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The Impact of Reading Strategy Training and Extensive Reading on L2 Reading Process

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Readers can improve their comprehension, self-efficacy beliefs, and perceptions by choosing and applying specific strategies. Through explicit training in reading strategies, this study aims to explore the impact of an extensive reading (ER)- integrated reading course on reading comprehension, reading self-efficacy (RSE), perceived utility of reading strategies (PURS), and perceived utility of extensive reading (PUER). Seventy-six university students participated in a semester-long course integrating a reading strategy model with ER activities. The students' reading comprehension, RSE, PURS, and PUER scores, and perceptions of reading strategy use were measured before and after the intervention. Significant improvements were observed across all measures between the pre- and post-test applications. Qualitative analyses of open-ended questions yielded important results regarding the students' awareness of the reading strategies taught and ER exercises implemented. Specifically, students' elaborations on what strategies they utilized and how, when, and why they employed these strategies were found to be improved following the training sessions. The findings suggest that integrating explicit strategy instruction with ER practices can enhance both comprehension and metacognitive awareness, while also encouraging autonomous reading behaviors. Pedagogical implications include designing university-level reading courses that combine systematic strategy training with ER to foster active engagement, strengthen vocabulary development, and support lifelong reading practices.

Introduction

Acquiring proficiency in a second language (L2) necessitates individuals to overcome multiple obstacles compared to reading in their first language (L1), given the intricacies involved in L2 reading and the complex cognitive processes it entails (Afflerbach et al., 2020). Reading is a critical skill in language learning, and the development of reading competence in L2 is a complex and varied process requiring the skilful usage of language knowledge, cognitive skills, and strategies (Koda, 2012). Cognitive reading strategies involve

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the direct manipulation of the text to enhance comprehension, such as summarizing, making inferences, guessing word meaning from context, and rereading text parts to resolve confusion (Grabe & Stoller, 2011). Given their crucial role in the comprehension process, it is imperative to provide support for L2 learners to become proficient readers by offering training in various reading strategies (Salataci & Akyel, 2002; Zhang, 2008), promoting extensive reading (Bamford & Day, 2004; Seymour & Walsh, 2006), and enhancing their reading self-efficacy (Tavakoli & Koosha, 2016).

Responding to the increasing demand for reading academic texts widely, there is a necessity to broaden the implementation of formal training in reading lessons at the tertiary level (Holligan, 2018). To this end, reading strategies have been incorporated into the reading courses as a way to enhance reading efficacy through reading strategy instruction (Akkakoson, 2013). L2 learners with a high sense of reading efficacy are more likely to pursue reading activities and persist in their reading efforts (Schöber et al., 2018; Schunk & Zimmerman, 2004). Reading self-efficacy (RSE) has also been found to be a stronger predictor of reading achievement than general reading motivation (Yang et al., 2018). Various studies have documented the positive effects of reading strategy training on improving students' reading skills and comprehension (Mokhtari et al., 2008; Oranpattanachai, 2023; Zhang, 2008). Additionally, research has shown that extensive reading (ER) enhances reading comprehension, while RSE contributes significantly to reading motivation (Anggia & Habok, 2025). Although prior research has explored reading strategy use in relation to comprehension (Akkakoson, 2013), the role of RSE in sustaining reading engagement (Schöber et al., 2018), and the benefits of extensive reading on language development (Day & Bamford, 1998), few studies have examined how these components interact over an extended period within a unified instructional framework—an area this study aims to address.

Strategy Training in L2 Reading

Reading strategies are essential tools that readers employ consciously or sometimes semi-consciously to oversee, repair, and achieve comprehension during reading (Afflerbach & Cho, 2009). Explicit teaching of reading strategies can assist the development of reading ability in L2 and boost effective engagement with reading (Mokhtari et al., 2008). Despite the crucial role reading strategies play in understanding texts, strategies used while reading in L1 are not automatically available for reading in L2 (Baddeley et al., 2009). While courses often require students to read and comprehend large amounts of information, not all L2 students are proficient in employing effective comprehension strategies. Still, in reading classes, the application of reading strategies is taken for granted, and training or modelling of the strategy use is generally overlooked (Macalister, 2011).

Reading strategy training focuses on teaching L2 learners specific strategies for approaching and comprehending a reading text (Oxford, 1990). According to Anderson (1991), reading strategy training aims to enhance L2 readers' metacognitive awareness, enabling them to effectively utilize their linguistic resources and cognitive skills during reading. Across studies, incorporating strategy training into reading courses has been found useful in promoting the development of reading ability (Chinpakdee & Gu, 2021; Mokhtari et al., 2008). Similarly, studies conducted with university students have shown that instruction in strategies such as identifying main ideas, summarizing, guessing, monitoring, and evaluating can enhance students' reading comprehension ability (Ajideh et al., 2018) as well as improve their use of reading strategies (Aghaie & Zhang, 2012). In Salataci and Akyel's (2002) study, a four-week reading strategy instruction on cognitive and metacognitive strategies was found

to improve reading comprehension and reading strategy use in L2 of eight Turkish university students. However, the study's short duration made it unclear if the results were due to novelty effects or heightened motivation, which might not persist. Zhang (2008) also investigated Chinese EFL students in Singapore using reciprocal teaching for two months and showed that reading strategy instruction- both cognitive (e.g., previewing a text, scanning for highlighted words or expressions) and metacognitive (e.g., checking correctness of comprehension, checking the effectiveness in strategy use)- improved reading strategy use and comprehension. Likewise, Karbalaei (2011) found that explicit reading strategy instruction over a two-month period, using the Cognitive Academic Language Learning Approach (CALLA) model, enhanced reading scores and strategy use among Iranian EFL students. In Thailand, Chumworatayee (2017) conducted a 14-week study in which students were trained in various reading strategies— including previewing and predicting, identifying main ideas and topics, using context to guess meaning, identifying supporting details, recognizing patterns of organization, making inferences, distinguishing facts from opinions, and identifying purpose and tone. The findings revealed that the training improved English reading test scores, and high proficiency students used reading strategies more effectively.

Although most of these studies report positive effects of short-term strategy instruction, others have found no significant impact of reading strategy implementation on reading comprehension (Edmonds et al., 2009; McKeown et al., 2009) or observed that while metacognitive strategies did not enhance overall reading scores, they were correlated with increased reading motivation (Meniado, 2016). Likewise, Divya John and Sandhiya Devi (2023) found that engineering students reacted differently to instruction on reading strategies. While some students found strategy instruction useful, others reported minimal effects on their reading skills. Given the relatively short duration of most studies (with interventions typically lasting two to four weeks, except for a few) and the inconclusive results regarding the effects of reading strategies, it is necessary to continue investigating the impact of formal reading strategy training.

Self-efficacy in Reading

Another significant factor underpinning reading ability is reading self-efficacy (RSE). Bandura (1997) defines self-efficacy as an individual's confidence in their ability to plan and carry out actions necessary to achieve a particular goal. RSE is commonly defined as how learners perceive their own abilities to perform diverse reading tasks (Bandura, 1996, as cited in Yang & Gan, 2024). Various studies consistently demonstrate that students with high self-efficacy beliefs are more likely to use effective strategies, persist, and attain higher levels of performance (Li & Wang, 2010; Linnenbrink & Pintrich, 2002; Magogwe & Oliver, 2007; Solheim, 2011; Tobing, 2013). Additionally, novice learners who engage in self-regulation show the potential for sustained participation in ER in the long run (Briggs & Walter, 2013).

A growing body of research has examined the relation between reading self-efficacy and reading comprehension ability in L2 reading contexts (see Yang & Gan, 2024, for a review). In the Indonesian context, Fitri et al. (2015) explored reading comprehension and RSE levels of students and found a positive correlation between the two constructs. In an attempt to enhance reading comprehension in students with learning disabilities, Antoniou and Souvignier (2007) designed a reading-strategy program, which consisted of both reading and self-regulation strategies. The results showed an immediate, yet not long-lasting, effect of reading strategy instruction on the development of reading abilities and RSE. With a relatively extended timeframe (a 16-week period), Li et al. (2022) investigated the impact of reading strategy training which is based on the CALLA model (Chamot, 2005) on Chinese

university learners' reading comprehension in L2, strategy use, reading motivation, and RSE. The training was delivered over eight sessions and focused on cognitive and metacognitive strategies such as making inferences, advance organization, organizational planning, selective attention, deduction, summarizing, and self-management. The results indicated significant gains in reading comprehension; however, no significant changes were found in students' use of reading strategies, reading motivation, or RSE by the end of the instruction.

The majority of studies indicate a positive correlation between mastery in using reading strategies and perceived self-efficacy in reading (Oranpattanachai, 2023; Shehzad et al., 2020). Mohammed (2022), for instance, upon examining the relationship between reading strategies, self-efficacy, and comprehension ability of Saudi university students found a positive and statistically significant correlation between RSE and reading ability. Likewise, Okyar (2021) investigated the relationship between reading skills and RSE of Turkish university students and found a positive relationship between students' reading strategy use and self-efficacy. In a direct investigation of the effects of a strategy training program on readers' strategy use, self-efficacy beliefs, and reading comprehension, Nicaise and Gettinger (1995) found improvements in the effective use of strategies that were reported to be ineffective before the treatment. Besides the overall gains in reading comprehension outcomes, they also found a notable increase in the self-efficacy levels of readers. Building upon this recognition, it is acknowledged that there is a need for a better understanding of the link between reading strategies and self-efficacy (Graham et al., 2020).

