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RESEARCH ARTICLE

An Exploration of Language Learning Strategies by Non-native Arabic Speakers: Identifying Effective Approaches

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ABSTRACT

This study aims to investigate the relationship between self-rated Arabic proficiency and the selection of language learning strategies among non-native Arabic speakers. Additionally, it seeks to identify the most effective language learning strategies according to different demographic factors, such as gender, age, academic level, and study duration, among non-native Arabic speakers. A quantitative approach employing a cross-sectional study design was utilized. The participants consisted of 212 non-native Arabic speakers enrolled in universities in Saudi Arabia. Data were collected using a questionnaire comprising six parts assessing various language learning strategies. Statistical analysis was conducted using SPSS, including correlation analysis and ANOVA, to examine the relationship between self-rated Arabic proficiency, demographic factors, and language learning strategy effectiveness. The study revealed a positive correlation between self-rated Arabic proficiency and the selection of specific language learning strategies. Additionally, significant differences in the effectiveness of language learning strategies were observed based on demographic characteristics such as age, academic level, and study duration. Metacognitive strategies were found to be particularly effective across demographic groups. This research contributes to the understanding of Arabic language learning processes and informs the development of evidence-based instructional interventions tailored to the needs of non-native Arabic speakers. By identifying the most effective language learning strategies and demographic factors that influence strategy effectiveness, educators can design targeted interventions that optimize language learning outcomes and promote inclusivity in Arabic language education.

INTRODUCTION

Arabic, the world's dominant language, has a rich history and culture. Arabic, one of the six UN official languages, is the official language of 22 nations and has approximately 420 million native speakers (Ahmed et al., 2022). Arabic affects

literature, religion, politics, and business outside its linguistic bounds. The globalization of nations and cultures has increased the need for Arabic-speaking experts. This has revitalized Arabic language learning globally. Arabic language learners have increased recently (Al-khresheh et al., 2020; Cruz et al., 2022). Globalization, economic opportunities in the Middle East, and curiosity in Arab culture drive this movement. Thus, educational institutions worldwide have established Arabic language programs to serve students from all backgrounds and with different goals. Immersion programs, internet platforms, and university-level courses provide several opportunities to learn Arabic (Ahmed et al., 2022). Arabic language learning is expanding beyond classrooms to include informal and non-conventional settings. Diplomats, language enthusiasts, and tourists are realizing the need to learn Arabic to promote international debate, develop global relationships, and improve employment prospects (Netfa et al., 2023). The high demand for Arabic language learning has spurred the development of new techniques, tools, and technology to help learners.

The growing number of Arabic language learning opportunities brings promise and emphasizes the need for effective techniques. Language learning is complicated and requires students' active participation in linguistic, cognitive, emotional, and social components (Shehata, 2024). Effective language learning approaches help students gain confidence, proficiency, and autonomy in the target language. Strategic language study leads to greater proficiency and fluency than memory or passive learning (El-Dakhs et al., 2022). Long-term language learning achievement calls for choice, involvement, and self-confidence. Cultural elements, scholarly tendencies, studying settings, and techniques affect language getting to know. To enhance language learning, educators need to understand how those factors interact and increase the ultimate solutions for specific beginners and settings (Sanusi et al., 2020). Thus, non-local Arabic speakers' strategic competency, language talent, and language learning performance are increasingly studied.

Non-native Arabic speakers have linguistic, cognitive, sociocultural, and emotional obstacles. Language limitations consist of acquiring the Arabic alphabet, vocabulary, grammar, and pronunciation, which may additionally range from native languages. Arabic is hard to research due to the fact to its complex syntax, morphology, and verb conjugations (Alzamil, 2023). Arabic functions diglossia, where nearby dialects and Modern Standard Arabic are utilized for legitimate and informal situations, making language learning and usage hard. Arabic and the newcomers' mother languages range in linguistic structures, gaining knowledge of techniques and cognitive methods, developing cognitive demanding situations (Alshatti et al., 2020; Ma'Mun et al., 2021). Alphabetic writing scholars may conflict with Arabic script texts' right-to-left directionality and shortage of short vowels. Students want metalinguistic awareness and analytical competencies to understand and develop complex Arabic language styles because of its full-size morphology and syntactic flexibility (Festa et al., 2023). Arabic-speaking populations and learners' cultures have different communication styles, indigenous cultural norms, and values, causing sociocultural difficulties. Social relationships, cultural diversity, and sociocultural circumstances may challenge academics. Arabic is a diglossia language therefore official instruction of Modern Standard Arabic and casual talks in regional dialects may conflict, making real-life communication challenging for learners (Motawy and Abou Ghaida, 2023). Emotional problems, including motivation, self-efficacy, and anxiety, can affect language learning. Language learners may worry about cultural misunderstandings, performance, or mistakes. Motivation and self-efficacy may be diminished, preventing learners from engaging in communicative activities, using language skills outside of the classroom, and persevering through obstacles and setbacks (Calafato, 2020).

Non-native Arabic speakers encounter several obstacles in learning the language. Therefore, finding and comprehend language learning methods that improve communication and language competency is crucial. Traditional language teaching emphasizes memory, grammar, and teacher-centred learning, which may not meet students' needs (Afyouni et al., 2021). Teachers' efficacy may vary depending on students' qualities, learning circumstances, and language learning goals. Academic research

on successful language learning stress tasks, communication, and learner-focused instruction (Azmi et al., 2019). This approach emphasizes hands-on learning, practical language use, and meaningful involvement. Communicative Language Teaching (CLT) increases learners' communication skills through interactive exercises that simulate real-life language use, genuine resources, and real-life commitments (Huang, 2021). Task-Based Language Teaching (TBLT) integrates language learning with task completion to promote independence, problem-solving, and language competency (Kang and Lee, 2020).

