

## Vocabulary retention, sustained attention, and enjoyment: using *Tick8* method to promote language achievement

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### Abstract

Although language skills have gained unparalleled momentum in language education, there is a paucity of research on one of the most significant subskills: vocabulary. Due to the underestimation of an efficient method to learn foreign language vocabularies, scant research attention has been dedicated to exploring the best vocabulary learning method. The major aim of this mixed-methods research is to assess the effectiveness of a departed vocabulary learning method, *Tick8*, on students' vocabulary knowledge. It also delves into exploring its impact on learners' sustained attention and enjoyment. Via an experimental design, 62 female middle school students were randomly assigned to control ( $N = 31$ ) and experimental ( $N = 31$ ) groups. The results of the study evidenced the positive role of the *Tick8* technique in participants' vocabulary learning and retention. The results of the semi-structured interviews with a number of participants also strengthened the results of the quantitative phase. Moreover, the results indicated significant differences between the control and experimental groups regarding their enjoyment, however the results of sustained attention were not significant. In other words, the *Tick8* Technique positively influenced student's enjoyment, but did not affect students' sustained attention.

**Keywords:** enjoyment, sustained attention, *Tick8*, vocabulary learning

### Introduction

In our globalized world, in which the concept of ELF (English as a Lingua Franca) has attracted adequate attention (Flaten Jarsve & Tsagari, 2022; Gandomkar et al., 2025) teachers and learners need to seek out the most effective ways of acquiring knowledge (Afitska & Said, 2022). Among all aspects of a language, vocabulary has been regarded as a fundamental tool

(Albalawi, 2024; Outamgharte et al., 2025; Pradheepa et al., 2025) and predictor in language learning and teaching (Alshumrani, 2024; Alshumrani & Al-Ahmadi, 2022; Pellicer-Sánchez, 2016; Sanchez-Gutierrez et al., 2022) which needs specific attention (Tamimi Sa'd & Rajabi, 2018). Vocabulary knowledge is the only subskill which is reflected in all aspects of a language. In order to speak and write in a second/foreign language, learners should know vocabularies; for listening and reading comprehension, the more vocabulary items they know, the more understanding might happen; also, grammatical knowledge is tied with vocabulary; and finally, pronunciation is included in vocabulary knowledge. Thus, it is crucial to consider this subskill more precisely (Nation, 2013).

Learning the most important vocabularies in a second/foreign language has always been a challenge for students (Sánchez-Gutiérrez et al., 2022; Schmitt, 2010, cited in Alshumrani, 2024). Thus, according to Schmitt (2010), a structured vocabulary program is needed to directly push students' attention towards vocabulary learning (cited in Alshumrani, 2024).

According to Nation (2013), vocabulary comprises three dimensions of meaning, form, and use. Based on recent investigations, English textbooks have primarily focused on form and meaning and have neglected vocabulary use (e.g., Sun & Dang, 2020). On the other hand, as De Groot (2006) has stated, textbooks, syllabi, teachers, and students are unaware and unsure regarding best methods or at least accepted theories to learn vocabulary items.

The Tick8 Technique is one of the best methods for learning vocabularies, especially in second/foreign language learning (Mahalleh et al., 2013). This method comprises repetition algorithm by which learners can retain unknown words intentionally. The theoretical basis of the study originated from Hermann Ebbinghaus's (1968) forgetting curve. His hypothesis focuses on two main elements of spaced repetition and memory representation. Ebbinghaus's forgetting curve, represented in Figure 1, shows the mechanism of one's forgetting (Chun & Heo, 2018, p. 56).

As can be seen, the memory retention rate reduces each day after the first learned time. Gradually, if no review is used, the learned item will be forgotten after seven days. This theory highlights the strong relation between memory and time (Anderson, 2000; Ebbinghaus, 1964), and the more reviews are used, the higher the rate of retention that will be achieved (Sol, 2016). Memory-related strategies in Tick8 along with cognitive and metacognitive characteristics of the method have made it a useful technique to learn vocabularies (Mahalleh et al., 2013).

