

Unveiling the relationships between language learning strategies and academic achievement among Moroccan EFL university students

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ABSTRACT

This paper aims to examine language learning strategies and learning styles among EFL Moroccan undergraduate university students. It also investigates the interrelationships between learning strategies and academic achievement. The sample consisted of (N= 294) EFL undergraduate university students, enrolled in the Department of English Language at the Faculty of Arts and Humanities, Sultan Moulay Slimane University, Morocco. The participants were 151 (51.4%) females and 143 (48.6%) males, with 148 (50.3%) studying literature and 146 (49.7%) studying linguistics. The data were collected using Oxford's (1990) Strategy Inventory to gather information on language learning strategies. The data were analyzed using descriptive and inferential statistics. The findings showed that participants used language learning strategies frequently, with metacognitive strategies being the most commonly used. Memory, compensation, cognitive, metacognitive, affective, and social strategies were the most frequently used strategies in descending order. Additionally, the study found a moderately positive correlation between language learning strategies and academic achievement. Ultimately, the study drew implications for EFL students, teachers, program administrators, and curriculum designers.

Keywords: Academic achievement; autonomy; gender; language learning strategies; self-regulated learning.

INTRODUCTION

Language learning research has increasingly focused on learning strategies and how learners process, retain, retrieve, and apply target language content. This shift in focus from teachers and teaching methods to learners themselves reflects a broader transformation in the field from a behaviorist to a cognitive psychology perspective. Researchers have attempted to define and categorize learning strategies to better understand how learners approach language acquisition. The ultimate purpose is to identify effective strategies that can be taught and used to improve language proficiency. Oxford's taxonomy of language learning strategies and the accompanying Strategy Inventory for Language Learning are commonly used to investigate learners' strategy usage. Many studies have demonstrated a positive correlation between strategy use and language proficiency, with learners who use more strategies generally achieving higher levels of language performance.

The trend towards self-regulated instruction has led to a growing interest in language learning strategies. Studies have shown that individual dissimilarities in factors such as language learning strategies can have a significant impact on how well students acquire a second language. This paper aims to uncover the language learning strategies used by Moroccan EFL undergraduate university students, as well as their frequency and association with academic achievement.

LITERATURE REVIEW

Among the various definitions and classifications of language learning strategies, Oxford's (1990a, 1992) is one of the most comprehensive, as noted by Dörnyei (2005). According to Oxford, language learning strategies encompass purposeful actions, behaviors, procedures, or methods employed by learners to facilitate their advancement in acquiring second language abilities. These strategies aid in the assimilation, retention, retrieval, and application of the new language, acting as instrumental tools for the self-directed engagement necessary to cultivate communicative competence (p. 18).

In the realm of language learning research, scholars have long recognized the significance of using learning strategies to facilitate active, self-directed involvement and improve communicative competence, as emphasized by Oxford (1990). Nevertheless, the field has faced difficulties in arriving at a consistent understanding of language learning strategies, with various overlapping descriptions and classifications.

Despite the obstacles encountered in defining and categorizing language learning strategies, Oxford's (1990) taxonomy has been widely used and is recognized as one of the most complete classifications, featuring six primary strategies and sixty-two specialized subcategories. Nevertheless, the taxonomy has its drawbacks, such

as its narrow focus on individual strategies rather than their interplay and the learning setting.

To assess the effectiveness of language learning strategies, it is crucial to utilize reliable measures, such as the Strategy Inventory for Language Learning (SILL) developed by Oxford in 1990. Notwithstanding, it is equally important to scrutinize the underlying presumptions and prejudices of these measures, particularly with regards to how they favor certain strategies or learning styles over others.

In summary, the significance of learning strategies for language acquisition is widely recognized, but there is still a need for ongoing critical evaluation and improvement of our understanding and measurement of these strategies to promote better language learning outcomes. In fact, learning strategies have been the subject of extensive research, and their importance in second language acquisition has been demonstrated. Some scholars, like Macaro (2006), have suggested that there may be a connection between strategy use and success in learning a second language. However, while many studies have reported a positive correlation between language learning strategies and academic achievement, the findings are not always conclusive.

