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# FROM PAGE TO SCREEN: THE AFFECTIVE AND COGNITIVE POTENTIALS OF CALL-BASED LITERARY MATERIALS IN EFL READING UNDER MULTIMODAL PEDAGOGIES

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## ABSTRACT

*The current research examined the effects of digital, multimodal literary texts on the motivation, anxiety, and reading comprehension of university-level EFL students. The quasi-experimental design was mixed-methods, involving 60 learners divided into a control group (using print as the medium for literature reading) and a CALL-based literature-reading group. Standardised motivation and anxiety scales, reading comprehension tests and semi-structured interview protocols were used to collect data. The members of the digital group were exposed to literary documents with audio, glosses, and images, while the members of the control group received the same texts in print. Findings indicated that the digital group reported higher motivation, lower anxiety, and greater improvement in comprehension than the control group. According to the interview data, the learners perceived the multimodal supports to be helpful for vocabulary comprehension, narrative comprehension, and managing emotional arousal during reading. These results indicate that digital literary sources can help overcome affective barriers and promote a better understanding of complex texts. The findings provide practical recommendations for teachers planning to employ literature and technology in EFL learning settings, especially those aimed at improving engagement and reading achievement among learners.*

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**KEYWORDS:** CALL, Digital Literary Reading, Multimodal Literacy, Affective Filter, Foreign Language Anxiety, Reading Comprehension, EFL Learners, Saudi Higher Education.

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## 1. INTRODUCTION

Digital mediation in reading has fundamentally transformed the reading process for second language learners. Multimodal supports in computer-aided language learning environments, such as audio narration, glosses, visual aids, and interactive aids, now replace text-only reading, a linear, low-affordance activity, with a multisensory, self-regulated one. Empirical studies have shown that the features reduce cognitive load and enhance inferential understanding (Zhang & Zou, 2022) and narrative engagement (Jin & Deifell, 2023).

The literary texts have a unique stance in this transformation. They are emotionally rich, interpretively complex, and stylistically rich, but may also increase anxiety among English-as-a-Foreign-Language (EFL) learners. The two sides of language learning can be supported by regional research: literature can help foster psychological interest and language consciousness (Chowdhury & Mishu, 2019). As it has been adequately replaced, it can reduce the affective filter and boost motivation (Mishu, 2025). These strengths are enhanced in digital multimodal formats, which strengthen the meaning and prevent interpretive obstacles. The affective dimension is positioned at the centre of the CALL paradigm. According to the Affective Filter Hypothesis proposed by Krashen, access to input is influenced by motivation, anxiety, and confidence. Digital spaces alleviate the above pressures; autonomous reading reduces the pressure associated with performance (Tsai, 2021); and multimodal resources increase motivation through a sense of autonomy and clarity (Choi & Park, 2022). Similar findings are reported in other studies regarding regional background: online homework has helped reduce stress among introverts in Saudi Arabia (Mishu et al., 2022), indicating that online learning activities are less stressful. Literature-based situations in computer-assisted language learning (CALL) provide access to i+1 input through scaffold creation, making vast amounts of linguistic and cultural knowledge visible. Adaptive technologies facilitate the prolonged comprehension of complex texts (Li 2, 2024), and multimodal prompts are more effective at clarifying semantic information, especially in literature that relies heavily on metaphor. Digitalisation, multilingual literacy, and pedagogical resilience are the basis for the reforms outlined in Vision 2030 (Chowdhury et al., 2025). Empirical studies in the field of regional writing and literacy instruction note the need to use strategies that combine cognitive, linguistic, and emotional support, as defined by CALL-driven literary texts

(Siddiqui et al., 2023; Akan et al., 2023; Mishu & Jaashan, 2025).

To this end, the current paper examines the mediation of literary texts through CALL on the motivation, anxiety, and perceived comprehension of EFL learners. The research question will be: RQ1: How do CALL-based literature materials affect learners' motivation? RQ2: How do these materials influence foreign-language anxiety? RQ3: What are the perceptions of multimodally supported literary input by learners? This study uses a mixed-methods design to examine how digital reading environments influence emotional readiness, interpretive confidence, and cognitive mechanisms in EFL readers.

## 2. LITERATURE REVIEW

### 2.1. *Multimodal Literacy and Reading CALL-Based*

Digital reading is already envisioned as a multimodal process in which learners can align textual, visual, auditory, and interactive data to develop meaning. It was previously noted that multimodal glossing and synchronised visual-textual input may help reduce cognitive load, facilitate inferencing, and enhance narrative processing (Zhang & Zou, 2022; Jin & Deifell, 2023). Reading in the CALL context no longer involves a linear decoding process but, rather, a far more flexible, self-regulated one that gives the learner autonomy and metacognitive control. The change is consistent with the priorities of the Saudi higher education system of Vision 2030, where AI-enhanced and multilingual digital tools are gradually entering university education (Chowdhury et al., 2025). The adaptive CALL enables audio replay, gloss adjustments, and re-reading, which has proven beneficial for EFL students in dealing with heavy vocabulary and complicated syntax (Li & Kim, 2024). Moreover, online reading environments allow learners to remove performance-based pressure and enhance motivation, as they can interact at their own pace and time (Tsai, 2021; Choi & Park, 2022). Studies that have been conducted in Saudi Arabia also suggest that online assignments reduce anxiety, particularly in introverted students, which would mean that CALL-mediated reading may be a psychologically safer environment to learn (Mishu et al., 2022). The integration of literature within CALL environments is accompanied by multimodal scaffolding, which allows reaching the i+1 input and improving the semantic clarity of the text, especially when it is full of metaphors and has a dense cultural context (Li, 2024).