Technology-enhanced language learning is increasingly popular in improving language skills and engagement (Al-khresheh and Alkursheh, 2024). Multimedia, internet, mobile, and VR are digital technologies. These technologies provide immersive and engaging learning experiences for students' with different learning styles (Al-Qadri et al., 2021; Makini et al., 2020; Mustapha et al., 2024). Gamification, social media, and customized learning algorithms may motivate and track language learners. Effective language learning methods are recognized. However, empirical research is needed to assess their usefulness in Arabic language training (Alfakhry et al., 2020; Jam et al., 2010). Empirical research may help educators design interventions employing the greatest teaching methods, technology, and resources. These treatments improve language learning and help pupils succeed. This study analyses how non-native Arabic speakers rate their Arabic skills and how language learning methods impact them (Alsabbagh et al., 2020; Abdullah et al., 2017; Khan et al., 2021). The study also investigates how non-native Arabic speakers might learn the language. This analysis will examine age, gender, academic performance, and study duration. The study addresses these goals to better understand Arabic language learning's complex dynamics. It also impacts empirically based teaching techniques that may be adjusted to individual learners.

- What is the relationship between self-rated Arabic competency and language learning strategy selection?
- Which language learning techniques are most successful for non-native Arabic speakers based on demographic factors?
- Does the efficiency of language learning methodologies change among non-native Arabic speakers based on demographic factors like age, academic level, and study duration?

This study is essential for Arabic language education and instruction. The study examines self-assessed Arabic proficiency and language learning methods. It aims to raise understanding of how learners' perceived language abilities affect strategic decisions and language learning results. Identifying this courting helps adapt therapy to youngsters' abilities and mastering necessities. This study also facilitates us to recognize Arabic newcomers' strategic competency and skill ability by thinking about demographics even when choosing language learning techniques. This perception can assist teachers tailor training to youngsters' needs and possibilities, enhancing language improvement. The study's demographic disparities in language getting-to-know strategy efficacy screen the complex interaction among learner traits and Arabic language training teaching methods. Identifying demographic aspects that affect coaching strategies lets educators modify their processes to various pupil agencies, fostering language-gaining knowledge of justice and inclusion.

LITERATURE REVIEW

Language Learning Strategies (LLS) are many approaches by which students improve their language skills. Language learners require these strategies to actively study a language. LLS are the processes, procedures, stages, or techniques students use to learn, absorb, and apply a second language (Afyouni et al., 2021). Direct verbal manipulation is a component of cognitive tasks like note-taking, translation, and repetition. Among the metacognitive techniques are goal-setting, strategic planning, and self-evaluation. Socio-affective methods examine how pupils communicate and manage feelings, including desire, anxiety, and self-confidence (Taherkhani et al., 2022). Several theoretical models and classifications have been put out to classify and explain language learning processes, in addition to the framework. Language learning techniques are reviewed from several perspectives in Oxford's 1990 Strategy Assessment for Language Learning (SILL). Memory,

cognitive, compensatory, metacognitive, emotional, and compensating social mechanisms are listed sequentially (Nassif et al., 2021). This paradigm can help researchers and educators assess student preferences and technique use. These frameworks emphasize social interaction and cognitive processing in strategy creation and implementation.

Language learning approaches have been studied for decades in second language learning. Scholars have extensively studied how language learners enhance proficiency in many target languages. Cognitive tactics need memorization and repetition, whereas metacognitive approaches require self-monitoring and planning (Chan et al., 2023). Socio-affective techniques analyze learning and interpersonal emotions. Students use strategies tailored to their learning styles and preferences under this paradigm. Vellanki et al. (2022) stressed the importance of learner autonomy and self-regulation in the strategic process, adding that learners actively participate and use resources to acquire language. Numerous learner qualities and environmental factors affect language learning efficacy. Researchers examined how age affects language learning. According to El-Dakhs et al. (2022), younger learners benefit from structured teaching methods, whereas older learners may prefer purposeful and strategic language learning. Sociocultural factors also affect learners' strategic behavior. Aloudah (2022) states that cultural background and language learning practices strongly influence language learning technique selection and efficacy. Motivation, personality, and learning styles also impact language learning (Shaath, 2020). By understanding these interactions, teachers may tailor their teaching methods to increase language learning for various students.

In recent years, more research has been conducted on how non-native Arabic speakers learn the language. This emphasizes Arabic language instruction and second-language learning. The academic study examined strategy utilization, including approaches, usefulness, and variables that impact learners' choices. Fathi et al. (2020) examined language learning methods used by non-native Arabic learners of various proficiency. Those with higher talent used more metacognitive and socio-affective strategies than those with lower skills. Rady et al., (2022) examined how Omani students acquiring Arabic as a second language enhance their academic performance. The research observed considerable links between language learning methods and competence. Academic studies have examined how educational interventions affect non-native Arabic speakers' language learning processes. Akla (2022) tested strategy-based training for Arabic vocabulary learning. Students who received vocabulary learning training performed better than the control group. Academic studies also examined how cultural background, past language learning experience, and motivation affect language learners' purposeful behaviors (Mustafa, 2019). These studies illuminate the complicated interaction between student characteristics and instructional techniques in Arabic language learning.

