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"Enthusiasm is Contagious": Teacher Support for Mobile-Assisted Language Learning in a Self-Study Context

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This study explored how teachers could provide support to enhance students' out-of-class mobile-assisted language learning (MALL) engagement. We interviewed five Korean English teachers who used *Class Card*, a focal technology of this study, for their students' self-directed vocabulary learning. Additionally, students of the interviewed teachers completed a survey on their perceptions of teacher support and MALL engagement. This study has three major findings. First, the teachers adopted either a proactive or a passive approach to promoting students' out-of-class MALL engagement, which was influenced by their beliefs about whether teachers or students should be responsible for learning beyond the classroom. Second, all teachers provided orientation and behavioral support to enhance out-of-class MALL engagement, although the consistency and intensity in providing this support varied between proactive and passive teachers. Finally, students who perceived higher levels of teacher support reported greater out-of-class MALL engagement. We discuss the importance of classroom-based teacher support to enhance MALL engagement beyond the classroom as pedagogical implications.

Key words: mobile-assisted language learning, teacher support, technology acceptance, L2 learning beyond the classroom

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1. INTRODUCTION

The importance of second language (L2) learning beyond the classroom has been extensively recognized (e.g., Reinders, Lai, & Sundqvist, 2022). With the development of advanced technology, L2 learning can now occur anytime and anywhere. Relatedly, mobile-assisted language learning (MALL), especially in self-study contexts, has been recognized for its potential to complement in-class L2 instruction. The flexibility of MALL due to easy accessibility on various technology platforms provides learners with numerous options of how, when, and where to study. Indeed, there is empirical evidence that MALL can positively affect L2 learning (e.g., Loewen, Isbell, & Sporn, 2020; Sudina & Plonsky, 2024). However, high attrition rates in out-of-class contexts have been identified as a barrier to the possible benefits of MALL (Hwang, Coss, Loewen, & Tagarelli, 2024). One suggested solution to increase learners' MALL engagement is incorporating teacher support into existing learning contexts (e.g., García Botero, Botero Restrepo, Zhu, & Questier, 2021; He & Loewen, 2022). In this regard, it is important to consider teachers' efforts or strategies to enhance students' engagement with apps. In this study, we interviewed five teachers in an English as a foreign language (EFL) context, who implemented out-of-class MALL for students' self-directed vocabulary learning. Based on the findings, we discuss pedagogical implications in light of the importance of teacher support in enhancing out-of-class MALL engagement.

2. BACKGROUND LITERATURE

2.1. L2 Learner Engagement in Out-of-Class MALL

While there is empirical evidence for positive associations between the amount of time spent on apps and actual L2 learning gains (e.g., García Botero et al., 2021; Kessler, Loewen, & Gönülal, 2023; Loewen et al., 2019, 2020; Seibert Hanson & Brown, 2020; Sudina & Plonsky, 2024), low app engagement has been identified as a significant barrier to successful MALL implementation. This presents particular challenges for app-based L2 learning in informal settings, where less availability of external accountability (e.g., course requirements) can make it difficult for students to use apps for extended periods.

Indeed, previous studies have shown that MALL in self-study contexts can suffer from a very high drop-out rate in the early stages and continuous attrition throughout its implementation process. In García Botero, Questier, and Zhu (2019), 574 university students were introduced to an app for independent language learning, but only 149 students reported using the app after the initial introduction. During a one-year tracking period, there was a

gradual decrease in the number of active users and their average number of lessons completed per month. It turned out that only 12 students were able to finish a language course provided in the app. Similarly, Jeon (2022) analyzed the usage patterns of a speaking app for self-directed learning over eight weeks. The target app was introduced to 179 English learners in a Korean primary school, but 59 learners did not use the app after the initial introduction session. Out of 120 learners who tried the app at least once, 78 learners showed a very low level of engagement, using it less than ten days throughout the eight weeks. Only nine learners continued to use the app for more than 30 days. The number of active users per week dropped to around 14 to 18 after Week 4. In both studies, students were not required to download or use the app, aiming to simulate out-of-class app usage in a self-directed learning environment. These findings indicate that simply providing the opportunity to use apps does not ensure high MALL engagement out of class.

Relatedly, it is noteworthy that the presence of extrinsic motivation or pressure (e.g., rewards, punishments, approval from self and others) does not necessarily lead to considerable improvement in out-of-class MALL engagement. Seibert Hanson and Brown (2020) asked 66 college students to study L2 Spanish out of class by using a vocabulary app. As part of the course requirements, the students needed to use the app for at least 5 minutes per day and at least 5 days a week to get full credit. Despite such external regulation, the number of active users was almost halved one week after the target app introduction, with a gradual decline throughout the following weeks. The app was used an average of 1.72 days per week, and only 14 students maintained the usage of at least 3 days per week over the 11 weeks. In Loewen et al. (2020), 85 university students were invited to study L2 Spanish on an app for about 10-15 minutes daily on their schedule and were promised monetary rewards in exchange for their full participation in the 12-week study. At the end of the course, the researchers applied the following three criteria for inclusion in the study: (a) a minimum of 3 hours of usage in total, (b) at least 20 minutes of usage per week, and (c) no breaks in usage lasting four or more weeks. Despite the rather lenient criteria, 31 students failed to satisfy two of the three requirements, resulting in an attrition rate of 32%. Although external pressure or incentives were imposed on learners in these two studies, this external accountability did not appear to greatly enhance out-of-class MALL engagement.