## 2.2 Affective Potentials of ELT Literary Texts and Narratives.

It is well known that literary texts can foster interpretative competence, emotional involvement, and cultural awareness. It has been demonstrated that narrative immersion can elevate intrinsic motivation and expanded attention - the conditions that allow deeper processing of L2 (Kaiser, 2021). Literature is also identified in Gulf contexts as a stimulus to imagination and reflective practice, particularly when it is facilitated by suitable pedagogical scaffolding (Chowdhury & Mishu, 2019; Mishu, 2025). Digital literary spaces multiply these advantages by introducing audio-visual assistance that helps learners navigate difficult sections and reduce the frustrations of lower-level readers (Ghosn-Chelala, 2023). Audio-assisted reading also improves the prosodic sensitivity and affective understanding (Wu & Kurvers, 2022). Notably, online literary spaces provide learners with a low-stakes teaching context in which they can experiment with figurative language and interpretive options without being judged. This characteristic has been associated with the decreased anxiety of Saudi EFL learners (Mishu *et al.*, 2022). This notwithstanding, the literature on digitally mediated literary reading is limited, especially regarding its overall cognitive and affective effects. This gap shows that additional empirical research is needed to study CALL-based narrative reading in EFL.

## 2.3 Motivation, Anxiety and the Affective Ecology of CALL.

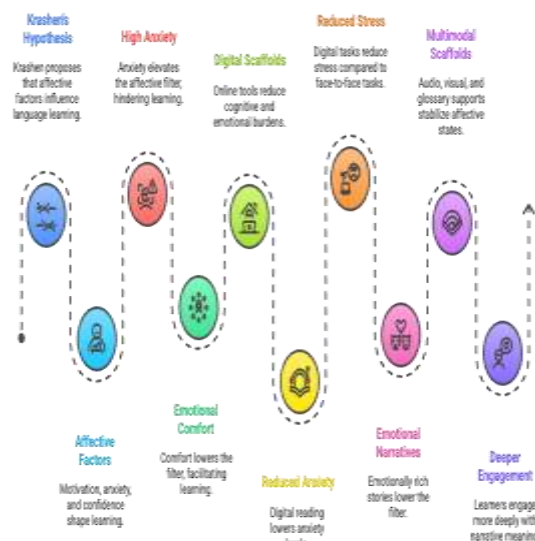
The key affective variables during second language learning are motivation, anxiety, and confidence. The Affective Filter Hypothesis proposed by Krashen suggests that increased anxiety makes input processing harder, whereas positive emotional states make learning easier. Affective conditions can be transformed to a significant extent through CALL environments, which provide self-paced, learner-determined interaction with texts. Empirical evidence suggests that the ability to control the reading pace, as well as to read slowly, leads to reduced anxiety and increased confidence, whereas multimodal supports enhance engagement and motivation (Tsai, 2021; Choi & Park, 2022). These findings were supported by evidence from Saudi EFL settings, which indicated that digital learning conditions reduce performance-related stress and enable continued work on literature-based assignments (Mishu *et al.*, 2022; Mishu, 2025). Call-supported pedagogies align with national

educational priorities, which focus on digital literacy, learner resilience, and self-directed learning at the policy level (Chowdhury *et al.*, 2025). In this regard, CALL-based instruction in literature provides a pedagogically and affectively responsive system to promote language development as well as emotional health of the learners.3. Theoretical Framework

### 2.3.1. Affective Filter Hypothesis

The Affective Filter Hypothesis by Krashen remains a cornerstone of SLA theory, which holds that affective variables, especially motivation, anxiety, and confidence, influence learners' ability to transform input into intake. At high anxiety, the filter is raised; at emotional ease, it is lowered. Their hypothesis has returned to the digital age, where CALL environments transform affective conditions. Empirical research on web-based learning shows that web-based scaffolding reduces both mental and emotional load. Tsai (2021) shows that learners are less anxious when they read digitally.

In contrast, Mishu *et al.* (2022) present regional data indicating that digital assignments can reduce stress in ways that are not possible in the real world. The theoretical analysis of Mishu (2025) also combines affective filter theory and literature-based instruction, in that the emotional intensity of stories is reduced to lower the filter when used in a supportive pedagogical environment. Multi-modal scaffolds, audio-supported narration, visual aids, and a glossary support CALL-based reading of literature, serving as affective stabilisers that reduce the fear of misinterpretation and allow learners to



engage more deeply with the narrative's meaning.

passages. Regional studies also emphasise the importance of comprehensibility. Siddiqui *et al.*

(2023) demonstrate that multimodal writing instruction enhances learners' control over linguistic complexity, indirectly reinforcing the value of scaffolded literary input. Akan et al. (2023) further show that linguistic comparisons enrich learners' metalinguistic awareness, thereby facilitating the comprehension of complex texts.

