DOI: https://doi.org/10.46991/AFA/2025.21.2.38

THE IMPACT OF THE COGNITIVE ACADEMIC LANGUAGE LEARNING APPROACH (CALLA) ON ACADEMIC READING SKILLS: THE CASE OF FIRST-YEAR EFL STUDENTS AT BATNA 2 UNIVERSITY

Oussama Ahmed Gaid[*]
University of Mohamed Boudiaf, M'sila
ORCID ID: https://orcid.org/0009-0009-8116-7323
Tahar Golea[**]
University of Batna 2
ORCID ID: https://orcid.org/0009-0001-7590-3488

This present study investigated the impact of the Cognitive Academic Language Learning Approach (CALLA) on academic reading skills among first-year English as a Foreign Language (EFL) students at Batna 2 University. Over a 15-week intervention period during the 2024-2025 academic year, the study used a quasi-experimental design with two student groups (n = 50) and control (n = 50) groups. Results suggested statistically significant improvements in reading comprehension (p < .001, Cohen's d = 1.82), vocabulary acquisition, as well as metacognitive strategy use among the experimental group. The experimental group showed notable gains from a pre-test mean of 12.4 to a post-test mean of 19.8, whereas the control group showed minimal gains (12.6 to 13.1). A strong positive relationship was revealed, by means of correlation analysis, between metacognitive strategy use and reading performance (r = .72, p < .001). Findings substantiate the efficacy of the CALLA model in enhancing EFL reading skills and advocate for its integration into EFL curricula to foster meaningful comprehension and metacognitive awareness. Study results match prior research on strategy-based instruction and seek to offer insights into the growing body of literature on the role of explicit strategy instruction in academic language learning contexts.

Keywords: *CALLA, academic reading, EFL, strategy-based instruction, metacognition, reading comprehension.*

[*] oussama.ahmedgaid@univ-msila.dz
[**] t.golea@univ-batna2.dz

Received: 05.07.2025
Revised: 03.08.2025
Accepted: 28.08.2025

Introduction

Background and Rationale: Among the skills deemed essential for academic success is reading comprehension, especially in the English as a Foreign Language (EFL) context. However, many students display learning difficulties when it comes to complex academic texts due to insufficient language proficiency and limited strategic knowledge (Grabe & Stoller, 2020). The difficulties encountered by EFL learners in academic reading are multifarious and subsume: linguistic, cognitive, and metacognitive dimensions. These dimensions require targeted instructional approaches. Traditional reading instruction in EFL contexts often stresses the importance of bottom-up processing skills like vocabulary recognition and grammar comprehension, yet they often neglect the crucial top-down processes that ease students in forming a deep textual understanding and critical analysis.

The Cognitive Academic Language Learning Approach (CALLA), attributed to Chamot and O'Malley (1990): Through its integration of explicit strategy instruction, content-based learning, and academic language development CALLA provides a holistic model which addresses students' difficulties in academic reading comprehension. CALLA recognizes that effective academic reading requires, in addition to linguistic competence, strategic competence which enables students to consciously select and apply appropriate learning strategies to circumvent comprehension difficulties and, thus, enhance their understanding.

While the effectiveness of CALLA is documented by extensive research in various educational contexts, particularly in English as a Second Language (ESL) environments, its implementation and impact in EFL settings, especially in North African contexts like Algeria, remain under-researched. A study by Amine (2022) has shown the positive impact CALLA has on vocabulary strategy use among Moroccan students, while Idri (2024) has shown its benefits for academic writing achievement among Algerian doctoral students. However, the specific impact of CALLA on academic reading skills among first-year EFL students has received little to no empirical attention.

The importance of academic reading in EFL contexts

Academic reading in EFL contexts introduces many challenges that set it apart from both general reading and academic reading. EFL learners must, in addition to navigating linguistic barriers, be able to recognize cultural differences in text organization and rhetorical patterns, and show awareness as to the cognitive demands of academic discourse (Grabe & Stoller, 2020). These difficulties are particularly accentuated for first-year university students whose transition from

secondary education's more structured reading environments to the autonomous, critical reading demands of higher education might be difficult to cope with.

Academic reading calls for sophisticated cognitive and metacognitive processes. These processes extend far beyond basic decoding skills. In that, students must be engaged in active meaning construction by means of processes like inference generation, mental model building and critical evaluation of textual arguments (Afflerbach et al., 2018). These higher-order processes are vital for academic success, and, thus, students must come to understand complex theoretical concepts, probe into research findings, as well as synthesize information from numerous academic sources: skills that shape their entire university journey.

Research in reading comprehension has repeatedly shown that successful academic readers use a repertoire of strategic behaviors. These behaviors facilitate understanding and retention and include previewing texts to activate prior knowledge, monitoring comprehension during reading, and synthesizing and reflecting after reading (Pressley & Afflerbach, 1995). Yet, many EFL learners still lack awareness as to the instrumental role of these strategies or fail to apply them effectively in academic settings.

Challenges faced by EFL students at Batna 2 University

Batna 2 University serves a mixed-ability tertiary level institution with a student population of varying levels of English proficiency. Having completed formal English instruction in secondary school, first-year EFL students typically enroll into university with intermediate English proficiency levels (A2/B1, according to the Common European Framework of Reference). Despite being acquainted with reading tasks in English throughout their former education in both middle and secondary school, a large number of students experience pronounced difficulties when met with academic reading tasks that require advanced comprehension strategies and critical thinking skills.

Preliminary observations and informal assessments conducted at Batna 2 University demonstrated a number of persistent difficulties in academic reading among the student population. These difficulties include challenges in identifying main ideas and supporting details, difficulties with inference generation and implied meaning construction, insufficient vocabulary knowledge limiting comprehension of academic texts, substandard metacognitive awareness as per reading strategies in addition to deficient background knowledge regarding academic discourse conventions.

The role of learning strategies in reading comprehension

Learning strategies are deliberate actions learners employ so as to better understand, remember and apply what they have learned (O'Malley & Chamot, 1990). When it comes to reading, these strategies act like mental tools that help readers manage difficult sections, keep track of their comprehension, and get more out of what they read. A strategic reader does not just passively assimilate; they plan, check their progress, and reflect on their understanding to make sense of the text more effectively.

Literature on second language reading consistently demonstrates that teaching reading strategies plays an instrumental role in enhancing reading skills. These strategies generally diverge into three categories. Metacognitive strategies involve planning how to approach a text, monitoring one's understanding while reading, and reviewing during post-reading. Cognitive strategies emphasize working explicitly with the text. This includes activities like summarizing, guessing meaning from context, or highlighting key points. Social-affective strategies, on the other hand, include activities such as working with others or managing emotions like frustration or anxiety while reading (Chamot, 2009).

Metacognitive strategies are particularly vital for academic reading success because they enable learners to regulate their cognitive processes and adapt their reading approach based on task demands and comprehension goals. These strategies subsume activities like advanced planning activities such as previewing text structure and setting reading objectives; monitoring activities such as checking for comprehension and identifying comprehension failures; and evaluation activities such as assessing goal achievement and strategy effectiveness.

Research questions and hypotheses

Given the difficulties encountered by EFL students in academic reading and the benefits that the CALLA model could offer, this study addresses the following research questions:

- RQ1: To what extent does the implementation of CALLA enhance academic reading comprehension skills among first-year EFL students compared to traditional instruction methods?
- RQ2: How does CALLA affect students' awareness and use of metacognitive, cognitive, and social-affective reading strategies?
- RQ3: What is the relationship between strategy use and reading comprehension gains among students in the experimental group?

