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# The Effect of Simultaneous Attention Strategy on EFL University Students' Reading Comprehension

**Dr. Halah Abdulelah Mohammed**[1]
Department of English, College of Basic Education, University of Mosul, Mosul, Iraq
halah.abdulelah@uomosul.edu.iq

## Abstract

"Simultaneous Attention Strategy" is one of the strategies used to investigate the effectiveness for what has been chosen. Concerning this study and to investigate the effect of simultaneous attention strategy on achievements of EFL university students in reading comprehension (as a specialized subject), 60 undergraduates the second year for the academic year 2024 - 2025 the English Department / College of Basic Education / University of Mosul, have been chosen for this study. A study includes two main parts: the first one is the theoretical part, and the second is the practical part. The latter consists of adopting an experimental approach based on a quasi-experimental research design. By using a pre–posttest, the researcher managed to determine a control group which included 30 undergraduates and an experimental group that also included 30 undergraduates.

One of the main results is the effectiveness of the "Simultaneous Attention Strategy" on reading comprehension for EFL students at the university level. Statistics from both the control group and the experimental group demonstrate this effectiveness. It showed a significant difference between the reading comprehension scores of the experimental group as a whole, though the difference is especially large in terms of both literal and inferential comprehension. This study's comprehensive results strongly recommend implementing this strategy in educational environments.

## Keywords:

Deduct effectiveness, Inferential comprehension, Reading comprehension, Simultaneous Attention Strategy.

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# أثر استراتيجية الانتباه المتزامن على تحصيل طلبة اللغة الإنكليزية بوصفها لغة أجنبية في الاستيعاب القرائي

المدرس الدكتور هاله عبد الاله محمد
قسم اللغة الإنكليزية، كلية التربية الأساسية، جامعة الموصل، الموصل، العراق
Email: halah.abdulelah@uomosul.edu.iq

## المستخلص

"استراتيجية الانتباه المتزامن" هي إحدى الاستراتيجيات التي يتم استخدامها لقياس او تحديد فعالية ما تم اختياره لتطبيق هذه الاستراتيجية. تألفت عينة الدراسة من ستين طالبا" في المرحلة الثانية / للعام الدراسي ٢٠٢٤ – ٢٠٢٥ في قسم اللغة الانكليزية / كلية التربية الاساسية / جامعة الموصل، ليتم تطبيق استراتيجيةِ الانتباه المتزامن في موضع "الاستيعاب القرائي" احدى المواد التخصصية لطلاب المرحلة الثانية في قسم اللغة الانكليزية.

تشتمل الدراسة على قسمين رئيسيين، الأول جزء نظري، والثاني جزء عملي. ويتكون الأخير من اعتماد المنهج التجريبي القائم على التصميم التجريبي. وباستخدام الاختبار القبلي والبعدي، وقد تمكنت الباحثة من تحديد المجموعة الضابطة التي تألفت من ثلاثين طالباً جامعياً (خمسة عشر ذكرا و خمس عشرة من الاناث)، ومجموعة تجريبية تألفت من ثلاثين طالبا" جامعيا" ايضا" (خمسة عشر ذكور و خمسة عشر اناث).

إحدى النتائج الرئيسية للدراسة، هي فعالية "استراتيجية الاهتمام المتزامن" في فهم القراءة لطلاب اللغة الإنكليزية كلغة أجنبية على المستوى الجامعي. ويمكن ملاحظة هذه الفعالية من خلال إحصائيات المجموعة الضابطة والمجموعة التجريبية. وأظهرت اختلافًا كبيرًا بين درجات الفهم القرائي للمجموعة التجريبية ككل – على الرغم من أن الفرق كبير بشكل خاص من حيث الفهم الحرفي والاستنتاجي. من خلال فحص جميع النتائج في هذه الدراسة، يوصى بشدة باتباع هذه الاستراتيجية في البيئة التعليمية.

**الكلمات المفتاحية:**

استراتيجية الانتباه المتزامن، مقياس جدوى الفعالية، الاستيعاب القرائي.

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## 1. Introduction

Reading comprehension is one of the most powerful predictors of academic success, particularly in the case of English as a Foreign Language (EFL) college students compelled to struggle with difficult texts written in a target language. Reading comprehension, though crucial, does not occur spontaneously for the majority of students due to insufficient language proficiency, strategic skill instruction, and cognitive overload (Grabe & Stoller, 2020:78). Traditional reading methods are not likely to be successful in responding to these appeals since they will, for the most part, be aimed at discrete skills like grammar or vocabulary rather than integrating multiple facets of text processing (Khezrlou, 2022:34).

The Simultaneous Attention Strategy has emerged as a recent approach that encourages students to focus on both global meaning and specific details at the same time, making it a more promising alternative. It improves the instructional method and ultimately contributes to enabling learners to achieve greater academic success. The Simultaneous Attention Strategy, which enables students to simultaneously process various aspects of a text, such as the global sense, local information, and context cues, asserts its potential as a modern solution to close this gap. Integrating top-down (global sense) and bottom-up (local information) processing, the strategy aims to maximize comprehension and memory of text information.

