

Effective Japanese Language Acquisition through LINE Groups: A Self-Regulated Learning Perspective

Travis K. Huang
National Taichung University
of Science and Technology
travisk.huang@gmail.com

Yi-Ting Wang
Hungkuang University
yw7yw7k@gmail.com

Sheng-Wei Lin
National Chung
Cheng University
swlin@mis.ccu.edu.tw

Kuan-Yu Lin
National Taichung University
of Science and Technology
ntustmislab@gmail.com

Abstract

The vast array of functions available on social media platforms makes them highly effective tools for learning. Learners can leverage these platforms for self-study or as supplementary resources alongside formal learning. As individuals increasingly engage in self-regulated learning of various skills, implementing effective community learning strategies can significantly enhance learning effectiveness. One pertinent question is how individuals can become self-regulated language learners by utilizing online platforms and tools wisely. The concept of community learning strategies helps in identifying potential language learning strategies (LLS) within online communities. These strategies are categorized into six types: memory, cognitive, metacognitive, compensatory, affective, and social strategies. According to Self-regulated learning (SRL) theory, learners' volitional control behaviors are closely related to their forethought conditions and learning effectiveness. As language learning can be regarded as an example of SRL, the study regarded LLS as volitional control behaviors. This study selected social presence as an antecedent and investigated its effect on community learning strategies. We investigated the causal relationships between social presence and community learning strategies through an online questionnaire administered to participants who have experience using LINE groups for learning Japanese. The analysis of data collected from 320 participants indicated that social presence had positive effects on six LLS strategies. While memory, metacognitive, and affective strategies had positive effects on learning effectiveness, cognitive, compensation, and social strategies did not show a significant positive impact. These findings confirm that an increased focus on memory, metacognitive, and affective strategies leads to greater learning effectiveness. Therefore, promoting the use of LINE groups among Japanese language learners is advisable.

Keywords: Self-regulated learning, language learning strategy, online community, social presence.

1. Introduction

Social networking is one of the most popular digital activities worldwide. Social platforms have become necessary hubs for gathering information, connecting with other people, and promoting personal growth. Social media consistently expand, advance, and grow around the world. For example, in January 2023, the global social media penetration rate was 59.4%. The total number of social media users is expected to reach 5.85 billion individuals by 2027 (Statista, 2023). Facebook is the most popular social network worldwide with approximately 2.9 billion monthly active users (Statista, 2023). Social media users have grown to rely on their preferred social networks for everything from real-time news to product research. The integration of social media into daily life has become a notable phenomenon.

Online communities, which are mostly hosted in computer-mediated environments, have been viewed as social aggregations of fans and users of interest (Zhang & Luo, 2016). A successful online community relies on the active and voluntary participation of customers (Choi & Kim, 2020; Trivedi et al., 2020). Community members can annotate, transform, and recirculate various types of social media content. They not only contribute personal information related to their interests but also participate in specialized groups on social networking sites. Such communities are effectively online spaces that enable social media users to share their experiences using various social media platforms, such as Instagram, Facebook, Twitter, and YouTube (Habibi et al., 2014; Huang, 2019; Wilk et al., 2021). Given this wide range of social media functions, it is becoming increasingly possible for learners to develop successful learning strategies by using them more effectively.

Language learning constitutes a unique educational context. It can be viewed as a lifelong pursuit, and language learning strategies serve as tools to facilitate self-directed involvement (Oxford, 1990). Language learning is the acquisition of

communicative competence. It requires diverse arrangements and combinations of people, locations, times, and tasks to simulate target language use situations. To facilitate practice, it is crucial to provide learners with opportunities for real communication that allow them to rapidly immerse themselves in daily life situations in the target language. Current online tools offer diverse multimedia options. Photos, videos, texts, and news enable learners to experience the target language in context at any time, helping them quickly simulate and practice various target language use situations (Huang, 2019; Richter et al., 2022; Wu et al., 2023). Online communities on social networking sites (SNS) allow learners to learn and acquire language skills from materials drawn from daily life, such as poetry and music, children's picture books, cartoons and animations, dramas and movies, newspapers and magazines, and novels. In this way, learners can gradually build up their knowledge and understanding of vocabulary, sentence patterns, and grammar, and gain literacy and communicative abilities for use in daily life. As a result, online communities can enable language learners to deepen their learning and their ability to recall the target language.