- RQ4: What are students' perceptions of CALLA's effectiveness in improving their development of academic reading skills? Based on the current state of the art and theoretical frameworks on the CALLA framework, the following hypotheses were formulated:
- H1: Students who receive CALLA instruction will demonstrate significantly greater improvements in reading comprehension than students who receive traditional instruction.
- H2: Students in the experimental group will show increased awareness and use of reading strategies than will students in the control group.
- H3: There will be positive correlations between strategy use and reading comprehension performance among students in the control group.

Theoretical foundations of CALLA

The Cognitive Academic Language Learning Approach (CALLA) constitutes a synthesis of cognitive learning theory, social constructivist principles, and second language acquisition research. Conceptualized by Anna Uhl Chamot and J. Michael O'Malley in the 1980s, CALLA was developed to address the academic language needs of English language learners transitioning from language support programs to mainstream content classrooms (Chamot & O'Malley, 1996). The approach postulates that academic success in contingent not only on language proficiency but equally on strategic competence and content knowledge.

CALLA's theoretical foundation builds on the principles of cognitive learning theory which posits that learning is an active and constructive process that involves the mental manipulation and organization of information (Anderson, 1983). This perspective accentuates the distinction between declarative knowledge (facts and concepts) and procedural knowledge (skills and strategies). It argues that effective learning calls for the development of both knowledge types. In the context of reading comprehension, declarative knowledge includes vocabulary, grammar, and content knowledge, whereas procedural knowledge encompasses the strategic processes that students use to construct meaning from texts.

The approach equally draws on the principles of social constructivist theory, namely those put forth by Vygotsky's (1978) concepts of the zone of proximal development and mediated learning. CALLA instruction highlights the instrumental role of social interaction and collaborative learning in strategy development and recognizes that learners can achieve higher levels of performance when cooperating with more knowledgeable peers or the instructor. This social dimension is crucial in reading strategy instruction because it is supported by

strategies such as modeling, think-alouds, and collaborative discussion: strategies that aim at facilitating strategy internalization.

Core components of the CALLA model

CALLA integrates three essential components that operate synergistically to support academic language development: (1) content-based curriculum, (2) academic language development, and (3) learning strategy instruction. This integration distinguishes CALLA from other instructional approaches that tackle each of these components individually.

The content-based curriculum component ascertains that language learning takes place within meaningful academic contexts rather than through decontextualized exercises. Students engage with authentic academic materials and tasks that resonate with their linguistic and cognitive demands. Likewise, this approach enhances motivation and offers opportunities for learners to develop both language skills and content knowledge at the same time.

Academic language development has an explicit focus on the specialized vocabulary, grammatical structures, as well as discourse patterns that are characteristic of academic texts. This component ensures that academic language differs significantly from conversational language in areas like precision, complexity, and organizational features. Students learn to manage these linguistic features simultaneously to developing awareness as to the conventions of disciplinary discourse.

The third component, learning strategy instruction, involves the explicit teaching of cognitive, metacognitive, and social-affective strategies that facilitate academic learning. This mode of instruction follows a systematic progression from teacher modeling and guided practice toward student independent strategy application and transfer to new contexts.

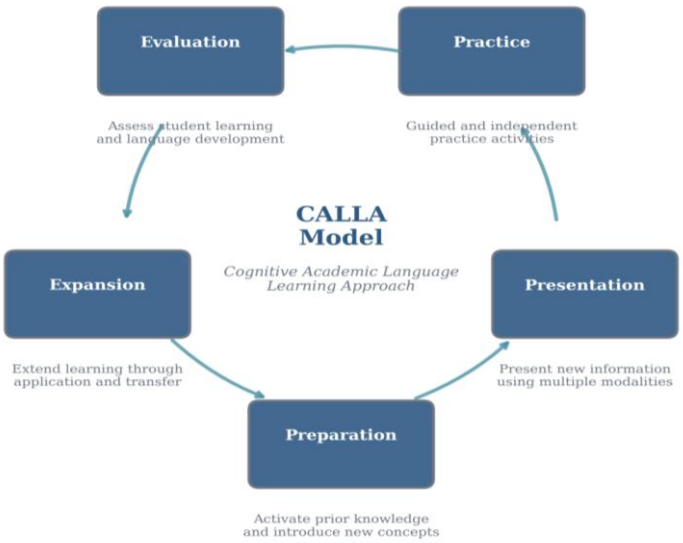

Figure 1: The CALLA model: five-phase instructional framework

The five-phase CALLA instructional sequence

CALLA instruction follows a systematic five-phase progression that aims at scaffolding learners' development from awareness to autonomous strategy use. This sequence, preparation, presentation, practice, evaluation, and expansion, offers a structured framework for strategy instruction and helps in maintaining flexibility for adaptation to specific learning objectives and contexts.

The preparation phase aims at setting in motion learners' prior knowledge and establishing connections between their existing knowledge and new learning objectives. During this phase, instructors assess students' current strategy awareness. They introduce course objectives and aid students in detecting the relevance of new strategies for their academic goals. This phase is deemed instrumental for students' motivation so they would create a baseline for meaningful learning to take place.

During the presentation phase, the teacher explicitly models new strategies and explains each through techniques like think-alouds, demonstrations, and systematic explanation of when, why, and how to use each strategy. This phase helps the teacher to ensure that students understand not only the procedural aspects of strategy use but equally the conditional knowledge that is essential for well-informed and deliberate strategy selection and application.

The practice phase offers students scaffolded opportunities to apply strategies independently through a variety of tasks and activities. Initially, students practice

strategies with the support of the teacher whose feedback helps them to gradually move toward independent application as they develop confidence and competence. This phase stresses the importance of collaborative learning and peer support and encourages students to share their strategy experiences and learn from each other.

In the evaluation phase, students are urged to reflect on their strategy use to assess its effectiveness for attaining learning objectives. This metacognitive reflection is a crucial for them to develop their ability to monitor as well as regulate their own learning processes. To do that, students learn to identify which strategies work best for different types of tasks and activities in different learning settings.

The expansion phase encompasses practices such as enabling students to transfer strategies to new contexts and tasks and aiding them in developing flexibility to adapt their strategic knowledge to novel learning situations. This phase is crucial for ensuring that strategy learning extends beyond the immediate instructional context to support long-term academic success (Chamot, 2009).

CALLA and reading comprehension

The application of CALLA to reading comprehension instruction provides a wide range of advantages compared to traditional approaches. Through its integration of strategy instruction with meaningful content and explicit attention to academic language features, CALLA addresses the multifaceted nature of reading comprehension and provides learners with tools for autonomous learning.

Research has shown that CALLA-based reading instruction brings about improvements in both strategic knowledge and reading performance. In a recent study, Guapacha Chamorro and Benavidez Paz (2025) implemented a combined CALLA and Task-Based Language Teaching model in a Colombian university context. Their study elicited significant improvements in students' reading comprehension as well as gains in writing, grammar, and vocabulary. Their study brought to light the importance of the cyclical nature of CALLA which offers a structured and scaffolded instructional mode to support complex reading tasks.

Another study by Kim (2022) explored the impact of CALLA on Korean EFL learners' reading comprehension using student-generated test development activities. Results demonstrated improved critical thinking skills and enhanced self-regulation. The study reveals there is connection between CALLA instruction and higher-order cognitive processes characteristic of academic reading success.