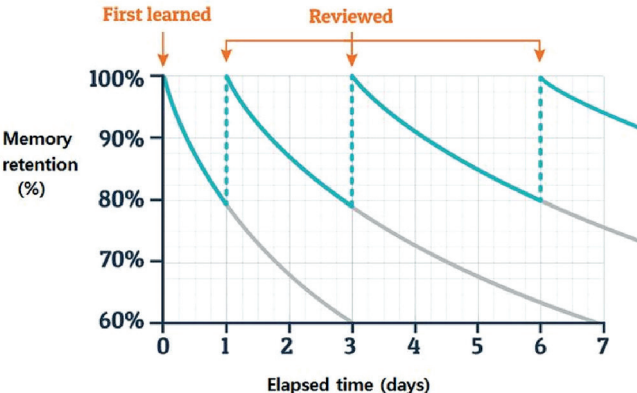


Figure 1 Ebbinghaus's forgetting curve

So far, the bulk of the published literature has been devoted to vocabulary learning as a product. There have been scant attempts to scrutinize the issue as a process. To fill this gap, the present study examines the effectiveness of a vocabulary learning method and explores its impact on two psychological aspects.

## Literature Review

### *Vocabulary Learning*

Most research on vocabulary learning and teaching has largely focused on implicit-explicit dichotomy to determine which one can foster vocabulary knowledge more effectively (Bergström et al., 2021; Pellicer-Sánchez, 2016). Implicit method uses a task to attract students' attention while teaching a set of words incidentally (Webb et al., 2023). This approach has been found to have some merits and be effective in enhancing one's vocabularies (Dang et al., 2022; Peters, 2018; Puimège & Peters, 2019). On the contrary, explicit way of teaching vocabulary items involves a deliberate intention with no attempt to indirect vocabulary instruction (Schmitt, 2010). Due to the fact that this method is time-consuming in class (Dang et al., 2022), it is suggested to use both implicit and explicit approaches in order to benefit from their advantages (Nation, 2013).

In a study, 91 English language teachers and 113 students' beliefs on vocabulary learning were assessed. The results indicated that both groups of participants value vocabulary the same as other language skills and have a general understanding about basic aspects of word knowledge (Alshumrani, 2024). Other studies on teachers and learners' beliefs about the role of vocabulary in language proficiency and mastery have also demonstrated how such conceptualizations affect classroom approach and efforts to vocabulary instruction (e.g., Chung & Fung, 2022; Mardali & Siyyari, 2019)

### *Sustained Attention*

Sustained attention is a cognitive ability by which individuals can ignore distractions and focus only on what they intend to learn (Best & Miller, 2010; Fortenbaugh et al., 2015; Romine & Reynolds, 2005). According to Anguera and Gazzaley (2015), attention plays an important role in one's mental and physical health, successful behavior, and academic achievement (Diamond, 2013; Good et al., 2016; Miyake & Friedman, 2012; Moffitt et al., 2011; Schlam et al., 2013; Steinmayr et al., 2010). A study done by McClelland et al. (2013) demonstrated that sustained attention is highly attributed to self-restraint and communal and educational results. It is also claimed that without sustained attention, meaningful learning does not take place (Wei et al., 2012).

Studies on sustained attention have used objective assessments in labs to measure the construct (e.g., Anobile et al., 2013; Conners, 2009; Peterson et al., 2017; Rueda et al., 2010; Stern & Shalev, 2013). These lab-based studies pinpoint that sustained attention leads to math and reading achievement (Shaywitz & Shaywitz, 2008; Stevens & Bavelier, 2012). One criticism of these studies is that they do not represent the issue in real world contexts such as schools and classrooms (Gallen et al., 2023; Obradović et al., 2018).