Extensive Reading

Combining reading strategy instruction with ER is shown to improve English reading comprehension and strategy use (Shih et al., 2018). Bamford and Day (2004) define ER as reading in quantity with a focus on meaning. The importance of ER in promoting L2 proficiency has been recognized by scholars especially with regard to reading, vocabulary or structure development (Park & Ro, 2015). Lake and Holster (2014) put forward that ER enables learners to gain reading speed, a positive reading self, and an increased motivation to read in L2. They claim that these in turn promote autonomy and self-regulated use of reading strategies which are essential to read independently outside the class. Evidence at hand suggests the positive impact of reading strategy training on RSE (Li & Wang, 2010; Tavakoli & Koosha, 2016) and of ER on both reading skills and RSE (Beglar et al., 2012).

Burrows's (2012) longitudinal study with 322 non-English major students from Osaka, Japan specifically focused on the combined effects of reading strategy training and ER. Students were divided into four groups: a control group, a reading strategies group, an ER group, and an ER + reading strategies group. The results showed that the intensive reading group was the one with the least gains in reading comprehension whereas the participants in the reading strategies and extensive reading/reading strategies groups showed significant gains in RSE compared to the intensive reading and ER groups. Together, these results point to the crucial role of self-efficacy in the learning process. Hence, the benefits of reading strategy intervention and ER practices are highlighted as a result of the study.

It is evident from the review of literature that the majority of studies examining the inter-relationships among RSE, reading strategies, and reading comprehension have consistently found a positive correlation (Aghaie & Zhang, 2012; Ajideh et al., 2018; Burrows, 2012; Mohammed, 2022; Okyar, 2021). Although reading strategies have been widely explored over the years, there is a lack of research involving longer duration training. Most interventions

have lasted only four to six weeks, addressed only a fragment of strategies (Karbalaei, 2011; Salataci & Akyel, 2002), and examined their association with either RSE (Fitri et al., 2015; Li & Wang, 2010; Yang et al., 2018) or ER (Lake & Holster, 2014; Shih et al., 2018) in isolation. Therefore, this study aims to shed light on the impact of a semester-long reading strategy training on enhancing awareness of reading strategies, improving reading comprehension, enhancing RSE, and fostering ER habits. By doing so, it aims to enrich the existing literature on effective reading instruction and provide valuable insights for educators in developing evidence-based reading programs geared towards fostering long-term reading skill development. The following research questions were investigated:

(1) How do university students' RSE, PURS, PUER, and reading comprehension change in a strategy training and ER-embedded reading course?
(2) How does their understanding of reading strategies and ER evolve in a strategy training and ER-embedded reading course?

Method

Research Design

Aligned with the aims and research questions of the present study, a mixed-methods research design was employed, as this approach enabled the simultaneous collection and analysis of both quantitative and qualitative data. The process of mixing methods within one study helps researchers 'seek a more panoramic view of their research landscape, viewing phenomena from different viewpoints and through diverse research lenses' (Shorten & Smith, 2017, p.74). Accordingly, participants' reading performance before and after strategy training, self-efficacy in reading (RSE), perceived utility of extensive reading (PUER), and perceived utility of reading strategies (PURS) were collected through quantitative data collection methods, and their ideas about the use of strategies in reading L2 were gathered through qualitative methods. Further, the data were collected based on a pre-test and post-test research design in which the same assessment measures were given to the participants both before and after they received strategy training in reading. Here, the aim was to determine if there were any changes in the participants' L2 reading comprehension performances, perceptions towards reading strategies, ER, and RSE that could be attributed to the reading strategy training.

Study Group

A total of seventy-six freshman students (49 females and 27 males; average age = 19), majoring in English Language Education programs at two state universities in Türkiye, participated in this study. Participants were selected using convenience sampling based on their accessibility and willingness to participate. All participants indicated that Turkish was their first language, and they learned English as a foreign language in a formal classroom setting at least from age 11 on. The training for the target reading strategies was provided face-to-face and continued for twelve weeks as part of an Academic Reading I course scheduled in the first semester of the freshman year for the English Language Education program in Türkiye. All participants consented to take part in the study as a partial fulfilment of their course requirements. Further, participation was communicated as optional, and students were made aware that non-participation would not affect their grades or academic standing. They were also fully informed about the study's purpose, benefits, and their right to withdraw at any time without penalty. Written informed consent was obtained, and participant confidentiality was ensured through anonymization of data. The necessary ethical approval

for this study was obtained from the university's ethical review board on October 20, 2021 (Approval No: 2021l0820).

Data Collection Tools

Both qualitative and quantitative instruments were utilized in order to fulfil the research objectives presented above. That is, the data were obtained from four major sources: a reading comprehension test, a reading self-efficacy (RSE) questionnaire, a perceived utility of extensive reading (PUER) questionnaire, and a perceived utility of reading strategies (PURS) questionnaire.

Reading comprehension test

The purpose of the reading comprehension test was to evaluate the changes in the students' reading comprehension performances before and after strategy training and to be able to correlate these changes to the changes in the students' RSE, PUER, and PURS. Four passages (i.e., two for pre-test, two for post-test) were selected from the reading comprehension section of a test-preparation book for the Test of English as a Foreign Language (TOEFL; Phillips, 2001). Each passage is followed by ten reading comprehension questions to be answered by the participants immediately after they have finished reading the assigned passage. The test took approximately 40 minutes to complete. The reading comprehension test included questions that demanded the use of the strategies embedded in the training program. The internal consistency reliability of the reading test was calculated using Cronbach's alpha. The analysis yielded a reliability coefficient of $\alpha = .83$, showing a high level of internal consistency across the items (Tavşancıl, 2006).

Reading self-efficacy questionnaire

One aim of this study is to investigate whether self-efficacy beliefs change after strategy-embedded training and function as significant factors in the reading performances of university students. Accordingly, the RSE questionnaire created by Burrows (2012) was used to measure the participants' perceived self-efficacy. This questionnaire entails a wide range of reading tasks as questionnaire items. According to Burrows (2012), the rationale behind including such various types of items in the questionnaire arises from the definition of self-efficacy, which is defined as the strength of expectations individuals hold about their ability to perform a given task or behavior successfully (Bandura, 1997). The questionnaire involves 15 items asking the participants to assess their capability to perform various reading tasks based on a Likert scale ranging from 1 (I cannot do it at all) to 6 (I can definitely do it). The questionnaire items vary from asking participants to judge to what degree they could "Read and understand the main ideas of a front-page article in a newspaper published in an English-speaking country" to "Read and understand the specific details of an academic journal article on education and English language teaching and learning."[1] The internal reliability of the questionnaire was evaluated using Cronbach's alpha, resulting in a score of $\alpha = .92$ in the present study.

Perceived utility of extensive reading questionnaire

A 17-item PUER questionnaire was administered to measure pre-service teachers' perceptions of the role of ER activities in their overall reading comprehension. This questionnaire was originally developed by Burrows (2012) based on a list of 10 principles highlighted by Day and Bamford (2002) regarding ER. The participants were asked to judge

[1] This specific questionnaire item was adapted for the participants of the current study as our participants' major was English teaching.

to what extent they agreed or disagreed with the questionnaire items concerning ER and reading comprehension. They were supposed to provide judgments using a 6-point Likert scale that ranges from 1 (Strongly disagree) to 6 (Strongly agree). The questionnaire items are phrased in such a way that they elicit participants' responses about to what degree the given ER tasks result in progression in their overall reading comprehension. One example from the questionnaire emphasizes the redundant use of dictionaries in the ER method, "In order to improve my reading comprehension, it is better not to stop to check a dictionary if I find an unknown word while I am reading." In another example, the questionnaire item, "I can improve my reading comprehension by reading books that I am interested in and have chosen myself," underlies reading for pleasure instead of for academic purposes as proposed in the ER philosophy. Regarding reliability, the Cronbach Alpha value for this questionnaire was found as .63, indicating a moderate level of internal consistency. While this falls slightly below the conventional threshold of .70, it is considered acceptable for exploratory research and short scales in social science contexts as recommended by Tavşancıl (2006).

Perceived utility of reading strategies questionnaire

Burrows's (2012) PURS questionnaire was administered to gather information about the participants' ideas regarding the connection between reading strategies and reading comprehension. The questionnaire was initially created based on the reading strategies such as finding the topic of a paragraph/a reading passage, finding the main idea of a paragraph/ a reading passage, guessing the meanings of certain vocabulary terms based on contextual clues and/or breaking these vocabulary terms into their parts (i.e., suffixes and prefixes, collocations, parts of speech), inferring the author's feelings or underlying information from reading the text, layered reading (Overview, preview, read, post-view, review[2]). The original questionnaire was applied with the addition of five reading strategies, namely, annotating, paraphrasing, summarizing, identifying the author's purpose, and identifying the patterns of organization in reading texts. These strategies were incorporated into the original questionnaire to better align the instrument with the specific objectives of the current study. The strategies were selected based on their well-documented importance in enhancing reading comprehension and critical engagement with academic texts (Afflerbach et al., 2008; Grabe & Stoller, 2011). Including them provided the researchers with a more comprehensive evaluation of the range of strategies commonly employed by students when interacting with complex reading materials in higher education. The participants were asked, "To what degree do you agree or disagree that the following items help you to improve your reading comprehension?" and were expected to provide judgments based on a 6-point Likert scale, ranging from 1 (Strongly disagree) to 6 (Strongly agree). An example item is, "Guessing an unknown word's meaning from the surrounding text in a reading passage is important to improve my reading comprehension." In the current study, the internal consistency of the questionnaire was evaluated using Cronbach's alpha, which yielded a reliability score of α = .89, indicating strong internal consistency.