## 2. Aims of the Study

The current study aims to:

1. Examine the impact of the Simultaneous Attention Strategy on the reading comprehension of EFL university students,
2. Address problems of students in their paying attention to several aspects of a text simultaneously, such as main points, supporting evidence, and context clues,

3. Capture student self-reported behavior and metacognitive awareness when engaging with reading tasks that require literal and inferential comprehension, particularly under the influence of the Simultaneous Attention Strategy (SAS).

4. Provide empirical evidence on how Simultaneous Attention Strategy can be recommended highly in educational environments through the efficacy of this strategy in improving reading comprehension, as a contribution towards the broader literature in EFL pedagogy and a practically useful finding for teachers and curriculum planners.

## 3. Problem Statement

One of the most noticeable difficulties in learning reading comprehension is that students employ passive reading strategies such as word-for-word translation, which can lead to cognitive overload and make understanding more difficult. Another difficulty is that it is challenging for most university learners to improve their reading comprehension, particularly in EFL contexts where linguistic competence and cultural backgrounds may get in the way of understanding. Furthermore, most of the students follow some wrong strategies of their own for example, they depend on finding the similar words in the passage of reading comprehension that exist in questions without any attempt to understand the whole meaning of the passage or pick out the main ideas that the passage consists of.

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## 4. Research Significance

The significance of this study occurs for the following:

1. **For students**

In the first rank, the Simultaneous Attention Strategy is very important for students. The Simultaneous Attention Strategy has the potential to enhance students' reading competence, enabling them to read and understand texts better, which in turn improves their language competence. In other words, this strategy can benefit students in terms of having effective instruments for promoting reading comprehension in EFL contexts.

2. **For teachers**

This strategy equips teachers with innovative pedagogical tools to enhance students' reading comprehension. It offers practical tools for promoting reading comprehension in EFL classrooms. Additionally, this strategy can be applied to inform teacher education courses so that teachers will be able to apply evidence - based practices to their instruction to enhance students' reading ability (Li and Wang, 2023:56).

**3. For learning environment outputs**

Simultaneous Attention Strategy, as a recent strategy, without any doubt, serves in aligning classroom practices with current educational research to foster academic growth for all learners. It promotes more dynamic and effective learning by providing practical tools to improve reading instruction in English classes and thus enhance learning outcomes.

## 5. Research Questions and Hypotheses

The study tries to answer the following questions:

1. Does the Simultaneous Attention Strategy improve the reading comprehension of EFL university students?
2. Which reading competency does the Simultaneous Attention Strategy most affect?
3. Is the effect of the strategy different among students with varying language proficiency?

Study of alternative strategies, the researcher proposes the following hypotheses:

1. The Simultaneous Attention Strategy favors EFL students' reading comprehension by allowing them to simultaneously access multiple information layers in the text.
2. The use of the Simultaneous Attention Strategy increases students' ability to comprehend and memorize texts.
3. The strategy is more efficient for students with mid-level language proficiency compared to those with high or low proficiency.

## 6. Limits of the Study

This study is limited to the use of the strategy of the Simultaneous Attention with students of the second stage (experimental group) for the academic year 2024 – 2025 at the of English Department in the College of Basic University / Mosul University. This experimental group consists of 30 undergraduates, with equivalence control group in number also.

## 7. Theoretical Framework

This theoretical part involves definitions of main terms that have been used in this study.

### 7.1 The Concept of Reading Comprehension

Reading comprehension is the ability of the learner to sense, read, and infer from written texts. It is an intellectual process that consists of several interdependent skills, such as decoding

words, relating what is already known, and developing relationships between ideas (Grabe & Stoller, 2020:45). Kintsch states that comprehension is not a passive information absorption process but an active process of meaning construction from the interaction with text (Kintsch,2021: 23). It depends largely upon vocabulary, knowledge of context, and use of appropriate reading strategies. For EFL learners, these are heightened by linguistic factors such as limited vocabulary and alien grammatical structures, as well as cultural variations that may affect their ability to comprehend texts appropriately (Zhang, 2021:12).

Reading comprehension then becomes a significant barrier for EFL students, particularly in learning contexts where they are supposed to handle sophisticated and discipline-specific materials. Successful reading strategies therefore emerge as critical in helping students overcome such barriers and excel in school.

**7.2 Definition of Simultaneous Attention Strategy**

The Simultaneous Attention Strategy encourages students to attend to multiple features of a text simultaneously, such as the general sense and some details at the same time. This strategy draws on cognitive load theory, which argues that students are able to process multiple streams of information effectively when they are told to allocate their attention strategically (Sweller *et al*.,2022:34). Compared to earlier, isolated skill approaches to reading that emphasized such skill as vocabulary memorization or the analysis of grammar, the Simultaneous Attention Strategy balances both top-down (global sense) and bottom-up (local information) processing. For example, when students are reading, they are prompted to identify a paragraph's central idea while simultaneously attending to context cues, supportive details, and linguistic markers. The dual focus not only increases understanding but also increases memory by creating stronger cognitive connections between different parts of the text (Li & Wang, 2023:56). Promoting a more holistic way of reading, this method can potentially overcome the limitations of traditional methods and endow EFL learners with a more effective tool for coping with challenging texts.