Other studies have considered sustained attention in environments beyond laboratories, however they imitated the same procedure in a quiet place like libraries (e.g., Arrington et al., 2014; Checa & Rueda, 2011; Kubota et al., 2020; Rezaei & Mousanezhad Jeddi, 2020; Shannon et al., 2021). The point is that such contexts lack distractors and do not represent the authentic and natural setting of the classroom (Ahmed et al., 2021; McCoy, 2019; Silver, 2014). Yet, another method is the teacher's or others' report on one's sustained attention. This approach also has its limitations; it is not precise enough and is totally subjective, since students' behavior may

be overestimated or underestimated (Ahmed et al., 2021). Because of its complexity and the inability of existing methods to examine sustained attention, new research suggests digital cognitive tasks to assess it to gain reliable and valid results (Obradović et al., 2018).

### **Foreign Language Enjoyment**

Foreign language enjoyment has been considered a positive emotional aspect by positive psychologists (Kasap, 2021; Wang et al., 2021). It refers to feeling good (Han & Wang, 2021) as a result of accomplishing a difficult task (Boudreau et al., 2018; Csikszentmihalyi, 2014). The interaction between one's ability and challenge is the key element in defining enjoyment (Dewaele & MacIntyre, 2016).

The existing literature reveals that most of the psychological studies in the field of second/foreign language learning have primarily focused on negative emotional constructs such as anxiety, demotivation, etc. (Derakhshan & Shakki, 2019; Kasap & Power, 2019; King & Ng, 2018). In this era where negative aspects of language learning are replaced by more positive ones, new explorations in research are of great importance (Buric & Macuka, 2018; Derakhshan & Shakki, 2020; Guo, 2021; Jiang, 2020; MacIntyre et al., 2020).

Li et al. (2018) investigated the sources of students' enjoyment. The results indicated that learner achievement, satisfaction, class environment, teacher and peer support, and collaboration are among the factors by which foreign language enjoyment can be achieved. Other studies have come to the same conclusions (e.g., Jiang & Dewaele, 2019; Sampson, 2020).

### **Research Problem and Research Questions**

According to Tamimi Sa'd and Rajabi (2018), vocabulary acquisition techniques should be introduced to English as a Foreign Language (EFL) students to learn vocabularies via strategy training. The present study examined the effect of the Tick8 Technique on students' vocabulary retention, sustained attention, and enjoyment. It also sought to explore students' perceptions towards using the technique. Thus, these research questions were answered:

RQ1: Does the Tick8 Technique affect EFL students' vocabulary retention?

RQ2: Does the Tick8 Technique affect EFL students' sustained attention?

RQ3: Does the Tick8 Technique affect EFL students' enjoyment?

RQ4: What are EFL students' perceptions of using the Tick8 Technique for learning new vocabulary items?

## **Method**

### **Participants**

For the purposes of the study, 62 female middle school students from Imam Reza (PBUH) Schools in Mashhad, Iran, were randomly assigned to control ( $N = 31$ ) and experimental ( $N = 31$ ) groups. They were learning English at the second and third levels of middle school. They were all at the A1 level of proficiency according to CEFR. To ensure their homogeneity in the context of their English proficiency level, vocabulary knowledge, sustained attention, and enjoyment, a standard vocabulary test along with two other tests involving the material of their books as well as two questionnaires were administered as a pre-test.

### **Instruments**

Standard Vocabulary Size Test (VST)

The VST was utilized to determine the participants' language proficiency. The test was modeled after the English Vocabulary Levels Test designed by Nation (1990). The source of the VST is

the Leech et al.'s (2001) word frequency list based on the British National Corpus comprising the most frequently used 5,000 words of English (Tschirner, 2021). It is a valid and reliable test to measure vocabulary proficiency with a Cronbach's alpha of 0.94 (Tschirner, 2021). The original test includes 140 multiple choice questions, however, the researchers of the present study selected 15 questions based on the relevance to students' needs and visibility considerations (see Appendix A).