Self-regulated learning (SRL) has been a highly productive area of research for the past 40 years (Zimmerman & Pons, 1986; Zimmerman, 2008; Zimmerman, 2013). Self-regulation has a stronger effect on learning in informal settings than in formal settings. This is because learners need to engage in self-regulation to identify or create more learning opportunities, especially in the age of SNS. With the exception of formal learning in classrooms, most everyday learning activities, such as looking up information online, using trial and error, and discussing with others, is informal. Compared with formal learning, the online environment provides many efficient learning aids (Kelly & Antonio, 2016). Learners can use online platforms either as sources of learning materials for self-study, or as a supplement to formal learning. Furthermore, online communities enable members to interact and communicate with one another. In contrast to individual learning strategies, most online learning materials are posted or shared by other members. As a result, SNS offer more opportunities for learners to access a broader range of novel learning content. For example, artificial intelligence (AI) coaching tools provide learners with multiple SRL strategies (Carter et al., 2020), such as providing pacing support, monitoring learner engagement with instructional materials, and developing questioning strategies, while AI tools such as ChatGPT support learners' self-regulation progress and knowledge construction (Wu et al., 2023). As

such, the use of effective community learning strategies can enhance learning effectiveness (Serrano-Mendizábal et al., 2023).

Practical knowledge of language learning strategies (LLS) has evolved rapidly for the past three decades due to the development of distance education and blended learning (Schamari & Schaefer, 2015; Zhang & Qin, 2018). Many studies have confirmed that LLS promote the progress of language competence. However, most studies have focused on formal educational settings. There is a noticeable gap in the research examining the effectiveness of LLS used in informal learning, particularly in relation to the novel LLS emerging from the diverse functions of online communities. Another noticeable gap in the literature is the lack of a pragmatic organization of knowledge about LLS in online communities. The study filled these research gaps by clarifying different types of LLS. The concept of community learning strategies was introduced as a source of identifying the possible LLS used in online communities. These were based on a classification of six LLS—memory, cognitive, metacognitive, compensatory, affective, and social strategies (Oxford, 1990).

According to SRL theory (Zimmerman & Pons, 1986), learners' volitional control behaviors are closely related to their forethought conditions and self-reflection, such as learning effectiveness and language achievements (Zhong, 2015). As language learning can be regarded as an example of SRL, the study regards LLS as volitional control behaviors. We believe that LLS play a pivotal role in the context of online communities by linking the concept of community learning strategies to SRL theory.

User participation in online communities is influenced by various factors (Kamboj & Rahman, 2017). Baldus et al. (2015) identified a diverse set of motivations for participating in online communities. For example, social presence can reinforce social interaction in the learning environment, and foster a more supportive educational experience (Tu, 2002; Kehrwald, 2008). Even learners with high social presence can improve their learning outcomes by using LLS wisely. Consequently, the study considered social presence as an individual characteristic and investigated its impact on community learning strategies, thus adding to the versatility of future learning practices.

The subjects of the study were learners of Japanese as a foreign language. We investigated the antecedents and the effects of community learning strategies by administering an online questionnaire to language learners with experience using online communities for language learning. The questionnaire assessed the participants' social presence, community

learning strategies, and learning effectiveness in online communities. The study intended to answer the following questions: How do language learners' community learning strategies affect their learning effectiveness? Do language learners with different levels of social presence vary in their use of language learning strategies in online communities?

