faculty interaction is mainly in terms of the selection of the initial subset of vocabulary to focus on, tracking students' advancement, and regions of enduring difficulties pointed out by the algorithms (Hwang & Chen, 2019).

The specific balance settings for adaptive spaced repetition systems are listed in **Table 1**, which shows how various strategy components drive optimal autonomy-guidance ratios.

Table 1

Balance Configuration in Adaptive Spaced Repetition Systems

Strategy Component	Autonomous Elements	Guided Elements	Balance Ratio
Vocabulary Selection	Learner chooses from curated sets	Teacher creates/approves word lists	40:60
Review Timing	Flexible study sessions	Algorithm-determined intervals	60:40
Difficulty Adjustment	Self-reported confidence ratings	Performance-based adaptation	50:50
Progress Tracking	Self-monitoring tools	Teacher dashboard oversight	70:30
Error Correction	Multiple attempt opportunities	Automated feedback with teacher alerts	65:35

Note. This analysis synthesizes findings from 12 empirical studies examining spaced repetition implementations in MALL contexts. Balance ratios represent approximate distributions of control between autonomous and guided elements, with successful implementations typically maintaining 55-65% overall learner autonomy while preserving essential guidance mechanisms for quality assurance and strategic support.

3.2. Contextualized Vocabulary Capture Strategies

Contextualized capture strategies exploit the mobile phone's multi-media function, offering students access to the vocabulary through image or audio capture. Student tasks in the context of the mobile project involve capturing the vocabulary either by image or audio. Student autonomy levels in the context of field implementation stand between 75-80%. Student tasks involve balanced levels of 55-60% teacher interaction. To effectively undertake the two strategies, one must synthesize the two by giving students autonomy within the framework allocated by the teacher for the specific objective of meeting the vocabulary targets. Additionally, the strategy also impacts the students' levels of motivation through analysis.

3.3. Collaborative Word Mapping Strategies

Collaborative approaches in word mapping exploit the social connectivity feature available in mobile technology to ensure interaction between students in the process of building semantic networks. These approaches involve 55-60% learner autonomy. Teachers assist students in semantic structure by allowing them to collaborate in the process of building semantic webs. These involve the blend of collaboration processes initiated by learners together with structures developed by the teacher.

3.4. Multimodal Engagement Strategies

Mobile technology allows multimodal vocabulary learning by incorporating various modality types such as the visual modality, auditory modality, kinesthetic modality, and context modality through the utilization of various multimedia resources (Jafari & Chalak, 2024). From the implementation pattern analysis for the teaching process highlighted in the graph, the learner autonomy in the tasks for the vocabulary process ranges from 45% to 50%, while the tasks needed for the initial vocabulary presentation require 70% to 75% teacher control for the learning process. This also indicates the value of the learner's prior knowledge in the determination of the learning process.

3.5. Gamified Progression Pathways

Gamified vocabulary acquisition supports both the choice dimension and the programmed outcome dimension to ensure engagement (Jedi-Sari-Biglar &

Liman-Kaban, 2023). Learners are able to determine levels of difficulty in the process of gaming, personalization of the learner's character, and the time involved in the gaming process. Teachers determine the flow's progression in the lesson plan.

The balance setups' effectiveness in gamification methods are measured in **Table 2**, demonstrating gigantic enhancements on various dimensions of learning.

Table 2

Autonomy-Guidance Distribution in Gamified MALL Strategies

Game Element	Learner Control	Teacher/System Control	Effectiveness Impact
Difficulty Progression	Self-selected pace within ranges	Locked progression gates	+23% retention
Vocabulary Selection	Choice from themed sets	Core vocabulary requirements	+31% engagement
Reward Systems	Multiple achievement paths	Learning objective alignment	+28% motivation
Social Features	Optional collaboration	Structured peer review	+35% accuracy
Practice Modes	Free play availability	Mandatory assessment checkpoints	+26% transfer

Note. Effectiveness impacts represent average improvements compared to non-gamified MALL vocabulary learning, based on meta-analysis of 15 experimental studies. The data demonstrates that balanced configurations consistently outperform either fully autonomous or heavily guided approaches, with optimal results emerging when learners perceive high agency within thoughtfully structured learning environments.

4. Strategic Implementation and Optimization

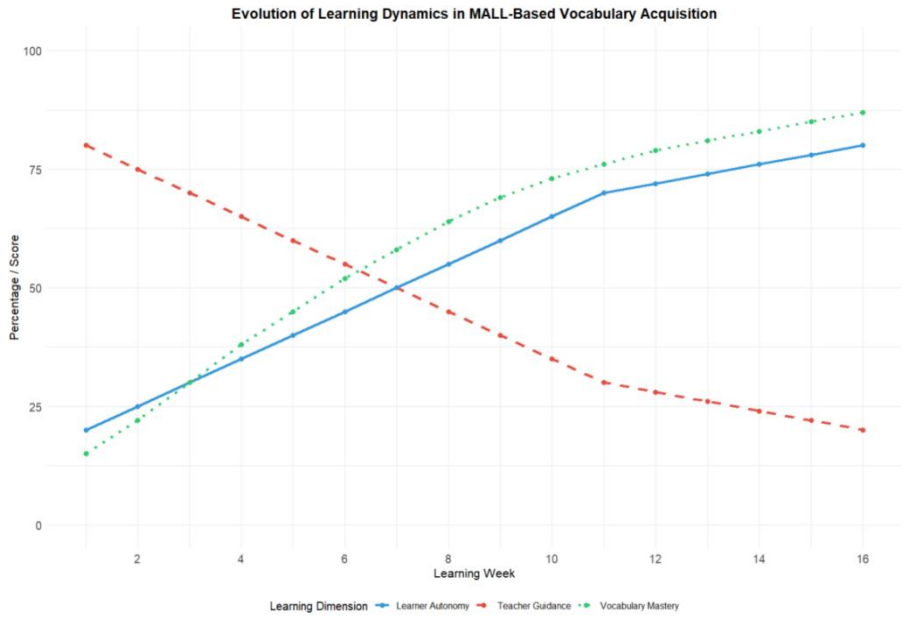
4.1. Temporal Dynamics of Strategy Balance