Different from Burrows (2012), the questionnaire administered in the current study for PURS included some open-ended questions to generate detailed, in-depth qualitative data and to provide methodological triangulation. More specifically, the participants were asked (1) to define the target reading strategies one by one, (2) to state which reading strategy/strategies they used more frequently, and (3) to explain ER. These open-ended questions enabled the researchers to gain in-depth insights into the participants' perspectives and reflections

[2] Different from Burrows's study (2012), the strategy for prediction was presented within layered reading for the students in the current study.

regarding their use of reading strategies. Participants were allowed to respond in either Turkish or English to ensure they could articulate their thoughts more clearly and effectively.

Procedure

In the present study, students received a strategy training in reading for twelve weeks (excluding the weeks for introduction to the course, the midterm, and the final exams). At the beginning of the semester, the students were provided with a detailed course syllabus that showed the specific reading strategy allocated for each week. The training was given by the same instructors each week in two successive sessions. Each session lasted 50 minutes. The four data collection instruments, namely reading comprehension tests, RSEQ, PUERQ, and PURSQ were administered twice, i.e., at the very beginning and end of the academic semester, as part of a pre-test and post-test research design.

As Table 1 displays, the current study focused on various types of reading strategies ranging from vocabulary to text-oriented strategies. During the data collection, the two instructors followed the same steps and used the same textbooks, reading materials, handouts, and activities to explain and practice the target reading strategies. "Advanced Reading Power: Extensive Reading, Vocabulary Building, Comprehension Skills, Reading Faster" (Milkulecy & Jeffries, 2007) and "Improving Reading Skills: Contemporary Readings for College Students" (Spears, 2013) were the two textbooks that were followed for the strategy training and practice. In choosing the two textbooks, the instructors aimed to provide the students with practice in the target reading strategies in different topics (e.g., education and learning, environment, psychological and social behavior, and employment) and genres (e.g., academic texts, stories, short fiction, excerpts from blogs and interviews, and newspaper and magazine articles).

Table 1. The reading strategies encompassed in the present study

- Using context clues to guess the meaning of unknown words based on
  - Word origins, word families and parts of speech
  - Synonyms and antonyms
  - Collocations
- Layered reading (Overview, preview, read, post-view, review)
- Identifying the main idea and the writer's purpose in various types of genres
- Annotation
- Paraphrasing
- Summarizing
- Making inferences
- Identifying text organization

In this study, the researchers also served as the instructors responsible for teaching the reading strategies to the university student participants. This dual role allowed for the consistent delivery of instructional content, ensuring the trustworthiness of the intervention design. By directly implementing the teaching component, the researchers were able to maintain uniformity in instructional methods, monitor student engagement in real time, and make immediate pedagogical adjustments aligned with the study's objectives. During the training sessions, the instructors taught the predefined reading strategies to the participants. The researchers aimed not only for students to know what reading strategies are but also to learn how to use them. By taking the hierarchical levels in Bloom's Taxonomy (Bloom et al., 1956) into consideration, the researchers focused on transferring knowledge into practice, with an emphasis on practical application and synthesis of knowledge. In the current study, it was assumed that strategy training would foster students' self-control and metacognitive abilities

to become more proficient and independent readers. To achieve this goal, the researchers followed the most recent and comprehensive model of reading strategy training, as outlined by Afflerbach et al. (2020). In this conceptualization, teaching reading strategies entails the formation of procedural knowledge, so the researchers pursued the following steps:

Step 1. Activating Prior Knowledge: At this stage, the aim was to develop students' pre-skills (e.g., word origins, word families, and parts of speech for guessing meaning from the context) and background knowledge essential for the next steps. The instructors assisted students in utilizing their prior learning pertinent to the reading strategy. This entailed pre-reading exercises such as debating, formulating predictions, or having students brainstorm what they already know about the target strategy.

Step 2. Discussing the Focused Strategy, Modeling, and Demonstration: During this stage, the instructors provided a thorough explanation of the target strategy, followed by a discussion with students on how and when to use the strategy effectively in new situations for various tasks, aiming to improve reading comprehension performance. Students also had the chance to revise the details of the related strategy from their textbooks and the PowerPoint slides prepared by the instructors specifically for each targeted strategy. The instructors showed students several sample texts and discussed how the target strategy applied to these texts for comprehension. The instructors always started with simple examples and tasks that were below the proficiency level of the students at this stage. That left the students to think over the focused strategy for some time, rather than struggling with challenging language items in the reading passage. As the training session continued, however, the students were gradually presented with more challenging texts and activities, which allowed them to exercise the new reading strategy in different genres.

Step 3. Support and Scaffold: At this stage, students were presented with guided practice. The instructors provided support as students practiced the target reading strategy via individual or group activities such as shared reading activities in reading circles and small group discussions.

Step 4. Independent Performance: During this stage, the students were provided with a few reading texts that they were supposed to read and perform the relevant tasks individually. Following this, the instructors usually ended the training sessions with some revision, revisiting the key elements and terms concerning the focused strategy. The students were also encouraged to engage in independent reading tasks, read different genres outside the classroom, and apply the reading strategies on their own. Further, the students were always advised to monitor their comprehension and adjust their reading strategy for the reading tasks they would encounter.

Step 5 Regular Evaluation and Reflection: In addition to instructors' assessments, the students were encouraged to regularly reflect on their reading performance, assess their understanding, and track their development. At this stage of the training, the students had the opportunity to revise their reading strategies and enhance their overall reading skills through the feedback they received from their instructor and peers during the reading activities.

Furthermore, while practicing the prescribed strategies throughout the semester, the students were also encouraged to learn the unfamiliar words in the assigned passages via vocabulary learning strategies (e.g., flashcards, concept maps, word webs, vocabulary log sheets, and vocabulary notebooks) that they covered in the class and that they found useful for their way

of vocabulary learning (see Appendix A).

In addition to vocabulary practice, from the beginning of the semester, the students were also motivated for ER outside the classroom setting. While ER was primarily conducted outside the classroom, the students were trained in how to select texts and read extensively following Day and Bamford's (2002) guidelines (Appendix B). They were encouraged to read different genres such as newspapers, magazine articles, blogs, books, and short stories. The students were also asked to record and report the title and genre of the reading materials they were engaged in for extensive reading and share their reflections with their classmates. The students talked about why they preferred to read that particular reading material, its topic, and summary, along with some interesting points via classroom activities such as book conferences, reading circles, and/or presentations. The instructors also became role models and presented what they had been reading extensively, aside from their academic papers.

Data Analysis

There were no subscales in any of the questionnaires used in the present study. Hence, the mean scores of the overall scales for all instruments are taken for data analyses. There were no items to be reversed in either of the scales. Data were examined for missing values to prepare the data for analysis. Since the questionnaires and the comprehension test were administered on the same day before and after the treatment, and the participants were given extra credit for participation, there were no missing values in the data set after omitting the participants who did not attend either the pre-test or post-test sessions. For Hair et al. (2010) and Bryne (2010), data is deemed to be normally distributed if skewness falls within the range of -2 to +2 and kurtosis is within the range of -7 to +7. Since all our data met this condition for all test types and times (see Table 2), and the visual inspection of the Q-Q plots and Histograms showed a normal distribution, parametric tests were applied to all data. To see the levels of reading comprehension, RSE, PUER, and PURS, descriptive statistics were run on the dataset. Next, paired-sample t-tests were conducted to see the impact of training on the dependent variables, along with the effect size values of the significant results.

Table 2. Normality test results

Test Conditions	**N**	**Skewness**	**Kurtosis**
RSEQ-pre-test	76	-.328	.043
RSEQ-post-test	76	-1.249	1.893
PURSQ-pre-test	76	-.396	1.777
PURSQ-post-test	76	-.594	.915
PUER-pre-test	76	.781	2.520
PUER-post-test	76	-.716	.299

Note. RSEQ: Reading Self-Efficacy Questionnaire; PURSQ: Perceived Utility of Reading Strategies Questionnaire; PUER: Perceived Utility of Extensive Reading

The data collected from the open-ended questions were analysed using content analysis in the present study. Content analysis is a qualitative research technique that is employed to methodically examine textual material by finding patterns, themes, or categories in the responses (Cohen et al., 2018). Participants' answers to open-ended questions about their understanding and use of reading strategies were examined through content analysis. By using

this method, the researchers were able to decipher the underlying meanings in the participants' responses and classify their opinions into meaningful categories, thereby gaining insights into their cognitive processes related to reading (Krippendorff, 2018).

As part of the analysis, initially, the two researchers independently coded 10% of the data, and to maintain research rigor, intercoder reliability was calculated between the coders. As a 97% agreement was reached, the researchers proceeded with collaborative thematic coding for the remaining data. After transcribing the open-ended responses, the data were reviewed and coded inductively to identify key themes related to students' perceptions of the target reading strategies and extensive reading. Preliminary codes were developed based on recurring patterns in the data, such as 'contextual inference: relying on surrounding context' and 'Identifying keywords and phrases'. The codes were then grouped into broader themes using axial coding (e.g., guessing the meaning of unfamiliar words based on the contextual clues). The final codes were quantified, and the frequency of each theme was calculated, with corresponding percentages reported to illustrate the most common perceptions across participants.

Results

The mean, minimum, maximum, and standard deviation values of all test conditions and times are provided in Table 3.