2. Literature review

2.1. Self-regulate learning

The SRL framework (Zimmerman, 1986) has been widely used to evaluate the cognitive, motivational, and affective aspects of learning in educational psychology (Zimmerman & Pons, 1986; Zimmerman, 2008). It has been widely applied to help students learn to work independently (Carter et al., 2020). Self-regulated learners plan and engage in strategies to achieve their goals. By evaluating and reflecting, they can monitor and modify these strategies to work toward achieving their learning goals. The Cyclical Phases Model (Zimmerman, 2008), also known as Zimmerman's SRL Model, consists of three subprocesses: a forethought phase, a volitional control phase, and a self-reflection phase. In the forethought phase, learners analyze the task, set goals, and plan how to achieve them based on their motivational beliefs. This phase greatly affects learners' choices of learning strategies (Zimmerman, 2008). In the volitional control phase, learners conduct the learning task and monitor their progress using self-control strategies, such as self-instruction, imagery, help-seeking, time management, self-recording, and self-experimentation. These strategies enable learners to use various types of regulatory mechanisms. In the self-reflection phase, learners evaluate their learning outcomes and generate self-reactions for their next learning tasks.

According to the Cyclical Phases Model, learners' volitional control behaviors are closely related to their forethought conditions and self-reflection. However, volitional control behaviors are not merely potential alternatives that can be observed through learning strategies; they are also deeply influenced by learner recognition and other antecedents (Vishwakarma & Tyagi, 2022). Volitional control is hence a critical factor in all three components of the SRL Model.

After identifying the three SRL constructs, the literature on learning strategies was reviewed. Three main knowledge gaps were found. First, few studies have examined the relationships between the relevant constructs in an integrated framework. Moreover, few studies have examined various learning strategies as manifested in volitional control behaviors. The

mechanism by which a specific type of learning strategy affects learning outcomes is thus unclear. Second, most studies on learning strategies have focused on learners' volitional control behaviors (Teng & Zhang, 2016), while few studies have examined these learning strategies in a comprehensive way (Zhong, 2015). Third, most research has investigated learning strategies in formal educational settings, such as athletic skills (Zimmerman, 2013), STEM (Xu et al., 2023), and language courses (Chang & Liu, 2013; Zhong, 2015; Teng & Zhang, 2016), either offline or online. Less research has focused on informal learning strategies, especially new language learning strategies that emerge from the various functions of online communities. The study established a connection between LLS and volitional control behavior, based on LLS and SRL research. We aimed to further investigate how language learners' community learning strategies influence their learning outcomes by developing a framework based on SRL theory.

2.2. Language learning strategies

LLS research has been a major focus in second language acquisition studies for the past four decades, and has appealed to both practitioners and learners. LLS are defined as "specific actions taken by the learner to make learning easier, faster, more enjoyable, more self-directed, more effective, and more transferable to new situations" (Oxford, 1990). LLS can be regarded as a strategic language learning capacity, and it can be substituted by self-regulated learning capacity. Strategies are the techniques or steps taken to enhance learning performance (Gamble, 2016). Learners need to be active in their learning with appropriate strategies that help them regulate their learning (Pawlak, 2021).

Several taxonomies have been developed for strategic language learning (Brown & Palincsar, 1982; Oxford, 1990; Gamble, 2016). By redefining previous taxonomies, Oxford (1990) proposed a comprehensive classification of six strategies: memory strategies, cognitive strategies, metacognitive strategies, compensatory strategies, affective strategies, and social strategies. Memory strategies are used to remember and retrieve new language by making connections, grouping, and using keywords. Cognitive strategies deal with the mental processes of interacting, negotiating, retaining information, and manipulating new language. Compensatory strategies are used to overcome any difficulty with specific knowledge of a new language, such as guessing and gesturing. Affective strategies are used to control learners' emotions and attitudes regarding language

learning, such as reducing anxiety and self-encouragement. Social strategies are used to interact with others while engaging in the target language, such as asking for cooperation and working with peers. Metacognitive strategies help regulate and deal with planning, monitoring, and managing the learning process (Chang & Liu, 2013). However, new strategies continue to be identified as new information technologies rapidly become available to learners. A promising trend for future research on LLS is to integrate education technologies with strategic learning practices (Zhang & Qin, 2018), such as ChatGPT-based learning tools (Wu et al., 2023), and social networking sites (SNS) (Habibi et al., 2014; Huang, 2019; Wilk et al., 2021; Richter et al., 2022).