To summarize, previous MALL studies in out-of-class settings show a consistent disengagement pattern, regardless of whether learners are extrinsically stimulated or not. While learners may initially be interested in using apps for L2 learning because of a sense of novelty, a large number of students stop using them soon after. This steep drop-out phase is then followed by a gradual decline over time, with only a small group of students remaining consistent users throughout the study. One possible explanation for the low engagement in MALL is that previous studies in self-study contexts simply invited students to use apps, but no systematic support or additional guidance was provided after the initial

app introduction to bolster students' independent app usage further. These findings suggest that consistent teacher support throughout app usage may be essential to better structure students' out-of-class MALL experiences.

2.2. Teacher Support for Out-of-Class MALL Engagement

Previous studies have empirically demonstrated that teachers can play an important role in enhancing out-of-class MALL engagement (e.g., García Botero et al., 2021; He & Loewen, 2022; Hoi & Mu, 2021). One line of research uses technology acceptance models to understand factors affecting MALL engagement. One of the most recognized frameworks is the unified theory of acceptance and use of technology (UTAUT) (Venkatesh, Morris, G. Davis, & F. Davis, 2003). Khan et al.'s (2022) meta-analysis of the UTAUT model found that significant others (e.g., parents, friends, teachers) have a strong impact on individuals' adoption of mobile learning. This positive effect of the social factor has also been demonstrated in MALL contexts. Previous studies showed that social influence played a crucial role in shaping students' attitudes toward MALL, which in turn affected their actual MALL engagement (e.g., García Botero, Questier, Cincinnato, He, & Zhu, 2018; Hoi, 2020; Hwang, 2025; Zou, Li, & Jin, 2022). However, while these studies provided valuable insights into the importance of teachers in improving students' MALL engagement, they did not explicitly discuss how teacher support could be effectively provided.

Another line of research has approached this topic from motivation-learning frameworks, particularly focusing on how teachers can enhance students' MALL engagement beyond the classroom. For example, García Botero et al. (2021) explored the effectiveness of self-regulation training on app engagement in a self-study context. University L2 learners were asked to complete 12 hours of independent French learning per week by using an app as part of their coursework. A self-regulation training group received instruction based on self-regulation theory (e.g., self-observation, self-evaluation, strategic planning). Additionally, this group was provided with further guidance on how to take advantage of self-regulatory features in the target app for their out-of-class L2 learning. It was revealed that the students with self-regulation training completed more lessons on the app and showed better writing performance than the non-trained students. Similarly, He and Loewen (2022) investigated the extent to which a goal-setting strategy with feedback could enhance L2 learners' engagement in MALL. University level, Japanese EFL learners were asked to use an app for self-study vocabulary learning as an after-class course assignment. While a control group was assigned a fixed goal of studying five words per day for seven days a week, a treatment group set their own goals on the number of words and days to study. Furthermore, the treatment group completed goal-setting-and-checking activities. It was shown that the goal-setting activities had a positive impact on out-of-class MALL engagement, resulting in a

higher number of words studied by the treatment group. These findings highlight the importance of well-structured training and support to better prepare L2 learners for app-based learning beyond the classroom.

Additionally, aside from intervention-type studies, there have been efforts to systematically understand the nature and extent of teacher support for students' out-of-class MALL engagement in real-world educational settings. For example, Lai (2015) identified three types of teacher support (i.e., affection support, capacity support, and behavior support) that influenced students' use of technology for self-directed L2 learning. Building on these findings, Hoi and Mu (2021) created a statistical model that could explain how these three types of teacher support could affect students' MALL engagement. Their findings revealed a two-component teacher support construct: orientation support and behavior support (see Table 1). These two types of teacher support had positive influences on L2 learners' acceptance of MALL, highlighting the importance of teachers' active involvement. This suggests that students hold "high expectations of teachers' active roles in guiding and supporting their language learning via mobile devices both in and outside the classroom" (p. 891).

TABLE 1

Two Types of Teacher Support for Enhancing MALL Engagement

Type	Description
Orientation Support	• Teachers' encouragement and explanations to raise students' awareness of benefits of using mobile technology for L2 learning (affective support). • Teachers' recommendations and guidance on useful mobile technology resources, and strategies to utilize those resources for L2 learning (capacity support).
Behavior Support	• Teachers' explicit demonstration of specific usages of mobile technology resources and task assignment that incorporates the use of those resources into L2 learning.

Note. Affective support and capacity support in Lai (2015) were grouped into orientation support as a single construct in Hoi and Mu (2021).

