



Original Article

Language learning strategies and Amharic achievement: levels, correlations and predictions among ninth grade students in Gondar, Ethiopia

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Abstract

The purpose of this study was investigating the levels, relationships, and predictive value of language learning strategies on Amharic achievement among ninth grade students in Gondar, Ethiopia. Stepwise multiple regression, Pearson correlation, and one sample t tests were used to examine the data collected from the 114 (bootstrapped to 2000) participants. The Amharic achievement of the participants was found to be significantly above the test value of 50 ($M = 66.49$). Each of the learning strategies was used extensively, with social strategies being used the most and compensation strategies the least ($p < .001$). Correlation analysis indicated that only social ($r = .200, p = .033$) and affective strategies ($r = .195, p = .038$) had significant, though weak positive relationships with achievement, while other strategies showed no significant correlation. Regression analysis revealed that social strategies were the only significant predictor ($\beta = .200, p = .047$), with affective strategies approaching significance ($\beta = .195, p = .052$). However, the predictive power of all strategies was minimal ($R^2 \leq .040$), indicating that factors beyond strategy use account for most of the variance in Amharic achievement. These findings suggest that although students actively use diverse strategies, their academic performance is only marginally shaped by socio affective strategies, with broader instructional and contextual factors likely playing a more decisive role. The results imply that educators should consider integrating explicit social and affective strategy training into instruction, while researchers should investigate contextual variables that may mediate this relationship.

1 Introduction

Language learning is shaped by a range of strategies that influence learners' ability to master linguistic skills. These include cognitive, metacognitive, social, memory, compensation, and affective strategies (A. D. Cohen, 2011; O'Malley and Chamot, 1990; Oxford, 1990). Cognitive strategies involve analyzing and practicing language structures, while metacognitive strategies include planning and self-monitoring. Social strategies facilitate learning through collaboration, and affective strategies help manage anxiety and sustain motivation. Memory strategies support retention, and compensation strategies enable

learners to address linguistic gaps (Griffiths, 2008; Teng, 2023). Researches have consistently shown that these strategies correlate with language achievement by enabling learners to self-regulate and improve performance (Afshar and Bayat, 2018; Agustín et al., 2021; Wong and Nunan, 2011).

Amharic serves as both the federal working language in Ethiopia and a medium of instruction at elementary school and teacher training colleges level in Amhara & other regions. For academic achievement, Amharic proficiency is consequently crucial. National evaluations, however, show that language instruction continues to face difficulties. Widespread challenges with reading and writing in mother tongues, like Amharic, are documented in the Ethiopian Education Development Roadmap (2018-30) (Ministry of Education, 2018). Numerous kids do not fulfill basic competency levels, according to the Early Grade Reading Assessment (RTI International, 2010) and the National Learning Assessment (Ministry of Education, 2013). Teacher-centered pedagogies and inadequate strategy education are frequently blamed for these shortcomings (Brown, 2007). Local research supports these conclusions: According to Filate (2012) and Mossie (2007), self-regulated strategies improve ninth-grade Ethiopian students' reading and academic performance. Assefa (2021) found that alignment between learning styles and strategies predicts stronger outcomes among Gumuz language speakers, highlighting the importance of context in strategy use.

Despite this evidence, ninth-grade pupils in Gondar continue to exhibit variable accomplishment in Amharic, with many falling short of desired competency norms, according to the classroom teacher's experience. Overcrowding in classrooms, a lack of strategy instruction training for teachers, and a dependence on conventional approaches that don't take into account students' learning preferences are all contributing problems (Ministry of Education, 2018; Shi, 2017). There is an empirical data regarding the frequency with which Ethiopian students, specifically ninth graders in North Gondar, employ these strategies when learning Amharic, despite the fact that international research has demonstrated links between particular strategies and language proficiency (Guan and Liu, 2014; Hou, 2013; Yao et al., 2019). This gap is significant since figuring out how strategies are used can help explain performance differences and guide focused interventions (Biyikli, 2021; Jhaish, 2010; Oxford, 2003).

This study closes these gaps by analyzing the levels, relationships, and predictive value of language learning strategies on Amharic achievement among ninth grade students in Gondar, Ethiopia. The study was guided by the following research questions:

1. Are the nine grade students achieving above the passing threshold?
2. Which learning strategies (cognitive, metacognitive, social, memory, compensation, and affective) are most and least frequently used in Amharic language learning?
3. What is the correlation between these strategies and Amharic language achievement?
4. What are the predict values of learning strategies on Amharic language achievement?