As social media are an integral part of daily internet use, online communities have become a valuable way for people to share their experiences and knowledge. Social media and user-generated content are interactive technologies designed for creating and sharing information, ideas, and interests among online communities. Each social media platform has its own functions and characteristics that are beneficial for language learners (Kelly & Antonio, 2016). Language learners have started to embrace the use of online communities to enhance their foreign language learning. For example, they can join multiple social media communities, such as Facebook fan pages, LINE groups, X (formerly Twitter) communities, TikTok channels, YouTube channels, and Instagram niche communities. These communities often share content from multiple social media platforms by simply posting links. As a result, many online language learning strategies can be observed in the context of social media communities.

2.3. Learning effectiveness

Members of online communities can experience various interactions that are entirely different from those in face-to-face settings (Choi et al., 2019). When using social media, most users are passive consumers rather than actively engaged. The degree of participation in virtual communities affects users' commitment to a community (Chan & Li, 2010). By using social media, peer communication and socialization can significantly influence community members' attitudes and intentions (Wang et al., 2012). More frequent engagement in online communities commonly leads to more successful outcomes for social media-based learning activities (Schamari & Schaefer, 2015). As such, community learning strategies rely on the active participation of social media users. Once users engage actively in online communities, they are likely to become more

knowledgeable learners, and may thus demonstrate more learning strategies.

Many studies have confirmed the effectiveness of SRL strategies on learning outcomes in e-learning environments (Wu et al., 2023). For example, high-achieving students showed more use of SRL subprocesses in science courses than low-achieving students (DiBenedetto & Zimmerman, 2010). In a study of basketball free throws, the more SRL phases trained, the better the participants' scores (Cleary et al., 2006). Investigating university students in Korea (Yoon et al., 2001), a significant relationship was identified between learning strategy use and English proficiency scores. Applying multiple SRL strategies greatly improved academic performance in STEM subjects (Xu et al., 2023). In particular, students were found to prefer strategies involving audio and visual elements (Chang & Liu, 2013). We first need to identify potential LLS that can be used in specific online communities, then examine the relationships between these LLS and online communities. Although all types of LLS are simultaneously accessible to members of online communities, each has its own distinct functions. We posit that the findings will yield valuable insights developing effective LLS in online communities, thereby enhancing the overall effectiveness of online language learning. This prediction leads to the following hypothesis:

Hypothesis 1: (a) memory (b) cognitive (c) compensation (d) metacognitive (e) affective (f) social strategies are positively related to learning effectiveness.

2.4. Social presence

Social presence is defined as “the subjective feeling of being connected and together with others during computer-mediated communication (CMC)” (Sung & Mayer, 2012). It is the degree to which online users perceive being affectively connected to another, and the psychological sensation of the other being “there” or “present” (Kreijns et al., 2011). If social media users can perceive a greater degree of person-to-person awareness in the online environment, they will acquire a higher degree of social presence (Tu, 2002). Social presence has been treated as an important construct in online group learning (Tu, 2002; Kehrwald, 2008; Kreijns et al., 2022; Velamazán et al., 2023), and it is associated with the use of CMC tools and online platforms. Previous studies have indicated that the establishment of social presence within the learning environment can bolster social interactions and foster a more nurturing educational experience (Tu, 2002; Kehrwald, 2008).

Social presence is currently an evolutionary notion, as technology has evolved further than CMC environments. Learners have more opportunities to manipulate their social presence, such as using chat programs (e.g., Line, WhatsApp), social software (e.g., Facebook, Instagram, TikTok), and real-time video communication applications (e.g., Zoom, Google Meets, Microsoft Teams). While social media non-users and frequent users differ on several personality characteristics, social presence is unquestionably the most remarkable characteristic.