Figure 2: Comprehensible Input Hypothesis

2.3.2. *Call Multimodal Input Theory*

Mayer's Multimedia Learning Theory establishes that learners construct meaning more effectively when verbal and nonverbal channels are integrated. CALL environments extend this principle through interactivity, allowing learners to navigate audio, video, glosses, and annotations at their own pace. Zhang and Zou (2022) show that multimodal redundancy facilitates comprehension by providing

multiple pathways to meaning, while Jin and Deifell (2023) demonstrate that multimodal cohesion heightens narrative immersion. Regionally, Mishu and Jaashan (2025) emphasise that multimodal input fosters linguistic awareness, supporting learners' ability to manage complex linguistic structures. In the context of literary reading, multimodality offers three key affordances:

1. Affective stability: Reduction of anxiety through self-paced engagement
2. Motivational reinforcement: Increased narrative immersion and interpretive confidence
3. Comprehensibility: Enhanced access to i+1 input through multimodal cues

These mechanisms directly support the study's research questions and position CALL-based literary reading as a theoretically grounded pedagogical innovation.

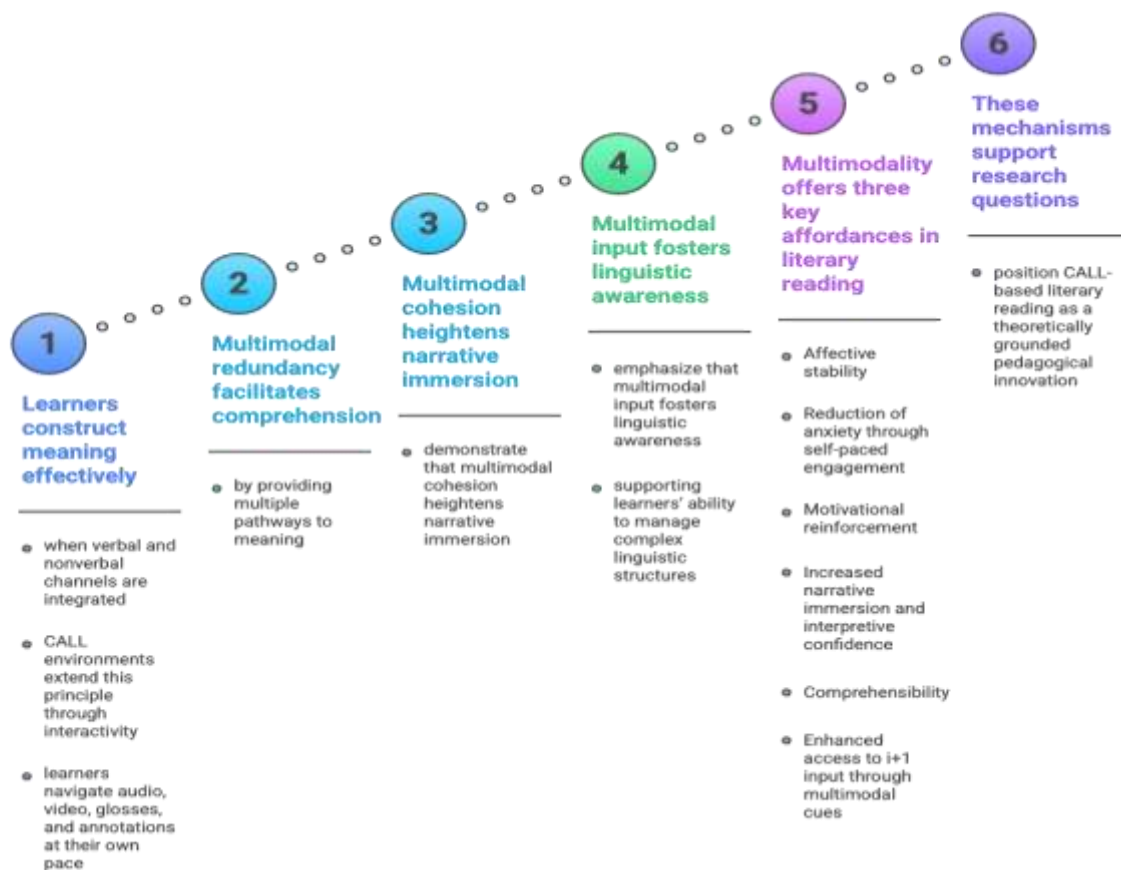
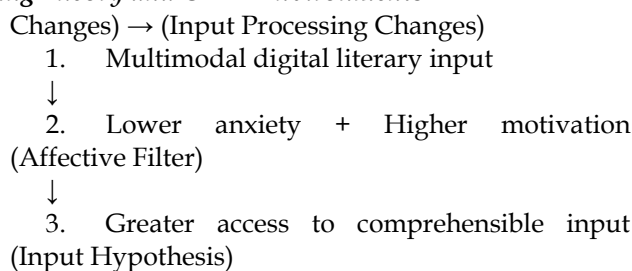


Figure 3: Mayer's Multimedia Learning Theory and CALL Environments

2.3.3. *Integrated Theoretical Model For The Rqs*

Bringing together the three theories, the conceptual framework proposes the following causal chain:

CALL-Based Literary Materials → (Affective



↓  
4. Improved engagement and deeper processing (CALL multimodal principles)

**Table 1: Direct Mapping to Research Questions.**

Component of Framework	RQ1 Motivation	RQ2 Anxiety	RQ3 Comprehensibility
<b>Affective Filter Hypothesis</b>	✓ Increases motivation by reducing stress and increasing enjoyment	✓ Lowers anxiety through autonomy & emotional context	✓ Filter reduction improves input processing
<b>Comprehensible Input Model</b>	✓ Understanding reinforces motivation	✓ Easier input reduces anxiety	✓ Directly explains comprehensibility
<b>CALL Multimodal Input</b>	✓ Engagement & autonomy increase motivation	✓ Multimodal scaffolds reduce reading anxiety	✓ Multimodal cues enhance comprehension

Combined, the three theoretical constructs – the affective filter hypothesis formulated by Krashen, the comprehensible input model, and the call multimodal input framework – collectively underpin the central hypothesis of this study: that call-based literature-related materials create optimal affective and cognitive conditions for second language acquisition. Such materials are intended to motivate learners by introducing them to emotionally involving stories through multimodal, interactive digital interfaces, which will further encourage them to actively and voluntarily engage in the reading of literary texts. Simultaneously, the call environment's autonomy, privacy, and self-directed nature are most likely to decrease anxiety and the affective filter in learners, allowing them to process input more effectively. Moreover, since digital literary platforms, such as glosses, audio narration, and other visual cues, imply scaffolding, their projected impact on enhancing comprehensibility, as they help decoders and interpreters of digital input receive *i+1* level support, directly justifies and aligns with the research questions *rq1-rq3*.

### 3. METHODOLOGY

#### 3.1 Research Design

This study took the form of a quasi-experimental mixed-methods study design to test the effects of CALL-based literary texts on three variables that are interconnected: (1) motivation, (2) foreign-language anxiety, and (3) perceived understandability of input. This design is directly reflected in the theoretical

framework of the study:

RQ1 (Motivation) - operationalises the Affective Filter Hypothesis, which postulates more motivation in the favourable affective conditions.

RQ2 (Anxiety) - tests the filter-lowering action of CALL multimodal scaffolds.

RQ3 (Comprehensibility) - measures the effect of multimodal and adaptive aids on the availability of *i+1* input in the Comprehensible Input Model.

The quasi-experimental comparison of CALL-mediated instruction with print-based instruction for literature, in turn, allows empirical testing of each theoretical direction. Mixed-method was selected to be able to obtain the quantitative and affective change in addition to the qualitative and experiential depth, which is in line with the principles of CALL studies that insist on the interdependence of emotional and cognitive processes (Choi & Park, 2022; Li & Kim, 2024) and falls in line with Saudi-based ELT research that integrates performance-based metrics with narrative descriptions of the learner (Mishu *et al.*, 2022; Chowdhury *et al.*, 2025).

#### 3.2 Participants

**Table 2: Participant Profile And Ethical Procedures.**

Category	Details
Total Participants	60 EFL learners
Proficiency Level	Intermediate level (suitable for simplified literary input and scaffolded CALL tasks; Li, 2022)
Course Context	University-level reading course, Saudi Arabia
Sampling Method	Convenience sampling
Group Allocation	30 Experimental (CALL-based literary materials) • 30 Control (print-based textbook)
Ethical Approval	Obtained from the institution
Informed Consent	All participants provided written consent
Confidentiality	Assured to all learners; pseudonyms used
Right to Withdraw	Participants informed they could withdraw at any time
Evaluation Assurance	Study clarified as non-evaluative (no impact on grades)

To protect the privacy of all individuals involved and ensure compliance with ethical research standards, the institution's name has been anonymised. Although the study received formal ethical approval, the fact that the institution could allow inference of participant identities or specific program contexts, especially given the relatively small and specialised cohort of learners, is a concern.

Anonymisation, therefore, safeguards participant confidentiality, prevents unintended institutional attribution, and aligns with international research ethics guidelines that require minimising any potential risk of deductive disclosure.

### 3.3 Instruments

A combination of digital, psychometric, and qualitative instruments was used to measure affective and comprehension-related constructs aligned with the research questions and theoretical framework.

**Table 3: Instruments Used in the Study.**

Instrument	Purpose	Description / Components	Links to Theory	Links to RQs
CALL-Based Literary Platform	Deliver multimodal digital literary input	audio narration, visual cues, clickable glosses, adaptive pacing.	CALL Multimodal Input; Comprehensible Input	RQ2 / RQ3
Motivation Scale (AMTB Subscales)	Measure changes in motivation	Intrinsic, integrative, task motivation items	Affective Filter (motivation)	RQ1
FLCAS (Horwitz, 1986/2010)	Measure language anxiety	33-item standardized scale	Affective Filter (anxiety)	RQ2
Reading Comprehension Tests	Assess comprehension gains	Pre/post passages aligned with intervention texts	Comprehensible Input (i+1)	RQ3
Observation Checklist	Track affective and engagement behaviors	Indicators: ease, frustration, engagement	Affective Filter; CALL	RQ1 / RQ2
Semi-Structured Interviews	Explore learner perceptions	Questions on motivation, anxiety, comprehension	All three theories	RQ1 - RQ3

### 3.4 Procedure

The intervention spanned six weeks and followed a structured progression for both groups.