Table 3. Descriptive statistics for all test measures

Test conditions	Min.	Max.	Mean	SD
Pre RSEQ	3.33	5.00	4.23	.38
Post RSEQ	2.93	5.00	4.51	.43
Pre PURSQ	2.97	5.56	4.59	.45
Post PURSQ	2.69	6.00	4.85	.69
Pre Comprehension	19.00	92.00	56.63	17.93
Post Comprehension	33.00	92.00	64.78	12.89
Pre PUER	2.88	6.00	4.05	.44
Post PUER	3.00	5.00	4.27	.45

Note. RSEQ: Reading Self-Efficacy Questionnaire; PURSQ: Perceived Utility of Reading Strategies Questionnaire; PUER: Perceived Utility of Extensive Reading

It is evident from Table 3 that there are increases from the pre-test to the post-test conditions across all measurements. To see if these differences are significant, paired samples t-tests were conducted. Accordingly, there is a substantial increase in the comprehension scores of the participants from pre-intervention (M = 56.63) to post-intervention (M = 64.78), $t(75)$ = 3.76, p = .000, d=.52). Similarly, significant changes were observed in Reading Self-Efficacy Scores $t(75)$ = 4.38, p= .000, d=.68. and the mean difference for the Perceived Utility of Reading Strategies Questionnaire was also statistically significant $t(75)$ = 3.11, p = .003, d=.46. Lastly, the difference between pre-test and post-test results of the Perceived Utility of Extensive Reading scale yielded significant differences, too, $t(75)$ = 2.85, p=.006, d= .49. Cohen's kappa calculations showed a medium effect size for all the test conditions in this study.

Qualitative results

In addition to the quantitative results above, the researchers examined the participants' understanding of reading strategies via open-ended questions in questionnaires before and after strategy training. The open-ended questions specifically examined how university students perceived, identified, and applied the targeted reading strategies that play crucial roles in reading comprehension. The frequency and percentages of codes for defining each strategy included in the current study are presented in tables.

Table 4. Students' understanding of the guessing the meaning of unfamiliar words based on the contextual clues strategy

	Pre-training			**Post-training**		
Theme	Code	f	%	Code	f	%
Guessing the meaning of unfamiliar words based on the contextual clues	Contextual inference: relying on surrounding context (considering the relationship between the words)	29	40.2	Contextual inference: relying on surrounding context (considering the relationship between the words)	47	55.3
	Identifying key words and phrases	19	26.3	Avoiding dictionary dependency	16	18.8
	Utilizing related words	16	22.2	Analysing sentence structure	7	8.2
	Analysing sentence structure	8	11.1	Making inferences from terminology	6	7.1
				Identifying keywords and phrases	5	5.9
				Applying general reading comprehension strategies (e.g., Previewing, Highlighting/Annotating, Using background knowledge)	4	4.7
Total		72	100		85	100

Concerning the first category, it was found that students employed a variety of strategies when using contextual clues to infer the meaning of unfamiliar words in reading. As Table 4 shows, the most prevalent approach identified in both pre- and post-training questionnaires involves considering the context as a whole and utilizing clues from the surrounding words. Parallel to this, participants also frequently rely on sentence-based inferences. They highlighted the significance of grammar and sentence structures as contextual clues for vocabulary comprehension during reading. It is noteworthy that some participants mentioned specific linguistic elements such as connectors and conjunctions, helping them analyse the sentences contextually. Further, paying attention to emphasized words (i.e., keywords) or phrases in the text that offer clues to the meaning of the unknown word was detected as another strategy used by readers in both pre- and post-training questionnaires. Some participants also acknowledged using contextual clues to predict unfamiliar words, thereby reducing their reliance on dictionaries after strategy training.

Table 5. Students' understanding of the guessing the meaning of unfamiliar words based on words' origins and parts of speech strategy

	Pre-training			**Post-training**		
Theme	Codes	f	%	Codes	f	%
Guessing the meaning of unfamiliar words based on words' origins and parts of speech	Analysing word structure and affixation including roots, prefixes, suffixes	53	47.7	Analysing word structure and affixation including roots, prefixes, suffixes	57	47.1
	Contextual inference	50	45	Analysing parts of speech	40	33
	Logical deduction and intuition	8	7.2	Leveraging word origins and etymology	24	19.8
Total		111	100		121	100

The results in Table 5 suggested that readers became more focused and informed at the end of strategy training in terms of identifying target strategies. For instance, when participants were asked to write about the role that parts of speech play in guessing the meaning of unknown words, they mentioned contextual inferencing (i.e., looking at the surrounding words and the sentence's overall meaning to infer the definition of the unknown word) and logical deduction and intuition (i.e., readers' general knowledge or intuitive thinking to arrive at plausible meanings for the unfamiliar word) before the strategy training. On the other hand, after the training, participants specifically underlined the role of using knowledge of nouns, verbs, adjectives, and adverbs, separating the word into roots, prefixes, and suffixes, and utilizing etymology and word origin to guess the meaning of an unfamiliar word.

Table 6. Students' understanding of guessing the meaning of unfamiliar words based on the collocations strategy

	Pre-training			**Post-training**		
Theme	Codes	f	%	Codes	f	%
Guessing the meaning of unfamiliar words based on collocations	Using collocations (word combinations)	23	41.1	Using collocations (word combinations)	39	56
	Using contextual clues and logic	18	32.1	Using prepositions, phrasal verbs, idioms and idiomatic expressions for understanding	16	24.2
	Leveraging familiar words and associations	15	26.8	Analysing word structures and affixes to infer meaning	11	16.6
				Considering positivity/negativity and emotion that collocations create	3	4.5
Total		56	100		69	100

As Table 6 shows, before strategy training, for the function of collocations in vocabulary comprehension, the highest frequency appeared in extracting meanings of unfamiliar words based on word combinations. This suggested that a significant portion of participants recognized the importance of collocations to guess the meaning of unfamiliar words in the text. Meanwhile, the pre-training results revealed that a substantial number of participants still relied on broader contextual clues and logical deduction to infer the meaning of unfamiliar words when they were asked to define the role of collocations in predicting word meanings. However, participants diversified their strategies regarding collocations after strategy training. Although the highest percentage in using collocations to extract the meaning of unfamiliar words after training revealed a persistent emphasis on this strategy, participants showed a notable interest in analysing word structures and affixes, and acknowledging prepositions, phrasal verbs, idioms, and idiomatic expressions. Such results reflect participants' deeper understanding of connotations related to collocations after training.

Table 7. Students' understanding of finding the main idea of the text and the author's purpose

	Pre-training			**Post-training**		
Theme	Codes	f	%	Codes	f	%
Finding the main idea of the text and the author's purpose	Identifying the central idea, argument	54	45.7	Identifying the author's stance and intended message/argument	58	42
	Understanding the author's intended message	42	35.5	Analysing thesis statements and introductory sentences	30	21.7
	Using contextual clues to identify the main idea and purpose	22	18.6	Advantages of understanding the author's purpose and main idea	25	18.1
				Extracting key details and forming connections based on contextual clues	15	10.9
				Engaging actively with texts	10	7.2
Total		118	100		138	100

As for discerning the author's stance, intent, and emotional undertones, and identifying the central message of a text, many participants' responses mainly focused on the central argument, the intended message, and the role of contextual clues before the training. Following strategy training, it was noted that participants indicated additional methods to determine the author's objective and core concept in addition to these categories. That is, participants acknowledged the advantages of finding why the author wrote the text and the core message/s that the text conveyed. In particular, participants highlighted the benefits of "unearthing the underlying purpose behind the composition of the text and its close connection with discerning the core message conveyed by the text in comprehension" (Participant 53). Participants also stated that "Identifying and understanding the main idea helps you remember and recall the content more easily' (Participant 22). These results indicate that participants' understanding of reading strategies became multifaceted throughout training.

Table 8. Students' understanding of the layered reading strategy (Overview, preview, read, post-view, review)

	Pre-training			**Post-training**		
Theme	Codes	f	%	Codes	f	%
Layered reading	Skimming	55	50.4	Dividing the reading process into stages: overview, preview, read, post-read, review	77	58.4
	Understanding the main idea	32	29.3	Previewing, scanning and skimming	48	36.4
	Understanding the context and purpose	22	20.1	Gaining prior knowledge	7	5.3
Total		109	100		132	100

The results related to layered reading in Table 8 also indicate how participants' understanding of layered reading became more systematic and complex over time. Whereas participants associated layered reading with general reading strategies such as skimming, understanding the main message, and grasping the context and purpose before the training, the increased emphasis on dividing the reading process into stages (i.e., starting with a brief overview followed by detailed reading) and specific strategies such as previewing, scanning, and skimming the reading text after strategy instruction suggests a more refined and structured approach to the role of layered reading in reading comprehension.

Table 9. Students' understanding of the annotation strategy

	Pre-training			**Post-training**		
Theme	Codes	f	%	Codes	f	%
Annotation	Enhancing comprehension and understanding	34	47.9	Adding notes, comments, or explanations to a text	44	37.9
	Supporting the main text	15	21.1	Providing clarification and elaboration, and critical analyses	36	31
	Consolidating learning and retention	13	18.3	Enhancing comprehension and understanding, and vocabulary	12	10.3
	Improving critical thinking and analysis	9	12.7	Providing personal engagement and interpretation	12	10.3
				Supporting active reading and learning	6	5.2
				Improving writing and communicating ideas	4	3.4
				Offering critical evaluation and constructive feedback to the reader	2	1.7
Total		71	100		116	100

Likewise, participants provided more comprehensive and insightful perspectives on the practice of annotations during reading following strategy training (see Table 9). In contrast to the answers that they provided before the strategy instruction (e.g., supporting the main text by adding relevant context, consolidating learning and retention, and improving critical thinking and analysis), their responses highlighted several key themes, indicating a more sophisticated understanding of the purpose and benefits of annotations in reading comprehension. For instance, several participants recognized the multifaceted purposes of annotations such as adding comments, clarifying uncertainties, strengthening comprehension, and expanding vocabulary. In addition to its role in comprehension, learning, and retention, some participants also acknowledged that annotations can lead to improved writing and communication skills. There was also a clear emphasis on active reader engagement. That is, annotation was regarded as a means to "actively engage with the text, expressing individual viewpoints, making personal connections, and even conducting additional research" (Participant 34).