#### Designed Vocabulary Tests

In addition to the standard and international VST, the researchers designed two sets of tests comprised of 20 items each based on the vocabularies assumed to be learned by the students during the semester in *Prospect 2* and *3* and *Teen2Teen 1* books (as their textbooks). The reliability estimates for the designed test of the *Teen2Teen 1* book was found to be 0.71 and for *Prospect* books 0.79. These tests can be seen in Appendices B, C, and D, respectively.

#### Sustained Attention Scale

To assess participants' sustained attention at the beginning of the semester, the Sustained Attention Scale, designed by Wei et al. (2012), was used. It has 6 items with a 7-point Likert-type scale. The Cronbach's alpha was found to be 0.80.

#### Students' Enjoyment Scale (SES)

The Students' Foreign Language Enjoyment Scale was designed and validated by Li et al. (2018). The Persian translation of the scale validated by Ramezani and Ghanizadeh (forthc.) was utilized in the present study to measure learners' enjoyment. The scale includes 11 items with a 5-point Likert-type format. Cronbach's alpha reported for the scale is 0.86.

#### Interview

In the qualitative phase of the study, students from both control ( $N = 10$ ) and experimental ( $N = 10$ ) groups were randomly chosen for holding semi-structured interviews. They were required to talk about their experiences of learning the vocabularies, and whether they liked it or not.

#### Procedure

The process of data collection started in January 2024 and ended in March 2024. The Standard VST and the aforementioned questionnaires were distributed among all the participants as pre-tests (in January) and as post-tests (in March).

The two groups had the same teacher and materials for instruction, and the only difference was the use of intervention in the experimental group. To initiate this, two separate online groups in *Bale*, a social media platform in Iran, were created, and students of each group were added. Each day, 10 new vocabularies were introduced along with their meanings, pictures, pronunciations, and examples. The experimental group was instructed to make Tick8 cards (see Appendix E) and write the new words on them. Then, for the following 7 days, they were encouraged to review the words.

As explained by Mahalleh et al. (2013), the basis of vocabulary accumulation was in accordance with Tick8 cards consisting of 20 vocabularies (in this study, 10 vocabularies were taught for feasibility considerations). The meaning of the vocabularies was stated on the back of the same page, with 8 squares in front of each vocabulary.

On the second day, correctly answered squares were signed with a "tick", but if students did not know the meaning of the words, they instead used the "cross" sign. This procedure

continued, and after eight days when all squares were marked with “ticks” or “crosses”, the first card was archived.

This procedure was followed for 42 days in order to learn 420 vocabularies in students’ books. In the control group, nevertheless, only the new vocabularies were taught, but no technique was introduced. Students were free to use any method they preferred to master the vocabulary items.

The experimental group was actively and enthusiastically involved in the process of using the Tick8 Technique. All the participants were highly motivated to understand the words and their meanings.

Results

Table 1 summarizes the descriptive results of vocabulary knowledge measured by the VST and the two designed tests in the two groups. As the table shows, the mean scores of vocabulary tests across participants are slightly different.

Table 1 Descriptive statistics of vocabulary knowledge

|              | Group | N  | Mean  |
|--------------|-------|----|-------|
| PreStanTotal | Ex    | 32 | 6.28  |
|              | Con   | 31 | 5.12  |
| PreProTotal  | Ex    | 32 | 11.81 |
|              | Con   | 31 | 10.64 |
| PreTeenTotal | Ex    | 32 | 11.84 |
|              | Con   | 31 | 10.67 |

Table 2 presents the results of the *t*-test run on vocabulary knowledge. As can be seen, the two groups are homogenous regarding their vocabulary knowledge before the study.