Relatedly, previous studies show that L2 learners have not always received sufficient teacher support for their out-of-class technology use (see Hwang, 2025, in the context of MALL). For instance, Lai, Yeung, and Hu (2016) reported that both university teachers and students had positive attitudes toward technology-mediated L2 learning. However, there were discrepancies between teachers and students regarding who should take responsibility for promoting out-of-class technology use. Students expected greater teacher involvement and proactive support (e.g., encouragement, resource recommendations, metacognitive tips, in-class technology use, technology-enhanced assignments). In contrast, teachers tended to downplay their roles due to their perceived lack of relevant knowledge and skills to provide

appropriate support. They also overestimated students' capacities to independently navigate technology. As a result, teachers ended up adopting passive and minimal approaches to students' out-of-class technology use. Kan and Tang (2018) showed similar findings, where university EFL students used mobile technology in a self-directed manner in conjunction with formal university courses. Although a majority of students expected active teacher involvement in their out-of-class MALL engagement (e.g., recommending resources, monitoring learning processes), they perceived that their teachers played a very limited role in supporting their MALL experiences. Overall, insufficient teacher support for students' out-of-class MALL engagement might result in significant discrepancies between how teachers expect students to use apps and how students actually use them.

3. PRESENT STUDY

This study was conducted in the EFL context of South Korea. Although the national curriculum specifies that English language education aims to develop students' communicative competence and English textbooks are well-written to achieve this goal, reading and grammar are still the predominant activities in English classrooms. One reason for this is that good grades in English are crucial for students to advance to prestigious upper-level schools. This high-stakes nature of English learning outcomes tends to push parents and students to rely on private institutions for extra English lessons to excel on paper-based English tests. In this context, we propose that mobile applications could be a useful, and cost-effective tool to improve students' self-directed English learning, potentially reducing the reliance on private lessons to some extent. However, consistent use of these apps is essential to fully benefit from this learning method, and teachers can play an important role in encouraging and guiding students to stick with these tools. Therefore, we explore teachers' perceptions of their roles in supporting students' out-of-class MALL engagement. Additionally, we examine the actual support they provide and its impact on students' app usage. Three research questions (RQs) were formulated:

RQ1. How do teachers perceive their roles in enhancing students' MALL engagement out of class?
RQ2. How do teachers provide support to enhance students' MALL engagement out of class?
RQ3. To what extent does students' perceived level of teacher support correlate with their self-evaluated MALL engagement out of class?

4. METHOD

4.1. Participants

We recruited in-service Korean EFL teachers in public schools nationwide by advertising in the networks of teacher communities online. In the recruitment flyer, it was specified that only teachers who were currently implementing out-of-class MALL with their students were eligible for the study. Over two weeks, an initial pool of 19 teachers was identified. For comparability across different classroom contexts, we selected five teachers as the final interviewees, who had been using a flashcard app *Class Card* (see the Focal Technology section) for over one year prior to the recruitment process. Table 2 summarizes information on the five focal teachers.

TABLE 2

Information about Teacher Participants

Teacher (Pseudonym)	School Level	Education Level	Years of Teaching	Years of *Class Card* Implementation
Su-min	High	Master	11	3
Young-mi	Middle	Bachelor	15	2
Jin-ju	Middle	Bachelor	2	1.6
Hyun-jung	High	Master	10	3
Hae-in	High	Bachelor	13	5

All five teacher interviewees strongly believed that vocabulary is very important for students' academic achievement in English language courses. The teachers expressed a common concern that there was a great variation in students' vocabulary knowledge and that a majority of the students did not reach sufficient vocabulary levels to effectively follow in-class activities. However, the teachers struggled with allocating time to cover basic vocabulary that students were supposed to have already known from previous stages of the current curriculum. As such, the teachers clearly recognized the necessity of self-directed vocabulary learning out of class so that in-class time could be used for more communicative activities. Under this circumstance, the teachers decided to use *Class Card*.

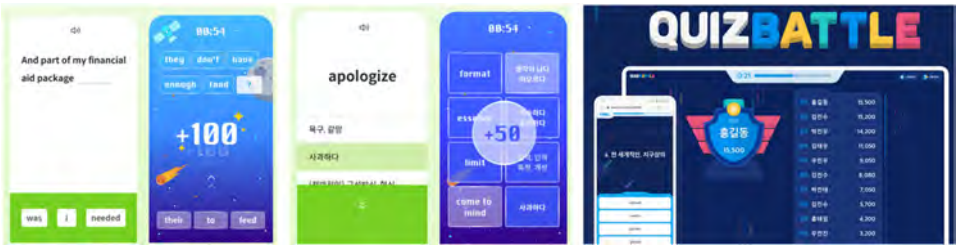
4.2. Focal Technology: *Class Card*

Class Card is a mobile app that supports English vocabulary learning in the form of flashcards. Since a Korean IT company developed Class Card, the app is well-localized to reflect the specific needs of English teachers and students in Korea. As demonstrated in Figure 1, *Class Card* offers various formats of vocabulary practice and test sets (e.g., L2-L1/L1-L2 paired associates, pronunciation recording, leaderboards), which are based on

spaced repetition algorithms and gamification elements. The distinguishing feature of *Class Card* is its teacher-friendly backend system. Teachers can flexibly customize app content to match textbooks used in classrooms, ensuring consistency between in-class and out-of-class learning experiences. Additionally, the app provides infographics on students' learning history and test results as feedback, which allows teachers to manage their classes more efficiently.