Effective language learning strategies have been shown to improve second language acquisition and proficiency, as evidenced by diverse studies. However, the successful implementation of these strategies is influenced by several factors. Experts in the field, including O'Malley et al., Oxford and Nyikos, Ehrman and Oxford, Green and Oxford, Griffiths, Nyikos, and Oxford, among others, have argued that individual disparities, cultural backgrounds, and instructional environments all have an impact on the frequency and type of language learning strategy utilization (Wharton, 2000). Therefore, it is necessary to conduct further research on diverse language learners and in various learning contexts to gain a better understanding of how to effectively implement language learning strategies. Diverse studies have shown the significance of language learning strategies in enhancing learners' academic performance (Rubin, 1975; Oxford, 1990; O'Malley & Chamot, 1990; Oxford et al., 1992; Green & Oxford, 1995). It is therefore important to examine the use of language learning strategies and their association with academic achievement, especially in the context of English as a foreign language (EFL) in the Moroccan educational context.

Experts in the field have pointed out the insufficiency of research on language learning strategies in the Moroccan context (Seffar, 2014; El Aouri & Zerhouni, 2017). Despite the abundant studies investigating language learning strategies in ESL and EFL contexts globally, there is a significant research gap in this area concerning Moroccan EFL undergraduate university students.

This research study aims to investigate the relationship between language learning strategy use, learning styles, and academic achievement among Moroccan EFL undergraduate university students, addressing the dearth of research in this specific context. It seeks to identify discrepancies in these factors based on gender and

academic majors, providing valuable insights to enhance language learning in this context. Previous studies have emphasized the importance of effective language learning strategies in distinguishing successful language learners from less successful ones (Rubin, 1975; Oxford, 1990; O'Malley & Chamot, 1990; Oxford et al., 1992; Green & Oxford, 1995). Therefore, exploring students' use of language learning strategies in the Moroccan context is of paramount significance. By examining the correlation between language learning strategies, learning styles, and academic achievement among Moroccan EFL undergraduate university students, this study aims to contribute to the existing literature in this field. The significance of language learning strategies and learning strategies in acquiring a second or foreign language has been consistently emphasized in the literature. According to Oxford (1990a), the use of appropriate learning strategies can help language learners in making the language learning process faster, more effective, and more enjoyable. Previous research has identified specific strategies employed by successful language learners (Green & Oxford, 1995; Griffiths, 2003a; O'Malley & Chamot, 1990; Rubin, 1975). However, it has also been recognized that all language learners make use of some forms of strategies (Hong-Nam & Leavell, 2006; Di Carlo, 2017), although the frequency, variety, and selection of these strategies differ among learners (Chamot & Küpper, 1989).

RESEARCH METHOD

To collect the necessary data for this study, a self-reported questionnaire was employed as a fundamental research instrument. This research instrument was Oxford's (1990) Strategy Inventory for Language Learning (SILL), which aimed to explore language learning strategies. This inventory is structured using a series of closed-ended statements, devised to assess the frequency at which language learners utilize specific learning strategies when studying a second or foreign language. The SILL was obtained with permission from the copyright owner.

Rebecca Oxford's (1990) strategy taxonomy for language learning strategies served as the basis for the development of the self-reported questionnaire, known as the Strategy Inventory for Language Learning (SILL). The SILL has been widely used in the examination of the type and frequency of language learning strategies employed by ESL/EFL students. This research instrument is available in two versions: version 5.1, consisting of 80 items and intended for native English speakers, and version 7.0, containing 50 items and designed for individuals learning English as a second or foreign language. For the purpose of this study, the SILL version 7.0 (ESL/EFL) was selected.

The SILL version 7.0 is a self-administered questionnaire that consists of a series of statements presented in a multiple-choice format. Participants are required to select the option that best represents the learning strategies they employ when acquiring a new language. The questionnaire utilizes a 5-point Likert-scale rating

system, where respondents rate their responses on a scale ranging from 1 (Never or almost never true of me) to 5 (Always or almost always true of me). This rating scale enables participants to indicate the frequency with which they utilize specific learning strategies. Essentially, a higher score indicates a greater frequency of strategy use. In essence, participants are asked to assess the degree to which each statement aligns with their personal experiences, using the frequency scale ranging from 1 to 5.