The metacognitive emphasis of CALLA is especially pertinent for reading comprehension development. Effective readers exhibit elevated levels of metacognitive awareness. These readers consciously monitor their comprehension and employ fix-up strategies when confronted with breakdowns (Flavell, 1979).

CALLA's systematic attention to metacognitive strategy development helps students to become more aware of their reading processes and more strategic in approaching complex texts.

Strategy-based instruction in EFL contexts

In reading comprehension, strategy instruction has proven to be effective in improving both strategic knowledge and reading performance. Successful strategy instruction programs have several core characteristics in common: explicit explanation of strategy procedures and benefits, teacher modeling of strategy use through think-alouds, guided practice with feedback, and opportunities for independent strategy application and transfer (Pressley & Harris, 2006).

However, the question as to whether strategy instruction could prove effective is largely contingent on the quality of in addition to external constraints that shape instructional settings. The literature has shown that strategy instruction is most impactful when it is sustained over extended periods, integrated with content learning, and tailored to suit specific needs of learners and their proficiency levels (Chamot, 2009). These findings substantiate the integrated approach CALLA offers for strategy instruction in academic contexts.

Cross-cultural considerations in strategy instruction

The implementation of CALLA in EFL contexts calls for careful consideration of cultural factors that may impact strategy development and application. Cultural discrepancies in learning preferences, communication styles, and educational traditions can be defining of students' receptiveness to strategy instruction and their willingness to develop and employ novel learning strategies.

Research suggests that there are numerous cultural factors that may influence learners' use of strategies in EFL contexts. Collectivist cultures may veer toward more collaborative and social strategies, whereas individualist cultures can favor metacognitive and self-regulation strategies (Gu, 2013). Thus, it becomes essential to understand these cultural preferences and how they can help instructors adapt CALLA implementation to develop instruction that is aligned with the cultural backgrounds and learning expectations of students.

In the Algerian educational context, traditional teacher-centered pedagogical approaches, especially at tertiary level education, have emphasized passive learning and rote memorization. Thus, the transition to CALLA's learner-centered and strategy-targeted approach may call for major adjustments in both teaching practices and student expectations. Nonetheless, the increasing interest in

educational reforms and learner autonomy in Algeria brings about opportunities for innovative approaches such as CALLA to gain ground (Idri, 2024).

Gaps in the literature and study rationale

Despite the documented effectiveness of CALLA across various contexts, several gaps still limit our understanding of its application to reading comprehension in EFL settings. Most research has been conducted in ESL contexts. These contexts are different because ESL students have more exposure to English outside the classroom. The effectiveness of CALLA in EFL contexts, where classroom instruction represents the primary source of input, stipulates specific investigation.

It also worth noting that limited research has targeted the relationship between strategy instruction and reading comprehension in North African EFL contexts. The cultural, linguistic, and educational characteristics of these settings could affect both the implementation of CALLA and its effects on learning outcomes. Hence, the present study addresses these gaps in the sense that it aims at examining the impact CALLA could yield on reading comprehension among Algerian EFL students, and equally seeks to explore the relationship that might exist between strategy use and academic reading skills development.

Research design

This study used a quasi-experimental pretest-posttest design to investigate the impact of CALLA on academic reading skills among first-year EFL students. The quasi-experimental approach was opted for because of practical constraints that prevented random assignment of individual participants to experimental conditions. As such, intact groups were assigned to experimental and control conditions. This was done to ensure group equivalence through matching procedures and statistical controls.

The study design encompasses numerous data collection tools to account for both immediate and sustained effects of the intervention. Pre-intervention benchmarks were established to ensure a baseline against which to measure performance levels and uphold group equivalence. Post-intervention measures were administered immediately after the 15-week experiment period so as to assess the effects of the intervention. This design allowed us to infer causal relationships as to the impact of CALLA, albeit acknowledging the limitations latent in quasi-experimental research.

Participants

The study participants involved 100 first-year EFL students at Batna 2 University during the 2024-2025 academic year. The participants were enrolled in a reading comprehension course as part of their degree program. The sample was divided into an experimental group (n = 50) that received CALLA-based instruction and a control group (n = 50) that received traditional reading instruction.

Variable	Experimental Group (n = 50)	Control Group (n = 50)	Total Sample (n = 100)
Age			
Mean (SD)	19.2 (1.1)	19.4 (1.2)	19.3 (1.15)
Range	18–22	18–23	18–23
Gender			
Male	22 (44%)	24 (48%)	46 (46%)
Female	28 (56%)	26 (52%)	54 (54%)
Prior English Proficiency			
Elementary	5 (10%)	6 (12%)	11 (11%)
Pre-intermediate	30 (60%)	28 (56%)	58 (58%)
Intermediate	15 (30%)	16 (32%)	31 (31%)
Years of English Study			
Mean (SD)	7.8 (1.2)	7.6 (1.4)	7.7 (1.3)

Table 1: Demographic characteristics of participants

Prior English proficiency levels were measured via the Oxford Placement Test (Allan, 2004) which was administered during the first week of the academic year. Chi-square and t-tests revealed no significant differences between groups on demographic variables ($p > .05$). Individual student participants were recruited from two intact class groups and were assigned to each experimental condition. Inclusion criteria required that participants be first-year students without previous university-level English instruction and have completed secondary education in Algeria. Exclusion criteria included previous exposure to strategy-based instruction and significant learning disabilities that might affect reading comprehension performance.

Instrumentation

Data collection involved instruments that were designed to assess reading comprehension performance, strategy use, and student perceptions regarding the intervention. The selection of instruments was guided by the research questions and the need to provide comprehensive evaluation of the effectiveness of the CALLA model.

Reading Comprehension Assessment: Reading comprehension was assessed using a researcher-developed test that is specifically designed for the study and validated through rigorous procedures. The test consisted of 30 items distributed across three subskills: vocabulary knowledge (10 items), main idea identification (10 items), and inferential comprehension (10 items). Test passages were selected from academic texts appropriate for first-year university students, with topics drawn from various social and human sciences disciplines to ensure content validity. The vocabulary subtest assessed students' ability to infer word meanings based on context cues, recognize academic vocabulary, and comprehend the relationships between words and concepts. Items had students select appropriate definitions, identify synonyms and antonyms, and infer word meanings based on contextual clues. The main idea subtest sought to evaluate the ability of students to identify overarching themes, make the distinction between main ideas and supporting details, and recognize organizational patterns in academic texts. Both explicit and implicit items were included encompassing tasks like main idea identification tasks so as to get students to demonstrate comprehension of textual structure and content hierarchy. The inferential comprehension subtest was used to assess the ability of students to make logical inferences, draw conclusions from textual evidence, and demonstrate understanding of implied meanings. These items called for higher-order thinking skills and helped in showcasing the ability of students to go beyond literal comprehension toward constructing deeper understanding of textual pieces. The reading comprehension test was developed in light of test construction principles (Brown, 2005; Hughes, 2003). The development of the test involved a number of phases: (1) item specification based on the taxonomy of reading skills, (2) item writing, (3) expert review by three university-level reading instructors, (4) a pilot testing with 30 students similar to the population of the study, and (5) the revision of the item analysis based of the results of the piloting. The reliability analysis of the reading comprehension test provided a Cronbach's alpha coefficient of 0.89 suggesting high internal consistency. Content validity was established by seeking expert review from three university-level reading instructors who confirmed that the test items accurately represented the intended constructs and that they were appropriate for the

population of the study. Factor analysis of the pilot test data was used for construct validity and confirmed the three-factor structure corresponding to the targeted subskills, vocabulary, main ideas and inferencing skills.