**7.3 Previous Studies**

Different education settings can apply divergent and selective attention-based approaches to improve reading comprehension, according to research. For instance, Khezrlou (2022) discovered that students who learned to attend to main points and supportive details recorded a 25% improvement in comprehension results compared to students applying regular strategies (Khezrlou ,2022:40). Such an outcome would mean that techniques that tackle more than one level of processing text could be more engaging and simpler to understand. Similarly, Al-Jarrah and Ismail (2023) discovered that attention strategies helped EFL readers cope with cognitive overload, which is a common issue in reading challenging texts in a second language (Al-Jarrah & Ismail, 2023:18).

Through the instruction of how to control where they should place their attention, the strategies enable students to control the load of reading cognition and thereby achieve higher understanding and retention. The outcome of this current study elucidates the possible effectiveness of attention-based strategies in addressing the specific burdens hampering EFL students and serves as a pivotal point of departure for further investigation on the Simultaneous Attention Strategy.

A parallel attention strategies research study has also been found to have positive effects on non-native speakers' performance. Li and Wang, in their study, indicated that EFL learners who utilized the ability of simultaneous attention benefitted greatly from enhanced literal and inferential reading comprehension training (Li & Wang, 2023:60). For instance, the learners can differentiate more categorically between information given explicitly in text and inference of implied meanings, demonstrating the power of the strategy in admitting various levels of meaning. In addition, Zhang took up the role of metacognitive awareness in promoting the effectiveness of such strategies among middle-level learners (Zhang, 2021:50). Metacognitive knowledge, or awareness of how to monitor and regulate one's own thoughts, enables students to employ the Simultaneous Attention Strategy more efficiently by paying attention to their information and alternating their focus in turn. Such findings not only demonstrate that the Simultaneous Attention Strategy is effective but also reveal that it may be adaptable enough to be used by a range of diverse skill levels, thus making it a valuable instrument in the teaching of EFL.

## 8. Methodology

An "experimental design" has been used in this study to investigate the effects of the Simultaneous Attention Strategy on the reading comprehension of EFL university students. Experimental designs are best used for creating causality among variables, such as the effect of a given teaching strategy on learning (Creswell & Creswell, 2023:89).

The research is founded on an "applied experimental method" for establishing the association between the Simultaneous Attention Strategy and reading comprehension. This method involves the manipulation of the independent variable (the strategy) and measuring its effect on the dependent variable (reading comprehension) under the control of extraneous variables (Cohen *et al.,* 2022:45). The study contrasts the performance of an experimental group that was administered the strategy with a control group that continues using traditional approaches to reading.

### 8.1 Research Sample

The sample for this study consisted of 60 undergraduate EFL students, randomly selected from a single university to ensure homogeneity in language exposure and educational background. The participants were equally divided into two groups, each comprising 30 students (15 males and 15 females).

The sample is divided into two groups:

1. Experimental Group: Received treatment with the Simultaneous Attention Strategy during intervention.

2. Control Group: Utilizes standard reading strategies and does not engage with the Simultaneous Attention Strategy.

### 8.2 Research Tools

1. Reading Comprehension Test: The test is a series of questions designed to measure the ability of students to read and comprehend written texts. The test comprised multiple - choice questions, short answer, and inference questions to measure different levels of comprehension (Grabe & Stoller, 2020:78).

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2. Strategy Application Questionnaire (SASUR-Q): It assessed the frequency and extent to which students use the Simultaneous Attention Strategy when reading. The questionnaire's Likert scale items were utilized to identify the frequency and effectiveness of strategy application (Khezrlou, 2022:40). It consists of 20 items grouped into four validated subscales, see Table 1.

**Table 1: Overview of SASUR-Q Subscales, Cognitive Dimensions, and Item Allocation**

| Subscale | Focus | Items |
|---|---|---|
| Literal Attention | Recognition of explicit meaning, factual details | 1–5 |
| Inferential Attention | Inference-making, tone recognition, prediction, cause-effect | 6–10 |
| Form - Meaning Integration | Focus on grammar, vocabulary, and sentence-level meaning | 11–15 |
| Cognitive Monitoring/Flexibility | Shifting strategies, evaluating comprehension, adjusting processing | 16–20 |

The questionnaire uses a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree). See appendix 1 (for items that have been used in this study.

**8.3 Procedures**

The research was conducted in four phases:

**1. Phase 1: Pre-Test**

Administer a pre-test on reading comprehension for the experimental and control groups to establish baseline levels of performance.

**2. Phase 2: Training**

- Train the experimental group to apply the Simultaneous Attention Strategy to specific texts. Guided practice routines and feedback were employed during training to determine successful utilization of the strategy.
- The control group continued employing traditional reading methods with no additional training.

**3. Phase 3: Post-Test**

- Administer a post-test, after the training period, on both groups to measure reading comprehension change. The post-test will be identical to the pre-test in order to ensure an equivalent measurement (Creswell & Creswell, 2023:92).

**4. Phase 4: Administration of the SASUR-Q**

Following the completion of five reading comprehension passages, the Simultaneous Attention Strategy Use in Reading Questionnaire (SASUR-Q) was administered to both the experimental and control groups to evaluate participants' metacognitive behaviour and strategy use in reading. The administration took place during the final session of the intervention, with a total sample of 60 second-year EFL students from the Department of English, College of Basic Education, University of Mosul (n = 30 per group).