Table 10. Students' understanding of the paraphrasing strategy

	Pre-training			**Post-training**		
Theme	Codes	f	%	Codes	f	%
Paraphrasing	Using Synonyms	19	36.5	Rephrasing for clarity, aiding in expression	33	38.8
	Restating with different words	15	28.8	Applying various techniques and methods of paraphrasing (e.g., using synonyms, changing sentence structures, using different word forms, and changing the voice)	21	24.7
	Enriching and expanding on the text	13	24.9	Checking one's understanding of the target text	17	20
	Contextualizing and explaining	5	9.7	Developing vocabulary	9	10.6
				Context-dependent nature of paraphrasing	5	5.9
Total		52	100		85	100

In a similar vein, participants' recognition of paraphrasing as a valuable tool for reading comprehension improved over time. Before the strategy training, several participants identified paraphrasing as synonym replacement, rewriting with different words and regarded it as a way of enrichment and expansion (i.e., "expanding the reader's perception and making the text more vivid", Participant15), and contextualizing and explaining (i.e., "providing explanations to make the text context easier to understand", Participant 67). On the other hand, after the strategy training, as Table 10 illustrates, more participants understood the nuanced elements involved in effective paraphrasing. For example, while mentioning the techniques and methods of paraphrasing, participants underlined the role of synonyms and antonyms in "rephrasing sentences or phrases without altering the original meaning" (Participant 25). There was an awareness among participants that while paraphrasing is useful for enhancing clarity and understanding, and improving vocabulary knowledge, it is

essential to "avoid inadvertently reducing the meaning of the original text" (Participant 72). Paraphrasing was also identified as "a means to measure one's understanding of the text", "a tool to improve writing skills by encouraging the use of different grammatical structures and vocabulary" (Participant 7) and "a facilitator in communication providing alternative ways to express the same idea" (Participant 48).

Table 11. Students' understanding of the summarizing strategy

	Pre-training			**Post-training**		
Theme	Codes	f	%	Codes	f	%
Summarizing in reading	Simplifying	20	33.3	Condensing information (by capturing main ideas) and extracting key points	46	40
	Identifying main ideas and key details	14	23.3	Applying various techniques and methods of summarizing (e.g., finding the author's purpose and argument, being selective and focusing on key facts, and paraphrasing)	34	29.6
	Using key terms and keywords	10	16.7	Improving comprehension, retention and writing skills	27	23.5
	Improving comprehension and retention	9	15	Enhancing selective and analytical thinking skills	8	7
	Expressing understanding	7	11.7			
Total		60	100		115	100

It is evident from Table 11 that post-training explanations for the theme summarizing in reading are more informed and elaborate than pre-training definitions. Before the training, students primarily associated summarizing with simplifying content (33.3%) and identifying main ideas and key details (23.3%) through keywords (16.7%). However, their post-training responses became more sophisticated and diverse. After training, for example, a larger proportion (40%) described summarizing as condensing information and extracting key points, reflecting a deeper grasp of the purpose of summarization. Additionally, students increasingly recognized the use of various summarizing techniques (29.6%) that were not previously mentioned. Meanwhile, more students recognized the benefits of summarizing such as improved comprehension and retention (15% vs 23.5%). Participants added the advantage of summarizing to improve writing skills in this category after training. Further, a new code, enhancing selective and analytical thinking skills (7%), emerged, showing that students began to view summarizing as a cognitive process beyond mere information reduction after strategy instruction. Overall, the results suggest that the training expanded students' conceptualization of summarization from basic strategies to more analytical and structured approaches.

Table 12. Students' understanding of the inferencing strategy

	Pre-training			**Post-training**		
Theme	Codes	f	%	Codes	f	%
Inferencing during reading	Understanding implicit information	13	25.5	Inferencing as extracting logical conclusions or educated guesses about information that is not explicitly stated in the text	33	40.2
	Using context	13	25.5	Paying attention to details and looking for clues	29	35.4
	Forming personal interpretations	13	25.5	Inferencing as making personal connections/ Activating background knowledge	14	17.1
	Drawing conclusions	12	23.5	Inferencing as understanding author's intention	6	7.3
Total		51	100		82	100

Table 12 highlights a notable improvement in students' understanding of the inferencing strategy after the training. Initially, their responses were evenly distributed across four basic interpretations, i.e., understanding implicit information, using context, forming personal interpretations, and drawing conclusions (each around 23.5%-25.5%). Post-training responses showed that participants' definitions became more precise and analytical. The most common interpretation shifted to inferencing as extracting logical conclusions or educated guesses (40.2%), followed by closely related skills such as paying attention to details and clues (35.4%). These indicate a stronger grasp of textual analysis. Meanwhile, fewer students viewed inferencing as merely forming personal connections (17.1%) or understanding the author's intention (7.3%). The data suggest that the training helped students move beyond vague or personal interpretations toward a more text-based and cognitively rigorous understanding of inferencing.

Table 13. Students' understanding of identifying text organization strategy

	Pre-training			**Post-training**		
Theme	Codes	f	%	Codes	f	%
Text organization in reading	Understanding writing style and techniques	14	33.3	Understanding the structure and purpose of the text (e.g., descriptive, cause and effect, chronological, compare and contrast)	36	58.1
	Recognizing text type and genre	11	26.2	Facilitating learning and vocabulary development	18	29
	Identifying parts and sections	9	21.4	Enhancing language skills and comprehension	5	8.1
	Predicting and inferring from text structure	5	11.9	Recognizing well-written and well-structured texts	3	4.8
	Noticing patterns and repetitions	3	7.1			
Total		42	100		62	100

Regarding the theme text organization in reading, more than half of the participants underlined understanding the structure and purpose of the text after the training as a code. They also provided examples of text structures such as descriptive, cause and effect, chronological, compare and contrast, and their benefits for learning, comprehension, and vocabulary. In the pre-training questionnaire, on the other hand, their answers were rather general, diverse, and scattered, such as recognizing text type and genre, identifying parts and sections, and noticing patterns and repetitions.

Table 14. Students' understanding of extensive reading

	Pre-training			**Post-training**		
Theme	Codes	f	%	Codes	f	%
Extensive reading	Understanding the text in general and overviewing	24	21.6	Reading outside the classroom for personal growth	41	33.1
	Reading authentic materials	20	18	Frequent and consistent reading for practice	31	25
	Speed reading or quick reading	18	16.3	Reading for enjoyment and hobby	28	22.6
	Widespread reading	14	12.6	Reading a variety of texts on different topics	13	10.5
	Detailed reading and in-depth understanding	9	8.1	Reading for comprehension, overall fluency and vocabulary development	5	4
	Reading for retention	8	7.2	Quick overview and general knowledge	4	3.2
	Expressing uncertainty or lacking clear ideas about extensive reading	7	6.3	Reading without specific techniques or strategies	2	1.6
	Highlighting or marking important information	3	2.7			
	Reading regularly	3	2.7			
	Reading for diverse aspects	3	2.7			
	Reading for detailed analysis	2	1.8			
Total		111	100		124	100

Lastly, concerning ER, Table 14 demonstrates major changes in students' understanding of extensive reading after the training. Prior to training, students largely associated extensive reading with general comprehension (21.6%), reading authentic materials (18%), and quick reading (16.3%). Their answers were disjointed; they mentioned reading for different reasons, marking text, retention, and even expressed confusion (6.3%). After training, however, their perceptions became more coherent and aligned with the pedagogical goals of extensive reading. The dominant post-training view (33.1%) emphasized reading outside the classroom for personal growth, followed by frequent and consistent reading for practice (25%) and reading for enjoyment and hobby (22.6%). This suggests a transition from seeing extensive reading as a task-oriented or classroom-based activity to recognizing it as a self-directed, lifelong learning strategy. Additionally, vague or narrow concepts such as reading for retention, uncertainty, or analysis diminished significantly. Overall, the training appears to

have helped students develop a more holistic, motivated, and accurate understanding of extensive reading.

The second open-ended question asked participants to list the strategies they use frequently while reading. The emerging codes for this category are given in Table 15.

Table 15. The most frequently used strategies by the students

	Pre-training			**Post-training**		
Theme	Codes	f	%	Codes	f	%
Frequently used reading strategies	Summarizing	29	19	Simultaneous use of multiple strategies	42	18.4
	Skimming and scanning	28	18.3	Using context clues to guess the meaning of unknown words	36	15.8
	Finding the topic	21	13.7	Finding the main idea and author's purpose	28	12.3
	Finding the main idea and author's purpose	17	11.1	Applying layered reading approach	27	11.8
	Analysing sentence structure and word collocations	15	9.8	Annotating	22	9.6
	Making inferences	14	9.2	Taking text organization into consideration	18	7.9
	Using contextual clues and word origins	14	9.2	Making inferencing	16	7
	Using synonyms and antonyms	11	7.2	Using strategies that enhance vocabulary and comprehension	14	6.1
	Using different expressions for words	4	2.6	Focusing on understanding content and message	13	5.7
				Extensive reading	12	5.3
Total		153	100		228	100

The responses in Table 15 show that overall, the utterances produced in the post-training questionnaire outnumber the ones produced before training. Moreover, the ones mentioned after the training included more global-level strategy use, such as annotating, considering text organization, or focusing on content and message while the ones listed in the pre-training questionnaire were more at the word-level use of strategies (e.g., using contextual clues and word origins, using synonyms and antonyms, using different expressions for words).