2 Research methods

2.1 Research design

A cross-sectional quantitative design was used in this study. This design was chosen as a suitable method for gathering numerical data to characterize a phenomenon at a certain moment in time and for investigating correlations between variables (Creswell and

Creswell, 2018). Three analytical approaches are integrated into the design: descriptive analysis to evaluate students' achievement levels and strategy use; correlational analysis to investigate the relationships between Amharic achievement and the six learning strategies; and predictive analysis using multiple regressions to ascertain the degree to which these strategies predict achievement. From description to prediction, a thorough inquiry is made possible by this interconnected framework (Pallant, 2010).

2.2 Samples and sampling technique

The study was conducted at Maksegnu Gebeya and Kirakir High Schools, two secondary schools in the North Gondar Zone's Tegedie Districts (Numbers 1 and 2). Convenience sampling was used to choose these schools based on administrative collaboration, accessibility, and proximity, practical limitations in educational research (Creswell and Creswell, 2018). Using a holistic (complete) sampling technique, all available and willing students from the target grade level were recruited to participate, resulting in a total of 114 ninth-grade students from these two schools. Forty male and seventy-four female students who were enrolled in the 2016 academic year made up the final sample. This sample size ($N = 114$) satisfies suggested limits for statistical power and is sufficient for the intended correlational and regression analyses (Pallant, 2010; Tabachnick and Fidell, 2013).

Even though the participants are reasonably representative to the study, it is crucial to recognize that, the results' potential to be applied outside of the particular setting of these two schools is restricted by the convenience sampling method. Therefore, any extrapolation to the larger population of ninth-grade students in the region should be done with the proper caution, even though the results offer great insights into the relationships between language learning strategies and Amharic achievement within this accessible population (L. Cohen et al., 2018).

2.3 Instruments

Two main instruments were employed for data collection: an achievement test document review and a structured strategy questionnaire.

2.3.1 Amharic achievement measure

The objective measure of Amharic language achievement was the students' first-semester final exam results, which were gathered from official school records. Subject teachers created these standardized school-based exams in compliance with the authorized learning objectives and the official syllabus. Multiple stages of evaluation were used to confirm the accomplishment measure's content validity: department heads assessed the tests, the school examination committee reviewed them, and the school supervisor oversaw them to guarantee thorough coverage of all language skills. Vocabulary, grammar, reading comprehension, writing mechanics, listening comprehension, and speaking ability were all thoroughly evaluated. Midterm and final exams were used to assess the written components (vocabulary, grammar, reading, and writing concepts), but the performance-based skills (speaking, listening, and writing) were assessed continuously through classroom activities and homework assignments. The standardized processes for test design, administration, and scoring across both schools improve the consistency and dependability of the achievement measures, even though the schools did not provide a precise reliability coefficient for these tests (Gay et al., 2012).

2.3.2 *Language learning strategy questionnaire*

A structured questionnaire was used to measure students' use of language learning strategies. The instrument was adapted from Oxford's (1990) Strategy Inventory for Language Learning (SILL), Version 7.0 (EFL/ESL), and a widely validated and reliable tool for assessing the frequency of strategy use across six categories: memory, cognitive, compensatory, metacognitive, affective, and social strategies. The questionnaire employed a five-point Likert scale ranging from 1 (Never or almost never true of me) to 5 (Always or almost always true of me).

To ensure cultural appropriateness and participant comprehension, the original English version of the SILL was translated into Amharic, the students' native language. The translation process followed established guidelines for cross-cultural instrument adaptation (Beaton et al., 2000). The initial translation was reviewed independently by two language experts, one English teacher and one Amharic teacher, who evaluated semantic equivalence, conceptual clarity, and cultural relevance. Their feedback informed subsequent revisions to ensure that the translated items preserved the original meanings while remaining culturally accessible to ninth-grade students in the study context.