Cognitive and Academic Advanced Language Learning Questionnaire (CAALLQ): Strategy use was assessed through a modified version of (Idri, 2024) Cognitive and Academic Advanced Language Learning Questionnaire (CAALLQ). The original questionnaire was adapted so as to focus mainly on reading strategies while its theoretical foundation in CALLA principles was retained. The final instrument encompassed 38 items distributed across four sections. The Reading Strategies and Written Resources section (11 items) aimed at assessing students' use of cognitive and metacognitive strategies during reading tasks. The items addressed strategy use in areas such as previewing texts, monitoring for comprehension, using context clues, and organizing information from different sources. The Instruction Strategies Steps section (13 items) assessed students in terms of awareness and application of the five CALLA phases during reading activities. These items examined whether students engaged in preparation activities such as activating prior knowledge; used presentation strategies such as note-taking during reading; practiced strategies systematically; evaluated their comprehension and strategy effectiveness and transferred strategies to new reading contexts. The Academic Language Development section (10 items) was focused on students' approaches to learning and using academic vocabulary and discourse features. The items addressed vocabulary learning strategies, understanding of academic text structures as well as their awareness of disciplinary language conventions.

All test items used a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The questionnaire was translated into Arabic and back-translated to English to ensure linguistic equivalence and comprehensibility for participants. Pilot testing with 20 students elicited a Cronbach's alpha of 0.87 suggesting satisfactory reliability.

Intervention description

The CALLA intervention was implemented over 15 weeks with participants in the experimental group receiving three hours of instruction per week for a total of 45 instructional hours. The intervention followed the five-phase CALLA instructional sequence. It focused mainly on reading comprehension strategies and academic language development.

Preparation phase activities: Each instructional session began with preparation activities which are designed to activate students' prior knowledge and establish clear learning objectives. Students engaged in brainstorming activities

related to reading topics and discussed their used reading strategies, and then set specific goals for strategy learning. The instructor introduced key vocabulary and concepts that are likely to feature in academic reading materials. This was done to help students to build the background knowledge essential for successful comprehension. Preparation activities equally included explicit discussions on reading purposes and strategy selection. Students learned to analyze reading tasks and to select adequate strategies based on text characteristics and reading. This metacognitive awareness was critical to enable them to approach reading tasks strategically.

Presentation phase activities: In the presentation phase, reading strategies were explicitly modeled through teacher think-alouds and systematic instruction. The teacher then demonstrated how students could preview texts effectively. This included examining titles, headings, and visual elements to predict content and set in motion relevant priori. Students observed modeled strategies such as questioning, summarizing and comprehension monitoring. Academic language features were explicitly taught within the context of authentic reading materials. Students learned to recognize and understand discourse markers, transition words, and organizational patterns that are characteristic of academic texts. Vocabulary instruction was centred around activities like academic word families, collocations and strategies for inferring word meanings based on context cues. Strategy instruction focused not solely on the procedural knowledge of how to use strategies but equally on the conditional knowledge of when and why to use specific strategies. Students learned to recognize textual cues that call into use particular strategies and to align their strategic approach to text characteristics and reading objectives.

Practice phase activities: The practice phase ensures students received extensive opportunities for guided and independent strategy application via collaborative and individual activities. Students worked in pairs and small groups to practice reading strategies with immediate peer feedback and support. Collaborative activities included reciprocal teaching. Here, students took turns leading discussions about the meaning of texts and the specific strategies needed to manage overall comprehension. Individual practice activities gave students room to apply strategies independently but yet with the teacher's guidance and feedback. Practice activities used several types of authentic academic texts to ensure that students developed the ability to apply strategies across different content areas and text types. Texts gradually increased in complexity and length as students developed confidence and competence in their strategy use.

Evaluation phase activities: First, self-evaluation activities helped students to develop metacognitive awareness of their reading processes and strategy effectiveness. Regular self-assessment was used through self-evaluation checklists so students could reflect on which strategies worked best for different types of texts and reading objectives. These evaluation activities were cardinal for enabling students to monitor and regulate their own learning. Second, peer evaluation activities enabled students to assess each other's strategy use and provide constructive feedback. During pair and group activities, students could share their reading experiences and discuss encountered challenges to collaborate in problem-solving when comprehension difficulties arose. Third, teacher evaluation provided systematic feedback on students' strategy development and reading performance. Evaluation was continuous throughout the intervention with regular check-ins and formal interim assessments helped to inform instructional adjustments and potential needs for individual support.

Expansion phase activities: The expansion phase emphasized helping students to transfer their strategic knowledge to new reading contexts and to integrate different strategies into their personal learning routines. In that, students applied their strategies to reading materials from their other university courses. Transfer activities included reading texts from unfamiliar content areas, working with different text types including research articles, textbook chapters, and online materials. They were instructed on how to adapt strategies to varying reading purposes such as studying for exams, conducting research, and for general comprehension. These activities provided the support and flexibility students needed to decontextualize their strategic knowledge.

Control group instruction

In the control group, students received traditional reading instruction that emphasized on-vocabulary development, grammatical analysis as well as regular comprehension activities. The instruction followed a teacher-centered approach with restricted attention to strategy development or metacognitive awareness. Reading activities involved pre-reading vocabulary introduction, guided reading as well as post-reading content discussions. The instruction employed the same reading materials as the experimental group to ensure that content differences did not introduce any biases to the results. However, the instructional approach was significantly different in its emphasis on explicit strategy instruction, metacognitive awareness, and the of development learner autonomy.

Data collection procedures

Data collection followed a systematic timeframe that designed to capture performance at a baseline level and keep track of the intervention effects in addition to assessing sustained outcomes. The pre-intervention data collection took place during the first week of the semester so as to ensure group equivalence and establish a baseline performance measures.

Standardized conditions were ensured so as all participants completed both the reading comprehension assessment and the CAALLQ. The assessment sessions were conducted during regular class hours under consistent settings and procedural guidelines. The instructions were provided in both English and Arabic to ensure comprehension and to ensure students understood what was asked of them since they are new comers to an instructional context in which only English is used. Likewise, participants were given adequate time to complete all tests without time pressure. Following the same procedures used for pre-intervention assessment, post-intervention data collection took place during the final week of the intervention period. Data collection included an addition qualitative segment to collect feedback from experimental group participants regarding their experiences with CALLA instruction.

Data analysis protocol

For data analysis both descriptive and inferential statistical procedures were employed to address the research questions and to test the stated hypothesis. The preliminary analyses looked at data distributions to identify any outliers, and verified assumptions for parametric statistical tests, whereas missing data were minimal (< 3%) and were handled using listwise deletion.

Group-level comparisons of pre-intervention measures used independent samples t-tests as well as chi-square tests to cross-check group equivalence on group profiles and baseline performance variables. Paired samples t-teses were used to analyze changes from pre- to post-intervention and the effect sizes were calculated using Cohen's d to measure practical significance.

Analysis of covariance (ANCOVA) was used to examine the between-group differences in intervention effects with pre-interventions scores serving as covariates. This approach controlled for initial group differences and enabled for the assessment of the magnitude of treatment effects. The relationships between strategy use and reading performance in the experimental group were examined via correlation analyses.

Student feedback on the effectiveness of the model yielded qualitative data that were analyzed using thematic analysis to identify common patterns in student

perceptions. These qualitative insights ascertained there was additional context for interpreting quantitative findings and understanding the mechanisms that underpinned the effects of the intervention.

