EXPLORING THE EFFECT OF VISUAL AIDS ON VOCABULARY LEARNING OF A1 LEARNERS

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Abstract. *For beginner language learners, building vocabulary is both the first major hurdle and a challenge that never fully goes away. This study explores how three types of visual aids — flashcards, animated video clips, and digital photographs — can help A1-level EFL students between the ages of 11 and 14 pick up English vocabulary more efficiently. Working within a quasi-experimental framework, 24 students were split into two groups of twelve: one group worked with visually enriched materials for six weeks, while the other followed a traditional translation-based routine. Results from an independent-samples t-test showed a clear statistical advantage for the visual-instruction group ($p < .05$), with substantially higher vocabulary gains across the board. The data suggest that bringing multimodal tools into early EFL classrooms is not just helpful — at the foundational level of language learning, it may well be necessary. The paper closes with concrete suggestions for teachers, curriculum developers, and school administrators.*

Keywords: *visual aids, vocabulary learning, A1 learners, EFL, quasi-experimental, multimodal instruction*

Introduction

Words are the raw material of language. Without them, even a speaker with solid grammar cannot hold a meaningful conversation in a foreign tongue (McCarthy, 1990). This difficulty is felt most sharply by A1-level learners, who are still building the very foundation of a new linguistic system. At this stage, there is no prior knowledge to lean on — each new word is genuinely uncharted territory.

Over the last two decades or so, digital technology has quietly but profoundly reshaped how languages are taught and learned. Visual aids — ranging from printed flashcards to animated clips and image-rich apps — have drawn growing interest from both researchers and practitioners (Blake, 2013; Mayer, 2009). Rather than asking learners to map a new word onto its first-language equivalent, visual instruction shows them what the word actually refers to. It provides context, supports recognition, and

engages the brain's visual processing pathways, which appear to play a meaningful role in forming long-term memories (Clark & Lyons, 2004).

What is striking, given this growing body of evidence, is how little of it focuses specifically on A1-level learners — arguably the group with the most to gain from a richer instructional approach. Beginners at this stage often find dictionary definitions and bilingual word lists difficult to work with, simply because they have not yet developed the meta-linguistic awareness needed to process them. Visuals, by contrast, give words a concrete, perceivable form that any learner can grasp, regardless of what they already know about the target language (Azma, 2017; Chung, 2023).

This study was designed precisely to fill that gap. By comparing vocabulary outcomes in two groups — one instructed through visual aids, the other through conventional methods — we aimed to find out whether visual instruction makes a statistically detectable and practically meaningful difference for A1-level EFL learners. The study was guided by one research question:

RQ1: Does the use of visual aids have a statistically significant effect on the vocabulary learning outcomes of A1-level EFL learners?

Literature Review

Visual Aids and Second Language Vocabulary Acquisition

Researchers have been interested in the link between visual input and vocabulary learning for quite some time. Broadly speaking, visual aids include any non-verbal material — illustrations, diagrams, flashcards, photographs, video clips, digital presentations — used to support language comprehension and production (Mathew & Alidmat, 2013). Two influential theoretical frameworks underpin their use: dual coding theory (Paivio, 1986) and cognitive load theory (Sweller, 1988).

Dual coding theory holds that information processed through both verbal and visual channels is encoded more durably in long-term memory than information arriving through a single channel. In vocabulary learning terms, a learner who encounters the word "apple" alongside a picture of an apple builds a richer mental representation than one who receives only the Uzbek translation. Clark and Lyons (2004) developed this line of thinking further, arguing that images reduce cognitive load by externalizing abstract concepts — pictures, in other words, do some of the mental work so that learners can channel more cognitive energy toward building meaning.

The experimental literature broadly supports these claims. Azma (2017) found that Iranian EFL learners at the elementary level who worked with visual aids outgained peers taught through conventional methods by a significant margin. Chung (2023) reached similar conclusions, noting that visual instruction not only improved vocabulary retention but also raised classroom engagement — a particularly relevant outcome when working with young learners. Comparable advantages have been

documented by Akbaba-Altun (2018) with young English learners across a different national setting, pointing to a pattern that holds across varied contexts.

Specific formats of visual support have also attracted research attention. Eslahcar and Khodareza (2012) showed that vocabulary flashcards produced markedly better outcomes than traditional instruction with Iranian pre-university students. Hashemifardnia et al. (2020) extended this inquiry to digital vocabulary applications and found significant gains for intermediate EFL learners who used a visual vocabulary tool. Taken together, the evidence points consistently in the same direction: whether the format is printed or digital, static or animated, representing word meaning visually tends to facilitate acquisition more effectively than purely verbal presentation.