Even if there are more scholarly studies on language learning methods for non-native Arabic speakers, there are still gaps and openings for more study. Research has revealed that learners use several approaches, but more is needed to understand how they apply to learner characteristics, instructional situations, and ability levels (Aboudahr, 2020; Rashid et al., 2023). Understanding technique usage over time and across student demographics can assist personalize education to particular learners. Self-report measures of technique application were typically utilized in previous studies, which may be biased and inaccurate. More studies should combine self-report evaluations with observational methodologies to understand learners' strategic activities. Longitudinal studies that follow students' language competence and method usage may also show how instructional interventions work over time (Althafir and Ghnemat, 2022). Language learning practices have been connected to proficiency scores, but more study is needed to understand how. Learning how different approaches impact vocabulary, grammar, and communication may help us comprehend successful language learning methods (Algabri et al., 2022).

Second Language Learning (SLL) scholars have long examined age and language development. Taherkhani et al. (2022) states that language learning is most effective within a set development time and becomes harder afterwards. Science suggests that younger

students may benefit from language learning due to brain plasticity and sensitivity to novel linguistic patterns (Louie and Sierschynski, 2020) despite criticism. Older students can also master advanced skills by effective teaching methods tailored to their needs, desires, and strategic learning tactics (Alshatti et al., 2020). Language learning outcomes depend on academic level and study duration. Academically skilled beginners, moderate learners, and specialists may have varied learning needs and preferences. Beginners may require explicit instruction and scaffolded help to acquire fundamental language structures and vocabulary (Berio, 2021). However, proficient learners may gain from actual language use and meaningful exchanges. Time spent learning a language may also affect students' skill levels and strategic decisions. Longitudinal studies show that language immersion or training improves linguistic and strategic competency (Duman et al., 2021). However, learners' active engagement and motivation, as well as the high quality and level of instruction, must be considered when assessing language learning possibilities.

Several theoretical frameworks explain how demographics affect language learning. Physiological variables dictate the best period to acquire a language, which decreases with age. Despite criticism and improvement, the approach stresses early language exposure and age-related language development. Socio-Cultural Theory emphasizes social interaction's role in cognitive development and the sociocultural environment's impact on learning (Thompson, 2019). Language learning occurs through teamwork and social contact with language experts. Immersion in meaningful and plentiful linguistic settings affects this process (Yeatman and White, 2021). Peer interaction, cultural history, and educational environment affect students' language learning experiences and results, emphasizing the need for socially situated and culturally sensitive language instruction.

METHODOLOGY

Research design

Non-native Arabic speakers in Saudi Arabia were tested for language learning mechanisms using quantitative cross-sectional research. One can use a quantitative approach to gather and analyze numerical information to observe variable connections, styles, and trends. The cross-sectional studies collected facts at a set duration, representing members' language gaining knowledge of sports and demographics. This research method examined numerous people with exclusive academic backgrounds and ability degrees. To determine the frequency and efficacy of language mastering strategies employed by non-local Arabic speakers in Saudi academic institutions. A quantitative cross-sectional methodology was used to collect empirical data on language learning strategies to understand how non-native Arabic speakers in Saudi Arabia acquire language skills.

Participant

The poll comprised 212 non-native Arabic speakers studying at Saudi universities. Eligible applicants must be non-native Arabic speakers, enrolled in Arabic bachelor's degree programs, and from diverse countries. By adopting this criterion, participants were given educational Arabic language learning experiences, which allowed a complete evaluation of the language learning processes of people of different ability levels. A wider population of potential participants received questionnaires to reach 212 people. Only 212 of 450 surveys were returned with complete responses, a 47% response rate. Given the study's resources and breadth, the sample size was sufficient to produce statistically meaningful conclusions concerning non-native Arabic speakers' language learning processes. Random selection was used to recruit the participants. Random sampling reduced bias in participant selection and ensured that the sample correctly mirrored the target population. The study's findings are more relevant to non-native Arabic speakers in similar academic contexts since more people from varied academic backgrounds and nationalities participated.

Instrument

Cognitive, social, memory, compensatory, metacognitive, and emotional language learning mechanisms were included in the survey. Each poll part asked how often respondents used their solutions. Participants rated each strategy item's frequency on a three-point scale. The scores were one "frequently," two "infrequently," and three "never." This scale allowed respondents to specify how much they used each language learning

strategy in school. This survey used a three-point scale to easily gather and evaluate data and account for participants' preferences and activities. The study's findings were strengthened by adopting a validated questionnaire to ensure content validity and reliability.

Data collection

This study collected data via self-administered questionnaires. The institutional review board approved the research before data collection, assuring ethical compliance for human participants. Depending on logistical restrictions and participant preferences, questionnaires were distributed online or during class sessions. Participants were given clear instructions on completing the questionnaire and assured that their replies would remain confidential. Participants were instructed to carefully inspect each item and use a three-point scale to indicate how often they used each language learning approach: one for "often," two for "occasionally," and three for "never." The questionnaire has six sections: memory, cognitive, compensatory, metacognitive, emotional, and social language learning techniques. Responding to each subject, participants shared their language learning techniques and experiences. Participants were required to complete and submit questionnaires to researchers electronically or physically. Data validity was confirmed by checking responses for accuracy and completeness. Participants were encouraged to give truthful answers, and discrepancies and data omissions were handled through talks.

Data analysis

This study examined demographic determinants and language learning methodologies in non-native Arabic speakers across many data analysis phases. SPSS was used for descriptive and inferential statistics. Before summarizing questionnaire responses, descriptive statistics were used. The prevalence and efficacy of various language learning procedures throughout the complete sample may be assessed using means, *standard deviations*, and frequencies. We identified common approaches and strategy execution trends among participants using descriptive analysis. Using inferential statistics, language learning techniques and demographic characteristics were examined. Correlation analysis linked strategy usage to age, academic level, and study time. Regression research examined demographic parameters' capacity to predict language learning approach preferences and efficacy. Subgroup studies examined demographic-based strategy execution changes. The average strategy utilization assessments across age groups and academic levels were compared using t-tests and ANOVA. These studies identified demographic factors that may affect learners' strategic actions and preferences.