2.3.3 *Construct validity*

To evaluate the construct validity of the adapted instrument, Exploratory Factor Analysis (EFA) was conducted on the language learning strategy questionnaire. Prior to factor extraction, the suitability of the data for factor analysis was assessed. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy yielded a value of .640, exceeding the recommended threshold of .60 (Kaiser, 1974), thereby confirming that the sample size ($N = 114$) was adequate for meaningful analysis. Additionally, Bartlett's Test of Sphericity was statistically significant ($\chi^2 = 3163.812$, $df = 1225$, $p < .001$), indicating that the correlations between items were sufficiently robust to support EFA (Tabachnick and Fidell, 2013). The subsequent EFA revealed factor loadings ranging from .406 to .575 across the extracted factors. These loadings meet the established criteria for practical significance in educational research, confirming that the items effectively measured their intended dimensions of language learning strategies (Comrey and Lee, 2013; Hair et al., 2019).

2.3.4 *Reliability analysis*

The internal consistency reliability of the questionnaire was assessed using Cronbach's alpha coefficient. The overall reliability of the instrument was excellent ($\alpha = .918$), indicating strong internal consistency across all 50 items. As presented in Table 1, the reliability coefficients for the individual strategy dimensions ranged from .690 to .817. While the Social dimension yielded an alpha value of .690, which falls slightly below the conventional threshold of .70, this value is considered acceptable in exploratory research contexts, particularly with relatively small sample sizes and when instruments are adapted for new cultural settings (Hair et al., 2019; Taber, 2018).

Table 1: Reliability of the questionnaire

N	Subgroup	No. items	Item numbers	Alpha values
1	Memory	9	1,2,3,4,5,6,7,8,9	.795
2	Cognitive	14	10,11,12,13,14,15,16	.817
3	Compensatory	6	24,25,26,27,28,29	.747
4	Metacognitive	9	30,31,32,33,34,35,36	.790
5	Affective	6	39,40,41,42,43,44	.804
6	Social	6	45,46,47,48,49,50	.690
	Total	50		.918

2.3.5 Assumption tests

Assumptions for One sample t-test, Pearson correlation and regression (normality, linearity, multicollinearity, homoscedasticity) are tested and reported. The Shapiro-Wilk and Kolmogorov-Smirnov tests indicated that both language achievement (Shapiro-Wilk $p = .081$, Kolmogorov-Smirnov $p = .200$) and learning strategy (Shapiro-Wilk $p = .063$, Kolmogorov-Smirnov $p = .127$) were normally distributed, as all p -values exceeded the .05 significance threshold.

A one-way ANOVA was conducted to test the linearity of the relationship between learning strategies and language achievement. The results indicated a significant linear component, $F(1, 2) = 7.729$, $p = .109$, suggesting a linear trend in the data. More importantly, the deviation from linearity was not statistically significant, $F(110, 2) = 5.241$, $p = .173$, confirming that the relationship between the two variables does not depart significantly from linearity. These findings support the assumption that the association between learning strategies and language achievement can be adequately described by a linear model.

Based on the regression analysis, multicollinearity was not a concern in this model. As the analysis included only one predictor variable (learning strategies), the Tolerance and Variance Inflation Factor (VIF) values were both exactly 1.000, which is well below the common threshold of 10 for VIF and above the 0.1 threshold for Tolerance. Additionally, the collinearity diagnostics revealed a condition index of 17.457, which, while slightly elevated, does not indicate problematic multicollinearity given the presence of only one predictor. These results confirm that the assumption of no multicollinearity was satisfied.

The assumption of homoscedasticity was assessed through visual examination of the scatterplot of standardized residuals against standardized predicted values. The resulting plot displayed a random, evenly dispersed pattern of residuals around zero, with no evidence of systematic funneling or curvature. This was further supported by the Loess fit line, which closely approximated a straight horizontal line, indicating constant variance across all levels of the predicted values. These findings confirm that the assumption of homoscedasticity was satisfied, and no correction for heteroscedasticity was required.

2.4 Procedures

The data collection process followed several stages: (1) preparation and evaluation of the adapted SILL questionnaire for clarity and cultural appropriateness; (2) securing a permission letter from the university department; (3) visiting the schools, meeting with administrators, and providing orientation to the students; (4) administering the questionnaire to all participants simultaneously in their classrooms to ensure consistency; and (5) collecting achievement data from school records with the permission of the officials.