Most prior research on visual aids has targeted intermediate or advanced learners, but a growing strand of work has begun to look at beginners and younger students. Mansourzadeh (2014) reported that pictorial instruction outperformed audio-visual instruction alone for young Iranian EFL beginners, while Choi and Yi (2015) showed that multimodal approaches improved both comprehension and self-confidence among EFL learners more generally.

The argument for visual instruction is particularly persuasive at the A1 level. Beginning learners have not yet built up the meta-linguistic awareness or second-language working memory capacity that would allow them to benefit from abstract definitions or interlingual comparisons. Visuals sidestep these constraints by grounding word meaning in perceptual experience — something accessible to any learner, regardless of linguistic background (DeKeyser, 2009). Visual instruction has also been shown to sustain motivation and attention in young learners (Wright, 1976), two factors that are essential for instructional success at these early stages.

Even so, peer-reviewed studies that specifically target A1-level learners in structured classroom settings remain relatively scarce. The present study was designed to address that gap.

Methodology

A quasi-experimental design with pre-test and post-test measures was used to explore whether visual instruction produces greater vocabulary gains than conventional teaching. Participants were placed into one of two groups. The independent variable was the instructional approach (visual aids versus conventional method); the dependent variable was vocabulary knowledge, operationalized as the difference between pre-test and post-test scores.

Twenty-four EFL learners between the ages of 11 and 14 (M age = 12.7 years) took part in the study. All were enrolled at the same school and had been confirmed as A1-level through an initial placement assessment. They were randomly assigned to an experimental group (n = 12) and a control group (n = 12). Analysis of pre-test scores

confirmed that the two groups were essentially equivalent in baseline vocabulary knowledge before the intervention began ($p > .05$).

Three instruments were used. First, a 20-item multiple-choice placement test checked A1 proficiency and established group comparability. Second, a 30-item vocabulary pre-test — drawing directly from the instructional content — measured learners' knowledge before instruction began. Third, a parallel-form post-test of equivalent difficulty was given at the end of the six-week treatment to capture vocabulary gains. Two experienced EFL instructors reviewed both tests and confirmed their content validity. Internal consistency was assessed using the KR-21 formula and found to be acceptable for both the pre-test ($r = .78$) and the post-test ($r = .81$).

Both groups received vocabulary instruction across six weeks, meeting three times per week for 60-minute sessions — 18 sessions in all. Both groups studied the same set of lexical items drawn from an A1-level coursebook. The sole difference was how instruction was delivered.

The experimental group encountered all vocabulary through visual aids. These included printed and digital flashcards pairing target words with images, short animated clips situating vocabulary in realistic contexts, and digital photographs or real objects used to illustrate meaning during class. Students identified, labeled, and produced target words in response to visual prompts throughout, without relying on first-language translation.

The control group followed a conventional routine. The teacher introduced each new word by giving its Uzbek equivalent, spelling, and a sample sentence. Learners wrote definitions in their notebooks and worked through standard exercises from the coursebook. Dictionary use was both permitted and encouraged.

Quantitative data were analyzed in IBM SPSS Statistics (Version 25). Descriptive statistics — means and standard deviations — were computed for both groups on both measures. The Shapiro-Wilk test checked for normality of score distributions, and Levene's test verified homogeneity of variance. An independent-samples t-test was then run to determine whether the between-group difference on the post-test reached statistical significance, with alpha set at $p < .05$.

Table 1 reports the descriptive statistics for both groups on the pre-test and post-test.

Table 1

Descriptive Statistics for Pre-test and Post-test Scores

Group	N	Pre-test M (SD)	Post-test M (SD)	Mean Gain
Experimental	12	14.25 (3.18)	24.67 (2.94)	10.42
Control	12	13.92 (3.41)	17.33 (3.57)	3.41

Both groups started out at nearly the same level — a mean of 14.25 for the experimental group and 13.92 for the control — differences well within the bounds of statistical equivalence. By the end of the six weeks, however, the picture had shifted considerably. The experimental group's average score climbed by 10.42 points, while the control group improved by just 3.41. That gap — close to a three-to-one ratio in favor of visual instruction — already tells a clear story before any inferential testing is applied.

Before running the t-test, the data were checked against its underlying assumptions. The Shapiro-Wilk test confirmed that post-test scores followed a normal distribution in both the experimental group ($W = .951$, $p = .634$) and the control group ($W = .943$, $p = .527$). Levene's test found no significant difference in variance between the two groups ($F = .842$, $p = .369$), confirming homogeneity of variance. All parametric assumptions were met.

Table 2 presents the inferential test results comparing post-test scores between groups.