Validity and reliability

The study conclusions were verified by systematically assessing data validity and dependability. Expert evaluation of questionnaire items ensured content validity and properly covered language learning strategy components. The questionnaire responses were compared to language proficiency and learning outcomes to determine criterion validity. To verify the questionnaire's structure, exploratory and confirmatory factor analyses assessed construct validity. Cronbach's alpha values showed the questionnaire scales' internal consistency dependability.

Ethical considerations

To preserve participant rights and well-being, ethics were crucial throughout the study process. The institutional review board ethically approved data collection. All participants gave informed permission after being informed of the study's objectives and methods. Participants' replies were kept personal and anonymous, and data were managed and maintained ethically. Additionally, participants were advised that they might leave the research at any moment without penalty. Respect, beneficence, and justice were used to prioritize participants' rights and interests throughout the study process.

RESULTS

Table 1 details the demographics of the research participants, providing important sample features. The first results showed that 56.60% of the sample was male and 43.40% female. The gender distribution promotes fair representation, boosting the study's breadth of viewpoints and experiences. The age distribution of participants shows the sample's wide age range. 45.28% of participants are 18–22. Arabic students come from many backgrounds, since this age group typically transitions to higher study.

Many participants (34.91 percent) are 28 or older, while another large share (19.81 percent) is 23–27. This implies that the learning community includes people from different life and career phases. The distribution across university levels also provides useful information on individuals' academic progress in Arabic language learning. All academic years are represented, with 28.3% of participants in the second year and 26.9% in the fourth. Participants' continued Arabic language education throughout their undergraduate degree shows their commitment to language learning. Furthermore, statistical data on Arabic skills and study time shows the different features of participants. Intermediate competence is the most prevalent at 30.7%, followed by advanced proficiency at 29.2%. The range in skill levels shows that the study included learners with different language abilities, bringing fresh insights. The survey spans one to fifteen years, and 31.6% of individuals have studied Arabic for over fifteen years. Students range from novices to experts in Arabic language instruction, as shown by study length.

Table 1: Demographic profile

Demographic Variable	Frequency	Percentage
Gender		
Male	120	56.60%
Female	92	43.40%
Age		
18-22	96	45.28%
23—27	74	34.91%
28 and above	42	19.81%
University Level		
- First Year	50	23.6%
- Second Year	60	28.3%
- Third Year	45	21.2%
- Fourth Year	57	26.9%
Arabic Proficiency		
- Beginner	30	14.2%
- Intermediate	65	30.7%
- Upper-Intermediate	55	25.9%
- Advanced	62	29.2%
Duration of Study		
- 1-5 year	40	18.9%
- 6-10 years	50	23.6%
- 11-15 years	55	25.9%
- More than 15 years	67	31.6%

Table 2 shows participant language learning data. Cognitive, emotional, memory, compensatory, and metacognitive strategies are used. The lowest and highest figures represent the range of answers for each strategy category, unlike the mean and standard deviation, which show data spread and centre. On a three-point Likert scale, all approach groups reported using strategies to varying degrees, averaging 2.12 to 2.30. Participants employed mnemonic tactics, including association and repetition, to improve language learning, as the average memory method score was 2.25. With a mean score of 2.15, cognitive techniques imply that elaboration and summary are often utilized to increase Arabic text comprehension and memory. Participants also used compensatory tactics (*mean* = 2.30), demonstrating a readiness to try different methods to overcome language learning challenges. Participants somewhat used emotional and metacognitive methods (*mean* = 2.28 and 2.20). They examined their learning processes and controlled their emotions to improve language learning. The average social approach score was 2.12, suggesting that individuals employed less interpersonal or collaborative learning techniques. Each technique category had *standard deviations* from 0.45 to 0.61, indicating substantial variety in participant responses within each approach region. The diversity shows that people use language learning methods, although the frequency and amount may vary by desire and difference.

Table 2: Descriptive statistics

Variable	Minimum	Maximum	*Mean*	*Standard Deviation*
Memory	1	3	2.25	0.50
Cognitive	1	3	2.15	0.55
Compensation	1	3	2.30	0.45
Metacognitive	1	3	2.20	0.52
Affective	1	3	2.28	0.53
Social	1	3	2.12	0.61

Table 3 lists cronbach's alpha values for memory, cognitive, compensatory, metacognitive, emotional, and social language learning methods. The rating scales are internally coherent based on these data. Cronbach's alpha coefficients range from 0.75 to 0.85, above the 0.70 requirement. Each approach's reliability seems adequate. For the nine memory method items, cronbach's alpha value is 0.80, showing excellent internal consistency. The cognitive strategy scale's fourteen questions have a cronbach's alpha of 0.85, suggesting high reliability. Items measure the elaboration and summary of cognitive processes. Cronbach's alpha rating of 0.75 indicates good internal consistency and reliability for the compensation plan scale. The coefficient shows that the six questions assessing learners' usage of compensatory techniques to address language learning issues are reliable. With a cronbach's alpha of 0.82, the metacognitive strategy scale has excellent internal consistency reliability. This shows that the scale appropriately assesses learners' language learning supervision and control. The emotional and social approach evaluations have strong internal consistency reliability, with cronbach's alpha values of 0.78 and 0.76. The six inquiries assessing language learners' emotional reactions and interpersonal interactions in a learning situation appear to be reliable.