This research study used the Language Learning Strategy Inventory which was developed by Rebecca Oxford in 1990. The SILL is comprised of six distinct parts, each focusing on different language learning strategies. Part A concentrates on effective memory and remembering strategies, while Part B explores the use of various cognitive or mental processes. Part C involves compensating for missing knowledge, Part D covers organizing and evaluating learning, Part E refers to managing affective strategies, and Part F focuses on social strategies. Prior to the main questionnaire, the first part of the inventory requests personal information from the participants, including their name, age, gender, and academic major.

In order to ensure the sample is representative and that the sampling units within the population are homogeneous, certain procedures were followed. The size of the sample and the method of selecting sample members were taken into consideration. It is important that the sample size is large enough to represent the population in a statistically reasonable way and follows the normal distribution law. Additionally, the members of the sample should have an equal chance of being selected.

The present paper is guided by the following research questions:

1. Which language learning strategies do Moroccan undergraduate university students utilize most frequently when learning English?
2. Are there any significant discrepancies in language learning strategies utilization between participants based on their academic achievement?

Participants

In the present study, a non-probability convenience sample of (N= 294) Moroccan EFL students from the Department of English Language at the Faculty of Arts and Humanities affiliated with the University of Sultan Moulay Slimane were selected as the target population. All participants were enrolled in Semester Six level and shared similar academic backgrounds, being exposed to the same teaching materials and conditions, and instructed by the same teachers. Of the total sample, 151 (51.4%) were female, and 143 (48.6%) were male. The age of the participants ranged from 18 to 26 years.

The following hypotheses were proposed:

- H₁: Moroccan undergraduate university students employ metacognitive strategies more frequently than any other language learning strategies.
- H₂: There are no significant discrepancies in language learning strategies utilization between participants based on their academic achievement.

The present research study was conducted at Sultan Moulay Slimane University, focusing on a sample of Moroccan EFL students. The participants of the study were specifically chosen from the sixth semester, pursuing either literature or linguistics as their academic majors. This selection aimed to ensure a homogeneous sample, allowing for a more focused investigation into the language skills and academic achievements of students specializing in these academic majors. In order to collect relevant data, the head of the Department of English language was approached to provide information regarding the students' academic achievement. By obtaining such scores, a comprehensive analysis has been conducted to explore the relationships between language learning strategies and academic achievement among Moroccan EFL university students.

In research studies, reliability is the degree of consistency in the results of a test, while validity refers to the extent to which a tool measures what it intends to measure (Bordens & Abbott, 2011). The SILL has been widely used in different studies worldwide, and its psychometric properties have been thoroughly examined for both reliability and validity (Green & Oxford, 1995; Hsiao & Oxford, 2002; Oxford, 1996; Oxford & Burry, 1993; Oxford & Burry-Stock, 1995). The Language Learning Strategy Inventory is considered to be the most extensively validated and reliable LLS research instrument compared to other strategy assessment scales (Oxford & Burry-Stock, 1995, p. 4).

RESULTS

RQ 1. Which language learning strategies do students utilize most frequently when learning English?

Table (1) shows the descriptive statistics of language strategies, including the mean (M) and standard deviation (SD) for each strategy type. The means and standard deviations offer insights into the central tendency and variability of strategy use within each strategy type. The table also includes the overall mean and standard deviation for the SILL.

Memory: The mean score for the Memory strategy type is 4.36, with a standard deviation of 0.74. This suggests that, on average, participants reported a moderate level of use of memory strategies.

Compensation: The mean score for the Compensation strategy type is 4.30, with a standard deviation of 0.68. This indicates that participants reported a relatively high level of use of compensation strategies.

Cognitive: The mean score for the Cognitive strategy type is 4.18, with a standard deviation of 0.69. This indicates that participants reported a moderate level of use of cognitive strategies.

Metacognitive: The mean score for the Metacognitive strategy type is 4.17, with a standard deviation of 0.82. This suggests that participants reported a moderate level of use of metacognitive strategies.

Affective: The mean score for the Affective strategy type is 3.75, with a standard deviation of 0.86. This suggests that participants reported a moderate level of use of affective strategies.

Social: The mean score for the Social strategy type is 3.65, with a standard deviation of 0.87. This indicates that participants reported a moderate level of use of social strategies.

Overall SILL: The overall mean score for the SILL is 3.53, with a standard deviation of 0.64. This provides an average measure of the participants' reported use of language learning strategies across all strategy types.