Interpersonal influence among users in online communities effectively promotes their online behaviors (Yi et al., 2013). Sociable environments can foster social interaction, which leads to social presence. As social media provides users with a perfect platform to express themselves, and encourages them to enrich their online behaviors, the degree of social presence will increase. For example, sharing selfies on social media is a common way to demonstrate different levels of social presence. Learners can increase their social presence and have more possibilities to participate in learning sessions by immersing themselves in CMC. As a result, social presence enhances the quality of the learning experience (Weidlich & Bastiaens, 2017), affects how social interactions occur online, and leads to learning outcomes (Tu, 2002; Zhao et al., 2014; Molinillo et al., 2018; Sjølie et al., 2022; Velamazán et al., 2023).

As social presence is the process affecting learning and social outcomes through online social interaction (Kreijns et al., 2022), it can help identify how social presence can increase user behaviors in

online group learning. We expect that when learners perceive a high degree of social presence, they will be more likely to participate more by engaging in various community learning strategies. This observation leads us to the following hypothesis:

Hypothesis 2: Social presence is positively related to (a) memory (b) cognitive (c) compensation (d) metacognitive (e) affective (f) social strategies.

Our research model is shown in Figure 1. As the construct of community learning strategies considered the dimensions of LLS, we appended the six dimensions to the community learning strategies construct.

3. Research design

Social networking sites (SNS) offer varying levels of benefits and experiences to their users (Huang et al., 2022). The current study focuses on the use of LINE groups for learning Japanese, which are chatrooms designed to facilitate communication by allowing users to engage with multiple contacts at once. LINE groups are commonly used for planning events, conducting discussions, and sharing updates among members. They provide the advantages of instant messaging, which includes fostering trust and building relationships through its conversational nature. This informal interaction promotes rapid feedback and responses. Moreover, all messages within these groups are searchable and automatically archived. Consequently, LINE groups serve as effective

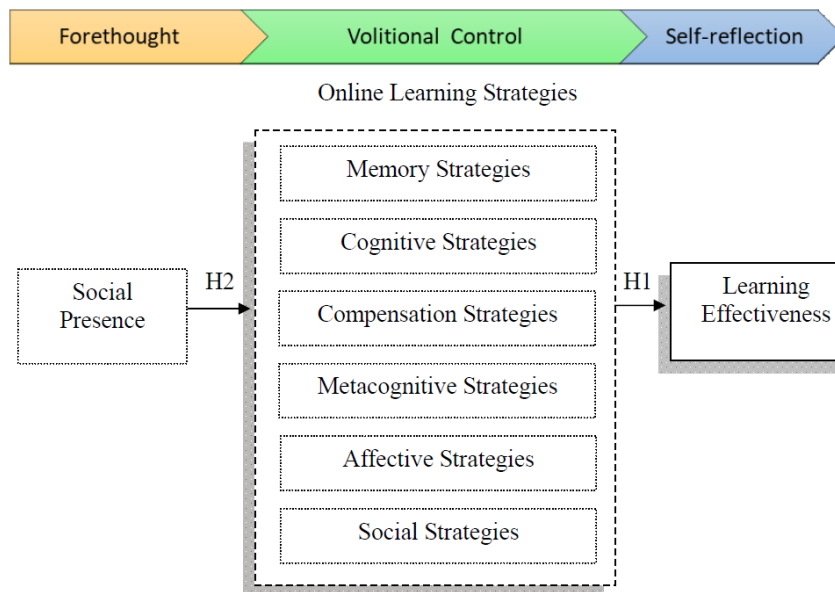


Figure 1. Research model

environments for community bonding in social activities, particularly in language classes. Members can exchange knowledge and experience, increasing the overall value of the group. Thus, various Japanese learning strategies can be observed in LINE groups.

The participants were learners of Japanese who were also members of LINE groups. They were required to have experience participating in language learning activities within these LINE groups, which included activities such as browsing posts, responding to members' questions, or posting comments in specific LINE groups.