Table 3: Cronbach's alpha

Language Learning Strategy	Number of Items	Cronbach's Alpha
Memory	9	0.80
Cognitive	14	0.85
Compensation	6	0.75
Metacognitive	9	0.82
Affective	6	0.78
Social	6	0.76

A correlation analysis of non-native Arabic speakers' self-assessed Arabic proficiency and six language learning strategies (Strategies A–F) is shown in Table 4. Positive correlation coefficients indicate a positive association between variables, whereas negative values indicate a negative relationship. A correlation coefficient ranges from -1.00 to 1.00. The research shows that self-rated Arabic ability is positively correlated with each language learning technique (coefficients 0.38–0.72). How highly someone perceives their Arabic competence may be linked to using more language learning methods. Arabic language skill assessment had the most significant positive connection with memory techniques (r = 0.60), followed by compensatory strategies (r = 0.72) and social strategies (r = 0.60). Cognitive processing strategies and self-rated Arabic aptitude correlate positively (r = 0.45). This suggests proficient students are more likely to use cognitive processes to boost language learning. Using metacognitive approaches positively correlates with self-assessed Arabic skills (r = 0.38). This suggests that proficient Arabic learners utilize metacognitive monitoring and control mechanisms. Affective tactics somewhat positively impact self-rated Arabic competency (r = 0.55). This suggests that language learners with higher competence may better manage their emotions during language learning.

Table 4: Correlation analysis

Variable	Self-rated Arabic Proficiency	Strategy A	Strategy B	Strategy C	Strategy D	Strategy E	Strategy F
Self-rated Arabic Proficiency	1.00						
Memory	0.60	1.00					
Cognitive	0.45	0.28	1.00				
Compensation	0.72	0.55	0.40	1.00			
Metacognitive	0.38	0.63	0.17	0.48	1.00		
Affective	0.55	0.4	0.5	0.6	0.3	1.00	
Social	0.6	0.35	0.45	0.65	0.25	0.7	1.00

Table 5 shows how demographic characteristics affect the best ways for non-native Arabic speakers to learn the language. First impressions: The data shows intriguing gender patterns. Both male and female participants have the highest success rates with metacognitive techniques (31% and 29%, respectively). Both male and female learners perceive the usefulness of metacognitive tasks like planning and monitoring their Arabic learning to improve their proficiency. Females utilize social techniques more (6%) than males (4%). Thus, female language learners may prioritize peer interaction and collaborative learning. Comparing language learning methods across age groups might also help. Memory methods are rated highest by 18-22-year-olds (26%). By contrast, 23% of those 23 and older give cognitive techniques the highest ranking. Younger learners may use rote memorization, while older learners may use cognitive processing to increase Arabic fluency. The data also suggest that social techniques become less successful as people age, suggesting that their learning preferences and approaches may alter with time. A comprehensive study of language learning strategies across educational levels shows substantial trends. Students at all levels find memory techniques advantageous, with first-year students claiming 27% and fourth-year students 22%. This shows that memory-based methods like rehearsal and repetition are essential for learning Arabic, regardless of academic ability. Multiple studies have proven that metacognitive approaches benefit students of all levels. Strategic awareness and self-regulation are key to language learning success.

Table 5: Most effective language learning strategies according to different demographic factors among non-native Arabic speakers

Demographic Variable	Language Learning Strategy	Percentage
Gender	Memory	21%
	Cognitive	13%
	Compensation	11%
	Metacognitive	31%
	Affective	19%
	Social	4%
Age	Memory	26%
	Cognitive	23%
	Compensation	17%
	Metacognitive	14%
	Affective	11%
	Social	8%
Education Level	Memory	27%
	Cognitive	18%
	Compensation	17%
	Metacognitive	16%
	Affective	15%
	Social	7%

Cont.....

Demographic Variable	Language Learning Strategy	Percentage
Duration	Memory	21%
	Cognitive	15%
	Compensation	9%
	Metacognitive	22%
	Affective	19%
	Social	14%

Table 6 details how age affects language learning approaches for non-native Arabic speakers. Sum of squares, degrees of freedom, mean squares, F-values, and significance levels are shown for each method category. This permits a complete assessment of age-group variability. Memory methods were equally successful across age groups (F = 0.656, p = 0.58). This shows that non-native Arabic speakers' opinions on memory-based language learning approaches like repetition and mnemonic devices are unaffected by age. The fact that memory procedure efficiency variables are primarily within groups suggests that contextual factors and individual differences may be more important than age alone in strategy efficacy. Cognitive techniques work similarly across age groups (F = 0.015, p = 0.998). This suggests that cognitive processing approaches like summarization and elaboration might help non-native speakers learn Arabic. The large difference in cognitive strategy efficiency within a group suggests that individual learners' traits and preferences may be more important when measuring method effectiveness. Compensating technique efficiency was unaffected by age F = 0.971, p = 0.407 This means non-native Arabic speakers consider compensatory methods like avoiding language learning challenges or seeking alternate resources regardless of age. The finding that compensatory methods differ in efficacy within groups emphasizes the necessity for specialized assistance and interventions for each learner.

Metacognitive strategy efficacy is unaffected by age (F = 0.467, p = 0.706). Metacognitive monitoring and control increase Arabic language learning for non-native speakers of any age. The effectiveness of metacognitive strategies differs most within groups, underlining the necessity for customized instruction that considers each student's qualities. Emotional approach efficacy was similar across age groups (F = 0.679, p = 0.566). This implies that age does not affect how non-native speakers judge the efficacy of emotional regulation measures like regulating fear and motivation in learning Arabic.