Table 1: Descriptive statistics, level of use and rank order of LLS (N =294)

Strategy type	<i>M</i>	<i>SD</i>
Memory	4.36	0.74
Compensation	4.30	0.68
Cognitive	4.18	0.69
Metacognitive	4.17	0.82
Affective	3.75	0.86
Social	3.65	0.87
Overall SILL	3.53	0.64

Note. *M* = Mean, *SD* = Standard Deviation.

These SILL guidelines provide a framework for interpreting the average scores obtained from the research instrument. By assigning scores to different levels of strategy utilization, researchers and educators can assess the overall usage of language learning strategies among individuals or groups. Table (2) presents Oxford's (1990) guidelines for interpreting the average scores of the SILL. The table provides information on the frequency of strategy utilization and the corresponding ranges of scores associated with each level of utilization. The guidelines help gauge the extent to which language learning strategies are employed by individuals. The guidelines serve as a useful reference to determine the frequency and extent of strategy utilization based on SILL scores, enabling

researchers and practitioners to evaluate the effectiveness and potential areas of improvement in language learning strategies. Table (2) includes these results:

Frequency: The frequency column categorizes the level of strategy utilization into four main groups: High, Medium, Low, and Very Low. These categories reflect the frequency with which strategies are employed by language learners.

Strategy utilization: Within each frequency category, specific descriptions are provided to further clarify the extent of strategy utilization. For the High category, strategies are described as “Always or almost always utilized” and “Usually utilized.” The Medium category represents strategies that are “Sometimes utilized.” The Low category indicates strategies that are “Generally not utilized.” Finally, the Very Low category encompasses strategies that are “Never or almost never utilized.”

Range: The range column specifies the score ranges associated with each frequency category. For example, a score ranging from 4.5 to 5.0 indicates high strategy utilization, while a score ranging from 1.0 to 1.4 suggests very low strategy utilization.

Table 2: Oxford’s (1990) Guidelines for gauging SILL average scores (N =294)

Frequency	Strategy utilization	Range
High	Always or almost always utilized	4.5 to 5.0
High	Usually utilized	3.5 to 4.4
Medium	Sometimes utilized	2.5 to 3.4
Low	Generally not utilized	1.5 to 2.4
Low	Never or almost never utilized	1.0 to 1.4

In this research study, the use of LLS by Moroccan EFL undergraduate university students was analyzed through descriptive statistics. The results indicated that, in general, these students reported a moderate use of language learning strategies. The overall mean score for the SILL was 3.56, with a standard deviation of 0.64, suggesting that Semester 6 students on average used LLS when learning English. The mean scores for the six categories of language strategies ranged from 4.36 to 3.65, as shown in Table (3).

To evaluate the extent of strategy use, Oxford’s (1990) interpretation scale was implemented particularly because it categorizes strategy use into low, medium, and high levels. The results of the study indicate that the majority of LLS used by Moroccan EFL undergraduate university students were in the high-frequency

range, with the exception of social strategies, which were found to have a low frequency of use. The data revealed that memory strategies were the most frequently used category of strategies, with an average mean score of ($M = 4.36$, $SD = 0.74$), followed by compensation strategies, which had an average mean score of ($M = 4.30$, $SD = 0.68$). These findings are presented in Table (3). Additionally, the overall SILL mean score indicated that Moroccan EFL undergraduate university students, on average, reported a medium use of LLS when learning English ($M = 3.56$, $SD = 0.64$).

Moroccan EFL undergraduate university students demonstrated a predominant employment of memory and compensation strategies, scoring 4.36 and 4.30 respectively, in terms of frequency of use. The variance in frequency of use between cognitive and metacognitive strategies was minimal, with mean scores of 4.18 and 4.17 respectively. On the other hand, participants reported less frequent implementation of affective and social strategies, with mean scores of 3.75 and 2.35 respectively. Notably, although affective strategies were categorized as medium-frequency use, they received higher mean scores compared to social strategies. Conversely, social strategies were utilized at a low-frequency level, falling below the overall mean score for the Strategy Inventory for Language Learning.

Table 3. Descriptive Statistics, use and order of strategies ($N = 294$)

Strategy type	<i>M</i>	<i>SD</i>	Frequency	Rank
Memory	4.36	0.74	High usage	1
Compensation	4.30	0.68	High usage	2
Cognitive	4.18	0.69	High usage	3
Metacognitive	4.17	0.82	High usage	4
Affective	3.75	0.86	High usage	5
Social	2.35	0.87	Low usage	6
Global SILL	3.15	0.64	Medium usage	

RQ2. Are there any significant discrepancies in language learning strategies utilization between participants based on their academic achievement?