Results

Preliminary analyses: Against the preliminary analyses, the experimental and control groups were confirmed to be equivalent considering all baseline measures prior to the intervention. The independent samples t-tests demonstrated that there featured no significant differences between groups on pre-intervention reading comprehension scores, $t(98) = 0.32$, $p = .75$, or overall strategy use, $t(98) = -0.18$, $p = .86$. Chi-square tests suggested that there was no significant associations between group assignment and group-profiles variables including gender, $\chi^2(1) = 0.16$, $p = .69$, and prior English proficiency level, $\chi^2(2) = 0.19$, $p = .91$.

Data screening procedures found no significant outliers or transgressions of normality assumptions. A satisfactory internal consistency reliability was ensured since the Cronbach's alpha coefficients for all measures exceeded 0.80. Thus the preliminary results substantiate the validity of the subsequent analyses and support confidence in the findings of the study.

Reading Comprehension Outcomes: Changes in reading comprehension performance from pre- to post-intervention for both experimental and control groups were examined by the primary analysis. The results revealed significant improvements for the experimental group conversely to the control group which showed minimal change.

Group	Pre-test M (SD)	Post-test M (SD)	Mean Difference	t	p	Cohen's d	95% CI
Experimental	12.4 (3.2)	19.8 (2.1)	7.4	12.34	< .001	1.82	[6.2, 8.6]
Control	12.6 (3.0)	13.1 (2.9)	0.5	1.02	.312	0.18	[-0.5, 1.5]

Table 2: Pre- and post-intervention reading comprehension scores
Maximum possible score = 30. Cohen's d *represents effect size for within-group change.*
CI = confidence interval.

The experimental group demonstrated a statistically significant improvement of 7.4 points from pre- to post-intervention, $t(49) = 12.34$, $p < .001$, Cohen's $d = 1.82$. According to Cohen's conventions, this indicates a large effect size and suggests substantial practical significance. Conversely, at 0.5 points, $t(49) =$

1.02, $p = .312$, Cohen's $d = 0.18$, the control group demonstrated no significant improvements.

Analysis of covariance (ANCOVA) with pre-intervention scores as a covariate, suggested significant between-group differences in post-intervention performance, $F(1, 97) = 287.45$, $p < .001$, $\eta^2 = .75$. The featured large effect size reveals that CALLA instruction accounted for approximately 75% of the variance in post-intervention reading comprehension scores.

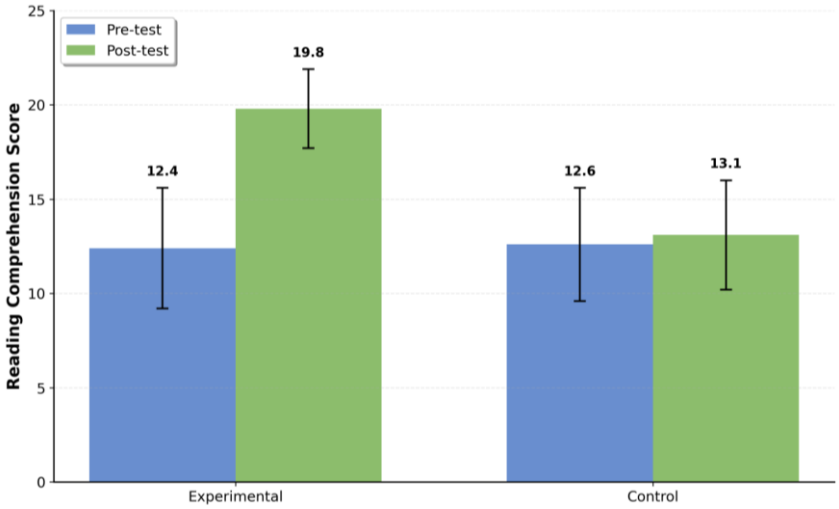

Figure 2: Pre-test and post-test reading comprehension scores by group.

Reading subskill analysis: Detailed analysis of reading subskills revealed that CALLA instruction benefited all assessed areas, with particularly strong effects for main idea identification and vocabulary comprehension.

Subskill	Group	Pre-test M (SD)	Post-test M (SD)	Mean Difference	t	p	Cohen's d
Vocabulary	Experimental	4.2 (1.5)	7.1 (1.2)	2.9	9.87	< .001	1.58
	Control	4.1 (1.6)	4.3 (1.5)	0.2	0.76	.451	0.14
Main Ideas	Experimental	4.0 (1.4)	6.8 (1.1)	2.8	10.23	< .001	1.63
	Control	4.2 (1.3)	4.5 (1.2)	0.3	1.12	.266	0.21
Inference	Experimental	4.2 (1.6)	5.9 (1.3)	1.7	6.54	< .001	1.07
	Control	4.3 (1.5)	4.5 (1.4)	0.2	0.89	.376	0.15

Table 3: Pre- and post-intervention scores by reading subskill
Maximum score per subskill = 10. All experimental group improvements significant at $p < .001$.

The experimental group demonstrated significant improvements in all three reading subskills. The largest effect sizes observed for main idea identification were at (Cohen's d = 1.63) and with vocabulary comprehension, they were at (Cohen's d = 1.58). These findings indicate that CALLA instruction was effective in helping students to develop the ability to identify central themes and to understand academic vocabulary in context.

Noteworthy was the significant improvement in main idea identification skills is because this ability is defining of success academic reading tasks. Thus, students that are able to effectively identify main ideas demonstrate better overall text comprehension and are generally more capable in managing tasks that require synthesis and analysis of textual information with success.

Strategy use outcomes: The analysis of strategy use among students demonstrated significant improvements in all measured strategy categories with the experimental group, especially in terms of gains in metacognitive strategy use.

Strategy Type	Group	Pre-test M (SD)	Post-test M (SD)	Mean Difference	t	p	Cohen's d
Metacognitive	Experimental	2.1 (0.8)	4.2 (0.6)	2.1	14.21	< .001	2.89
	Control	2.2 (0.7)	2.3 (0.8)	0.1	0.89	.376	0.13
Cognitive	Experimental	2.8 (0.9)	4.5 (0.5)	1.7	12.78	< .001	2.31
	Control	2.7 (0.8)	2.8 (0.9)	0.1	0.76	.451	0.12
Social-Affective	Experimental	2.5 (0.7)	3.8 (0.6)	1.3	10.45	< .001	1.98
	Control	2.6 (0.6)	2.7 (0.7)	0.1	0.67	.506	0.15

Table 4: Pre- and post-intervention strategy use scores (CAALLQ)
Scores range from 1 (low use) to 5 (high use). All experimental group improvements significant at $p < .001$.

The experimental group showed significant improvements in all strategy categories. However, outstanding of them was with the effect size observed for metacognitive strategies (Cohen's d = 2.89). This aligns with the emphasis CALLA has on developing metacognitive awareness and self-regulation skills. The large size improvement in the use of metacognitive strategies indicates that students showed more awareness of their reading processes and that they became more strategic in managing comprehension tasks.

The improvements in cognitive strategy (Cohen's d = 2.31) suggest that students became better at processing and organizing textual information. These strategies include note-taking, summarizing, questioning, and making connections

between ideas, all of which constitute instrumental skills for success in academic reading.

Improvements in social-affective strategy (Cohen's d = 1.98) indicate that students came to regard tasks like seeking help, collaborating with peers, and managing reading-related anxiety as less stressful. Despite playing important roles in academic success, these social and emotional aspects of learning can often be overlooked in traditional reading instructional settings.