Table 2 Independent samples *t*-test of pre-test on vocabulary knowledge

|              | Levene’s Test<br>for Equality<br>of Variances |      | <i>t</i> | <i>df</i> | Sig.<br>(2-tailed) | Mean<br>Difference | Std.<br>Error<br>Difference |
|--------------|-----------------------------------------------|------|----------|-----------|--------------------|--------------------|-----------------------------|
|              | <i>F</i>                                      | Sig. |          |           |                    |                    |                             |
| PreStanTotal | .871                                          | .354 | 1.53     | 61        | .131               | 1.15               | .75                         |
|              |                                               |      | 1.53     | 60.55     | .130               | 1.15               | .75                         |
| PreProTotal  | .035                                          | .853 | 1.18     |           | .243               | 1.16               | .98                         |
|              |                                               |      | 1.17     | 60.68     | .243               | 1.16               | .98                         |
| PreTeenTotal | .065                                          | .799 | 2.50     |           | .215               | 1.16               | .86                         |
|              |                                               |      | 2.50     | 60.30     | .015               | 2.16               | .86                         |

Table 3 shows the descriptive results of the two variables.

**Table 3** Descriptive statistics of students’ sustained attention and enjoyment in pre-test

|                         | Group | N  | Mean  |
|-------------------------|-------|----|-------|
| Sustained Attention Pre | Ex    | 32 | 21.12 |
|                         | Con   | 31 | 22.25 |
| Enjoyment Pre           | Ex    | 32 | 37.71 |
|                         | Con   | 31 | 38.87 |

Table 4 presents the results of *t*-tests run on sustained attention and enjoyment. As can be seen, the two groups were homogenous regarding their sustained attention and enjoyment before the study.

**Table 4** Independent samples *t*-test of pre-test on student’s sustained attention and enjoyment

|                            | Levene’s Test<br>for Equality<br>of Variances |      | <i>t</i> | <i>df</i> | Sig.<br>(2-tailed) | Mean<br>Difference | Std.<br>Error<br>Difference |
|----------------------------|-----------------------------------------------|------|----------|-----------|--------------------|--------------------|-----------------------------|
|                            | <i>F</i>                                      | Sig. |          |           |                    |                    |                             |
| Sustained<br>Attention Pre | .01                                           | .91  | −.99     | 61        | .32                | −1.13              | 1.14                        |
|                            |                                               |      | −.99     | 61.00     | .32                | −1.13              | 1.14                        |
| Enjoyment<br>Pre           | 2.13                                          | .15  | −.34     | 61        | .73                | −1.15              | 3.38                        |
|                            |                                               |      | −.34     | 46.03     | .73                | −1.15              | 3.35                        |

As can be seen in Table 5, the mean of the experimental group (*M* = 32.81, *SD* = 7.19) is higher than that of control group (*M* = 27.00, *SD* = 9.30).

**Table 5** Descriptive statistics of post-test on vocabulary knowledge

|                | Group | N  | Mean  |
|----------------|-------|----|-------|
| VocabularyPost | Ex    | 32 | 32.81 |
|                | Con   | 31 | 27.00 |

As Table 6 shows, the experimental group gained higher scores in vocabulary tests, which is an indication of the efficiency of the Tick8 Technique.

**Table 6** *Independent samples t-test of post-test on vocabulary knowledge*

|            | Levene's Test<br>for Equality of<br>Variances |      | <i>t</i> | <i>df</i> | Sig.<br>(2-tailed) | Mean<br>Difference | Std.<br>Error<br>Difference |
|------------|-----------------------------------------------|------|----------|-----------|--------------------|--------------------|-----------------------------|
|            | <i>F</i>                                      | Sig. |          |           |                    |                    |                             |
| Vocabulary | 6.019                                         | .017 | 2.77     | 61        | .007               | 5.81               | 2.09                        |
| Post       |                                               |      | 2.76     | 56.45     | .008               | 5.81               | 2.10                        |

Table 7 illustrates the descriptive results of descriptive statistics in two groups.