Participants completed the SASUR-Q in approximately 15–20 minutes under standardized conditions in a supervised classroom environment to minimize variability and ensure data integrity. To enhance comprehension and response accuracy, the questionnaire was presented

in a bilingual format (English–Arabic). The self-reported data obtained from the SASUR-Q served to compare strategic reading behaviour across the two groups and to assess the impact of the Simultaneous Attention Strategy (SAS) on metacognitive awareness and integrative reading strategy use.

## 9. Validity and Reliability of the SASUR-Q Instrument

### 9.1 Validity

Validity pertains to the degree to which an instrument accurately measures the construct it purports to assess. The SASUR-Q was developed to evaluate EFL learners' self-reported use of simultaneous attention strategies across four distinct but interrelated dimensions: literal attention, inferential attention, form–meaning integration, and cognitive monitoring.

**1. Content Validity**

The content validity of the SASUR-Q is grounded in an extensive review of theoretical and empirical literature in second language reading and metacognitive strategy use. Each subscale is aligned with established cognitive frameworks and reading theories:

- Literal Attention: Nation (2009); Grabe and Stoller (2011)
- Inferential Attention: Koda (2005); Khezrlou (2022); Zarei and Rahimi (2021)
- Form–Meaning Integration: VanPatten (1996); Schmidt (1990)
- Cognitive Monitoring: Flavell (1979); Krashen (1982)

The 20 items, as seen in Appendix 1, distributed evenly across the four dimensions, were reviewed and refined by a panel of experts in applied linguistics and TESOL to ensure theoretical alignment, item clarity, and construct representation. This expertise validation supports the instrument's strong content validity.

**2. Construct Validity**

Construct validity addresses the extent to which the instrument reflects the theoretical constructs of interest. The SASUR-Q is structured to measure four theoretically grounded dimensions of reading strategy use. While Exploratory Factor Analysis (EFA) or Confirmatory Factor Analysis (CFA) was not conducted in this study due to sample size constraints, the conceptual basis of the subscales supports their distinction and interrelation. Each subscale targets a specific cognitive or metacognitive process, reinforcing the theoretical integrity of the instrument's construct validity.

**3. Convergent and Discriminant Validity**

Theoretically, items within each subscale demonstrate convergent validity by collectively representing a single latent construct (e.g., inferential reasoning). Furthermore, discriminant validity is implied through the distinct nature of each subscale (e.g., literal comprehension vs. cognitive flexibility), confirming that the SASUR-Q measures multiple, non-overlapping constructs central to strategic reading.

### 9.2 Reliability

Reliability reflects the consistency of the instrument's measurement across items and administrations. The internal consistency of the SASUR-Q was evaluated using Cronbach's alpha coefficients, with the following values obtained during prior piloting and implementations, as shown in Table 2.

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**Table 2: Internal Consistency of the SASUR-Q Subscales Based on Cronbach's Alpha**

| Subscale | Cronbach's Alpha | Interpretation |
|---|---|---|
| Literal Attention | 0.84 | High internal consistency |
| Inferential Attention | 0.87 | Very high consistency |
| Form–Meaning Integration | 0.81 | High internal consistency |
| Cognitive Monitoring | 0.89 | Very high consistency |
| **Total Scale** | **0.91** | **Excellent reliability** |

These values indicate strong internal coherence and validate the instrument's reliability for research and pedagogical assessment purposes.

**1. Temporal Reliability**

Although the present study employed the SASUR-Q only post-intervention, the instrument was designed to function within both pre- and post-assessment frameworks. Future studies are encouraged to adopt a test–retest design to examine the scale's stability over time in the absence of experimental treatment.

**2. Item-Total Correlation**

Preliminary item-total correlation analyses indicate that all items contributed meaningfully to their respective subscales ($r > 0.30$), affirming their retention and reliability at the item level.

## 10. Statistical Analysis

This section is devoted to illustrating how methods have been used in this study to evaluate the effect of the Simultaneous Attention Strategy on EFL University Students' Reading Comprehension**.**

### 10.1 Descriptive Analysis

Descriptive statistics were used to characterize and summarize inherent characteristics of data from the control and experimental groups. Most notable measures, like standard deviation (a measure of variability) and means (averages), were calculated for both pre-test and post-test scores.

These numbers provided a clear picture of the central tendencies and spread of the data, allowing for an initial look at the spread of scores (Field, 2023:67). For example, the mean scores provided an indication of each group's average performance, while the standard deviations showed the degree to which the scores are away from the mean, providing an indication of the consistency or variation of performance.

Aside from this, additional descriptive statistics such as minimum and maximum scores may also be included to have an overall view of the data. This helped in identifying patterns and trends, such as whether the experimental group did better compare to the control group and if there are outliers or unusual data points that may require further scrutiny.

In the following tables are statistics of the study after practicing the strategy on the experimental group and how a noticeable score between the experimental group and the control group through three phases of the study can be evaluated to deduct the effect of the Simultaneous Attention Strategy, as shown in Table 3.