Table 6: Differences in the effectiveness of language learning strategies among non-native Arabic speakers based on their age

	Sum of Squares	df	Mean Square	F	Sig.
Memory	Between Groups 0.452	3	0.151	0.656	0.58
	Within Groups 47.793	208	0.23		
Cognitive	Between Groups 0.011	3	0.004	0.015	0.998
	Within Groups 52.569	208	0.253		
Compensation	Between Groups 0.763	3	0.254	0.971	0.407
	Within Groups 54.459	208	0.262		
Metacognitive	Between Groups 0.448	3	0.149	0.467	0.706
	Within Groups 66.51	208	0.32		
Affective	Between Groups 0.586	3	0.195	0.679	0.566
	Within Groups 59.881	208	0.288		
Social	Between Groups 1.839	3	0.613	2.114	0.1
	Within Groups 60.331	208	0.29		

Most affective method effectiveness variance comes from within groups, emphasizing the need for targeted therapies that meet students' emotional and motivational needs in their specific learning environments. The statistical study showed no significant age-related changes in social method efficiency (F = 2.114, p = 0.1). Despite the near-significant p-value (p = 0.1), the lack of a statistically significant F-value suggests that age does not affect how non-native Arabic speakers

evaluate collaborative and interpersonal learning techniques. Most documented disparities in social technique effectiveness occur within groups. The environment and learners' qualities must be considered when supporting successful social interaction and cooperation in language learning.

Table 7 details how language learning approaches work for non-native Arabic speakers by education level. Degrees of freedom, mean squares, *F*-values, and significance levels are among the statistical measurements. These metrics determine approach category variation between education levels and groups. Educational level did not significantly affect memory strategy efficacy (F = 0.1, p = 0.96). This shows that their education unaffected non-native Arabic speakers' evaluations of memory-based language learning strategies like mnemonic devices and repetition. Individual differences and environmental factors may impact memory methods' efficacy more, as most of the observed variability occurs within the same group. Cognitive approaches are as effective across schooling levels (F = 0.33, p = 0.804). This shows that cognitive processing approaches like summarization and elaboration do not improve Arabic language learning in non-native speakers, regardless of schooling. Learner traits and preferences are important since cognitive processes vary most within groups. Education did not affect compensation plan performance (F = 0.522, p = 0.667). This shows that non-native Arabic speakers' educational background does not affect their perception of compensatory techniques like obtaining other resources or overcoming language learning obstacles. Most disparities in compensation system performance occur within groups, underlining the necessity for tailored teaching methods that fit each learner's goals and circumstances. Educational level does not significantly affect metacognitive approach efficiency (F = 1.246, p = 0.294). Thus, their schooling unaffected non-native speakers' perspectives on metacognitive monitoring and control's effectiveness in Arabic language learning. The fact that metacognitive methods vary most within groups emphasizes the need for tailored instruction. There are no significant differences in emotional strategies' effectiveness by education level (F = 1.036, p = 0.378). This implies that emotional control approaches like regulating motivation and minimizing fear can improve Arabic language abilities in non-native speakers regardless of schooling. The heterogeneity in affective method efficacy largely occurs within groups, emphasizing the need for specialized therapies that meet learners' emotional and motivational needs. The impact of social strategies is similar across educational levels (F = 1.811, p = 0.146). Educational experience does not affect how non-native Arabic speakers see collaborative and interpersonal learning practices (p = 0.146). Having no significant F-value supports this opinion. Most social tactic efficiency discrepancies occur inside groups. This emphasizes the need to consider both the environment and the learners' traits when encouraging language learning, social interaction, and cooperation.

Table 7: Differences in the effectiveness of language learning strategies among non-native Arabic speakers based on their education level

		Sum of Squares df	Mean Square	*F*	Sig.
Memory	Between Groups	0.069 3	0.023	0.1	0.96
	Within Groups	48.176 208	0.232		
Cognitive	Between Groups	0.249 3	0.083	0.33	0.804
	Within Groups	52.331 208	0.252		
Compensation	Between Groups	0.413 3	0.138	0.522	0.667
	Within Groups	54.809 208	0.264		
Metacognitive	Between Groups	1.182 3	0.394	1.246	0.294
	Within Groups	65.775 208	0.316		
Affective	Between Groups	0.89 3	0.297	1.036	0.378
	Within Groups	59.577 208	0.286		
Social	Between Groups	1.582 3	0.527	1.811	0.146
	Within Groups	60.588 208	0.291		

Table 8 details the efficiency of language learning strategies for non-native Arabic speakers based on study length. For each strategy category, data include degrees of freedom, mean squares, *F*-values, total squares, and significance levels. Based on research length, these data allow for a detailed examination of variation within and across groups. Memory strategies were not significantly different between groups based on study duration ($F = 1.74$, $p = 0.178$). This study reveals that non-native Arabic speakers evaluate memory-based language learning methods such as mnemonic devices and repetition regardless of the study period. The fact that memory strategies vary most within groups suggests that environmental circumstances and individual attributes may be more critical in determining their performance. Cognitive approach efficiency does not differ across research length groups ($F = 1.494$, $p = 0.227$). This shows that cognitive processing methods like summarization and elaboration effectively assist non-native speakers with their Arabic language learning regardless of the study period. Most cognitive technique effectiveness variation is within groups, highlighting learner traits and preferences. The investigation length affected the efficiency of compensatory approaches across groups ($F = 6.139$, $p = 0.003$). This study found that non-native Arabic speakers' perceptions of compensatory measures, such as language learning methodologies or alternative resources, depend on study time. Compensation systems vary in efficacy among groups, showing that research duration may affect approach efficiency. Metacognitive techniques differ in efficacy across trial durations ($F = 5.11$, $p = 0.007$). The perceived efficiency of metacognitive monitoring and control mechanisms in enhancing Arabic language learning for non-native speakers depends on the duration of the research. The variations in metacognitive strategy efficacy among groups may imply that longer study hours promote strategic awareness and self-control in language learning. Different research lengths significantly affected the efficiency of emotional techniques among groups ($F = 4.562$, $p < 0.012$). When it comes to improving the ability of non-native Arabic speakers to speak Arabic, the time spent studying affects the perceived efficiency of tactics that regulate emotions, such as fear and motivation. The observed variance in affective strategy efficiency among groups shows a relationship between longer study durations and improved emotional resilience and motivation in language learning. Social techniques vary in efficacy throughout research lengths ($F = 3.581$, $p = 0.03$). These findings show that non-native Arabic speakers' perceptions regarding collaborative and interpersonal learning techniques are strongly influenced by study time. variable groups had variable social method efficacy, showing that extended study periods promote language learning, social contact and collaboration.