**Table 7** *Descriptive statistics of students' sustained attention and enjoyment in post-test*

|                          | Group | <i>N</i> | Mean  |
|--------------------------|-------|----------|-------|
| Sustained Attention Post | Ex    | 32       | 24.78 |
|                          | Con   | 31       | 21.54 |
| Enjoyment Post           | Ex    | 32       | 39.81 |
|                          | Con   | 31       | 32.35 |

Table 8 presents the results of *t*-tests run on the two variables. As can be seen, there are statistically significant differences regarding enjoyment ( $t = 1.47, p < .05$ ), however the results of sustained attention were not significant ( $t = 0.70, p > .05$ ).

**Table 8** *Independent samples t-test of post-test on student's sustained attention and enjoyment*

|                                | Levene's Test<br>for Equality<br>of Variances |      | <i>t</i> | <i>df</i> | Sig.<br>(2-tailed) | Mean<br>Difference | Std.<br>Error<br>Difference |
|--------------------------------|-----------------------------------------------|------|----------|-----------|--------------------|--------------------|-----------------------------|
|                                | <i>F</i>                                      | Sig. |          |           |                    |                    |                             |
| Sustained<br>Attention<br>Post | .990                                          | .08  | −.70     | 61        | .48                | −.76               | 1.09                        |
|                                |                                               |      | −.70     | 59.4      | .48                | −.76               | 1.09                        |
| Enjoyment<br>Post              | .039                                          | .01  | −1.47    | 6         | .012               | −3.54              | 2.39                        |
|                                |                                               |      | −1.47    | 60.99     | .012               | −3.54              | 2.39                        |

Interviews were conducted in addition to quantitative data to provide a deeper, more nuanced understanding of the research problem by capturing participants' perspectives, experiences, and contextual insights that numerical data alone cannot fully convey. This mixed-methods

approach enhances the validity and comprehensiveness of the study by triangulating data, ensuring that the results are not only statistically robust but also contextually meaningful. Furthermore, interviews can uncover unanticipated themes or complexities that may not emerge from structured surveys or experiments, thereby contributing to a more holistic analysis. By integrating both approaches, researchers can bridge the gap between broad patterns and individual lived experiences, ultimately leading to more informed and actionable conclusions. Thus, the following interview questions were asked:

1. What methods did you use to learn vocabularies? (control group)
2. How much Tick8 Technique was useful for you? (experimental group)
3. What are some advantages of using Tick8 for vocabulary learning? (experimental group)
4. What are some disadvantages of using Tick8 for vocabulary learning? (experimental group)
5. Will you use the Tick8 method again to learn vocabularies? Why? (experimental group)

Some students' responses are provided here:

Control group interviews:

- Student A: *Whenever I had time and there were too many words, I spent about half an hour to read the vocabularies and their meanings.*
- Student B: *I tried to use coding to repeat the words. I learn by writing. It took about half an hour each day to learn the words.*
- Student C: *First, I drew a table in my notebook and colored it. Then, I wrote the words in it and repeated them several times.*
- Student D: *I studied the words before I go to sleep by reading them.*
- Student E: *I don't know any specific method to learn the words. I just wrote them and read the vocabularies with their meanings.*

Experimental group interviews:

- Student A: *The Tick8 method was very useful for me. It caused the words remain in my subconscious mind. It was just a little time-consuming to draw tables and write down the words. Of course, I will use it again! I am making the tables now to learn new words in summer!*
- Student B: *Tick8 worked for me! For sure, it depends on the person to use it constantly, and if done every day all the words will be kept in long-term memory, I think. I will use it in future, because it gives me a precise schedule to study.*
- Student C: *Something good about Tick8 was that it forced me to study the words every day. I mean, repetitions help to retain new words. Sometimes, it took a lot of time to prepare. Of course, I will use it again, because I did learn a lot!*
- Student D: *Tick8 caused me to get a high score in my exam, because when I learned the words without this method, I used to forget them soon. But, with Tick8 I could retain many words! I will definitely use it again.*
- Student E: *Tick8 was a new technique for me to learn difficult words. By repeating over and over, I could learn words better. I know it is difficult, but it does worth it!*