To explore the effects of community learning strategies on learning effectiveness, we conducted an online questionnaire targeting Japanese language learners who were active members of at least one LINE group. This questionnaire was restricted to learners who had prior experience using LINE groups for Japanese learning; those without such experience were excluded from participation. The survey aimed to assess the participants' social presence, community learning strategies, and learning effectiveness within online communities. Participants, who might have been members of different LINE groups, were asked to focus on their experiences in just one group for the purpose of the survey. They were instructed to recall and report on the language learning strategies they encountered in that group. While we informed participants that they were contributing to a study on their learning experiences within LINE groups, they were not made aware of the research hypotheses under investigation.

The dependent variable of this study is the learners' learning effectiveness. The independent variables are social presence, and the six dimensions of community learning strategies, which are based on the scales of the Strategy Inventory for Language Learning (SILL). The variables were measured on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). The measurement of each construct is described in detail as follows.

Learning effectiveness. Previous studies have measured students' learning effectiveness in traditional learning environments using course satisfaction or grade performance, as have previous studies of students' learning effectiveness in online courses (Piccoli et al., 2001; Hong, 2002). Student satisfaction is an important indicator of the quality of online courses and student performance (Palmer & Koenig-Lewis, 2011; Kuo et al., 2014). In the study, learning effectiveness focused on the evaluation of learners' satisfaction toward their learning experience in online communities. We measured learners' perceptions of their learning outcomes. Five items were adapted from satisfaction scale (Kuo et al.,

2014). Sample items included, "I'm satisfied with the level of interaction that happened in LINE groups." "Overall, I am satisfied with language learning in LINE groups." "Learning in LINE groups contributed to my language development." "Learning in LINE groups contributed to my professional development." "In the future, I would be willing to keep language learning in LINE groups again." The Cronbach's α value for this five-item measure was .891.

Social presence. Kreijns et al. (2011) developed a self-reporting Social Presence Scale (SPS) to measure the perceived degree of social presence in a CSCL environment. The five items measure the degree to which individuals feel that they are transported from "here to there," and that "they are there." For examples, "When I have real-time conversations in LINE groups, I have my communication partner in my mind's eye." "When I have asynchronous conversations in LINE groups, I also have my communication partner in my mind's eye." "When I have real-time conversations in LINE groups, I feel that I deal with very real persons and not with abstract anonymous persons." "When I have asynchronous conversations in LINE groups, I also feel that I deal with very real persons and not with abstract anonymous persons." "Real-time conversations in LINE groups can hardly be distinguished from face-to-face conversations." The Cronbach's α value for this five-item measure was .876.

Community learning strategies. Oxford (1990) developed the SILL questionnaire to measure LLS use. The study proposed the concept of community learning strategies by referencing SILL with modifications. The community learning strategies dimension comprises six dimensions: memory strategies (9 items), cognitive strategies (14 items), compensation strategies (6 items), metacognitive strategies (9 items), affective strategies (6 items), and social strategies (6 items). The SILL questionnaire has been validated as a reliable measurement instrument for various languages (Chang & Liu, 2013; Gamble, 2016). We adopted a modified version of this scale to measure language learners' strategies through LINE groups. The Cronbach's α values for memory, cognitive, compensation, metacognitive, affective, and social strategies were .858, .923, .833, .919, .846, and .863, respectively. Three items of each construct are chosen for reference as follows.

Memory strategies

- To use new Japanese words in a sentence.
- To review Japanese lessons often.
- To use flashcards to remember new words.

Cognitive strategies

- To try not to translate the word.
- To write notes, messages in Japanese.

- To say or write new words several times.

Compensation strategies

- To use gestures in conversations.
- To guess what the other person will say next.
- To use a word that means the same thing.

Metacognitive strategies

- To plan my schedule to study Japanese.
- To look for people to talk to in Japanese.
- To look for opportunities to read in Japanese.

Affective strategies

- To try to relax when using Japanese.
- To encourage myself to speak Japanese.
- To write down my feelings in a Japanese diary.

Social strategies

- To practice Japanese with other students.
- To ask for help from Japanese speakers.
- To ask Japanese speakers to correct my mistakes.