**Table 4: Procedure Overview (Experimental vs Control Groups).**

Week	Experimental Group (CALL Literary Platform)	Control Group (Print Textbook)
Week 1	Pre-tests; orientation	Pre-tests
Week 2	Digital story + glosses + audio narration	Print text + teacher explanation
Week 3	Multimodal reading tasks	Reading comprehension tasks
Week 4	Digital annotation + replayable audio	Group discussion + print exercises
Week 5	Narrative immersion + multimodal scaffolds	Paper-based comprehension

Week 6	Post-tests + interviews	Post-tests + interviews
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The experimental group worked with digital literary texts supported by multimodal scaffolds, including click-to-read glosses, visual cues, and audio narration. The control group used traditional print-based textbooks without technological assistance.

In the experimental group, participants were provided with literary reading activities with CALL support only on personal digital devices (smartphones or tablets); no in-class computer resources were used. Learners were required to read one literary text per week using a mobile-friendly web-based CALL platform. The readings were presented as multimodal, combining written accounts with audio accounts, visual and interactive glosses. At the beginning of every session, the instructor gave a brief introduction to the theme and the literary text's context, deliberately avoiding interpretive guidance. The participants then read the text at their own pace on their own devices, choosing and controlling the multimodal supports as needed. They were given the privilege of re-hearing audio snippets, using glosses, and re-reading difficult passages at their own will, thereby allowing them self-regulated interaction with the content. Throughout the reading stage, the instructor deliberately refrained from interfering, correcting, or explaining to maintain a low-stress learning environment and to preserve the affective and cognitive states inherent in the Affective Filter and Comprehensible Input paradigms. Students were taught to focus on meaning-building rather than on language accuracy. Post-reading activities consisted of short reflective tasks (e.g., written reflections or discussion instructions) aimed at helping solidify understanding and evoke learners' perceptions. These activities were non-evaluative and not formally assessed. In general, the experimental intervention focused on personal-device-based learning, learner control, multimodal assistance, and a limited role for teachers, thereby allowing the CALL space to serve as the central scaffold for affective and cognitive development. This framework operationalises the theoretical framework: RQ1 (Motivation): multimodality and autonomy -motivational pathways. RQ2 (Anxiety): privacy and self-pacing- lesser affective filter. RQ3 (Comprehensibility): scaffolding - better the processing of the input at the i+1 level.

### 3.5. Data Analysis

Quantitative Analysis: Independent t-tests were

used to compare changes between groups, with analysis of covariance (ANCOVA) to control for pre-test scores. The *d* of Cohen was used to assess the practical significance, an important element in research on CALL interventions (Choi & Park, 2022).

Qualitative analysis: It was a deductive and inductive approach to thematic coding. The coding scheme was matched to (a) affective filter constructs such as confidence, comfort and anxiety; (b) comprehensible input-related constructs such as

clarity, accessibility, and lessening cognitive load; and (c) multimodality constructs of calls, such as audio-visual support, interpretive flow and navigation. This dual coding design illustrates the principles of analytical frameworks in recent Gulf-based studies (Chowdhury et al., 2025; Mishu, 2025) and is necessary to ensure theoretical consistency across the affective, cognitive, and technological dimensions.

**Table 5: Data Analysis Plan.**

Data Type	Analysis Technique	Purpose	Theoretical Link	RQ
Motivation Scores	Paired <i>t</i> -tests, ANCOVA, Cohen's <i>d</i>	Measure motivation changes	Affective Filter	RQ1
Anxiety Scores	Paired <i>t</i> -tests, ANCOVA	Determine reduction in anxiety	Affective Filter	RQ2
Comprehension Scores	Paired <i>t</i> -tests, ANCOVA	Assess comprehension gains	Comprehensible Input (i+1)	RQ3
Observation Data	NVivo thematic coding	Identify affective behaviors	Affective Filter; CALL engagement	RQ1-RQ2
Interviews	NVivo-assisted Braun & Clarke analysis	Explore learner perceptions	All three components	RQ1-RQ3
Mixed Methods	Triangulation matrix	Integrate QUAN + QUAL results	Mixed methods theory	All

**4. RESULTS**

This chapter presents the quantitative, qualitative, and integrated mixed-methods results. Findings are structured around the three research questions focusing on:

(1) motivation, (2) anxiety, and (3) perceived comprehensibility of input when using CALL-based literary materials.

**4.1. Quantitative Findings**

Quantitative analysis involved pre- and post-

**Table 6: Motivation Pre-Post Comparison (Experimental vs Control).**

Group	Pre-Test Mean (SD)	Post-Test Mean (SD)	<i>t</i>	<i>p</i>	Effect Size (Cohen's <i>d</i> )
Experimental	3.12 (0.48)	3.89 (0.51)	7.42	< .001	1.03 (large)
Control	3.15 (0.45)	3.21 (0.47)	1.02	.31	0.12 (small)

ANCOVA (controlling for pre-test values) confirmed a significant group effect,  $F(1,57) = 18.67$ ,  $p < .001$ .