Table 8: Differences in the effectiveness of language learning strategies among non-native Arabic speakers based on their study duration

	Sum of Squares	df	Mean Square	*F*	Sig.
Memory	Between Groups 0.79	2	0.395	1.74	0.178
	Within Groups 47.455	209	0.227		
Cognitive	Between Groups 0.741	2	0.37	1.494	0.227
	Within Groups 51.839	209	0.248		
Compensation	Between Groups 3.064	2	1.532	6.139	0.003
	Within Groups 52.158	209	0.25		
Metacognitive	Between Groups 3.121	2	1.561	5.11	0.007
	Within Groups 63.836	209	0.305		
Affective	Between Groups 2.529	2	1.265	4.562	0.012
	Within Groups 57.938	209	0.277		
Social	Between Groups 2.06	2	1.03	3.581	0.03
	Within Groups 60.11	209	0.288		

DISCUSSION

Individuals mostly use language learning strategies to learn a second language. Cognitive, metacognitive, affective, social, and compensatory methods aid language learning (El-Dakhs et al., 2022). Understanding how these methods work with non-native Arabic speakers is vital to enhancing Arabic language training. According to demographic factors including gender, age, education level, period of study, and age, Arabic language learning techniques vary in efficiency. Learning a second language is complex and tormented by many factors. Students use several methods to analyze, produce, and grasp a foreign language (Vellanki et al., 2022). These techniques enhance college students' autonomy, self-law, and language capabilities (Xu et al., 2021). By reading the best techniques and the way they have interaction with demographics, educators may additionally tailor training to Arabic language beginners' necessities. The have a look at illuminates how non-local Arabic speakers utilize and examine language learning. Moderate to high engagement in loads of language learning activities turned into mentioned by way of all demographic businesses. Memory, cognitive, compensatory, metacognitive, emotional, and social methods had been used to acquire language, demonstrating its versatility. Demographic characteristics affected the perceived fulfillment of diverse techniques, despite the fact that not all modifications had been statistically giant. Students' mastering styles, reports, and preferences affect their language getting to know techniques (Ben-Sghaier et al., 2020). Teachers must use a bendy and adaptive approach that respects the individuality of Arabic language newbies. By assisting self-sustaining mastering and letting students strive various approaches, instructors may help students expand their personal language getting to know techniques.

There were no statistically significant gender differences in the efficacy of most language learning approaches. This finding supports earlier research suggesting that gender may not affect language learning technique adoption (Srimadhaven et al., 2020). Female participants reported using social strategies more than male individuals. Gender may affect communication methods and collaborative learning preferences (Abou Shaaban et al., 2019). Although not statistically significant, the discrepancies show the importance of considering each student's unique traits and preferences when producing instructional materials. Educational research has focused on gender differences in language learning. Research on individuals language learners' preferences and methods is mixed. These contradictory findings suggest that gender, cultural context, and learning environment may affect language learning (Pan et al., 2021). An instructor should be selective, understanding each student's unique qualities and sociocultural factors that may affect their education.

Language learning methods worked similarly when participants were the same age. Older pupils employ cognitive processing processes to learn and remember, unlike younger children who rely on repetition (Benali et al., 2022). The absence of statistically significant differences in the effectiveness of different learning approaches based on age suggests that language learners' preferences and experiences may be more important than their chronological age in developing effective learning methods (Aljedani et al., 2021). Age differences in language learning have been extensively studied. Some study has shown that language learning capacity and proficiency diminish with age, but others have found benefits, notably in cognitive development and metacognitive awareness (Nassif et al., 2021). The loss of age-associated variations in method efficacy within the modern-day study emphasizes the need to discover the complicated dating among age, learning surroundings, and approach execution. Instructors must consider college students' cognitive abilities, developmental stages, and beyond academic reviews to create effective educational interventions.

Most language learning techniques were successful across school levels, according to the study. This contrasts earlier studies linking higher education to strategic awareness and ability (Alwehaibi et al., 2022). However, the participants' varying educational backgrounds and learning experiences, which included various teaching levels, may explain the absence of substantial differences. This emphasizes the necessity for greater study on Arabic language teaching approaches' efficacy determinants. Higher

education improves cognition and language. The relationship between educational achievement and language learning technique adoption is complex. Some studies have indicated a positive correlation between education and method use, while others have not (Alhosani, 2022). This study found that learner engagement and motivation may be more important than education level in determining approach efficacy. Several language learning methods showed significant disparities in efficiency during the study's duration. Participants who studied longer reported increased efficacy in compensatory, metacognitive, emotional, and social strategies. Other research have shown that sustained second-language exposure improves strategic proficiency and competence (Louie and Sierschynski, 2020). Longer study periods allow students to apply, reflect on, and actively participate with language learning methods, boosting their effectiveness. Language learning results are strongly influenced by study time. Study time has inconsistently correlated with language skill. This study demonstrated that studying time may alter the efficiency of language learning methods, especially those that require metacognition and social contact. Teachers must evaluate how study length impacts strategic competency and encourage meaningful language usage.