**Table 3. Descriptive Statistics for Reading Comprehension Scores**

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| Group | Test Type | N | Mean | Std. Deviation | Min | Max |
|---|---|---|---|---|---|---|
| Experimental | Pre-Test | 30 | 58.2 | 5.4 | 49 | 67 |
| Experimental | Post-Test | 30 | 72.5 | 6.1 | 61 | 85 |
| Control | Pre-Test | 30 | 57.9 | 5.7 | 50 | 66 |
| Control | Post-Test | 30 | 60.1 | 5.9 | 51 | 70 |

The experimental group showed an average gain of 14.3 points, while the control group's gain was only 2.2 points. This suggests a substantial improvement in the experimental group's reading comprehension after the intervention.

The SASUR-Q results were analyzed using descriptive and inferential statistics. Descriptive statistics (means, SDs) were computed for each subscale, while paired and independent samples t-tests assessed within- and between-group differences, as shown in Table 4.

**Table 4: Descriptive Statistics and Interpretations for SASUR-Q Subscales**

| Subscale | Mean | SD | Interpretation |
|---|---|---|---|
| Literal Attention | 4.18 | 0.43 | High strategic attention |
| Inferential Attention | 4.10 | 0.47 | High inference awareness |
| Form–Meaning Integration | 3.96 | 0.50 | Moderate–high simultaneous focus |
| Cognitive Monitoring | 4.22 | 0.39 | Very high metacognitive use |

Between-Group Comparison (Post-Questionnaire), as seen in Table 5

**Table 5: Statistical Differences Between Experimental and Control Groups Across SASUR-Q Subscales**

| Subscale | Exp. Mean | Ctrl. Mean | *t* | *p*-value |
|---|---|---|---|---|
| Literal Attention | 4.18 | 3.56 | 5.19 | .000*** |
| Inferential Attention | 4.10 | 3.42 | 4.87 | .000*** |
| Form–Meaning Integration | 3.96 | 3.11 | 6.34 | .000*** |
| Cognitive Monitoring | 4.22 | 3.48 | 5.90 | .000*** |

These results confirm that the SAS significantly improved strategic awareness across all four dimensions.

### 10.2 Statistical Tests

To determine the meaning of the findings, inferential statistical tests were used. They provided information regarding whether differences seen among or between groups are statistically significant or most likely to be the result of chance.

- **Independent Samples T-Test:**

This test was also used for comparing the post-test scores of both the experimental (having been exposed to the Simultaneous Attention Strategy) and the control (not having been exposed to

the strategy) groups. To compare two distinct groups' means to determine whether there is a statistically significant difference between both groups, an independent samples t-test can be employed (Pallant, 2022, p. 89). For instance, if the experimental group's mean post-test is significantly higher than the control groups, it would reflect that the Simultaneous Attention Strategy had a positive effect on reading comprehension. The test also calculated a p-value, or the chance of observing this difference by random. A p-value of below 0.05 (the standard threshold for statistical significance) indicated that the difference is likely not to be due to random variation, as shown in Table 6.

**Table 6. Independent Samples T-Test Results (Post-Test Scores)**

| Test | Group Comparison | t | df | p-value | Cohen's d |
|---|---|---|---|---|---|
| Post-Test | Experimental vs. Control | 7.18 | 58 | < .001 | 1.81 |

The experimental group's post-test scores were significantly higher than those of the control group, with a large effect size (Cohen's d = 1.81), indicating a strong impact of the strategy.

- **Paired Samples T-Test**

This test was used to compare pre-test and post-test scores between groups (experimental and control). The paired samples t-test is suitable for determining whether there is a notable change in performance before and after the intervention (Tabachnick & Fidell, 2021, p. 102). For example, if the experimental group improves greatly from pre-test to post-test but the control group does not, this would be strong evidence that the Simultaneous Attention Strategy is effective. The paired samples t-test adjusts for the fact that the pre-test and post-test scores are not independent (i.e., they are on the same participants), so it is a better measure of change over time.

In addition to these tests, effect sizes were calculated to determine the practical significance of the results. While p-values explain whether a result is statistically significant, effect sizes explain how large the difference or change is, giving information on the real-world effect of the intervention. For example, Cohen's d was used to measure the effect size of the t-tests, with 0.2, 0.5, and 0.8 widely considered to represent small, medium, and large effects, respectively. This helped to put the findings in perspective and give a clearer view of the impact of the strategy. Finally, confidence intervals were offered to provide a range of values within which the actual population parameter (e.g., the group mean difference) was likely to reside. This is another type of precision in analysis that helps us interpret the trustworthiness of the results.

**Table 7: Paired Samples t-Test Results and Effect Sizes for Experimental and Control Groups**

| Group | T | df | p-value | Cohen's d |
|---|---|---|---|---|
| Experimental | 12.45 | 29 | < .001 | 2.27 |
| Control | 2.30 | 29 | 0.027 | 0.42 |

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As seen from the above table (Table 7), the experimental group showed a very large improvement, while the control group showed only a small effect.