2.5 Data analysis techniques

The collected data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 27. Given the sample size ($N = 114$), a bootstrap resampling method (with 2000 samples) was applied to enhance the robustness and reliability of the estimates by generating a sampling distribution and calculating bias-corrected and accelerated confidence intervals. The following analyses were performed: Bootstrap One sample t-test (Mean, Standard Deviation): To answer research question 1 (level of achievement) and research question 2 (level of strategy use). This is because; the Ethiopian Ministry of Education defines 50 as the minimum passing score for the subject. So, a one-sample t-test was conducted to compare the mean achievement score of ninth-grade students against the institutional minimum passing benchmark of 50%. Bootstrap Pearson Correlation: To examine the relationship (research question 3) between each of the six strategy categories and the Amharic achievement score. Bootstrap Stepwise Multiple Regression: To determine the predictive power of the learning strategies (research question 4) and identify which strategy types are the strongest unique predictors of Amharic language achievement. A key limitation of stepwise regression is its reliance on sequential testing, which inflates the probability of Type I errors. Because the algorithm evaluates multiple predictors iteratively, it capitalizes on chance variations within the dataset. Consequently, the model may retain variables that appear statistically significant due to random sampling error rather than a true underlying relationship with the outcome, potentially limiting the generalizability of the findings to the broader population.

3 Data analysis

The first basic research question is 'Are the nine grade students achieving above the passing threshold?' The data collected to answer this question is analyzed using one sample t-test. The result is presented in Table 2:

Table 2: Level of Amharic Language Achievement Among Ninth-Grade Students

Variable	M	SD	t-value	Sig. (2-tailed)	Mean Difference	95% Bootstrap CI
Amharic Achievement Score	66.49	14.086	12.500	<.001	16.49	[13.887, 18.964]

Note: df (degrees of freedom) = 113, Test Value = 50. The mean difference is calculated as (Mean - Test Value). $N = 114$. Bootstrap CI is based on 2000 samples.

The result presented in Table 2 shows, the mean achievement score for the sample ($N = 114$) was 66.49 ($SD = 14.086$). The results revealed a statistically significant difference, $t(113) = 12.500$, $p < .001$, with a mean difference of 16.49 points (95% Bootstrap CI [13.887, 18.964]). These findings indicate that the average Amharic language achievement score among the sampled ninth-grade students is significantly higher than the established passing threshold.

The second basic research question is 'Which learning strategies, cognitive, metacognitive, social, memory, compensation, and affective, are most and least frequently used in Amharic language learning?' The data collected to answer this question is analyzed using one sample t-test. The result is presented in Table 3:

Table 3: Frequency of Learning Strategy Use among Ninth-Grade Amharic Language Students

Strategy Type	Mean	SD	t-value	Sig. (2-tailed)	Mean Difference	95% Bootstrap CI
Social	4.061	0.661	17.15	<0.01	1.061	[0.91, 1.19]
Cognitive	3.927	0.553	17.89	<0.01	0.927	[0.86, 1.02]
Memory	3.899	0.672	14.27	<0.01	0.899	[0.71, 1.02]
Metacognitive	3.887	0.599	15.82	<0.01	0.887	[0.77, 0.99]
Affective	3.820	0.750	11.67	<0.01	0.820	[0.60, 0.95]
Compensation	3.790	0.707	11.92	<0.01	0.790	[0.60, 0.96]
Overall Average	3.891	0.471	20.18	<0.01	0.891	[0.81, 0.98]

Note: df (degrees of freedom) = 113; Test Value = 3. The mean difference is calculated as (Mean - Test Value). N = 114; Bootstrap CI is based on 2000 samples.

The results presented in Table 3 shows, the analysis revealed that Social strategies were the most frequently used ($M = 4.061$, $SD = 0.661$) followed by Cognitive ($M = 3.927$, $SD = 0.553$), Memory ($M = 3.899$, $SD = 0.672$), Metacognitive ($M = 3.887$, $SD = 0.599$), Affective ($M = 3.820$, $SD = 0.750$), and Compensation strategies ($M = 3.790$, $SD = 0.707$), which were the least frequently used. All six strategy types demonstrated mean scores significantly above the test value of 3 ($p < .001$ for all strategies). The overall average strategy use was also significantly above the midpoint ($M = 3.891$, $SD = 0.471$, $p < .001$). The rank order of strategy use from most to least frequent was as follows: Social > Cognitive > Memory > Metacognitive > Affective > Compensation.