Discussion and Conclusion

This study investigated the relationship between explicit strategy training in reading, semi-controlled ER practices, students' reading self-efficacy beliefs, and their reading comprehension. As an answer to the first research question, explicit training on reading strategies had a significant effect on reading comprehension, and reading self-efficacy beliefs of students. Furthermore, their perceptions about the utility of reading strategies and ER changed significantly after the treatment. These results corroborate Burrows's (2012) study, which found a significant effect of training in reading strategies and ER on reading comprehension and reading self-efficacy than the intensive reading group. Although the effect sizes are medium, the significant changes in all the measures of the present study lend support to the research results at hand, depicting the contributing impact of strategy training on

reading ability (Ajideh et al., 2018; Mokhtari et al., 2008) and on RSE (Antoniou & Souvignier, 2007; Chinpakdee & Gu, 2021). Lastly, aligning with the findings from prior research (Burrows, 2012; Shih et al., 2018), integrating reading strategy instruction with semi-controlled ER practices enhanced both reading comprehension in L2 and the application of reading strategies.

The second research question aimed to explore students' evolving understanding and application of reading strategies before and after strategy training in greater depth. Parallel to the quantitative results, the findings from open-ended questions present a significant progression in readers' perception and utilization of various strategies related to reading. The results also revealed that the number and variety of the reading strategies that students found functional and effective increased at the end of strategy training. Although these are based on self-reports of the participants, this may still provide further evidence for explicit strategy instruction improving strategy use at the university level (Karbalaei, 2011; Salataci & Akyel, 2002; Zhang, 2008).

In line with Afflerbach et al.'s (2020) conceptualization of reading strategy training as the development of proceduralized knowledge, participants in this study reported increasingly proceduralized use of reading strategies. They were better able to articulate which strategies they used, as well as how, when, and why they employed them to enhance comprehension. It was also found that in all themes, the codes that students produced after training outnumbered the ones before the training. In addition to this quantitative change, participants' understanding of reading strategies became more sophisticated and refined over time. More specifically, the increased diversity of strategies reported by the readers after strategy training reflects a multifaceted and adaptive approach to understanding unfamiliar words in reading. For example, following strategy training, students displayed an increased awareness of the importance of morphology and lexical semantics in deriving word meanings, and they took prepositions, phrasal verbs, and idiomatic expressions into account, and sought positive and/or negative meanings and emotions that collocations contextually create, which reflects their deeper understanding of connotations after strategy training. Such findings suggest insights into the cognitive processes involved in contextual inference and imply that readers draw on a combination of linguistic (e.g., parts of speech, word roots, affixation, etymology and word origin, morphology, and grammar and sentence structures), contextual and thematic cues to make educated guesses about the meaning of unknown words, especially after strategy training. These findings are also compatible with Dabarera et al.'s (2014) study in which reciprocal teaching of reading strategies led to increased L2 reading proficiency as well as enhanced metacognitive awareness. Drawing on these findings, a key pedagogical implication is engaging readers in strategy training to enhance their metacognitive awareness and foster greater autonomy as university-level readers.

Furthermore, as students' understanding of the target strategies became clearer and more sophisticated over time, they tended to become more proactive readers. This pattern was also observed in Chumworatayee's (2017) study, which reported increased metacognitive awareness following explicit instruction in both cognitive and metacognitive strategies. To illustrate, in the present study, following strategy training, the students expressed that they engaged in reading texts more actively and were more willing to *comprehend the core messages* and *the underlying authorial intentions* in the text for a better reading comprehension performance. Similarly, readers viewed *annotation* as a significant technique that enriches their interaction with the text and allows them to express their personal opinions, make personal connections, and conduct further research regarding the text. Following

strategy training, participants viewed *annotation* as a dynamic tool that enhanced comprehension, supported active engagement, and contributed to the development of their writing skills during the reading process, just as the participants in Zhang's (2024) study who reported such benefits of annotations as increased engagement and metacognitive awareness. Likewise, students adopted a proactive approach to using *paraphrasing* and see it as an exercise in vocabulary expansion. That is, after strategy training, paraphrasing was not only identified as a means to understand specific words in context but also as a broader strategy for improving overall vocabulary. They also highlighted that thanks to the restatement, they are not only learning the word's meaning but also gaining a better understanding of how it fits into the overall text. Altogether, these findings indicate an increase in their autonomous reading behaviors as their metacognitive awareness of the strategy use increases, their self-efficacy of reading also increases, and they become independent readers, making their own decisions to implement the effective reading strategies for the problem at hand.

Another focus of the open-ended questions is to examine the change in readers' habits of strategy use with regard to the frequency of use of particular strategies. Based on participants' self-reports, it was revealed that they started using a wider range of strategies more frequently after the training. The strategies reported before the training were limited to *skimming, scanning, finding the topic*, and *finding the main idea*. In addition, the emergent categories showed that while the readers used more word-level strategies, such as using contextual clues to understand word meaning or using synonyms/antonyms before the training, the strategies used after the training were more global-level, such as *layered reading*, *annotating*, and *considering text organization*. Furthermore, after the training, they tended to use multiple strategies simultaneously, which shows that they became metacognitive users of strategies to be more effective readers (Dabarera et al., 2014).

Although studies differ in design and there are no studies for direct comparison in terms of the change in the PUER and readers' understanding of ER, overall findings obtained from this study lend support to previous studies showing a conducive effect of ER on overall reading ability and the use of reading strategies (Beglar et al., 2012; Shih et al., 2018). Specifically, in this study, readers' understanding of ER changed after its integration into strategy training. After the instruction, readers provided more informed explanations of strategies, demonstrating an increase in their awareness of ER. Significant increases in their PUER and PURS scores after the training might also suggest that as students get more involved in ER practices, their application of reading strategies increases. This also aligns with Bloom's Taxonomy in that increased engagement in extensive reading (ER) practices encourages students to progress from basic understanding to higher-order applications of reading strategies, reinforcing their ability to evaluate and create knowledge from texts (Anderson & Krathwohl, 2001). As a pedagogical implication to be drawn from these, ER might be integrated into reading courses at higher education, together with strategy training modules for the development of reading ability and RSE.

In conclusion, this study revealed the positive impacts of explicit strategy training and ER practices at the higher education level. However, due to the pre-post-test nature of the present study, only within-subjects comparisons were made. Future studies may adopt a truly randomized experimental design to compare the effects of reading strategy training and extensive reading between the groups. As an extension of strategy training, students were assigned ER tasks and asked to apply the target reading strategies in their extensive reading materials. However, these ER texts were not predetermined, and the process of ER was not strictly controlled with the use of, for example, learning logs or charts. Therefore, in future

studies, a more structured ER component can be added, and its direct impact on reading comprehension, RSE, and strategy use can be measured. Finally, to understand the longer-term effects of ER-integrated strategy training, future studies can include delayed post-tests of comprehension, RSE, PURS, and PUER tools in their designs. Despite these limitations, the present study contributes to the growing body of evidence showing that explicit reading strategy instruction, when reinforced through ER, not only supports comprehension and RSE but also cultivates autonomous and engaged readers.

Declarations

Ethics Statements: *The study was approved by the Ethics Committee of the Yildiz Technical University (approval number: 2021l08).*
Conflict of Interest: *We have no known conflict of interest to disclose.*
Informed Consent: *Informed consent was obtained from all the individual participants involved in the study.*
Data availability: *The data that support the findings of this study are available from the corresponding author upon request.*

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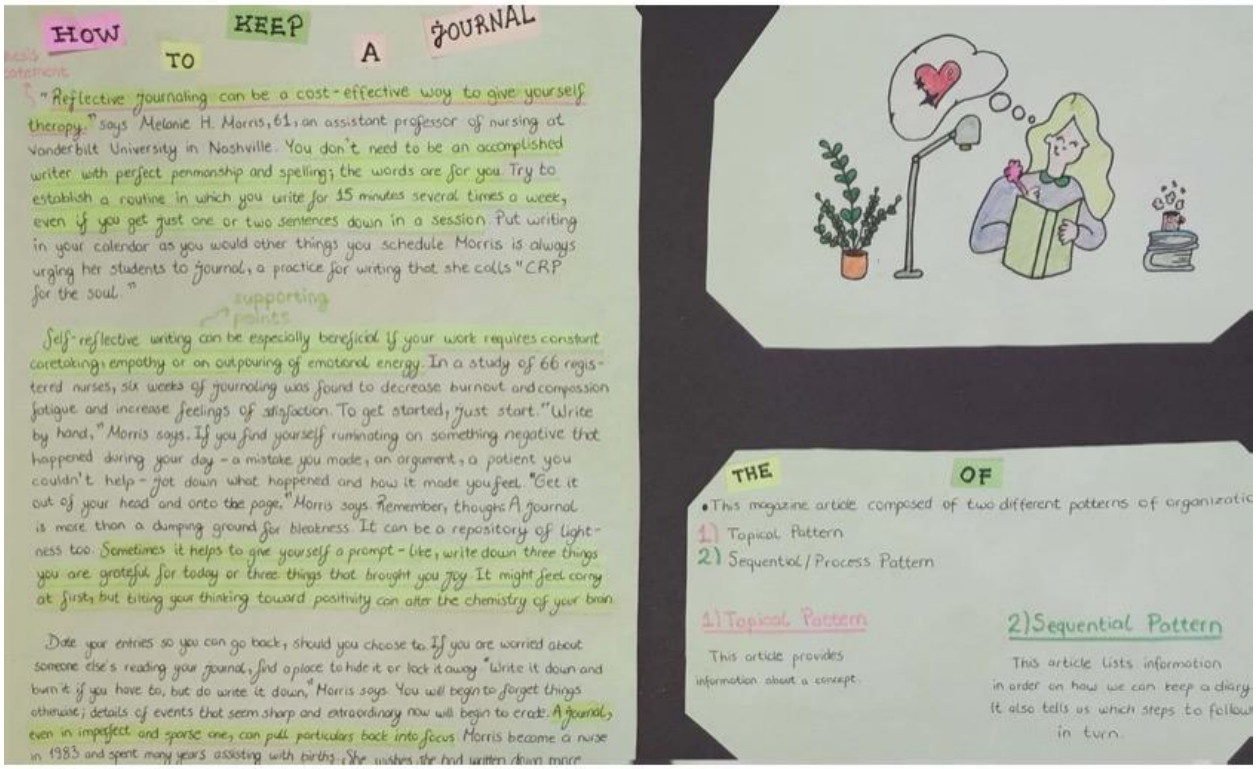
Appendix A