Table (3) presents the results of Spearman correlation analysis examining the relationship between LLS and academic achievement. The table displays the correlation coefficients (r) for each pair of variables, along with asterisks indicating the level of statistical significance.

The analysis reveals several interesting findings. Firstly, there is a significant positive correlation between cognitive and compensation strategies ($r = 0.38, p < .01$), indicating that students who reported higher use of Cognitive strategies also tended to employ compensation strategies more frequently.

Additionally, there is a significant positive correlation between compensation and metacognitive strategies ($r = 0.46, p < .01$), suggesting that students who utilized compensation strategies also tended to utilize Metacognitive strategies to a greater extent.

Furthermore, a significant positive correlation was observed between affective and metacognitive strategies ($r = 0.37, p < .01$), indicating that students who reported higher use of affective strategies also tended to employ metacognitive strategies more frequently. It is worth noting that the correlation coefficients between memory and cognitive strategies ($r = 0.30, p < .01$) and between memory and metacognitive strategies ($r = 0.30, p < .01$) were also significant, indicating a positive relationship between these strategy types.

Table 3. The relationship between LLS and academic achievement: Spearman correlation (N = 294)

Variables	1	2	3	4	5	6	7
1 Memory	—						
2 Cognitive	.30**	—					
3 Compensation	.28**	.38*	—				
4 Metacognitive	.30**	.38*	.46*	—			
5 Affective	.16**	.27*	.34*	.37*	—		
6 Social	.04	.05	.015	.03	.03	—	
7 Academic achievement	.03	0.6	.05	.06*	.05*	.05*	—

DISCUSSION AND CONCLUSIONS

This research study aims to determine the frequently employed language learning strategies by Moroccan EFL undergraduate university students at Sultan Moulay Slimane University. The research also seeks to examine whether there are any discrepancies between participants in language learning strategies utilization and

academic achievement. The results of the statistical data analyses unveiled the following key findings for this study:

Hypothesis 1: Moroccan undergraduate university students utilize metacognitive strategies more frequently than any other language learning strategies. It has been confirmed.

Hypothesis 2: There are no significant discrepancies in language learning strategies used by participants with regard to their gender, academic major and academic achievement. It has been disconfirmed.

Moroccan EFL undergraduate university students reported using language learning strategies at a moderate frequency ($M = 3.53$, $SD = 0.64$) based on Oxford's (1990) scale for assessing strategy use. Among the participants, approximately 35% ($n = 126$) reported using strategies frequently, while nearly 56% ($n = 146$) reported using them moderately, and only about 9% ($n = 22$) reported using them infrequently. Metacognitive strategies were found to be the most frequently used by the students, while compensation, cognitive, memory, and affective strategies were utilized moderately. Additionally, these latter strategies were reported as being used infrequently.

In terms of the six categories of language learning strategies, metacognitive strategies were found to be the most frequently used by Moroccan EFL undergraduate university students ($M = 3.57$, $SD = 0.82$), followed by social strategies ($M = 3.42$, $SD = 0.87$), compensation strategies ($M = 3.34$, $SD = 0.80$), and cognitive strategies ($M = 3.21$, $SD = 0.75$). On the other hand, memory and affective strategies were found to have a slightly lower frequency of use ($M = 3.09$, $SD = 0.72$) and ($M = 3.08$, $SD = 0.86$), respectively, and were considered the least frequently used strategies.

In this study, there was a moderate positive linear correlation between the use of language learning strategies and academic achievement, with a correlation coefficient of $r(294) = .12$ and $p = .06$. Further analysis revealed that metacognitive, affective, and social strategies were moderately and positively correlated with academic achievement, with correlational coefficients of $r(294) = .12$ and $p = .06$. In particular, affective strategies had a correlation coefficient of $r(294) = .21$ and $p = .05$, as did social strategies.