The third basic research question is 'What is the correlation between the six learning strategies and Amharic language achievement among ninth-grade students?' The data collected to answer this question is analyzed using Pearson correlation. The result is presented in Table 4:

Table 4: Correlation between Learning Strategies and Amharic Achievement

Strategy Type	Pearson Correlation (r)	p-value	Effect Size (f^2)
Social	.200*	.033	0.042
Affective	.195*	.038	0.040
Metacognitive	.170	.071	0.030
Compensation	.096	.311	0.009
Cognitive	.009	.926	0.000
Memory	.007	.944	0.000
Total Strategy Use	.131	.165	0.017

* Correlation is significant at the 0.05 level (2-tailed). N = 114.

The fourth basic research question is 'What are the predict values of learning strategies on Amharic language achievement?' The data collected to answer this question is analyzed using Stepwise Multiple Regression. The result is presented in Table 5:

Table 5: Stepwise Multiple Regression Predicting Amharic Achievement from Learning Strategies

Predictor	β	p-value	R ²	Effect Size (f ²)
Social	.200	.047	.040	0.042
Affective	.195	.052	.038	0.040
Memory	.007	.936	.000	0.000
Cognitive	.009	.923	.000	0.000
Compensation	.096	.308	.009	0.009
Metacognitive	.170	.122	.029	0.030
Total Strategy Use	.131	.176	.017	0.017

The data presented in Table 5 shows that the regression analysis extended and clarified the correlation findings, revealing minimal predictive power across all strategy types. Social strategies emerged as the only statistically significant predictor ($\beta = .200$, $p = .047$), while Affective strategies approached but did not reach significance ($\beta = .195$, $p = .052$). The remaining predictors, Memory ($\beta = .007$, $p = .936$), Cognitive ($\beta = .009$, $p = .923$), Compensation ($\beta = .096$, $p = .308$), Metacognitive ($\beta = .170$, $p = .122$), and Total Strategy Use ($\beta = .131$, $p = .176$), were not statistically significant. Critically, the individual R² values ranged from 0.0% to 4.0%, indicating that each strategy explained virtually none of the variance in Amharic achievement scores. According to J. Cohen (1988) conventions for effect sizes (f²), all strategies demonstrated negligible to small effects ranging from 0.000 to 0.042, falling below the threshold for practical relevance.

4 Discussion

4.1 The level of Amharic language achievement

The first finding revealed that ninth-grade students achieved a mean score of 66.49 (SD = 14.086) on Amharic language assessment, which was statistically significantly higher than the benchmark value of 50, $t(113) = 12.500$, $p < .001$. This result indicates that, on average, students are performing above the minimum passing standard.

This result aligns with theoretical perspectives emphasizing the critical role of environmental language exposure in successful language learning (De Houwer, 2009; Genesee et al., 2006; Krashen, 1982). In the specific context of the Tegedie districts, where Amharic is a dominant community language, students likely benefit from continuous linguistic reinforcement beyond the classroom, supporting the basic objectives of foundational language instruction (Ellis, 2003; Garbanzo, 2007). This localized finding offers an encouraging contrast to the systemic challenges in mother-tongue proficiency documented in national policy documents (Ministry of Education, 2018).

However, a measured interpretation is caution. A mean score of 66.49, while statistically significant, reflects foundational competency rather than the advanced proficiency required for higher-order academic tasks such as critical analysis and persuasive writing (Anderson and Krathwohl, 2001; Bachman and Palmer, 2010). The substantial standard deviation (14.086) further reveals considerable variability in student performance. This dispersion aligns with research indicating that individual differences in literacy exposure, instructional quality, and socioeconomic factors create meaningful disparities in academic language proficiency, even within first-language contexts (Garbanzo, 2007; Huang et al., 2018). The persistent gap between basic proficiency and higher-level competency echoes findings from previous local studies that link performance variations to

factors beyond simple language exposure (Filate, 2012; Wagaw, 2019). Furthermore, the benchmark value of 50 represents a modest standard of minimum competency rather than optimal achievement (Linn, 2000).

In the end, while students in this study are meeting the passing requirements, offering an encouraging perspective on foundational instruction in these specific districts, the results simultaneously underscore the need for continued pedagogical efforts. The goal should be to elevate all learners from basic competency toward the genuine academic mastery necessary for long-term success, thereby reinforcing national aims for equitable, high-quality educational outcomes (Ministry of Education, 2018).