Sample student works of strategy training implemented in ER practices



HOW TO KEEP A JOURNAL

"Reflective journaling can be a cost-effective way to give yourself therapy." says Melanie H. Morris, 61, an assistant professor of nursing at Vanderbilt University in Nashville. You don't need to be an accomplished writer with perfect penmanship and spelling; the words are for you. Try to establish a routine in which you write for 15 minutes several times a week, even if you get just one or two sentences down in a session. Put writing in your calendar as you would other things you schedule. Morris is always urging her students to journal, a practice for writing that she calls "CRP for the soul."

supporting points

Self-reflective writing can be especially beneficial if your work requires constant caretaking, empathy or an outpouring of emotional energy. In a study of 66 registered nurses, six weeks of journaling was found to decrease burnout and compassion fatigue and increase feelings of satisfaction. To get started, just start. "Write by hand," Morris says. If you find yourself ruminating on something negative that happened during your day - a mistake you made, an argument, a patient you couldn't help - get down what happened and how it made you feel. "Get it out of your head and onto the page," Morris says. Remember, though: A journal is more than a dumping ground for bleakness. It can be a repository of lightness too. Sometimes it helps to give yourself a prompt - like, write down three things you are grateful for today or three things that brought you joy. It might feel corny at first, but tilting your thinking toward positivity can alter the chemistry of your brain.

Date your entries so you can go back, should you choose to. If you are worried about someone else's reading your journal, find a place to hide it or lock it away. "Write it down and burn it if you have to, but do write it down," Morris says. You will begin to forget things otherwise; details of events that seem sharp and extraordinary now will begin to erode. A journal, even in imperfect and sparse ones, can pull particulars back into focus. Morris became a nurse in 1983 and spent many years assisting with births. She wishes she had written down more

THE OF

•This magazine article composed of two different patterns of organizatio

1) Topical Pattern

2) Sequential / Process Pattern

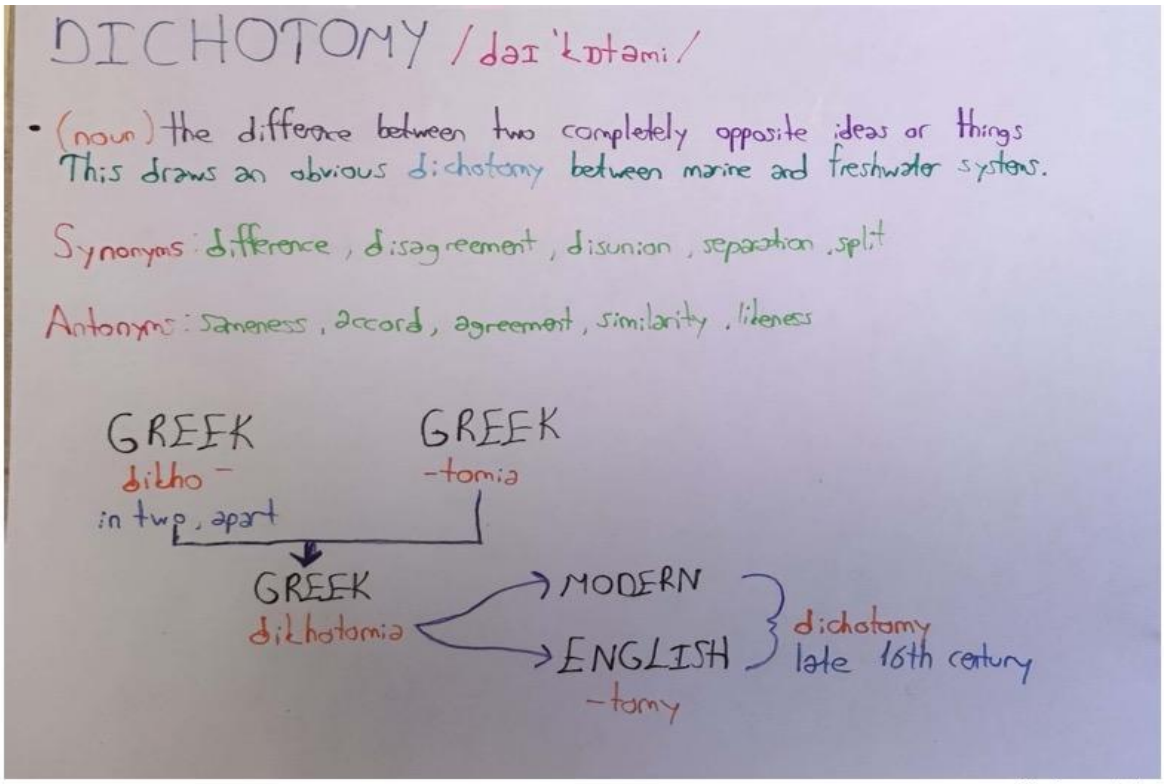
1) Topical Pattern

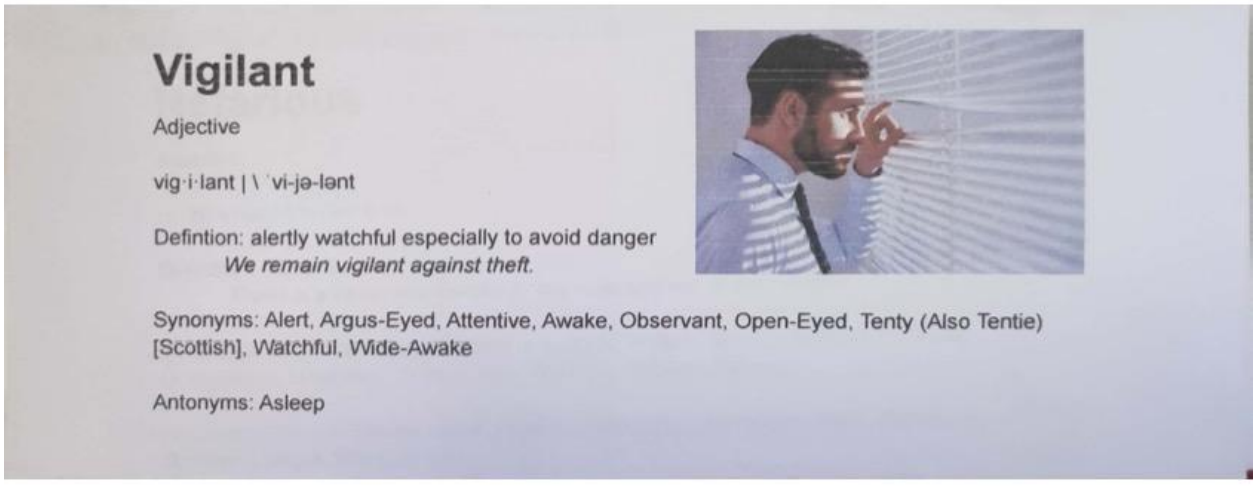
This article provides information about a concept.