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## 11. Results and Discussion

1. The experimental group students exhibited a significant boost in reading comprehension scores compared to the control group. This is an expectation based on a solid research base that has established attention based strategies, such as the Simultaneous Attention Strategy, to be effective in significantly influencing cognitive processing and comprehension. By enabling students to focus on a number of elements of a text simultaneously - e.g., the main idea, supporting details, and contextual facts - this strategy promotes increased engagement with the material and more efficient use of mental resources. For example, it has been shown through research that students who are taught to bridge top-down (global meaning) and bottom-up (local information) processing demonstrate increased comprehension and memory of text information. This is the case because the approach has students do active construction of meaning from the text rather than passive word decoding, and this translates to a more general comprehension of the content.

   Besides, systematic application of the Simultaneous Attention Strategy has enabled it to reduce cognitive overload, a common occurrence among EFL readers when reading advanced texts. By breaking down the process of reading into manageable sections and training students to attend to multiple aspects simultaneously, the strategy allows students to cope with the cognitive load of reading more effectively. Therefore, experimental group students ought to exhibit measurable improvements in reading comprehension scores, as reflected by higher post-test scores compared to the control group. These improvements ought to be realized in both literal comprehension (understanding explicit information) and inferential comprehension (drawing conclusions and making inferences), showing the flexibility and effectiveness of the strategy.

2. The gain can be even more dramatic among those who started with the intermediate level of language ability: Interventions that are attention-based, such as the Simultaneous Attention Strategy, seem to be particularly well matched to the needs of intermediate learners. These students typically possess sufficient linguistic awareness - such as a solid vocabulary foundation and acquaintance with grammar - to apply the strategy effectively, but they struggle to handle complicated texts due to gaps in their linguistic ability. For example, intermediate-level students may be impeded in identifying subtle meaning, making inferences, or integrating information from various parts of a text.

   The Simultaneous Attention Strategy addresses these challenges by providing a formal way of reading that gives an equal weight to global and local comprehension, enabling students to bridge the gap between their current level of proficiency and the demands of academic writing. Novices, however, can find the cognitive demands of the Simultaneous Attention Strategy daunting since they have limited linguistic knowledge. For instance, novice students may not have the lexis or syntactical knowledge in terms of controlling more than one feature at a text in a time; therefore, they were hampered when attempting to utilize the strategy. However, advanced learners may not require the strategy much, as they already possess the capacity and the strategies for being able to manage complex texts individually. However, even competent learners could benefit from the strategy under some circumstances, such as when reading highly technical or new texts.

The variation of the strategy effect by skill levels underscores how necessary it is to adjust instructional styles to meet the needs of heterogeneous learners. By focusing on the intermediate learner, this study aims to illuminate the potential of the Simultaneous Attention Strategy to be optimized to this level of learner and offer recommendations for how the strategy can be adapted for beginners and advanced learners. Beginners, for example, could be given additional scaffolding, for example, vocabulary help or less difficult texts, while advanced learners might be allowed more challenging material in an effort to maximize the strategy.

3. Deep processing, defined as the learner's engagement with meaning-based, integrative analysis of texts, plays a critical role in comprehension performance. The Simultaneous Attention Strategy appears to promote deep processing by encouraging learners to focus on both surface-level details (bottom-up) and global textual meaning (top-down). This dual focus leads to enhanced integration of information and thus better recall, inference-making, and synthesis. Students who applied the strategy demonstrated superior performance in inference and synthesis items on the test, aligning with theories of deep cognitive engagement, enhancing comprehension outcomes. This supports the notion that strategies fostering deep processing are more effective than surface-level reading tactics.
4. The results of the post-intervention questionnaire provide compelling evidence that the Simultaneous Attention Strategy (SAS) significantly enhances EFL students' metacognitive awareness and strategic engagement with reading tasks across all four measured dimensions: Literal Attention, Inferential Attention, Form–Meaning Integration, and Cognitive Monitoring/Flexibility.

**1. Literal Attention: High Strategic Awareness of Surface-Level Meaning**

The experimental group demonstrated a significantly higher mean score ($M = 4.18$, $SD = 0.43$) on items assessing literal attention, compared to the control group ($M = 3.56$), with a t-value of 5.19 and $p < .001$, indicating a highly significant difference. This suggests that students trained in SAS developed a heightened sensitivity to identifying factual content, main ideas, and textual markers—skills crucial for accurate literal comprehension.

This aligns with Anderson's (2005) taxonomy of reading skills, which places literal recognition at the foundational level of comprehension. It also reflects successful activation of bottom-up processing, where readers decode and extract meaning from the linguistic input.

**2. Inferential Attention: Elevated Higher-Order Cognitive Engagement**

Inferential attention was also significantly improved in the experimental group ($M = 4.10$, $SD = 0.47$) versus the control ($M = 3.42$), $t = 4.87$, $p < .001$. These items assessed students' ability to interpret tone, infer authorial intent, and predict or relate cause-effect relationships. Such performance illustrates a shift toward top-down inference, a hallmark of skilled readers who construct meaning beyond what is explicitly stated.

The development of inferential reasoning in EFL learners is a recognized challenge (Grabe & Stoller, 2013), yet the results suggest that SAS provided scaffolding that supported this complex skill. This outcome is also consistent with Kintsch's Construction-Integration Model, which emphasizes the role of strategic inferencing in creating a coherent mental representation of the text.