## Discussion and Conclusions

The results of this study indicated that the Tick8 Technique influenced students' vocabulary learning and retention positively and significantly. Vocabulary test scores were significantly

higher in the experimental group. The Tick8 method enhanced EFL students' vocabulary test scores by leveraging principles of spaced repetition and deep processing, which are well-established in cognitive psychology and second language acquisition research. By requiring students to study a word over eight consecutive days, this method ensures repeated exposure at optimal intervals, strengthening memory retention and recall. Spaced repetition, as opposed to massed practice (cramming), allows for gradual encoding into long-term memory, reducing the risk of forgetting. Additionally, the extended engagement with each word over multiple days encourages elaborative processing, where learners form meaningful associations, use the word in different contexts, and reinforce semantic connections—key factors in vocabulary mastery. Research in applied linguistics consistently shows that distributed practice leads to better retention than single-session learning, and the eight-day cycle in the Tick8 method aligns with findings on the forgetting curve, ensuring reinforcement before decay occurs.

This is in line with Mahalleh et al.'s (2013) study in which 40 Iranian students took part. The researchers aimed at finding the effect of Tick8 on students' vocabulary learning. To do so, they put students in control and experimental groups, used the technique in the experimental group, and concluded that this group outperformed the control group. Previous research has also emphasized the effectiveness of using learning strategies in the process of language learning (Bayabel & Tahir, 2023; Calafato & Clausen, 2024; Memis, 2018; Pavicic, 2008).

Furthermore, the findings suggested that students in the experimental group had more enjoyment experiences than their counterparts in the control group. The Tick8 method transforms a traditionally monotonous task into a structured yet engaging process that fosters a sense of progress and achievement. By breaking down vocabulary acquisition into manageable, daily interactions with target words over eight days, the method reduces cognitive overload and makes learning feel less daunting. The gradual reinforcement of words creates a rewarding feedback loop—as students notice their growing familiarity and mastery, their confidence and motivation rise. Additionally, the method's clear daily goals provide a sense of accomplishment, tapping into the psychological benefits of small wins, which are known to boost engagement and satisfaction. Unlike cramming, which can feel stressful and ineffective, the Tick8 method's paced approach aligns with natural memory processes.

Previous research on focused vocabulary learning and enjoyment have emphasized the fact that moving towards a goal enhances enjoyment (Le, 2024). One of the controversial issues in this regard is self-regulation, one's ability to control unpredictable unwilling situations in the process of learning. Le (2024) proved that self-regulated vocabulary learning can enhance students' enjoyment. The Tick8 Technique, via its precise and standard planning, can help learners improve their self-regulation and thus enhance their enjoyment.

The third finding of the present study was that the Tick8 Technique did not have any significant impact on students' sustained attention. One of the most influential factors for gaining such results is that the method by which sustained attention was measured might not be sufficient. This is a cognitive indication affected by different factors, which is why many different tasks and tests have been designed (Nasiri et al., 2023). Hence, evaluating this complex cognitive variable via some questionnaire items might not be enough to have an in-depth understanding of the effect of this technique on students' sustained attention.

Also, while the method's spaced repetition design optimizes long-term memory retention, its primary focus is on distributed practice rather than immediate cognitive engagement or attentional control. Sustained attention may not be directly influenced by a technique centered on incremental vocabulary exposure, as it does not inherently include dynamic or interactive elements (e.g., gamification, multimedia stimuli, or task variation) known to heighten focus.

Moreover, the repetitive nature of revisiting words over eight days, though effective for retention, could lead to habituation, where familiarity reduces novelty-driven attention. Cognitive psychology suggests that sustained attention thrives on challenge and variability, which Tick8's structured, predictable cycle may lack unless supplemented with active learning strategies. In addition, individual differences in attentional capacity may further dilute any observable effect, as the method does not explicitly adapt to these needs. Thus, while Tick8 excels in vocabulary consolidation, its design does not inherently target the mechanisms (e.g., arousal, novelty, or task-switching) that drive sustained attention, justifying the absence of significant effects.