4. Results

Of the 347 Japanese language learners with experiences using LINE groups, 320 completed the online questionnaire without missing data, resulting in a response rate of 92.21%. The sample consisted of 97 (30.3%) males. The majority of the participants were aged between 21 and 40 years old (61.9%). Most of the participants held an undergraduate degree (64.4%). The correlations between the variables were tested using Pearson's correlation coefficient. As shown in Table 1, metacognitive strategies was strongly related to cognitive strategies ($r=.831$) and affective strategies ($r=.808$). Although the six dimensions of LLS were positively correlated with each other, they each had a weak relationship with learning effectiveness ($r < 0.6$). Although all of the variables were significantly interrelated, this does not imply causation. Hence, it was necessary to further examine the causal

relationships between the variables using structural equation modeling.

Using the 323 records, the research model was assessed with maximum likelihood estimation using AMOS. All of the calculations were based on the covariance matrix of the variables. Three common model-fit measures were used to assess the proposed model's overall goodness of fit, the ratio of χ^2 to degrees of freedom (CMIN/DF), comparative fit index (CFI), and root mean square error of approximation (RMSEA). The results indicated that the proposed model (CMIN/DF=2.918; CFI=.875, RMSEA=.078) had a good fit, because all of the criteria were better than the recommended values (CMIN/DF < 3; CFI > .80, RMSEA < .08). Thus, we used the model to examine our hypotheses.

As shown in Figure 2, all the standardized path coefficients running from social presence to six LLS were significant, confirming Hypotheses 2a, 2b, 2c, 2d, 2e, and 2f. Furthermore, the standardized path coefficients running from memory, metacognitive, and affective strategies to learning effectiveness were statistically significant, thus Hypotheses 1a, 1d, and 1e were supported. Unexpectedly, however, the standardized path coefficient from cognitive, compensation, and social strategies to learning effectiveness were not significant; thus, Hypotheses 1b, 1c, and 1f were not supported.

The R^2 value indicated that 39% of the variance in learning effectiveness was explained by social presence and three dimensions of LLS: memory, metacognitive, and affective strategies. Besides, social presence was responsible for explaining 55% of the variance in memory strategies, whereas 85% and 74% of the variance in metacognitive and affective strategies. These results show that three dimensions of LLS, namely memory, metacognitive, and affective

Table 1. Pearson correlations

Construct	Construct							
	1	2	3	4	5	6	7	8
1. Social presence	1							
2. Memory strategies	.579***	1						
3. Cognitive strategies	.567***	.678***	1					
4. Compensation strategies	.427***	.603***	.714***	1				
5. Metacognitive strategies	.648***	.648***	.831***	.686***	1			
6. Affective strategies	.593***	.619***	.729***	.655***	.808***	1		
7. Social strategies	.495***	.587***	.706***	.599***	.762***	.759***	1	
8. Learning effectiveness	.556***	.427***	.463***	.369***	.539***	.491***	.405***	1

Note. *** $p < .01$.

strategies, had direct effects on learning effectiveness, where others did not. Furthermore, social presence influenced learning effectiveness indirectly through its direct effects on memory, metacognitive, and affective strategies.

5. Conclusion

Grounded in the SRL framework, the study empirically examined the relationships between social presence, learning effectiveness, and the six dimensions of LLS: memory, cognitive, compensation, metacognitive, affective, and social strategies. The findings revealed that social presence had positive effects on all six LLS dimensions, indicating that social presence can significantly affect users' learning strategies when individuals feel connected and engaged within online learning environments. A strong social presence strengthens learner engagement and motivation, facilitating deeper involvement. Both real-time and asynchronous interactions that are personal and relatable enhance learners' involvement in the learning process. Such increased engagement leads to more active participation, better attention, and a greater willingness to exert effort in learning activities, thereby enhancing overall learning effectiveness.