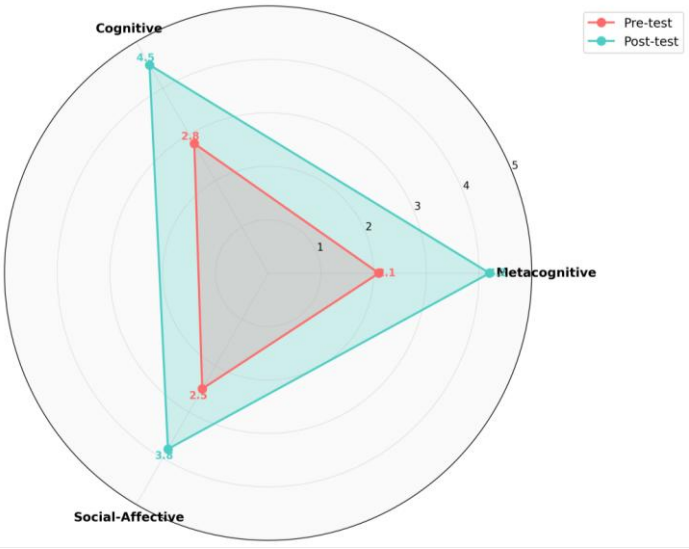

Figure 3: Strategy use improvements in experimental group (pre-test vs post-test).

Relationship between strategy use and reading performance: Correlation analysis showed that strong positive relationships between strategy use and reading comprehension performance featured within the experimental group. This finding supports the theoretical foundation of CALLA instruction.

Variable	1	2	3	4	M	SD
1. Metacognitive Strategies	—	.68	.72	.72	4.2	0.6
2. Cognitive Strategies		—	.59	.61	4.5	0.5
3. Social-Affective Strategies			—	.54	3.8	0.6
4. Post-Reading Score				—	19.8	2.1

Table 5: Correlation matrix: strategy use and reading performance (Experimental Group) $p < .001$. $N = 50$ *(experimental group only)*

The strongest correlation featured between metacognitive strategies and reading performance (r = .72, p < .001). This suggests that students who showed more awareness of their reading processes and were better at monitoring and regulating their comprehension achieved higher reading scores. This supports the crucial role metacognition has in academic reading and, thus, substantiates the emphasis of CALLA on metacognitive strategy development.

Cognitive strategies equally showed a strong positive correlation with reading performance (r = .61, p < .001). This indicates that students who used information processing strategies achieved better at comprehension tasks. Social-affective strategies demonstrated moderate positive correlation (r = .54, p < .001) suggesting that emotional regulation and social interaction strategies contributed to success in reading comprehension tasks.

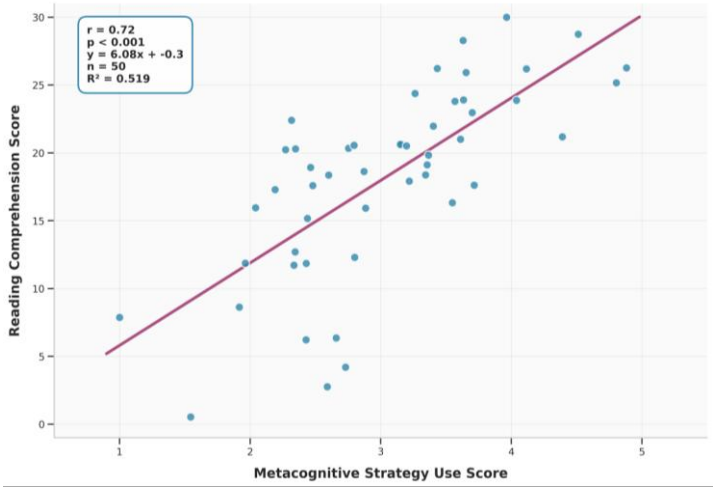

Figure 4: Correlation between metacognitive strategy use and reading scores (Experimental group)

Weekly progress analysis: Longitudinal analysis of weekly reading assessments revealed consistent improvement patterns for the experimental group throughout the intervention period, while the control group showed minimal change.

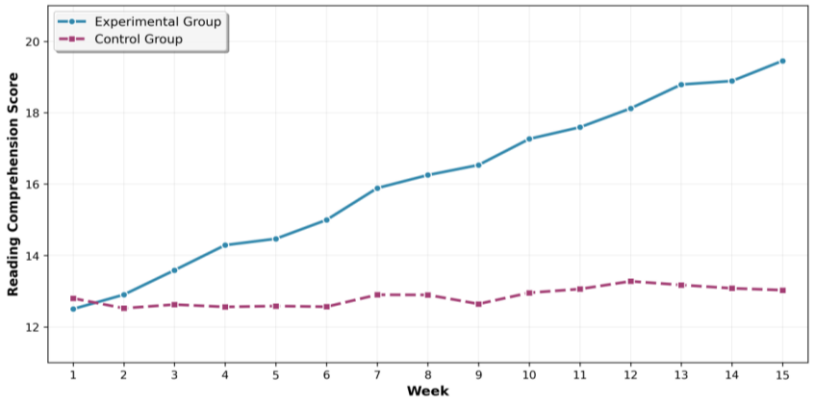

Figure 5: Weekly progress in reading comprehension scores over 15 weeks. Esperimental vs Control Groups.

With notable gains observed during weeks 4-8 and weeks 12-15, the experimental group showed steady improvement throughout the period of the treatment. This pattern indicates that students needed an initial adjustment period to be able of internalizing CALLA strategies before they could apply and refine their strategic knowledge.

The control group, however, showed relatively flat performance throughout the study period. There were minor fluctuations that likely reflected normal variation in assessment performance rather than due to systematic improvement. This pattern suggests that traditional reading instruction was insufficient to bring about any meaningful gains in reading comprehension.

Student perceptions of CALLA instruction: The post-intervention questionnaire data yielded positive student perceptions of CALLA instruction considering all the multiple dimensions of the learning experience.

Statement	M	SD	% Agreement
CALLA helped me understand texts better	4.3	0.7	86%
I use reading strategies more frequently now	4.1	0.8	82%
Reading academic texts is easier with CALLA strategies	3.9	0.9	78%
I am more confident in my reading ability	4.0	0.8	80%
CALLA helped me become a more independent reader	4.2	0.6	84%
I would recommend CALLA instruction to other students	4.4	0.6	88%

Table 6: Student perceptions of CALLA instruction (Experimental group only)
5-point Likert scale: 1 = strongly disagree, 5 = strongly agree.
Agreement = responses of 4 or 5

88% students indicated they would recommend the approach to other students. This suggests high levels of satisfaction with CALLA instruction. 86% students reported that the approach helped them in understanding texts better while 84% reported that the treatment helped them in becoming more independent readers. These positive perceptions suggest that students found CALLA instruction to be conducive and pertinent to their academic needs.

This qualitative feedback from students elicited several key merits of CALLA instruction. Students also mentioned that the treatment increased their awareness of reading processes and improved their confidence when dealing with difficult texts. It equally enhanced their ability to self-monitor for comprehension. Many students reported that the collaborative aspects of CALLA instruction were conducive for collaborative learning which helped them to develop a sense of community around strategic reading.

Discussion

Interpretation of primary findings: The results of this study provide evidence for the effectiveness of CALLA instruction in improving academic reading skills among first-year EFL students. The notable improvement in reading comprehension among students in the experimental group (Cohen's $d = 1.82$) suggests that CALLA instruction yielded meaningful improvements that are likely to lead to enhanced academic performance across subject areas.