FIGURE 1

Examples of *Class Card* Features



4.3. Data Collection and Analysis

This study collected two types of data: teacher interviews (qualitative) as a primary data source and a survey of students of the interviewed teachers (quantitative) as secondary data to support the interview findings. After completing a written questionnaire, each teacher participated in a semi-structured interview about their perceptions and implementation of out-of-class MALL using *Class Card*. Each interview was conducted on Zoom by the first author in their shared L1 (Korean) and lasted approximately one hour, producing about 302 minutes of audio-recorded data in total. The audio files were then automatically transcribed with *Clovanote*, a speech recognition program specialized in Korean. The first author crosschecked the accuracy of the auto-transcription by listening to the original audio files and making micro-edits for the final transcript.

After the initial analysis of the interview data, we became interested in the relationship between students' perceived teacher support and their self-evaluation of out-of-class MALL engagement. Specifically, we hypothesized that students who perceive stronger teacher support for their out-of-class app usage would exhibit better app usage patterns (both in quantity and quality) and, consequently, evaluate their MALL engagement more positively. This led to our retrospective decision to conduct an online student survey (also in Korean). We developed the questionnaire items by adapting teacher support and UTAUT scales in previous studies (e.g., García Botero et al., 2018; Hoi & Mu, 2021), with modifications to situate the survey in the context of self-directed vocabulary learning using *Class Card*. For

example, *Class Card* was specified as the focal technology, and a heading was introduced for each item: "As for my self-directed vocabulary learning out of class…" (see Appendix for the full list of survey items). Consequently, thirty-four students of the five teachers agreed to participate and completed the survey. The survey assessed five constructs related to students' perceptions of out-of-class MALL engagement: (a) teacher orientation support, (b) teacher behavior support, (c) habitual MALL engagement, (d) attitude toward MALL, and (e) MALL acceptance. A total of 21 items were rated on a sliding scale from 0 (strongly disagree) to 100 (strongly agree). Cronbach's alphas confirmed good reliability of the survey items for each construct: six items for perceived orientation support (α = .79), four items for perceived behavior support (α = .87), three items for habitual MALL engagement (α = .89), four items for attitude towards MALL (α = .94), and three items for MALL acceptance (α = .85).

The teacher interview data were analyzed using thematic analysis (Saldaña, 2021). The analysis began with preliminary coding of the transcript by assigning *in vivo* codes. These initial codes were then grouped into larger themes (e.g., support type, teacher stance). Emerging themes were identified by focusing on significant events of interest (e.g., locus of responsibility, proactive-passive approaches). The assigned codes and identified themes were refined through an iterative process to ensure that the final themes most appropriately reflected the interview data.

We identified two recurring themes. Each resulting thematic category corresponded to one of the following research questions: teacher-student initiative (RQ1), and orientation and behavior support of teachers (RQ2). For RQ3, we used the *boot* R package to analyze the student survey data. Bootstrapped Spearman's correlations were employed using a bias-corrected and accelerated (BCa) approach with 10,000 replications due to violations of assumptions of normality and homoscedasticity.

5. RESULTS AND DISCUSSIONS

5.1. Different Perceptions of Who is Responsible for Learning Out of Class

All five teachers expressed a common concern that students with limited vocabulary, but unable to afford expensive private lessons, would keep falling behind, resulting in greater disparities in English achievements among students. To address this inequity, the teachers introduced the focal app to support students' self-directed vocabulary learning out of class as a complement to in-class instruction. However, they were clearly aware that little or no MALL engagement could be a significant problem in reaping the anticipated benefits of its use. Interestingly, although all teachers acknowledged that additional teacher guidance was

necessary to ensure students' MALL engagement out of class, they had different views on the extent to which teachers should be responsible for students' persistent app usage beyond the classroom. Su-min and Young-mi strongly expressed that teachers should take the initiative in promoting out-of-class MALL engagement, going beyond simply introducing the app to students. Notably, they emphasized the importance of showing their own enthusiasm for using the app, as it could encourage students to engage more with the app. For example, Su-min said:

> *Excerpt 1*: Teachers' sincerity sparks student MALL engagement.
> I think teachers should be sincere in [using] the app because teachers' enthusiasm is contagious. If teachers themselves do not genuinely believe that the app is helpful and only pretend to use it, their students will eventually feel such hypocrisy. I strongly believe that *Class Card* provides my students with the best learning experiences, so I genuinely hope that they can benefit from using it. Emphasizing this sincere mindset will undoubtedly influence my students.