Table 2

Independent-Samples T-Test on Post-test Scores

	Experimental (n=12)	Control (n=12)	t	df	p	Mean Diff.
Post-test	M = 24.67, SD = 2.94	M = 17.33, SD = 3.57	5.82	22	.000	7.34

The t-test returned a statistically significant result: $t(22) = 5.82$, $p < .001$. The experimental group's post-test mean exceeded the control group's by 7.34 points (95% CI [4.87, 9.81]). With a Cohen's d of 2.25, the effect was large — meaning the advantage of visual instruction was not merely something a statistical test could detect, but a difference that would matter in practice. The null hypothesis was rejected.

Discussion

This study posed a fairly direct question: does teaching vocabulary through visual aids lead to better outcomes than a conventional translation-based approach for A1-level EFL learners? The data offer a clear answer: yes, and by a considerable margin.

The experimental group's post-test mean of 24.67, compared to 17.33 for the control group, reflects a difference that is both statistically significant ($p < .001$) and large in practical terms ($d = 2.25$). This outcome sits comfortably within a broader research literature that has consistently documented the pedagogical value of visual instruction across different learner populations and classroom contexts (Azma, 2017; Chung, 2023; Hashemifardnia et al., 2020).

Two theoretical frameworks offer useful explanatory lenses. Dual coding theory (Paivio, 1986) predicts that vocabulary encoded through simultaneous visual and verbal

channels produces deeper and more lasting memory traces. When a learner encounters the word "bicycle" next to an image of one, two representational pathways activate at the same moment — a visual memory and a linguistic one — and the resulting mental encoding is harder to forget. Cognitive load theory (Sweller, 1988) adds a complementary explanation: by anchoring unfamiliar word meanings in concrete, perceivable images, visual instruction eases the mental burden of initial encoding, freeing up working memory for deeper processing — connecting new words to prior knowledge, noticing patterns, and building richer conceptual links.

These mechanisms carry particular weight at the A1 level. Beginners simply have not yet developed the linguistic scaffolding that would let them benefit from abstract definitions, grammatical explanations, or contextual inference. For them, an image is not a supplementary aid but a primary access route to meaning — one that does not require any prior knowledge of the target language (DeKeyser, 2009). This finding closely mirrors the conclusions of Chung (2023) and Mansourzadeh (2014), both of whom observed the greatest instructional advantages precisely among lower-proficiency learners.

One implication of the findings is worth spelling out. Prior research has established that visual aids help intermediate and high school learners (Jalali & Sahebkheir, 2024). What the current study adds is evidence that these benefits are present — and may actually be strongest — at the very beginning of the learning process. This suggests that visual instruction is not a strategy that becomes less relevant as proficiency grows; it may, in fact, be most valuable exactly when learners have the fewest linguistic resources to draw on.

A number of limitations should be kept in mind when interpreting these findings. The sample was small (n = 24) and came from a single school, which constrains both statistical power and generalizability. All participants fell within a narrow age band, so the findings do not necessarily apply to adult beginners. The six-week treatment window was enough to capture short-term gains, but it does not allow any conclusions about how long those gains persist. Larger, more varied samples, extended treatment periods, and delayed post-tests would all strengthen future work in this area.

Conclusions

This study set out to find out whether visual aids can meaningfully improve vocabulary learning for A1-level EFL students — and the results leave little room for ambiguity: they can, and the size of the effect is striking. Learners who received six weeks of visually enriched instruction gained close to three times as much vocabulary as peers working through conventional translation-based methods.

The theoretical grounding for these findings — rooted in dual coding theory and cognitive load theory — helps explain not just the fact that visual aids work, but the mechanism through which they work. By engaging multiple cognitive channels at once

and reducing the effort of abstract encoding, visual instruction gives A1 learners something that conventional approaches typically cannot: a direct, concrete, and inherently motivating route to lexical meaning.

For teachers working in early-level EFL classrooms, these findings carry a practical and straightforward message: using flashcards, animated video clips, and image-rich digital resources in vocabulary instruction is not an optional enrichment activity — it is an evidence-based strategy with measurable returns. Curriculum designers should seriously consider building visual materials into A1-level EFL programs as a default, and school administrators should invest in the technology infrastructure needed to support this approach.

Looking ahead, future research could usefully compare specific types of visual aids — static versus animated images, physical versus digital materials — to help teachers make more targeted choices within this broader framework. Studies examining vocabulary retention over longer time horizons, exploring affective dimensions such as motivation and anxiety, and reaching more diverse learner populations would further strengthen the evidence base. For now, the present study offers a clear and actionable finding: for students at the very start of their English learning journey, seeing something genuinely helps them learn it.

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