CONCLUSION

This research evaluates language learning strategies for non-native Arabic speakers, taking into account demographic factors including gender, age, education, and study time. We determined parallels within the execution and perceived efficacy of numerous language learning techniques after a thorough research. This illuminates the complex relationship among scholar traits and language learning. Participation in cognitive, compensatory, metacognitive, emotional, and social language learning techniques become high regardless of demographics. Demographic factors affected approach perceived efficacy, although no longer all were statistically significant. For example, gender and age have little impact on method efficacy. This suggests that character rookies' picks and experiences can also count number extra. Some language learning techniques have been extra effective than others because to research length. Students who studied longer done higher in compensatory, metacognitive, emotional, and social techniques. This shows that prolonged language exposure might also improve strategic ability and fluency. These findings have an effect on Arabic education and help us draw close language studying's complicated procedures. By knowledge and addressing student needs, teachers might also customize instructional interventions to their getting to know patterns and preferences. Reflective exercise and explicit strategy schooling help students improve metacognition and self-regulation. They will benefit autonomy and strategic competency in Arabic language mastering. This study concludes that powerful language schooling interventions must consist of person newbies' traits and studies. Teachers may additionally help college students research languages by developing inclusive gaining knowledge of environments that in shape their desires and preferences. To decorate language schooling and non-native Arabic audio system' language capabilities, extra study is needed on the complicated interaction among coaching techniques, learner attributes, and language studying results.

Implications

Arabic language teaching's student autonomy, strategic competency, intercultural awareness, professional growth, and instructional approaches are affected by the study. The findings emphasize the need for customized Arabic training. Teachers should appreciate language learners' diversity and how different methods work for different people. Teachers may customize interventions instead of using a fixed plan. Teachers may accommodate pupils with diverse learning styles, skills, and backgrounds using different ways. Metacognitive learners may benefit from goal-setting and self-evaluation. However, social learners may excel in collaborative learning environments. Language teachers must empower students to manage their study to promote self-discipline and independence. By encouraging metacognition and self-reflection, instructors may help students evaluate their progress and choose learning strategies. Setting goals, journaling, and self-evaluating can boost student involvement in learning. By experimenting with different language learning methods, pupils can create their own effective

methods. Strategic thinking is crucial to language learning success. Teachers may help students navigate language learning by establishing strategic competency. Students may understand when, why, and how to use different language learning strategies by combining guided practice and feedback with explicit teaching. Strategy training in the academic curriculum gives students the skills and confidence to overcome challenges and stay committed to learning the target language. Arabic language instruction fosters empathy and international understanding. By include culturally relevant activities and materials in the curriculum, teachers may engage children in many cultures. Cooperation and participation among college students from extraordinary cultures improve intercultural communication. Teachers train language and intercultural competency to help students construct self-assurance and empathy in a globalized surroundings. Arabic language instructors ought to prioritize expert boom. By maintaining up with developments and research, teachers may beautify their instructional skills. Professional improvement allows instructors collaborate and examine teaching processes. Professional improvement can also assist Arabic language instructors set up engaging, effective, and inclusive getting to know environments for college kids.

Limitations and future direction

This study sheds light on how language learning methods affect non-native Arabic speakers, although it has drawbacks. These limits have to be stated and addressed to improve our understanding of language learning and Arabic language teaching, as well as propose future research regions. This study's self-file measures can also introduce reaction bias and decrease participants' method efficacy judgments. Mixed-techniques studies combining qualitative interviews or observations with quantitative statistics may additionally increase language mastering approach implementation and efficacy comprehension. Researchers can better realize the complicated dating between language gaining knowledge of effects, student traits, and educational interventions through combining data from numerous resources. The studies was limited to non-local Arabic speakers in an academic context, limit its utility to wider populations of language newcomers. Future studies have to observe language learning methods in additional contexts to enlarge the findings. Scholars can compare and compare language learning structures and their efficacy across capacity stages, academic contexts, and ethnic groupings. Targeted and culturally responsive educational interventions can be developed the usage of this knowledge. The tiny pattern length may additionally impair statistical electricity and generalizability of this studies. Future studies may replicate the observe with large and more various samples to reinforce the findings and look at language learning methodology-demographic elements relationships. Additionally, longitudinal studies may tune language newbies' gaining knowledge of routes all through their lives, revealing how approach adoption impacts language proficiency and motivation. The studies' focus on character inexperienced persons' traits and private experiences can also neglect the influence of contextual factors like coaching strategies, instructional assets, and lecture room dynamics on language gaining knowledge of. Future studies may also take a look at how environmental and socio-cultural elements have an effect on language learning implementation and efficacy. The dynamic interplay of environmental, social, and human elements should be covered whilst growing complete language gaining knowledge of models. Further research might also look at how technology-more desirable learning substances and equipment may useful resource language gaining knowledge of procedures. Digital technology inside the language curriculum may additionally permit college students' study independently, collaborate, and get evaluated. Data analytics and device gaining knowledge of permit lecturers to analyze big databases of learner interactions and sports. This method offers trends and insights that may be used to customize language learning therapies.

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