In contrast, the other three teachers, Jin-ju, Hyun-jung, and Hae-in, strongly expressed that it was students who should take responsibility for using the app out of class. They believed that the basic role of teachers was to introduce the app and provide initial training, but the decision to use the app out of class or not should be left to students. Underlying this perspective were their doubts about how much individual teachers could realistically impact students' out-of-class behavior. Specifically, their skepticism about teachers' roles was mainly attributed to students' lack of motivation for English learning and self-directed learning ability, rather than to MALL engagement per se. Jin-ju and Hae-in did not consider helping students develop self-directed learning skills as a teacher's main job—a task going beyond the scope of English education—and were not willing to allocate their limited resources to enhancing MALL engagement over other priorities. They believed that this responsibility belonged to students. Additionally, the three teachers accepted that having only a few self-determined students using the app was an inevitable outcome of out-of-class learning. As a result, little or no app usage was not perceived as a serious drawback that needed to be overcome. For example, Hae-in said that 5 out of 25 students in her class actively used the app, which she believed was wholly expected. Hae-in observed:

> *Excerpt 2*: Low app usage is not my concern.
> Teachers' primary goal is to give students the chance to try out various apps. However, it is challenging for them to provide support beyond that. After introducing *Class Card*, I hope some students will benefit from using it. I don't

> see [students] not using the app as a critical problem that teachers should address.

Such a passive approach by the three teachers might stem from a desire to protect themselves from a sense of futility when they perceived the disparity between the teachers' expectations and students' actual use of the app. They reported feeling frustrated when they observed that their students were only interested in gamified features (e.g., quiz battles) or mindlessly pressed buttons just to complete activities. This lack of meaningful vocabulary learning demotivated the teachers from being more actively committed to encouraging app usage, ultimately shifting accountability onto their students. Overall, the three teachers were uncertain whether it was worth continuing to invest their time and energy in such unrewarding outcomes.

To sum up, the teachers had different views on who, between teachers and students, should drive out-of-class MALL engagement, resulting in varying approaches between proactive and passive teachers. These differing positions were linked to the teachers' beliefs about the extent to which they could realistically bring about change in students' app usage. While some teachers wanted to take the initiative with a positive mindset, it should also be highlighted that student-related factors (i.e., underdeveloped self-study skills, low motivation for English learning, insincere app usage) could prompt other teachers to adopt a more passive approach. Based on the findings, we compared how the two proactive teachers (i.e., Su-min, Young-mi) supported students' out-of-class MALL engagement with that of more reserved teachers (i.e., Jin-ju, Hyun-jung, Hae-in).

5.2. Teacher Support for Out-of-Class MALL Engagement

5.2.1. Support provided by teachers with a proactive approach

Su-min and Young-mi continuously reminded their students of the importance of vocabulary in English learning and encouraged them to study vocabulary whenever they had spare time. At the same time, both teachers actively recommended the focal app as an effective means to achieve this goal, rather than just another boring education app. By explicitly explaining how the focal app could contribute to vocabulary learning and, ultimately, improve performance in school English tests, these teachers aimed to justify its use and motivate students to engage with it out of class. Moreover, they emphasized the importance of aligning app content with the in-class curriculum, allowing students to readily apply what they learned on the app to in-class activities and school English tests. In this regard, the two teachers carefully selected and uploaded target words on the app, hoping that their students would recognize the usefulness of using it for self-study. Additionally, they

further publicly acknowledged students who consistently used the app by offering verbal praise or small rewards (e.g., snacks, stationery). It is noteworthy how the two teachers were conscious and strategic about consistently providing orientation support throughout the semester. Su-min and Young-mi commented, respectively:

> *Excerpt 3*: Don't just do *Instagram* in idle time.
> Rather than finding time and sitting at a desk to study words, … they spend a lot of time traveling in a car or on a bus, so I keep telling them that, 'using the app [Class Card] in such idle time will be very helpful. Please don't just do Instagram on the phone.'

> *Excerpt 4*: Put the *Class Card* icon next to the games.
> As a joke, I keep nagging students about the app, saying, 'Put the *Class Card* icon next to your favorite mobile games. Before playing games, simply press *Class Card* and finish one vocabulary practice set first.' I think it is important to use the app in their spare time while moving from place to place. … because repeating over and over is a key to remember vocabulary well.

Regarding behavioral support, Su-min and Young-mi regularly assigned various in-class activities that required the use of the app, allowing students to gain experience in successfully completing tasks with it. For example, they periodically demonstrated how to use the app out of class independently and gave homework to complete a certain number of app activities. They also intentionally presented new textbook vocabulary through the app instead of a paper worksheet to expose students to the app more frequently. The teachers believed that such curricular integration of behavior support would increase the chances of students using the app, ultimately leading to better preparation for its out-of-class usage. At the same time, the two teachers also tried to create a supportive in-class environment to keep students engaged throughout the semester. For example, Young-mi consistently customized the app content (e.g., adding pictures, giving variations to the activity types) to prevent students from losing interest after the initial excitement wore off. Su-min regularly sought feedback from her students and actively addressed their concerns (e.g., smart device not working, unstable Wi-Fi access). The proactive teachers voiced their concerns about the naive idea of leaving app use entirely up to students. They thought simply saying, 'Doing *Class Card* is helpful, so try it at home in your free time.' would not make students take the app seriously, and they might even choose not to use it at all. In this regard, the two proactive teachers believed that providing in-class support to encourage students to use the app would help them perceive it as easy and convenient, thereby boosting their confidence in using it independently out of class.