The effect size of improvement observed in this study aligns with previous research on strategy-based instruction and extends these findings to a new cultural and linguistic context. Guapacha Chamorro and Benavidez Paz (2025) reported similar effect sizes in their Colombian study. In that, they suggested that the effectiveness of CALLA may be for diverse EFL contexts regardless of cultural and educational discrepancies.

The significant improvements in metacognitive strategy use (Cohen's $d = 2.89$) accentuate further the role of metacognitive awareness in reading comprehension development. These findings substantiate theoretical models that regard metacognition as a key skill in effective reading (Flavell, 1979; Schraw & Dennison, 1994).

Subskill analysis and implications: The differential effects of CALLA instruction across reading subskills provide insights into the mechanisms underlying the effectiveness of the intervention. The largest improvements were observed for main idea identification (Cohen's $d = 1.63$) and vocabulary comprehension (Cohen's $d = 1.58$), suggesting that CALLA instruction was particularly effective in developing students' ability to understand textual structure

and academic language. Students learned to use previewing strategies to identify main ideas and organizational patterns. These skills are essential for success in academic reading and can be transferred effectively to reading tasks by and large.

In the context academic language development and strategy instruction, vocabulary improvements can be attributed to the integrated approach adopted by CALLA. Instead of learning vocabulary items in isolation, students developed strategies for inferring word meanings from context and were able to recognize word relationships and distinguish academic from non-academic vocabulary. This approach to learning vocabulary proves more sustainable than rote memorization and could facilitate the long-term development of academic language.

Noteworthy, however, is that the effect size was smaller for other subskills compared to inference skills which showed significant improvement (Cohen's d = 1.07). Inferential reasoning is a relatively complex cognitive process that may call for more extended instruction and practice. Future research might veer toward longer intervention periods or place additional focus on inferential reasoning strategies to enhance these outcomes.

Strategy use and reading performance relationships: The observed significant correlations between strategy use and reading performance further support the theoretical foundations of CALLA instruction. It is also confirmed that the strong relationship between metacognitive strategies and reading scores (r = .72) is crucial for metacognitive awareness in reading comprehension.

These correlational findings match previous research and demonstrate positive relationships between strategy use and academic achievement (Chamot, 2009; Oxford, 1990; Amine, 2022), albeit the magnitude of these correlations in the current study is significantly higher than those reported in strategy research. This suggests that the integrated nature of CALLA instruction may be more effective in developing the strategic knowledge that supports reading comprehension.

Due to the moderate to strong correlations observed, it is noted that perhaps a coordinated approach with multiple strategy categories could produce better be more conducive for reading skills development. This suggests the comprehensive approach through which CALLA operates is more effective than studies that target individual categories of strategy instruction.

Cultural and contextual considerations: The success of CALLA instruction in the Algerian EFL context reveals that the approach offers cultural adaptability. It equally highlights the importance of contextual factors in strategy instruction. Traditional Algerian educational practices have emphasized teacher-centered instruction and passive learning, making the transition to CALLA's learner-centered approach potentially challenging for both students and instructors.

The positive attitudes to CALLA instruction suggest student openness to increased autonomy. Students also showed responsibility for their learning which may tell us more about the growing emphasis on educational reform in Algeria. In that, students are showing more and more recognition of the need for more effective learning approaches. The success of the intervention might also be attributed to the collectivist cultural context of Algeria in which group work and peer support activities are less challenging to implement. The successful implementation of CALLA instruction also called for careful attention to language issues. To that end, the use of Arabic translations for key concepts and the scaffolded transition from guided to independent strategy use helped students to offset language barriers.

Theoretical implications: The findings align with several theoretical frameworks in second language reading and strategy instruction. The reported relationship between metacognitive strategy use and reading performance supports strategy-based models of reading comprehension (Grabe & Stoller, 2020). The findings also indicate that reading comprehension instruction should target explicitly metacognitive awareness rather than uniquely focus on linguistic knowledge.

The study equally offers support for the integration of strategy instruction with content learning. Instead of regarding strategy instruction as an add-on component, the integrated approach used in this study enabled students to recognize the role strategies and to develop both strategic and content knowledge simultaneously.

From a cognitive learning theory perspective, the study demonstrates the effective role explicit instruction brings about in developing both student procedural (strategies) as well as declarative (content and language) knowledge. This balanced approach corresponds to the principles of cognitive theories that emphasize the importance of both knowledge types.

Pedagogical implications: The findings offer significant implications for EFL reading instruction in tertiary level education. The effectiveness of CALLA instruction highlight the deficiency of traditional approaches for developing the complex skills required for success in academic reading tasks. It also suggests that educators should adopt integrated approaches that combine strategy instruction with meaningful content and explicit focus on academic language development.

CALLA's five-phase instructional sequence offers a practical framework that instructors can implement to various reading contexts. The systematic progression from teacher modeling to independent application holds promise for student development in both procedural knowledge of how students could employ strategies and conditional knowledge of when and why they could use them.

The emphasis on metacognitive development provides implications for fostering learner autonomy as well as lifelong learning skills. Students who can develop metacognitive awareness are likely to be better equipped to continue learning independently beyond formal instruction. Professional development programs should veer more toward preparing EFL instructors to implement strategy-based instruction effectively.

Limitations and future research directions

A number of limitations should be considered when interpreting the above findings. The quasi-experimental design could limit the strength of causal inferences that can be drawn from the results. Although it is not always possible to randomize in formal educational settings, future studies could resort to random assignment of individual participants to ensure more strength in inferring causal relationships.

While the 15-week intervention period could be substantial it may be insufficient to capture the full-scale impact of strategy instruction. Research consistently indicates that strategy internalization is an incremental and long term process that may stipulate extended practice and application. Longitudinal studies examining the sustained effects of CALLA instruction over academic years could be more equipped to provide valuable insights into the durability of treatment effects.

The study focused uniquely on reading comprehension outcomes and did not examine prospects for strategy transferability. Future research should investigate whether strategic knowledge that is developed through CALLA could transfers to other language skills or to other content-related skills in the academic context.

The cultural specificity of the context of the study could limit the generalizability of findings to other EFL settings. Thus, replication studies in different cultural and educational contexts would be instrumental in establishing broader applicability of CALLA instruction and in identifying contextual factors that might compromise implementation success.

Future research should also examine the optimal dosage and intensity of CALLA instruction. While this study used a specific schedule of instruction, different arrangements of instructional time and intensity may produce different effects. Research comparing various implementation models would inform practical decisions about program design.

Practical recommendations

Based on the findings, a number of practical recommendations for implementing CALLA can be offered. First, institutional support is defining for successful implementation. This includes administrative support, professional development resources as well as appropriate materials and aids.

Assessment modes should match CALLA instruction considering measures of both strategic knowledge and reading performance. Portfolio and formative assessment coupled with strategy use questionnaires can ensure comprehensive data on student development and could equally support the metacognitive emphasis of CALLA.

Collaboration among instructors is important for reinforcing strategy instruction across courses and contexts. When students encounter consistent expectations for strategic reading across their academic program, they are more likely to internalize and apply strategic knowledge independently.

Conclusion

This study substantiates the effectiveness of the Cognitive Academic Language Learning Approach (CALLA) in improving academic reading skills among first-year EFL students in the Algerian university context. The substantial improvements observed in reading comprehension and strategy use in addition to student perceptions all contribute to the growing body of research on strategy-based instruction. Likewise the study demonstrates that CALLA instruction can be employed effectively in university-level EFL contexts with attention to cultural and linguistic factors.