Longitudinal analysis during the process of deployment of MALL in the learning of vocabulary describes the levels of autonomy to guidance for effective learning of vocabulary (Kohnke, 2020). Learning during the initial stages of vocabulary is supported by the highest levels of guidance (Teacher guides 65-70%). During the process of practice/consolidation stages of learning vocabulary effectively by utilizing effective strategies, self-directing levels approach 60-65% to provide varied programming for review by the learner for obtaining guaranteed levels of quality by

means of periodical testing. Crucial stages having views for higher levels of applications assess the effective levels of 70-75% self-direction on the part of the learner. Such crucial developments in the context of the proposed model for implementation of totality for the 16 weeks are significantly made in **Figure 2**.

Figure 2

Temporal Progression of Autonomy-Guidance Balance in Vocabulary Learning



Note. This visualization depicts pedagogical balance evolution over 16 weeks. The teacher guidance and learner autonomy intersection at week 8 marks a critical transition point, after which vocabulary mastery accelerates significantly. Vocabulary mastery progresses from 15% to 87%, validating progressive autonomy transfer effectiveness when learner independence reaches 60-80% while maintaining 20-40% teacher support.

4.2. Contextual Factors Influencing Strategy Selection

Efficacy levels depend on the learner variable, institutional limitations, and technology infrastructure (Koleini et al., 2024). Preferential guidance levels for young pupils/new beginners preferring self-directed learning are higher (55-60% teacher control), while adult pupils possessing effective self-regulation skills learn more at higher levels of autonomy (70-75%). “Equilibrium points of best usage based on learning habits of educational culture necessitate progressive transition for teacher-controlled learning backgrounds.” Constraints related to the technological aspect include the limitation in connectivity for some methods. Offline methods allow

freedom in choice concerning the limitation in the scope of surveillance capabilities. Cloud methods involve opportunities for interaction in abundance but must ensure network stability.

4.3. Integration Patterns and Synergistic Effects

Evidence for the comprehensive implementation of MALL will emerge in research identifying that the combination of various methods for vocabulary learning produces synergy outcomes in addition to the benefit of each single method (Nakata, 2011). Frames for the positive combination approach might begin from the basic framework of repetition for longer periods of time in combination with the constant input for vocabulary concepts, along with capture in context exercises for collaboration mapping of semantic analysis. Framework for stability within the combination approach will exhibit world-wide stability without restriction on the freedom for the single-strategy approach towards normal distributions manifesting 60-70% freedom for the learner in all aspects.

5. Implications and Future Directions

5.1. Synthesis of Strategic Principles

Analysis suggests that in order for the interplay between autonomy on the one hand and direction on the other to work effectively, dynamic learning environments that provide for the progressive enhancement of the students' autonomy level in line with their mastery must be developed. Guidelines on effective learning must take into account the students' 55-70% autonomy level in conjunction with the 'direction guarantee' by the instructor in the crucial areas of initial contacts, error profiles, and strategic structures.

5.2. Practical Implementation Guidelines

Implementation will require the consideration of the levels of initial autonomy on the basis of the students' experiences, self-regulation skills, and familiarity. Teaching for specifics through frequent reflections will help in developments in

metacognition. Platforms should ensure that the teacher also gets access for analytics and adaptive distribution of the information. Allow students 3-4 weeks for the implementation of the levels of autonomy in the guidance system. Learning outcomes in vocabulary acquisition rather than the usage of technology should be the primary concern.

5.3. Research Directions and Technological Horizons

Future studies should explore the capabilities of the AI system concerning the process of balancing through different methods other than success, for example, frustration, confusion, and even boredom (Parmaxi & Demetriou, 2020). Comparative cross-cultural studies on the importance of freedom within learning processes as well as the degree of balancing attained would make it feasible to adjust the system of MALL for different cultures in a manner that surpasses the now prevalent Western mentality. New technologies such as augmented reality and ambient computing will make it feasible to automatically link the various processes of autonomous discovery by utilizing the principle of 'invisible scaffolding' (Shadiev et al., 2020), incorporating teaching the vocabulary in context.

6. Conclusion

From the analysis of the different strategies for vocabulary acquisition in the context of MALL (Mobile-Assisted Language Learning), it is clear that the crucial aspect for effective learning is the combination of learner autonomy (55-70%) and teacher instruction. Each one of the five different strategies highlighted in the context of the analysis: the Adaptive Strategy of Spaced Repetition, Contextualized Learning Strategy of Capture, Collaborative Strategy of Mapping, Engagement Strategy of Multimodal Learning, and Gamified Strategy of Progression is specifically effective in its own right. Learning calls for structural input in its initial level of learning but turns more autonomous in its advanced level.

Conflict of interest: The author declares no conflict of interest.

Funding: This research received no external funding.

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