5.2.2. Support provided by teachers with a passive approach

Unlike the proactive teachers, the teachers who adopted a passive approach reported providing orientation support in an incidental and occasional manner. For example, they briefly emphasized the importance of vocabulary learning and shared personal tips and anecdotes about the benefits of using the app. Although the teachers hoped their personal experiences would influence students' perceptions of the app in some ways, this happened only in passing. Hyun-jung even felt unspoken pressure when talking about the focal app in the classroom because her colleagues refused to use it in their co-taught classes. Due to this external factor, she admitted that her provision of support fluctuated wildly.

> *Excerpt 5:* Why should I be extra bothered?
> My co-teachers oppose using *Class Card*. One teacher said, 'I don't want to be extra bothered to make an effort to encourage app usage.' There is an unspoken rule that teachers of the same grade should not teach too differently, as it might affect English test scores. If students who used *Class Card* achieve higher scores than those who didn't, teachers who do not have students use the app could face significant complaints from parents and students.

Regarding behavioral support, the teachers initially provided it in an introduction session where they helped students install and navigate the app features, but follow-up efforts were very sporadic. In other words, the three teachers offered minimal in-class support to address possible challenges students might face while using the app. In most cases, they only responded when students asked for help and did not actively seek feedback on students' experiences with the app. Although the teachers occasionally gave students opportunities to use the app in and out of class, these activities were primarily unmonitored by the teachers. Consequently, students ended up dabbling with gamification elements merely for fun, rather than meaningfully engaging in vocabulary learning on the app. One possible explanation for such a minimal approach is that the teachers might overestimate students' ability to use smart devices and apps. For example, Jin-ju said:

> *Excerpt 6*: They are a tech-savvy generation.
> Kids in this generation can pick up new technology very quickly and adapt well on their own. If someone has trouble using the app, their friends nearby step in to help, and they figure it out together. They do not need my support. So, as long as the issue is not about Internet connectivity or broken devices, students can solve problems by themselves.

In summary, all five teachers provided students with both orientation and behavior support for out-of-class MALL engagement. However, the intensity of teacher commitment varied considerably depending on their stance regarding the extent of responsibility that teachers should have for students' self-study. The proactive teachers, who believed that their attitude could influence students' app usage, consistently communicated the importance and usefulness of using the app through regular in-class training. In contrast, the more passive teachers, who were skeptical of their ability to impact students' app usage, provided limited assistance after an initial introduction, assuming that students would naturally manage the rest on their own.

5.3. Correlations Between Perceived Teacher Support and Self-Evaluated Out-of-Class MALL Engagement

Table 3 shows the descriptive statistics of the student survey ($N = 34$). Higher mean values represent a greater level of students' perceptions of teacher support and self-evaluation of the corresponding MALL constructs. Although the students had high perceptions of both types of teacher support, the higher mean of behavior support indicates that the students more readily recognized teacher support through hands-on opportunities to use the app, rather than through teachers' verbal encouragement or recommendations. Furthermore, the average score of habitual MALL engagement was lower than that of MALL attitude and acceptance. This finding suggests that while students displayed a positive attitude towards the focal app and were willing to adopt it for self-directed vocabulary learning, they did not view their engagement with it for self-study as persistent. This gap signals a potential need for additional teacher support to promote students' use of the app for out-of-class learning.

TABLE 3
Descriptive Statistics of the Survey Items ($N = 34$)

Items	*M*	95% CI		*SD*	*SE*	*Min.*	*Max.*
		LL	*UL*				
Orientation Support	70.77	65.27	76.27	15.76	2.70	40.00	98
Behavior Support	80.29	74.04	86.55	17.94	3.08	30.50	100
MALL Acceptance	71.42	64.22	78.62	20.64	3.54	20.67	100
MALL Attitude	68.96	61.70	76.22	20.81	3.57	8.60	100
MALL Habit	64.39	55.36	73.42	25.88	4.44	0.00	100

Figures 2 and 3 graphically demonstrate the correlations between students' perception of each type of support and their self-evaluation of out-of-class MALL engagement. As for orientation support, the bootstrapped BCa correlation was (a) $r = .53$ (95% CI [.24, .76]) for habitual MALL engagement, (b) $r = .57$ (95% CI [.31, .77]) for MALL acceptance, and (c) $r = .56$ (95% CI [.32, .77]) for MALL attitude. Similarly, as for behavior support, the

bootstrapped BCa correlation was (a) r = .60 (95% CI [.28, .79]) for habitual MALL engagement, (b) r = .69 (95% CI [.42, .84]) for MALL acceptance, and (c) r = .59 (95% CI [.34, .78]) for MALL attitude. These moderate-to-strong positive correlations suggest that students with higher perceptions of the orientation and behavior support provided by teachers were more likely to display stronger indicators of their out-of-class MALL engagement.