4.2 The levels of learning strategies use

Regarding the frequency of language learning strategies used, students reported employing all the six strategy types at levels significantly above the theoretical test value of 3 ($p < .001$), with an overall mean of 3.891 ($SD = 0.471$). Among the types Social strategies were the most frequently employed ($M = 4.061$), followed by Cognitive ($M = 3.927$), Memory ($M = 3.899$), Metacognitive ($M = 3.887$), and Affective strategies ($M = 3.820$), with Compensation strategies being the last used ($M = 3.790$). The finding suggests that ninth-grade students actively engage with a variety of learning strategies when studying Amharic.

The predominance of Social strategies likely reflects Ethiopia's collectivist cultural context, where community and interpersonal relationships are deeply embedded in daily life (Oxford, 1990). Students appear to preferentially learn through interaction, cooperative peer engagement, and teacher consultation, consistent with observations that social interaction constitutes a primary strategic pathway for many learners (Dmitrenko, 2017; Ehrman and Oxford, 1989). The concurrent high use of Cognitive and Metacognitive strategies indicates that students actively manipulate language through analysis and reasoning while regulating their learning through planning and self-evaluation (Zimmerman, 2001). This finding aligns with Filate (2012) research with Ethiopian learners, which similarly identified metacognitive strategy engagement. However, this pattern contrasts with Anthony and Ganesen (2012) findings among Malaysian learners, who prioritized memory strategies over social strategies. This discrepancy is attributable to contextual differences: their research examined English as a second language in examination systems emphasizing rote memorization, whereas the present study examines Amharic as a first language within a culturally embedded communicative context.

The relatively lower use of Affective and Compensation strategies reveals meaningful gaps in students' strategic repertoires. Affective strategies, techniques for managing emotions, sustaining motivation, and reducing anxiety, are essential for maintaining emotional equilibrium necessary for sustained language learning effort (Krashen, 1982; Oxford, 1990). The lower reported use suggests students may have less developed tools for coping with language acquisition stresses, a noteworthy gap given that emotional regulation influences academic persistence (Baumeister and Vohs, 2007). The least frequent use of Compensation strategies, guessing meaning from context, using synonyms, adjusting messages, indicates potential limitations in flexible approaches to language obstacles. Banda and Chauma (2025) found that ineffective use of compensation strategies contributed directly to poor language outcomes in similar educational contexts, a pattern that may reflect instructional practices prioritizing accuracy and memorization over communicative competence (Brown, 2007).

In conclusion, while the overall above-medium frequency of strategy use is commendable, the specific profile, high social and cognitive strategy use alongside lower affective and compensation strategy use provides a nuanced diagnostic picture. These learners are

socially engaged and mentally active but may benefit from developing emotional self-management capabilities and flexible communication strategies. Explicit instruction in affective techniques for managing language anxiety, combined with systematic training in compensation strategies for navigating knowledge gaps, could strengthen students' strategic repertoires and foster more confident, communicatively competent Amharic language learners.

4.3 The correlation between learning strategies and achievement

The correlation analysis revealed a differentiated pattern: while students used all the six strategy types at a significant frequency, only Social strategies ($r = .200$, $p = .033$) and Affective strategies ($r = .195$, $p = .038$) demonstrated statistically significant, though weak, positive correlations with achievement. The remaining strategies, Memory ($r = .007$, $p = .944$), Cognitive ($r = .009$, $p = .926$), Compensation ($r = .096$, $p = .311$), and Metacognitive ($r = .170$, $p = .071$), showed positive but non-significant relationships. The correlation between Total Strategy Use and achievement was also non-significant ($r = .131$, $p = .165$).

The significant correlation for Social strategies reinforces the cultural and pedagogical salience of collaborative learning within the Ethiopian educational context, aligning with Vygotsky's (1978) sociocultural theory that cognitive development originates in social interaction. This finding is consistent with A. D. Cohen (2011) and Afshar and Bayat (2018), who documented that interactive strategies facilitate language development by creating opportunities for meaningful communication and feedback. The significant role of Affective strategies equally warrants attention, supporting theoretical frameworks emphasizing emotion regulation in learning. Baumeister and Vohs (2007) and Wolters (2003) demonstrate that managing anxiety and sustaining motivation constitute fundamental components of self-regulated learning, enabling students to persist through challenges and perform effectively on assessments.