Motivational gains align with the Affective Filter Hypothesis, which posits that increased motivation occurs when learners experience enjoyment, autonomy, and emotional engagement. The multimodal, interactive, narrative-rich CALL environment provided these conditions. This supports RQ1 by showing that digital literary materials significantly enhanced motivation.

**4.1.2. Anxiety**

intervention comparisons using paired-sample *t*-tests and ANCOVA. Results address RQ1 (motivation), RQ2 (anxiety), and RQ3 (comprehension).

**4.1.1 Motivation**

Learners in the experimental group showed a significant increase in motivation from pre- to post-test. In contrast, the control group displayed no meaningful change.

The Foreign Language Classroom Anxiety Scale (FLCAS) showed a notable decrease in anxiety among experimental group learners.

**Table 7: Anxiety Pre-Post Comparison.**

Group	Pre-Test Mean (SD)	Post-Test Mean (SD)	<i>t</i>	<i>p</i>	Cohen's <i>d</i>
Experimental	3.41 (0.52)	2.78 (0.49)	-6.15	< .001	0.91 (large)
Control	3.38 (0.51)	3.33 (0.50)	-0.88	.39	0.08 (negligible)

The experimental group's reduction in anxiety is statistically significant, while the control group

remained stable.

Consistent with Krashen’s Affective Filter Hypothesis, autonomy, privacy, and self-paced reading in CALL helped reduce feelings of pressure and fear of evaluation. Lower anxiety reflects the predicted “filter-lowering” effect, directly addressing RQ2.

**4.1.3. Reading Comprehension Scores**

Learners exposed to digital literary materials outperformed the control group on post-test comprehension measures.

*Table 8: Reading Comprehension Results.*

Group	Pre-Test Mean (SD)	Post-Test Mean (SD)	Gain Score	ANCOVA Group Effect
Experimental	58.3 (9.1)	72.8 (8.7)	+14.5	$F(1,57) = 12.94, p < .001$
Control	57.9 (9.4)	63.1 (9.0)	+5.2	,

The experiment shows that the addition of CALL features, namely glosses, visual images, and audio recordings, facilitates the availability of i+1 input as per the Comprehensible Input Model introduced by Swain. Therefore, the improved understanding of learners supports RQ3, indicating that the instruction scaffolding was effective at processing narrative meaning.

**4.2 Qualitative Findings**

*Table 9: Nvivo Parent-Child Node Structure.*

Parent Node (Theme)	Child Nodes (Condensed)	Number of Sources	Number of References
1. Reduced Anxiety	Private reading, self-paced control, gloss reassurance	28	92
2. Motivation & Engagement	Narrative interest, multimodal enjoyment, persistence	27	105
3. Autonomy & Self-Regulation	Re-reading, replaying audio, annotation, selective navigation	26	77
4. Comprehensibility & Flow	Gloss use, audio support, visual cues, smooth narrative flow	29	89

**TABLE 10: NVIVO WORD FREQUENCY QUERY**

Word/Phrase	Count	Weighted %	Interpretation
“understand”	83	4.7%	Indicates perceived comprehensibility (RQ3)
“easy/easier”	74	4.2%	Relates to reduced anxiety + comprehension
“listen/audio”	63	3.5%	Highlights multimodal dependence
“comfortable”	58	3.3%	Indicates anxiety reduction (RQ2)
“story”	55	3.1%	Linked to narrative engagement (RQ1)
“repeat/replay”	49	2.8%	Connected to autonomy and self-regulation

**TABLE 11: NVIVO CODING DENSITY BY THEME**

Theme	Coding Density (%)	Interpretation
Reduced Anxiety	24%	Strong evidence that CALL lowers affective filter (RQ2)
Motivation & Engagement	28%	Most dominant theme; narrative multimodality boosts motivation (RQ1)
Autonomy & Self-Regulation	21%	Learners relied heavily on CALL autonomy features
Comprehensibility & Flow	27%	Multimodal scaffolding improves i+1 understanding (RQ3)

**TABLE 12: NVIVO MATRIX CODING QUERY**

*Co-occurrence of themes across interview sources (N = 30)*

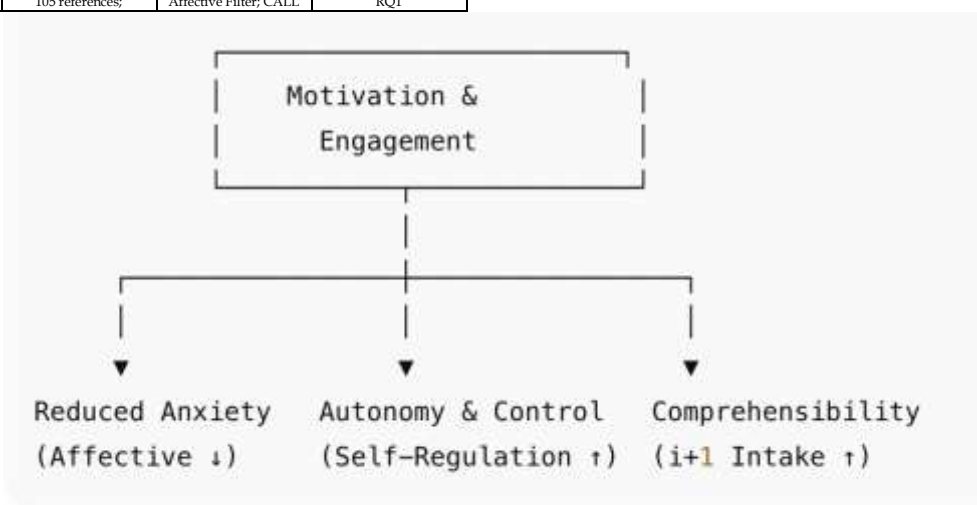
Theme Pair	Co-Occurrence Frequency	Interpretation
Reduced Anxiety × Comprehensibility	61	Anxiety reduction contributes to clearer