FIGURE 2

Correlations Between Perceived Orientation Support and Out-of-Class MALL Engagement

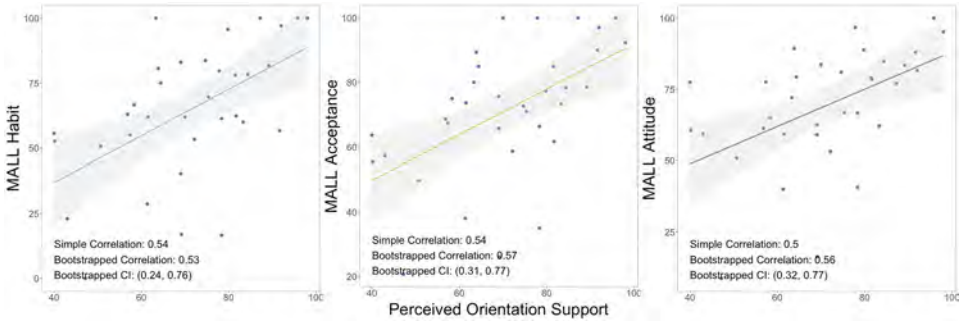
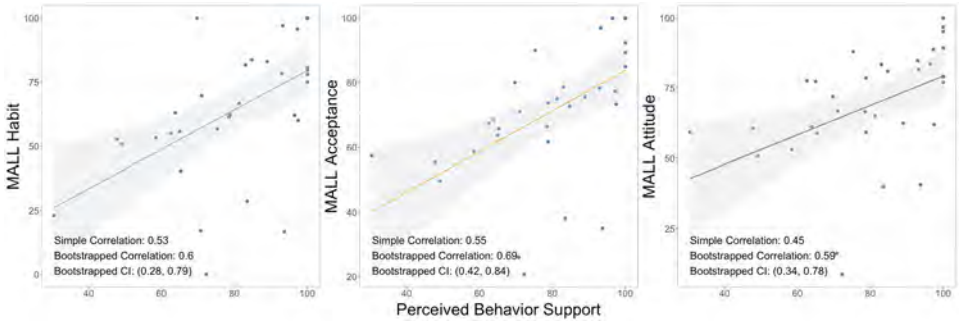


FIGURE 3

Correlations Between Perceived Behavior Support and Out-of-Class MALL Engagement



To summarize, the survey findings suggest that appropriate teacher support can positively influence students' acceptance and usage of the app and shape their positive attitudes toward MALL. These findings provide empirical evidence for the importance of social influence within the UTAUT framework (e.g., García Botero et al., 2018; Hoi, 2020; Hwang, 2025; Zou et al., 2022). Importantly, classroom-based teacher support has the potential to enhance students' use of technology for self-directed L2 learning beyond the classroom. However, this interpretation should be approached with caution due to the small sample size, which limits the representativeness of the sampled students for the interviewed teachers' classes.

6. PEDAGOGICAL IMPLICATIONS

Acknowledging that teachers' behaviors are adaptive responses to the complex interplay of various factors, we do not fault teachers for taking either a proactive or passive approach to MALL. However, if students are going to use technologies, they might as well use them as best as possible. In this regard, it becomes evident that if teachers want their students to use technologies, they should help them be as successful as possible. In out-of-class contexts where there is a lack of external accountability and pressure, we believe that an appropriate amount and type of teacher support provided in the classroom can be instrumental in enhancing MALL engagement for self-directed learning. This is particularly true for students in informal contexts, who might feel they do not receive sufficient support from their teachers (Hwang, 2025; Kan & Tang, 2018). Therefore, it is important to highlight that merely introducing apps and providing one-off support does not necessarily ensure that students will actively engage with the apps. Following Hoi and Mu's (2021) point that "teachers' roles should be manifested via teachers' encouragement and recommendation on useful mobile learning resources, as well as their explicit demonstration of how to use those resources in the classroom" (p. 892), we present three pedagogical implications on how teachers can support students' out-of-class app usage.

First, teachers' orientation and behavior support can be more effective when greater emphasis is placed on the idea that smart devices and apps can be handy educational tools beyond mere entertainment. Indeed, students who know how to use smart technology are not necessarily able to use it wisely for their L2 learning in a self-directed context. To achieve this objective, teachers might begin by demonstrating how non-educational apps like Netflix or YouTube can be used for L2 learning (e.g., subtitles, repeat player, changing playback speed). Building upon this, teachers can gradually encourage students to try general education apps (e.g., *Kahoot, Quizlet*), and specific L2 learning apps (e.g., *Duolingo*, *Memrise*). Ultimately, by increasing students' awareness of the educational potential of mobile technologies, they can be encouraged to develop habits and routines for using various apps in their self-directed English learning.