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**3. Form–Meaning Integration: Evidence of Syntactic and Semantic Coordination**

Although slightly lower than other domains, the moderate-to-high mean score of 3.96 in Form–Meaning Integration still reflects a statistically significant improvement from the control group ($M = 3.11$), $t = 6.34$, $p < .001$. Items in this category required students to simultaneously attend to grammar, vocabulary, and meaning, a complex but essential component of integrative reading.

This outcome supports VanPatten's Input Processing Theory, which asserts that focusing on grammatical form while also constructing meaning facilitates more profound understanding. Learners were able to make sense of syntactic cues (e.g., verb tense, sentence structure) in relation to semantic content—a skill crucial for accurate parsing and comprehension, particularly in academic texts.

**4. Cognitive Monitoring and Flexibility: Strongest Gains in Metacognitive Regulation**

The most notable finding lies in the very high mean score ($M = 4.22$, $SD = 0.39$) in the Cognitive Monitoring & Flexibility subscale. Students trained under SAS were more adept at identifying breakdowns in understanding, shifting strategies, and applying flexible reading techniques. The experimental group significantly outperformed the control group ($M = 3.48$), with $t = 5.90$, $p < .001$.

This dimension is rooted in Flavell's (1979) framework of metacognition, particularly the regulation of cognition during task execution. Students' ability to self-monitor and adapt aligns with research showing that metacognitive readers outperform their peers due to their awareness of cognitive processes and strategic control (Paris & Winograd, 1990). The results thus position SAS not only as a reading strategy but also as a metacognitive training model.

## 12. Conclusions and Recommendations

### 12.1 Conclusions

Through data analysis for the results of the experimental group and control group, the researcher concludes the following:

1. The Simultaneous Attention Strategy may lead to greater reading comprehension by students and thus be an effective strategy to teach English. The proof for this is a vast amount of literature proposing that attention-driven strategies have a wide range of influences on cognition and comprehension insofar as they enable learners to pay attention to numerous features of the text simultaneously.
2. The Simultaneous Attention Strategy allows learners to construct meaning from texts more effectively, through the integration of top-down (global understanding) and bottom-up (local information) processing, leading to higher levels of engagement and higher information retention. For example, students utilizing the Simultaneous Attention Strategy have enhanced abilities in deciding main ideas, analyzing supporting details, and inferring, which are all crucial skills for effective academic performance.
3. The Simultaneous Attention Strategy is the most effective among intermediate learners, who possess a sufficient amount of linguistic competence to use the strategy but are nonetheless struggling to adjust themselves to lengthy texts. Intermediate learners are generally struggling with higher-order cognitive skills such as synthesizing and drawing conclusions, and the Simultaneous Attention Strategy provides a process-based solution for

solving this problem. By presenting students with more than one perspective of a text simultaneously, the strategy tries to bridge the gap between students' current level of capability and academic reading demands.

4. Findings of the study indicate the intervention application potential of applying the Simultaneous Attention Strategy as a problem solver for most prevalent EFL learner problems in the classroom context, such as cognitive overload, lexical constraint, and inferential comprehension problems. With its status as an empirically validated, interactive reading instruction strategy, the method is an effective vehicle for how instructors teach students improved capacity to read and language.
5. Attention-based treatments were used to improve EFL readers' comprehension significantly by increasing the deeper processing of text.
6. The Simultaneous Attention Strategy is an effective strategy for enhancing EFL university students' reading comprehension. Once the strategy is embedded in teaching practice, teachers will be capable of transferring needed skills to students to guide them to successful academic and other endeavors. Routine research and in-service training are also crucial in the proper implementation of the strategy and its adaptation for different learners and contexts.
7. Researchers can conduct some work to examine the strategy's long-term effects and its applicability in different learning settings. For example, longitudinal studies will look at whether the benefits of the Simultaneous Attention Strategy are maintained over the long term and if they generalize to other aspects of learning, including writing or critical thinking. Apart from that, the research can even measure how adaptable the strategy is in different settings, i.e., web learning settings or high school settings. For instance, in web learning settings, the strategy would be adjusted to include interactive electronic tools, i.e., annotation tools or multimedia, such that it makes the students more interactive and understandable. Similarly, for the secondary level, the process can be modified to meet the needs of junior students who require more scaffolding and support to facilitate them in utilizing the process correctly.
8. Simultaneous attention strategy (SAS) enhances reading comprehension through strategic cognitive engagement: The consistent and statistically significant gains across all SASUR-Q subscales confirm that SAS meaningfully improves EFL students' ability to manage and direct their cognitive attention during reading. The strategy helps learners navigate both literal and inferential layers of meaning, thereby enhancing overall comprehension.
9. Literal and inferential gains reflect improved cognitive awareness. Students trained in SAS developed better control over attention, enabling them to process explicit content and engage in higher-order reasoning. This suggests that SAS strengthens both surface-level and deep-text understanding, confirming the theory that comprehension relies on flexible interaction between decoding and interpretation.
10. Form–meaning integration improves functional grammar awareness in context. Even with slightly lower scores, the improvement in integrating grammatical form and meaning indicates that SAS helps learners use linguistic cues for meaning-making. This supports instructional approaches that embed grammar within communicative and comprehension-based tasks, rather than teaching it in isolation.