		comprehension (RQ2 + RQ3)
Motivation × Engagement	74	Narrative multimodality is a strong motivational driver (RQ1)
Autonomy × Reduced Anxiety	58	Self-pacing reduces affective pressure (RQ2)
Comprehensibility × Multimodal Features	69	Multimodality supports i+1 processing (RQ3)

**TABLE 13: NVIVO SUMMARY OF THEMES ALIGNED WITH RQs**

Theme	NVivo Evidence	Linked Theory	RQ Addressed
Reduced Anxiety	92 references; privacy & self-paced reading nodes	Affective Filter	RQ2
Motivation &	105 references;	Affective Filter; CALL	RQ1

Engagement	multimodal enjoyment nodes		
Autonomy & Self-Regulation	77 references; replay, annotation behavior	CALL Autonomy & Self-Regulation	RQ1, RQ2
Comprehensibility & Flow	89 references; gloss, audio, visuals	Comprehensible Input (i+1)	RQ3



**Figure 4: Condensed Nvivo Concept Map.**

This shows how NVivo themes and co-occurrence patterns reflect the conceptual framework and directly map onto RQ1–RQ3.

**4.3 Integrated Mixed-Methods Results**

Triangulation reveals strong convergence across QUAN and QUAL strands.

**Table 14: Mixed-Methods Triangulation Summary.**

Research Question	Quantitative Evidence	Qualitative Evidence	Convergent Interpretation
RQ1 Motivation	Large increase in motivation (d = 1.03)	High engagement, interest, autonomy	CALL narratives boost motivation
RQ2 Anxiety	Large decrease (d = 0.91)	Reports of comfort, privacy, less pressure	CALL reduces affective filter
RQ3 Comprehensibility	Significant improvement in comprehension	Learners perceive “flow” and clarity	CALL scaffolds enhance i+1 input

The findings indicate that CALL-based teaching methods yield more beneficial outcomes regarding learners' motivation, anxiety in foreign languages, and comprehension of the latter, and can thus be

used to support the theoretical framework with empirical data. The similarity between the quantitative tendencies and the qualitative description of the learners increases the validity of the results. It helps address the interdependence between affective and cognitive aspects in the acquisition of a second language (SLA).

**4.4. Discussion**

This study examined the effects of CALL-based literary materials on Saudi EFL learners’ motivation (RQ1), foreign-language anxiety (RQ2), and perceived input comprehensibility (RQ3). Consistent with the quantitative and qualitative results, the discussion is organised sequentially around the three research questions and interpreted through Krashen’s Affective Filter Hypothesis, the Comprehensible Input Model (i+1), and CALL-based multimodal literacy frameworks. Across all three dimensions, findings indicate that multimodal literary environments simultaneously lower affective barriers and enhance cognitive accessibility, producing statistically significant and pedagogically meaningful learning gains.

Assumptions of normality and homogeneity of variance were checked before using inferential procedures, and fulfilled the assumption of use of parametric procedures (paired-sample t-tests and ANCOVA). The effect sizes (Cohen's *d*) are always reported with significance values to show the magnitude of effect that is observed, so that one can interpret the results beyond the achievement of statistical significance. In ANCOVA cases, results are reported to adjust for pre-test differences and enhance causal attribution of the instructional intervention.

Quantitative results showed a significant increase in learners' motivation in the experimental group between the pre-test and post-test ( $t = 7.42, p < .001$ ), with a large effect size ( $d = 1.03$ ), but not in the control group. ANOVA also supported a significant group effect, indicating that the motivational gains may be explained by the CALL-based literary intervention rather than by preexisting differences. Theoretically, this trend can be explained by the Affective Filter Hypothesis, which assumes that people are more likely to be driven when they enjoy learning, feel autonomy and are engaged. This interpretation is supported by qualitative evidence: students often said that the digital literary texts were interesting, engaging, and easy to imagine, which aligns with narrative transportation as a motivational process supported by multimodal input (Kaiser, 2021). The results are consistent with Mishu (2025), who states that literary texts have intrinsic motivational potential but should be systematically provided to reduce anxiety and interpretive uncertainty.

Audio narration, visual cues, and glosses created a sense of competence, independence, and interpretive clarity, which are major motivational constructs in the literature on digital literacy (Choi & Park, 2022). At the regional level, the findings align with previous Saudi- and Gulf-based ELT research, which shows that multimodal scaffolding can foster imagination and emotional involvement among learners (Chowdhury & Mishu, 2019) and that literature-based multimodal scaffolding can increase learners' interest in language tasks (Siddiqui et al., 2023). This paper builds on this research and empirically reveals that CALL-mediated multimodal enhancement is an effective means of increasing motivation in a literary reading setting, rather than fostering a more superficial interaction.