The non-significant correlations for Cognitive, Metacognitive, and Memory strategies diverge from established international research documenting these strategies as reliable language success predictors (O'Malley and Chamot, 1990; Griffiths, 2008). This discrepancy may be explained by contextual factors: the achievement assessment may not adequately capture skills developed through these strategies if examinations prioritize recall over higher-order thinking (Hayati, 2015); students may lack explicit instruction in deploying these strategies effectively, as Phakiti (2003) notes that implementation quality mediates strategy-performance relationships. The near-zero Memory and Cognitive correlations contrast with Lai (2009) and Lestari and Fatimah (2020), who found significant relationships across multiple strategy types. However, as Sage et al. (2019) observed, memory strategy effectiveness depends on alignment with assessment formats; the Amharic achievement measure may have emphasized comprehension and analysis rather than rote memorization (Oxford, 2003).

In conclusion, the correlational analysis reveals that within this specific educational context, socio-affective dimensions of learning demonstrate stronger associations with academic performance than cognitive-processing dimensions. This finding carries important implications: fostering supportive learning communities and promoting students' emotional self-regulation may be as critical as teaching specific study techniques for improving Amharic language achievement. The absence of significant correlations for cognitive and metacognitive strategies, while initially surprising, likely reflects assessment characteristics and insufficient strategic training rather than the inherent irrelevance of these approaches. These results underscore the need for comprehensive strategy instruction that addresses both cognitive techniques and the affective and social conditions necessary for their effective deployment.

4.4 The predictive power of learning strategies

The regression analysis extended and clarified the correlation findings, revealing that minimal predictive power across all strategy types. Social strategies emerged as the only statistically significant predictor ($\beta = .200$, $p = .047$), while Affective strategies approached but did not reach significance ($\beta = .195$, $p = .052$). The remaining predictors, Memory ($\beta = .007$, $p = .936$), Cognitive ($\beta = .009$, $p = .923$), Compensation ($\beta = .096$, $p = .308$), Metacognitive ($\beta = .170$, $p = .122$), and Total Strategy Use ($\beta = .131$, $p = .176$), were not statistically significant. Critically, the individual R^2 values ranged from 0.0% to 4.0%, indicating that each strategy explained virtually none of the variance in Amharic achievement scores. According to J. Cohen (1988) conventions for effect sizes (f^2), all strategies demonstrated negligible to small effects ranging from 0.000 to 0.042, falling below the threshold for practical relevance.

The marginal significance of Social and Affective strategies echoes the correlation findings and warrants careful interpretation within appropriate statistical parameters. The significant but weak relationship for Social strategies ($\beta = .200$) aligns with Vygotsky's (1978) sociocultural theory and Afshar and Bayat (2018) documentation of interactive learning benefits. Similarly, the near-significant finding for Affective strategies supports Wolters (2003) emphasis on motivational regulation as a component of self-regulated learning. However, the corresponding R^2 values (4.0% and 3.8% respectively) provide essential statistical context: these strategies account for only a minimal fraction of achievement variance. In practical terms, while social interaction may facilitate classroom participation and emotional regulation may mitigate test anxiety, these behaviors alone do not substantively drive performance differences. The f^2 effect sizes of 0.042 and 0.040 confirm that even statistically significant relationships lack meaningful explanatory power.

The non-significant predictive capacity of Cognitive, Metacognitive, Memory, and Compensation strategies presents a finding that diverges from established research documenting these strategies as reliable predictors of language success (O'Malley and Chamot, 1990; Griffiths, 2008; Soodmand Afshar et al., 2016). Several contextual factors may explain this discrepancy. First, students may report using strategies without quality implementation, as Phakiti (2003) notes that the relationship between strategy use and performance is mediated by implementation quality. Second, the achievement assessment may emphasize recall rather than the higher-order thinking fostered by cognitive and metacognitive strategies (Hayati, 2015). Third, external factors such as instructional quality, prior knowledge, and home environment likely exert stronger influences on academic outcomes than learning strategies in this context (Genesee et al., 2006).

The regression analysis leads to a statistically grounded conclusion with clear practical implications. With over 96% of achievement variance unexplained by learning strategies, these factors are demonstrably not the primary determinants of Amharic language achievement in this population. The negligible effect sizes (f^2 ranging from 0.000 to 0.042) confirm that even the statistically significant findings lack practical predictive utility. This statistical evidence redirects attention toward broader systemic factors likely exerting greater influence on student outcomes. Efforts to meaningfully improve Amharic achievement should prioritize teacher professional development, curriculum reform that aligns assessment with higher-order thinking, equitable resource allocation, and interventions addressing socioeconomic barriers. Learning strategies, while valuable components of learner development, constitute a small piece of a complex educational puzzle. The statistical parameters of this analysis provide the appropriate framework for interpreting their limited role: useful for understanding learner profiles, but insufficient as primary levers for achievement improvement without concurrent attention to the structural and contextual factors that this model reveals as overwhelmingly influential.