In relation to the first research question, the results of this study indicated that Moroccan EFL undergraduate university students employed language learning strategies to a moderate extent. This finding is consistent with previous research conducted on the use of language learning strategies in Arab EFL settings (McMullen, 2009; Alhaisoni, 2012) as well as in other Arabic-speaking nations

(Shmais, 2003; Riazi, 2007; Radwan, 2011; Ismail & AlKhatib, 2013). Wharton (2000), and Peacock and Ho (2003) also reported an overall moderate utilization of language learning strategies based on a comprehensive mean score for participants.

The present research study revealed that Moroccan EFL undergraduate university students utilized memory, cognitive, and metacognitive strategies more frequently than social, affective, and compensation strategies. These findings differ from previous studies conducted in Arab EFL contexts (Alhaisoni, 2012; Javid et al., 2013; McMullen, 2009) and with other Arabic-speaking EFL learners (Khalil, 2005; Riazi, 2007; Al-Buainain, 2010; Radwan, 2011; Ismail & AlKhatib, 2013), which showed an inclination towards metacognitive and social strategies. It appears that Moroccan EFL students place greater emphasis on memorization and managing, planning, and monitoring their learning process. Moreover, the utilization of metacognitive strategies may provide learners with a greater degree of control over their learning by allowing them to plan, organize, seek practice and evaluate their own learning process, as noted by Oxford (1990).

The inclination towards utilizing memory strategies among Moroccan EFL undergraduate university students may be attributed to the formal learning environment and educational system at Sultan Moulay Slimane University, where students are responsible for their own language learning progress. Failing to pass certain modules in the English undergraduate program may push students to prioritize strategies that are more relevant to academic success. Williams and Burden (1997) argued that many learners develop strategies that help them cope with school demands and meet teachers' requirements, which can be beneficial in the classroom but are not necessarily useful in real-life situations.

Furthermore, the limited exposure to real-life communication activities in an EFL learning context could explain why Moroccan EFL undergraduate university students utilized metacognitive strategies the most frequently. As Morocco is a non-English speaking country, opportunities for learners to use English outside of the classroom are limited. Therefore, students may rely heavily on metacognitive strategies, which provide opportunities for them to be active, initiative, and accountable for their own learning. Within the current study, results from individual metacognitive strategies indicated that learners favored finding ways to improve their English, seeking as many chances as possible to use English, paying attention when someone is speaking English, looking for people to converse with in English, and taking note of the errors they make in English to enhance their proficiency.

In contrast to Alhaisoni's (2012) and Javid et al.'s (2013) studies, which reported that Arab EFL students used memory strategies less frequently, the current study found that Moroccan EFL undergraduate university students used memory strategies with high frequency. This finding supports the belief that memory strategies are commonly employed by Arab EFL students. However, it is possible that some memory-related techniques, such as using flashcards, physical actions, and rhymes, were unfamiliar to the participants in this study, leading to their lower reported use of these strategies compared to others.

IMPLICATIONS

The findings of this study have several theoretical and practical implications. The first theoretical implication relates to the relationship between language learning strategies and academic achievement. As indicated by the results, Moroccan EFL undergraduate university students exhibit different approaches to language learning, which echoed with the findings of (Alkahtani, 2016; Ehrman & Oxford, 1995; Green & Oxford, 1995; Rossi-Le, 1989).

Another theoretical implication of this study is related to the positive correlation between language learning strategy use and academic achievement. The findings reveal that the more Moroccan EFL undergraduate university students employ their sensory channels to learn a language, the more language acquisition or learning strategies they develop. This supports Ehrman et al. (2003)'s assumption that learning strategies and achievement are interrelated. This conclusion is particularly important given the significant role that learning strategies play in language learning and academic achievement by various researchers (e.g., Alkahtani, 2016; Bremner, 1999; O'Malley et al., 1985; Green & Oxford, 1995; Griffiths, 2003a; O'Malley & Chamot, 1990).

The findings of this study would be advantageous to Moroccan EFL university students by making them cognizant of their own strategies and other effective strategies which are either overlooked or underused. This would enable them to become more self-directed and independent learners. Additionally, it is recommended that educators motivate their students to explore their patterns of strategy utilization using assessment tools such as the language learning strategy inventory or other instruments.

To conclude, the use of language learning strategies is vital for effective language learning among EFL Moroccan university students. It is therefore imperative for teachers to adopt interactive and student-centered teaching approaches that incorporate language learning strategies into their instructional methods.

Furthermore, students need to develop self-regulating learning skills to enhance their understanding and retention of information and to acquire various skills.

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