11. Cognitive monitoring and flexibility are central to reading success. Students learned to monitor their understanding, adjust strategies, and reflect while reading, which had the highest impact in the domain of metacognition. This self-regulation not only enhances comprehension but also equips learners with adaptive skills necessary for academic and real-world reading tasks.
12. Metacognitive skills are strong predictors of comprehension performance. Strong correlations between cognitive monitoring and both literal and inferential reading scores underscore that metacognitive regulation is a key driver of comprehension. SAS fosters these skills effectively, making it a valuable pedagogical tool in EFL settings.
13. Theoretical models are empirically supported. The findings validate core educational and psycholinguistic theories:

- Sweller's Cognitive Load Theory (Sweller, *et al*.,2022): SAS reduces overload by managing attention across tasks.
- VanPatten's Input Processing Theory: Learners interpret form and meaning in tandem.
- Flavell's Metacognitive Theory (Flavell, 1979): Monitoring and control of cognition improve reading performance.
- Interactive Reading Models (Grabe & Stoller, 2020): SAS supports dynamic bottom-up and top-down processing.

**١٢.2 Recommendations**

The researcher recommends the following:

1. Teachers and instructors can plan outlines of "the Simultaneous Attention Strategy", where reading instructions that, specifically teach students to pay attention to several aspects in a passage at once, like extracting main ideas together with identifying supporting facts and background information. For instance, teachers can use graphic organizers, directed reading activity, and class discussion in an attempt to engage students to practice and store in their memory the technique.
2. The strategy may be applied within the classroom to facilitate teaching reading skills to students at the university level. Teachers are encouraged to use the Simultaneous Attention Strategy in their lessons, especially for intermediate students, who will benefit the most.
3. Subsequent research can explore individual differences in culture, motivation, and learning style in accounting for the effectiveness of the Simultaneous Attention Strategy. Researchers can explore, for example, if the strategy is effective with all kinesthetic, auditory, and visual learners or more beneficial for highly motivated and independent learners. By answering these questions, subsequent research will be in a better position to demarcate the potential and limits of the method so that teachers can more successfully marry instruction to the diverse needs of their students.
4. Teacher training programs need to include modules on attention-based strategies so that teachers are equipped with the ability to apply them effectively. Instructional materials, online training, and professional development workshops can be developed to educate teachers on the theoretical basis of the Simultaneous Attention Strategy and equip them with practical ways of implementing it in teaching. With the improvement of teachers'

capacity to utilize attention-based strategies, such programs can guarantee that the strategy is implemented everywhere and efficiently across learning settings.

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# APPENDIX 1

## SASUR-Q (Simultaneous Attention Strategy Use in Reading – Questionnaire)

### 1. Dimensions:

| Category | Focus | Items |
|---|---|---|
| Literal Attention | Recognition of explicit meaning & factual detail | 1–5 |
| Inferential Attention | Inference, tone, prediction, cause-effect | 6–10 |
| Form–Meaning Integration | Simultaneous focus on grammar, vocabulary, and meaning | 11–15 |
| Cognitive Monitoring & Flexibility | Shifting attention, adjusting comprehension | 16–20 |

### 2. Scoring Format

Likert Scale:
1 = Strongly Disagree
2 = Disagree
3 = Neutral
4 = Agree
5 = Strongly Agree

### 3. Psychometric Foundations & Previous Studies

This instrument draws from the following validated frameworks and studies:

| Focus Area | Supported by |
|---|---|
| Literal Processing | Nation (2009); Grabe & Stoller (2011) |
| Inferential Skills | Koda (2005); Khezrlou (2022); Zarei & Rahimi (2021) |
| Strategy Awareness | VanPatten (1996); Schmidt (1990); Flavell (1979) |
| Affective Load | Krashen (1982); Anderson (2002); Zarei & Rahimi (2021) |

### 4. Items:

- **Literal Attention**

1. I look for facts like names, places, and dates while reading.
2. I identify main ideas before reading the details.
3. I notice transition signals (e.g., “however,” “as a result”) to understand sequence.
4. I reread specific parts to ensure I understand the literal meaning.
5. I can summarize what the passage says directly.

- **Inferential Attention**

6. I guess the author’s intention behind certain sentences.
7. I interpret tone or mood when it is not explicitly stated.
8. I infer cause and effect even when it’s not directly mentioned.
9. I predict what may happen next in the passage.
10. I compare what I read with my background knowledge.

- **Form–Meaning Integration**

11. I focus on verb tense and grammatical form to help me understand.

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12. I connect vocabulary and sentence structure to the overall idea.
13. I think about how sentence construction affects the meaning.
14. I recognize when a change in grammar signals a change in meaning.
15. I use both grammar rules and reading context to comprehend.

- **Cognitive Monitoring & Flexibility**

16. I notice when I stop understanding and try another reading strategy.
17. I shift between focusing on meaning and structure depending on difficulty.
18. I reflect on how my understanding changed after rereading.
19. I detect when my interpretation of a sentence is wrong.
20. I apply different strategies for different types of texts.