The FLCAS showed a large, statistically significant change in anxiety in the experimental group ( $t = [?].6.15, p < .001, d = 0.91$ ) and no significant change in the control group. This clear deviation

supports RQ2 strongly and demonstrates the anxiety-regulating effect of CALL-based literary settings. In principle, this result directly operationalises Krashen's Affective Filter Hypothesis in a multimodal CALL situation. The learners indicated that they were not as afraid of making mistakes, less ashamed, and more relaxed when reading digital literature. NVivo analyses further reported that the key processes that were involved in reducing anxiety were private reading, self-paced control, and gloss reassurance. The conditions are similar to Tsai's (2021) argument that autonomy in the digital reading space reduces anxiety and aligns with research findings in Saudi EFL settings that online modalities decrease performance-related stress, especially among introverted learners (Mishu et al., 2022).

Notably, the current research indicates that affective buffering beyond oral performance and examination circumstances can be observed in the domain of literary understanding, which is traditionally regarded as highly anxiety-inducing due to its dense language and ambiguous interpretation. The findings indicate that the structural generation of anxiety reduction is caused by the interactional design of CALL spaces, namely, privacy, pacing, and multimodal redundancy and not a peripheral by-product of technology.

Students in the experimental group had a considerably higher post-test reading comprehension score than students in the control group. Their gain score was more substantial (+14.5 vs +5.2), and the ANCOVA group effect was significant ( $F(1,57) = 12.94, p < .001$ ). These outcomes are sound quantitative evidence on RQ3. According to the Comprehensible Input Model, the multimodal scaffolding allowed learners to receive input in the form of  $i+1$ , which would otherwise exceed their understanding threshold. This observation is also supported by qualitative data indicating that learners reported texts as clearer, more structured, and easier to navigate, with decreased cognitive load and improved semantic structure. This supports previous CALL studies that have found multimodal glossing to be less processing-demanding and less inferential (Zhang & Zou, 2022) and suggested that synchronised visual and text glossing enhances narrative processing (Jin & Deifell, 2023). These findings are also supported by evidence from the region, as multimodal exposure has been shown to increase interpretive competence and structural awareness in EFL contexts (Akan et al., 2023).

Throughout RQ1-RQ3, both convergent quantitative and qualitative results indicate that

affective and cognitive processes are mutually reliant in CALL-mediated learning of literature. Reduction of anxiety (RQ2) decreases the affective filter, greater comprehensibility (RQ3) facilitates the successful construction of meaning, and these two processes mutually maintain motivation (RQ1). This triangulated design reinforces the explanatory observation in Krashen's theoretical framework in modern CALL. It extends the concept of multimodal literacy to demonstrate that, in literary reading, affective regulation and the accessibility of the input are mutually reinforcing rather than independent outcomes.

#### 4.5. Pedagogical Implications

Results indicate that multimodal literary reading cultures need not be simple tools of supplementation. With digital scaffolds, literature is accessible to intermediate learners, increasing the likelihood that they will engage with narrative language and cultural meaning. The reported affective benefits are consistent with previous findings in the region (Mishu *et al.*, 2022). Instruction based on CALL is thus supposed to be implemented as one of the key measures in helping learners with high anxiety or low oral participation. Multimodal features should be applied intentionally by teachers:

1. Prosody and emotive audio narration.
2. Scene construction visual elements.
3. Glosses for lexical access.
4. Self-regulatory replayability.

All these features help one understand a complex literary language. According to Chowdhury *et al.* (2025), Saudi higher education is becoming more digitally literate and more resilient to multilingualism. Literary instruction based on CALL aligns with these national objectives and promotes

pedagogical modernisation.

## 5. CONCLUSION

This paper will demonstrate that CALL-based literary teaching redesigns learners' interactions with language by combining affective regulation, cognitive accessibility, and cultural reading in EFL education. In addition to quantifiable increases in motivation, anxiety lessening, and understanding, the results demonstrate that multimodal literary settings change literature as a source of linguistic challenge to meaning-making, affective safety, and interpretation self-assurance, especially in situations where English literary texts are commonly viewed as a source of linguistic and communicative challenges. The study demonstrates the continued relevance of proven SLA frameworks in digitally mediated conditions by applying the Affective Filter Hypothesis, the Comprehensible Input Model, and the CALL Multimodality Theory in a Saudi EFL setting. On the educational level, CALL-based teaching in literature is consistent with the trends in the regions, namely the promotion of learner control and autonomy, digital literacy, and inclusive education (Mishu *et al.*, 2022; Mishu, 2025; Chowdhury & Mishu, 2019; Siddiqui *et al.*, 2023; Akan *et al.*, 2023; Chowdhury *et al.*, 2025). In an interdisciplinary approach, the findings relate to applied linguistics, educational psychology, and multimodal studies, offering an example of the interaction among narrative, technology, and affect to facilitate more profound language learning. On the whole, the research presents literature-mediated CALL as a conceptualised and validated methodology that addresses both the linguistic and emotional aspects of EFL education in modern virtual classrooms.

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