Second, the use of apps should not primarily be mandatory or graded, as external pressure could lead students to use apps mechanically or just for incentives, diminishing their education value. Instead, teachers can provide structured guidance to motivate L2 learners to engage in app-based learning beyond the classroom. For example, as He and Loewen (2022) demonstrated, teachers can help students set their app usage by themselves (e.g., number of words to study, usage frequency) as part of weekly challenges. Teachers can then provide goal-setting-and-checking activities as feedback on their progress. With this approach, students will develop self-endorsed accountability, perceiving apps as useful and personally relevant rather than viewing them as an externally imposed obligation.

Third, in addition to evaluating quantitative aspects of app usage (e.g., learning progress, quiz scores), teachers can implement reflective assessments of students' MALL engagement. For example, students might keep a diary of their out-of-class MALL experience as a performance assessment (e.g., Kessler, 2023). This reflective journal can encourage students to engage in self-observation and self-evaluation of their app engagement, facilitating the development of metacognitive awareness and strategic planning for out-of-class L2 learning. Teachers can provide feedback on these journals and offer relevant support, whether orientation or behavioral, as needed. Through this process, students can identify areas for improvement, ultimately enhancing their self-regulation skills in self-study contexts (García Botero et al., 2021).

It is essential to provide consistent teacher support, as a single introduction session at the beginning of the semester is not sufficient. Therefore, integrating MALL activities into the regular curriculum enables more reliable classroom-based teacher support, maximizing its effects on students' app-based language learning beyond the classroom.

7. CONCLUSION

We interviewed five EFL teachers in Korea and explored their roles in enhancing students' MALL engagement out of class. While all teachers decided to use the focal app due to its potential benefits for students' self-directed vocabulary learning, the teachers had different beliefs about who, teachers or students, should take the initiative for out-of-class learning. These varied perspectives on teachers' responsibility were reflected in the intensity, frequency, and consistency of the support they reported providing.

The findings should be considered with the following caveats in mind. First, the teachers' different approaches to out-of-class MALL engagement should be understood within the broader instructional settings. Their decisions could be influenced by a wide range of environmental variables (e.g., colleagues' cooperation). In this regard, exploring how different contexts influence teachers' stances will be a valuable area for future research. Second, a larger and more diverse population of participants (both teachers and students) would enhance the generalizability of the results and allow for more rigorous validation of survey instruments. Third, this study neither directly measured students' actual app usage out of class nor observed teacher practice in the classroom. Given the observed positive correlations between teacher support and MALL engagement indicators, future research could adopt an intervention design incorporating teacher and student behavioral data to explore how teacher support influences students' out-of-class app usage and their resulting L2 development over time. Particular attention could focus on possible moderators, such as learner-internal variables (e.g., digital literacy) or external constraints (e.g., parents'

perceptions of digital learning). Finally, a further intriguing avenue of research is to explore the relationship between teacher support and the types of digital resources, as well as how the self-regulatory features of these resources uniquely support L2 learning beyond the classroom. These questions would provide a more precise picture of the impact of teacher support on students' technology-mediated L2 engagement in self-directed learning contexts.

Applicable levels: Elementary, secondary

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APPENDIX

Teacher Support and MALL Engagement Questionnaires

As for my self-directed vocabulary learning out of class…

Item	Question
Teacher Orientation Support (adapted from Hoi & Mu, 2021; Lai, 2015)	
OS1	My teacher repetitively emphasizes the importance of using *Class Card.*
OS2	My teacher explains how *Class Card* can be useful.
OS3	My teacher encourages me to keep using *Class Card.*
OS4	My teacher recommends *Class Card* as a useful resource.
OS5	My teacher introduces relevant strategies that can be helpful for using *Class Card.*
OS6	My teacher addresses the challenges that I have encountered while using *Class Card* .
Teacher Behavior Support (adapted from Hoi & Mu, 2021; Lai, 2015)	
BS1	My teacher actually uses *Class Card* in class to demonstrates how to use it out of class.
BS2	My teacher gives homework which requires me to use *Class Card.*
BS3	My teacher gives in-class activities which require me to use *Class Card* .
BS4	My teacher reasonably evaluates my efforts to use *Class Card.*
MALL Acceptance (adapted from García Botero et al., 2018; Hoi, 2020)	
BI1	I will continuously use *Class Card.*
BI2	I will regularly use *Class Card.*
BI3	I will recommend my friends use *Class Card.*
Habitual MALL Engagement (adapted from Farooq et al., 2017)	
H1	I am used to using *Class Card.*
H2	It is natural for me to use *Class Card.*
H3	Using *Class Card* has become part of my regular routine.
MALL Attitude (adapted from García Botero et al., 2018; Hoi, 2020)	
A1	I like the current way of using *Class Card.*
A2	I am satisfied with *Class Card.*
A3	I enjoy using *Class Card.*
A4	I like the current way that my efforts to use *Class Card* are evaluated.
A5	I think that *Class Card* is a useful tool.