The study implications extend beyond reading instruction. The focus on metacognitive awareness and strategic competence addresses broader goals of higher education including critical thinking, independent learning, and overall academic success. Approaches like CALLA integrate language development with strategic competence and could offer promising directions for curriculum development and instructional innovation since much scholarly attention is given to equipping EFL students with tools necessary to develop both language and academic content. The success of this intervention in the Algerian context holds promise for improvements in similar EFL settings. Future implementations of the CALLA in EFL contexts should consider the cultural, institutional, and student-related factors that could influence success.

Conflict of Interests
The author declares no ethical issues or conflict of interests in this research.

Ethical standards
The author affirms this research did not involve human subjects.

References

Afflerbach, P., Cho, B. Y., Kim, J. Y., Crassas, M. E., & Doyle, B. (2018). Reading: What else matters besides strategies and skills? *The Reading Teacher*, 71(4), 440-448. https://doi.org/10.1002/trtr.1640

Allan, D. (2004). *Oxford placement test 1: Test pack*. Oxford University Press.

Amine, I. (2022). The effects of the cognitive academic language learning approach (CALLA) on vocabulary strategy use by Moroccan common core graders. *International Journal of English Literature and Social Sciences*, *7*(2), 249-257. https://doi.org/10.22161/ijels.72.32

Anderson, J. R. (1983). *The architecture of cognition*. Harvard University Press.

Biggs, J., & Tang, C. (2007). *Teaching for quality learning at university*. McGraw-Hill Education.

Brown, J. D. (2005). *Testing in language programs: A comprehensive guide to English language assessment*. McGraw-Hill.

Chamot, A. U. (2009). *The CALLA handbook: Implementing the cognitive academic language learning approach*. Pearson Education.

Chamot, A. U., & O'Malley, J. M. (1990). *Learning strategies in second language acquisition*. Cambridge University Press.

Chamot, A. U., & O'Malley, J. M. (1996). The cognitive academic language learning approach: A model for linguistically diverse classrooms. *The Elementary School Journal*, *96*(3), 259-273. https://doi.org/10.1086/461827

Chamot, A. U., Barnhardt, S., El-Dinary, P. B., & Robbins, J. (1999). *The learning strategies handbook*. Longman.

Chongsomboon, R., & Chinwonno, A. (2024). Learning-oriented reading assessment: A design for EFL students. *International Journal of Instruction*, *17*(3), 31-50. https://doi.org/10.29333/iji.2024.1731a

Council of Europe. (2001). *Common European framework of reference for languages: Learning, teaching, assessment*. Cambridge University Press.

Council of Europe. (2001). *Common European framework of reference for languages: Learning, teaching, assessment*. Cambridge University Press.

Flavell, J. H. (1979). Metacognition and cognitive monitoring: A new area of cognitive-developmental inquiry. *American Psychologist*, *34*(10), 906-911. https://doi.org/10.1037/0003-066X.34.10.906

Grabe, W., & Stoller, F. L. (2020). *Teaching and researching reading*. Routledge.

Gu, Y. (2013). To code or not to code: Dilemmas in analysing think-aloud protocols in learning strategies research. *System*, *41*(2), 187-200. https://doi.org/10.1016/j.system.2013.03.006

Guapacha Chamorro, M. E., & Benavidez Paz, L. H. (2025). Improving language learning strategies and performance of pre-service language teachers through a CALLA-TBLT model. *Colombian Applied Linguistics Journal*, *27*(1), 1-25.

Hughes, A. (2003). *Testing for language teachers*. Cambridge University Press.

Idri, N. (2024). Adopting cognitive academic language learning approach (CALLA) to develop Algerian doctoral students' academic writing achievement. *Langues & Cultures*, *5*(1), 298-318.

Kim, G. J. (2022). Korean secondary EFL learners' reading comprehension development through student-generated reading comprehension test development. *The Journal of Asia TEFL*, *19*(2), 414-430. https://doi.org/-10.18823/asiatefl.2022.19.2.6.414

MacIntyre, P. D., & Gardner, R. C. (1994). The effects of induced anxiety on three stages of cognitive processing in computerized vocabulary learning. *Studies in Second Language Acquisition*, *16*(1), 1-17. https://doi.org/10.1017/S0272263-100012593

Mohan, B. A. (1986). *Language and content*. Addison-Wesley.

O'Malley, J. M., & Chamot, A. U. (1990). *Learning strategies in second language acquisition*. Cambridge University Press.

Oxford, R. L. (1990). *Language learning strategies: What every teacher should know*. Newbury House.

Pressley, M., & Afflerbach, P. (1995). *Verbal protocols of reading: The nature of constructively responsive reading*. Lawrence Erlbaum Associates.

Pressley, M., & Harris, K. R. (2006). Cognitive strategies instruction: From basic research to classroom instruction. In P. A. Alexander, & P. H. Winne (Eds.). *Handbook of educational psychology* (pp. 265-286). Lawrence Erlbaum Associates.

Schraw, G., & Dennison, R. S. (1994). Assessing metacognitive awareness. *Contemporary Educational Psychology*, *19*(4), 460-475. https://doi.org/-10.1006/ceps.1994.1033

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.

ԱԿԱԴԵՄԻԱԿԱՆ ԼԵԶՎԻ ՈՒՍՈՒՑՄԱՆ ՃԱՆԱՉՈՂԱԿԱՆ ՄՈՏԵՑՄԱՆ (CALLA) ԱԶԴԵՑՈՒԹՅՈՒՆԸ ԸՆԹԵՐՑՄԱՆ ՀՄՏՈՒԹՅՈՒՆՆԵՐԻ ՎՐԱ. ԲԱԹՆԱ 2 ՀԱՄԱԼՍԱՐԱՆԻ ԱՌԱՋԻՆ ԿՈՒՐՍԻ ՈՒՍԱՆՈՂՆԵՐԻ ՕՐԻՆԱԿՈՎ

Ուսամը Ահմեդ Գաիդ
Թահըր Գոլիը

Հոդվածում քննության է առնվում Բաթնա 2 համալսարանի առաջին կուրսի ուսանողների օրինակը, որոնք սովորում են անգլերենը որպես օտար լեզու (EFL): Հետազոտության արդյունքները ցույց են տալիս, որ ակադեմիական լեզու ուսուցանելիս ճանաչողական մոտեցման (CALLA) կիրառությունը էապես բարելավում է սովորողների ընթերցանության ըմբռնումը, նպաստում բառապաշարի յուրացմանը, ինչպես նաև նրանց մետաճանաչողական հմտությունների զարգացմանը: Փորձարարական խմբում զգալի առաջընթաց է նկատվել՝ նախնական թեստային միջին 12.4 միավորի փոխարեն գրանցվել է մինչև 19.8 միավոր: Արդյունքները հաստատում են CALLA մոդելի արդյունավետությունը՝ պաշտպանելով դրա ինտեգրման գաղափարը անգլերեն լեզվի ընթերցանության ուսումնական ծրագրերում: Ուսումնասիրության արդյունքները հաստատում են ակադեմիական լեզվի ուսուցման համատեքստում հստակ ռազմավարության կիրառման արդյունավետությունը:

Բանալի բառեր՝ *CALLA, ակադեմիական ընթերցանություն, անգլերեն լեզվի ընթերցանություն, ռազմավարության վրա հիմնված ուսուցում, մետաճանաչողություն, ընթերցանության ըմբռնում:*