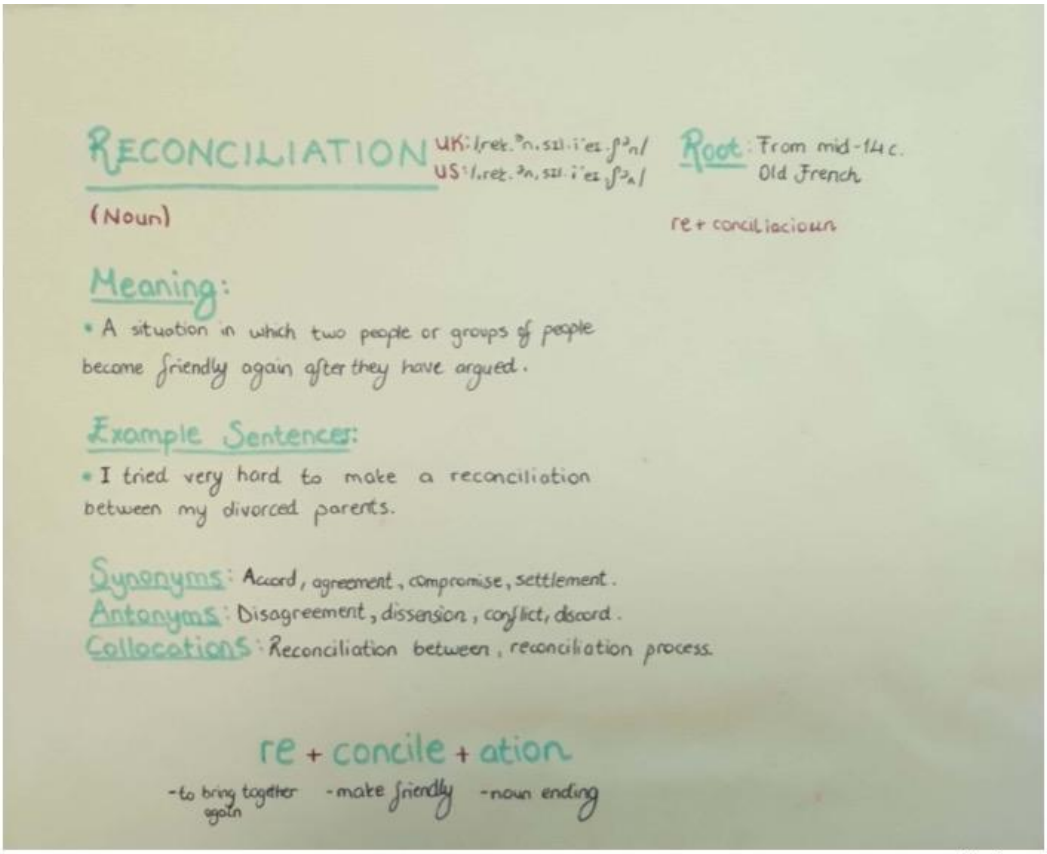
2) Sequential Pattern

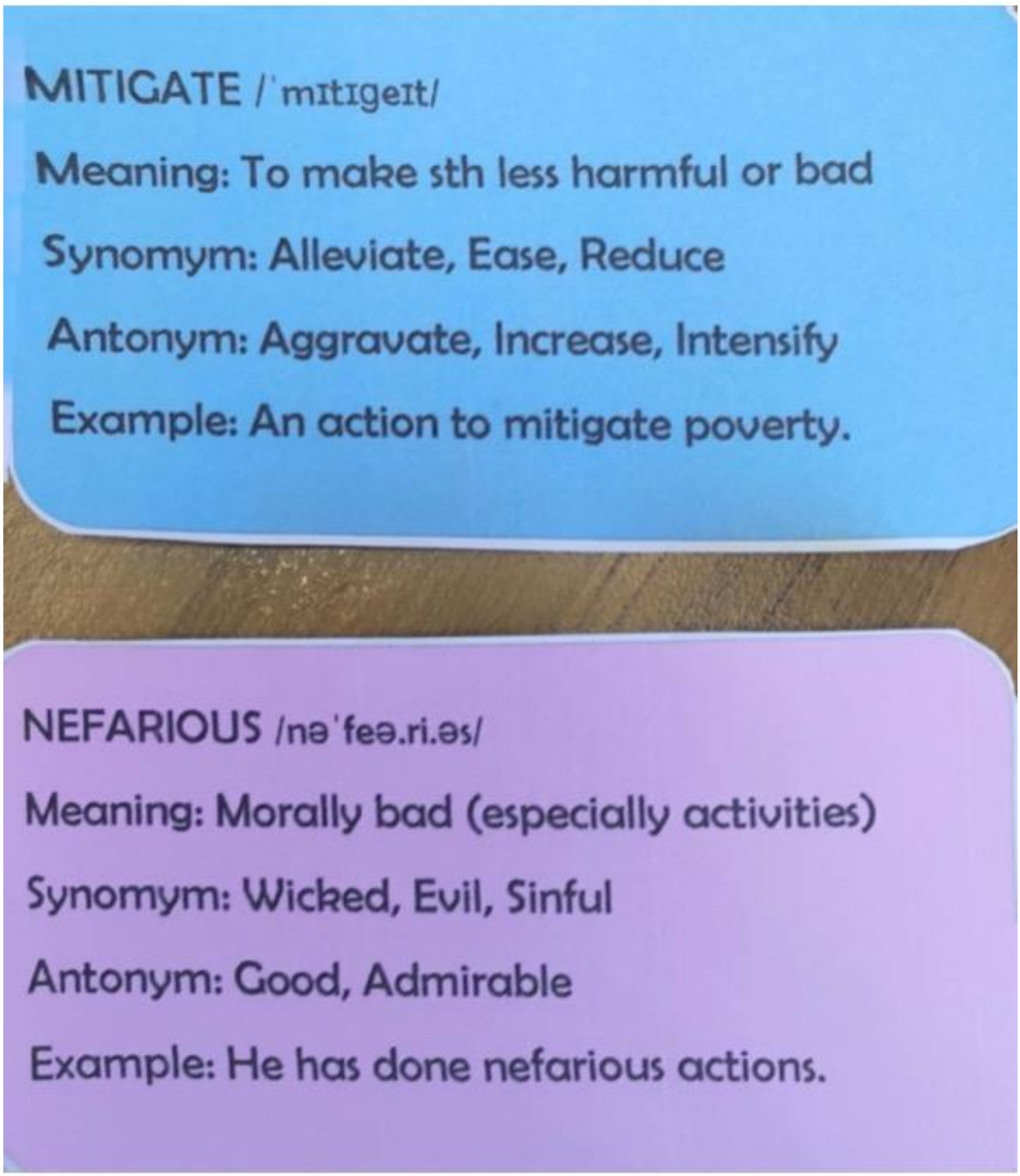
This article lists information in order on how we can keep a diary. It also tells us which steps to follow in turn.

CamScanner ile tarandı









Appendix B
(adapted from Day & Bamford, 2002, pp. 137-140)
What is extensive reading?

Steps for designing extensive reading activities:

1. Learners read in and out of class as much as possible. (on avg. 100,000 to 200,000 words per year)

2. Learners choose their own books based on their own purpose and objectives from a large variety of topics and genres.

3. Learners are allowed to choose the books that they want to read and are able to stop in the middle of reading, if they find the book to be uninteresting.

4. The purpose of reading is usually related to pleasure, information, and general understanding (not just for learning English).

5. Reading, alone, is its own reward, so no reading comprehension questions or homework should be assigned after reading.

6. Learners should read at a level that they can understand the basic gist of the material without using a dictionary (unknown words should include less than 5% of the text).

7. Learners should be given the opportunity to read quietly when, where, and at whatever pace they want.

8. Reading should be relatively fast (at least 100 words per minute).

9. In order to improve the benefits of extensive reading for students, teachers should explain the basics of extensive reading to the students and monitor their reading.

10. The teacher should act as a role model, reading in class along with the students.

Appendix C

DENEKLERİN GÖNÜLLÜLÜĞÜ
VE
AYDINLATILMIŞ ONAM FORMU
LÜTFEN BU DÖKÜMANI DİKKATLİCE OKUMAK İÇİN ZAMAN AYIRINIZ

Sizi "Yaygın okuma ve strateji eğitimleri ile okuma becerilerinin geliştirilmesi: Vaka analizi çalışması" başlıklı **araştırmaya** davet ediyoruz. Bu araştırmaya katılıp katılmama kararını vermeden önce, araştırmanın neden ve nasıl yapılacağını bilmeniz gerekmektedir. Bu nedenle bu formun okunup anlaşılması büyük önem taşımaktadır. Eğer anlayamadığınız ve sizin için açık olmayan şeyler varsa, ya da daha fazla bilgi isterseniz bize sorunuz.

Bu çalışmaya katılmak tamamen **gönüllülük** esasına dayanmaktadır. Çalışmaya **katılmama** veya katıldıktan sonra herhangi bir anda çalışmadan **çıkma** hakkında sahipsiniz. **Çalışmayı yanıtlamanız, araştırmaya katılım için onam verdiğiniz** biçiminde yorumlanacaktır. Size verilen **formlardaki** soruları yanıtlarken kimsenin baskısı veya telkini altında olmayın. Bu formlardan elde edilecek bilgiler tamamen araştırma amacı ile kullanılacaktır.

1. **Araştırmayla İlgili Bilgiler:**

a. **Araştırmanın Amacı:** Yaygın okuma pratiklerinin ve strateji eğitimlerinin ileri düzey İngilizce bilgisine sahip öğrencilerin okuma stratejilerini geliştirmedeki etkisini araştırmak

b. **Araştırmanın İçeriği:** Türkiye'deki İngiliz Dili Eğitimi lisans programlarında yürütülen 1. sınıf zorunlu dersi olan Okuma Becerileri dersinin daha etkili şekilde işlenebilmesi için bir örnek model oluşturmak amacıyla 14 haftalık bir izlence hazırlanıp bunların etkilerinin ileri düzey İngilizce bilgisine sahip öğrencilerin okuma stratejilerini geliştirmedeki etkisi incelenecektir.

c. **Araştırmanın Nedeni: X** Bilimsel araştırma □ Tez çalışması

d. **Araştırmanın Öngörülen Süresi:** 3 ay

e. **Araştırmaya Katılması Beklenen Katılımcı/Gönüllü Sayısı**: 100

f. **Araştırmanın Yapılacağı Yer(ler):** Yıldız Teknik Üniversitesi İngiliz Dili ve Eğitimi Bölümü, Giresun Üniversitesi İngiliz Dili ve Eğitimi Bölümü

2. **Çalışmaya Katılım Onayı:**

Yukarıda yer alan ve araştırmadan önce katılımcıya/gönüllüye verilmesi gereken bilgileri okudum ve katılmam istenen çalışmanın kapsamını ve amacını, gönüllü olarak üzerime düşen sorumlulukları tamamen anladım. **Çalışma hakkında yazılı ve sözlü açıklama aşağıda adı belirtilen araştırmacı tarafından yapıldı, soru sorma ve tartışma imkanı buldum ve tatmin edici yanıtlar aldım. Bana, çalışmanın muhtemel riskleri ve faydaları sözlü olarak da anlatıldı.** Bu çalışmayı istediğim zaman ve herhangi bir neden belirtmek zorunda kalmadan bırakabileceğimi ve bıraktığım takdirde herhangi bir olumsuzluk ile karşılaşmayacağımı anladım.

Bu koşullarda söz konusu araştırmaya kendi isteğimle, hiçbir baskı ve zorlama olmaksızın katılmayı kabul ediyorum.

☐ Evet, araştırmaya katılmak istiyorum.
☐ Hayır, araştırmaya katılmak istemiyorum.