In addition, social presence facilitates better communication and collaboration among learners. When individuals perceive their interactions as engaging with real people, they are more inclined to participate actively by sharing ideas, asking questions, and offering feedback. Such a collaborative

environment not only encourages the exchange of knowledge but also deepens understanding and cultivates more effective learning strategies, such as collaborative problem-solving and peer teaching. Moreover, social interactions and the presence of others can support memory retention. The emotional and cognitive connections formed during socially rich interactions can help facilitate the encoding and recall of information. Learners may employ methods such as discussion, storytelling, and collaborative review sessions, all of which can significantly improve the retention of information.

Surprisingly, cognitive, compensation, and social strategies did not increase learning effectiveness. Several reasons might account for this observation. Firstly, languages are imbued with cultural and contextual subtleties that cognitive strategies alone cannot fully capture. To understand idiomatic expressions, cultural references, and context-specific usage requires more than cognitive methods. Improving learning effectiveness may involve integrating cognitive strategies with immersive experiences, interactions with native speakers, and constructive feedback. Combining these methods can provide a more comprehensive and effective language learning experience.

Secondly, while compensation strategies are designed to help learners bridge gaps in their language knowledge, relying on guesses about word meanings or predicting what someone will say next can be helpful but may not consistently lead to accurate comprehension, particularly in nuanced or context-specific situations. This can result in

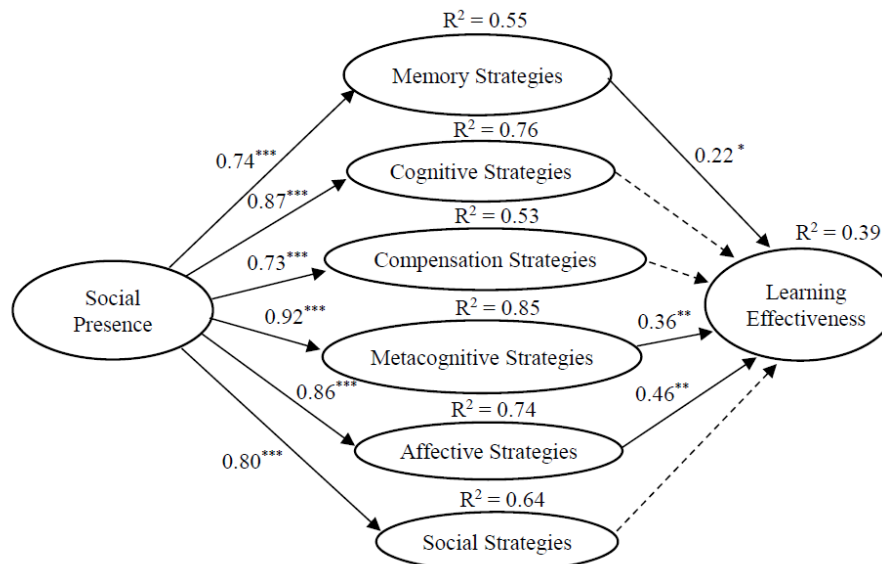


Figure 2. Standardized Path Coefficients of the Proposed Model.
(Note: * $p < .01$, ** $p < .01$, and *** $p < .01$. The dotted line indicates an absence of statistical significance.)

misunderstandings and communication breakdowns. Compensation strategies may suffice in simple dialogues but often fall short in more complex or formal situations where precise and accurate language use is crucial. Thirdly, although social strategies, which involve interactive communication, are vital for language learning, they do not consistently enhance learning effectiveness due to their sporadic use. Regular and active engagement is necessary to fully realize the benefits of interaction and feedback. Additionally, while seeking corrections or assistance from native speakers of Japanese is beneficial, if the feedback lacks constructiveness or detail, it may not lead to substantial improvement. Therefore, the quality and specificity of feedback are essential.

However, given that heightened use of memory, metacognitive, and affective strategies resulted in greater learning effectiveness, promoting Japanese language learners' intention to use LINE groups is recommended. We believe that combining these strategies with regular practice, detailed feedback, and a focus on foundational vocabulary and grammar will lead to more effective and lasting language acquisition.

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