5 Conclusion and recommendations

5.1 Conclusions

This study investigated the levels, correlations, and predictive relationships between language learning strategies and Amharic language achievement among ninth-grade students in Gondar, Ethiopia. Four key findings emerged from the data. First, students demonstrated Amharic achievement significantly above the passing threshold ($M = 66.49$, $p < .001$). Second, students reported using all six learning strategy categories at frequencies significantly above the medium level ($p < .001$), with Social strategies most frequently used ($M = 4.061$) and Compensation strategies least used ($M = 3.790$). Third, correlation analysis revealed statistically significant but weak positive relationships only for Social ($r = .200$, $p = .033$) and Affective strategies ($r = .195$, $p = .038$); Memory, Cognitive, Compensation, and Metacognitive strategies showed non-significant correlations. Fourth, regression analysis confirmed minimal predictive power across all strategies, with Social strategies emerging as the only significant unique predictor ($\beta = .200$, $p = .047$) yet explaining only 4% of achievement variance. All strategies demonstrated negligible effect sizes ($f^2 = 0.000$ to 0.042).

Three integrated conclusions synthesize these findings. First, while students employ diverse strategies at satisfactory levels and demonstrate adequate achievement, the direct link between strategic approach and achievement is remarkably weak. Second, socio-affective dimensions show marginally stronger connections to achievement than cognitive and metacognitive strategies in this context. Third, learning strategies account for virtually none of the variance in achievement scores, indicating that factors determining academic success lay predominantly outside measured strategy use.

The theoretical contribution of this study lies in demonstrating that the relationship between learning strategies and achievement is context-dependent. While international research often positions cognitive and metacognitive strategies as strong predictors of language success, these findings reveal that in this Ethiopian educational context, such relationships are not universal. Socio-affective strategies assume relatively greater importance, while the predictive power of cognitive and metacognitive strategies is suppressed, underscoring the need for culturally situated models of language learning strategy effectiveness.

5.2 Recommendations

Based on the conclusions, the following pedagogical, educational and research related recommendations are suggested:

First, given that learning strategies collectively explained virtually none of the variance in achievement scores ($R^2 = 0.0\%$ to 4.0%), policymakers should prioritize systemic factors beyond individual learner strategies, including teacher quality, instructional resources, and class size, that the statistical evidence indicates are more influential determinants of student outcomes.

Second, since Compensation strategies were the least frequently used ($M = 3.790$) and showed no correlation with achievement, teachers should provide explicit instruction in flexible communication techniques such as guessing meaning from context, using synonyms, and paraphrasing.

Third, because Social strategies demonstrated the highest frequency of use ($M = 4.061$) and emerged as the only significant predictor of achievement ($\beta = .200$, $p = .047$), ed-

ucators should intentionally incorporate collaborative learning activities to leverage this existing strength.

Fourth, given the discrepancy between moderate strategy use and minimal predictive power, future research must investigate the quality and contextual appropriateness of strategy implementation through qualitative methods, clarifying why frequently used cognitive and metacognitive strategies fail to translate into measurable achievement gains.

Fifth, since over 96% of achievement variance remained unexplained, future studies should incorporate additional variables including socioeconomic status, instructional quality, and home environment to develop more comprehensive predictive models.

Ethical considerations

The University of Gondar's Ethiopian Language and Literature- Amharic Department granted ethical approval for this study. The principals of the participating schools received a formal letter of authorization. Participants were given thorough instructions on the goal of the study, the voluntary nature of their involvement, and their right to withdraw without repercussions prior to data collection. Along with the orientation, the parents of the participants provided written informed consent, and the participants themselves gave their assent. Data were used only for scientific research, and strict confidentiality and anonymity were ensured for all information submitted.

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Author contributions

AS: Conception of the research idea, study design, data analysis and preparing of draft manuscript, and prepared the final manuscript for publication.

WK: Data collection and review of the study.

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Availability of data and materials

Data can be made available on the behavior of the request.

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