The qualitative phase also proved that all interviewees had favorable attitudes towards the Tick8 Technique and enjoyed the experience. The only negative aspect of this experience, mentioned by the participants, was the time-consuming aspect. Thus, it is suggested to design an online platform in which vocabularies are listed, and students can learn the words without spending time preparing the cards and writing down the vocabulary items.

The findings of the present study might be useful for language teachers and practitioners. Results of this study revealed that using a strategy-based technique, such as Tick8 in learning vocabularies, provide more understanding and enjoyment among students (Tamimi Sa'd & Rajabi, 2018). These positive attitudes in turn assist learners shape their conceptualization toward their learning of English. Teachers can further enhance enjoyment by incorporating creative exercises (e.g., storytelling, word associations, or quick peer quizzes) within the eight-day cycle, adding variety and social interaction.

It can be concluded that even a short period of time using this technique can build positive perceptions and attitudes along with higher vocabulary retention. Future studies can also consider the effectiveness of this technique via technology which might bring much more enjoyment for students (Jiang et al., 2022). In other words, teachers need to improve their knowledge regarding technological advances for effective learning (Salas-Rueda et al., 2022).

This study was limited due to a number of reasons. First, convenience sampling was used to choose participants. Thus, the study can be replicated among random samples. Second, it was conducted in a school, and other contexts such as university or private institute were not considered. Third, it was done only among female students. Hence, the results might be different among males. Nevertheless, attempts were made to collect and analyze data precisely.

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Appendix A

15 items of Vocabulary Size Test (VST)

1. SEE: They saw it.

a) cut

b) waited for

c) looked at

d) started
2. TIME: They have a lot of time.

a) money

b) food

c) hours

d) friends
3. POOR: They are poor.

a) have no money

b) feel happy

c) are very interested

d) do not like to work hard
4. DRIVE: He drives fast.

a) swims

b) learns

c) throws balls

d) Uses a car
5. JUMP: She tried to jump.

a) lie on top of the water

b) get off the ground suddenly

c) stop the car at the edge of the road

d) move very fast
6. SHOE: Where is your shoe?

a. the preson who looks after you

b. the thing you keep your money in

c. the thing you use for writing

d. the thing you wear on your foot
7. STONE: He sat on a stone.

a. hard thing

b. kind of chair

c. soft thin on the floor

d. part of a tree
8. CIRCLE: Make a circle.

a. rough picture

b. space with nothing in it

c. round shape

d. large hole
9. MICROPHONE: Please use the microphone.

a. machine for making food hot

b. machine that makes sounds louder

c. machine that makes things look bigger

d. small telephone that can be carried around
10. SOLDIER: He is a soldier.

a. person in a business

b. student

c. person who uses metal

d. person in the army
11. VOCABULARY: You will need more vocabulary.

a. words

b. skill

c. money

d. guns
12. QUIZ: We made a quiz.

a. thing to hold arrows

b. serious mistake

c. set of questions

d. box for birds to make nests in
13. DINOSAUR: The children were pretending to be dinosaurs.

a. robbers who work at sea

b. very small creatures with human form but with wings

c. large creatures with wings that breathe fire

d. animals that lived a long time ago

14. STANDARD: Her standards are very high.

a. the bits at  
the back under  
her shoes

b. the marks  
she gets  
in school

c. the money  
she asks for

d. the levels  
she reaches  
in everything
15. UPSET: I am upset.

a. tired

b. famous

c. rich

d. unhappy

## Appendix B

### *The Designed Prospect 2 Multiple-Choice Test*

1. Reza said: "I'm ..... Iranian. I love my country".  
a) from                      b) originally                      c) live                      d) nationality
2. Asia, Europe, Africa, and America are .....  
a) continents                      b) countries                      c) cities                      d) villages
3. Mina likes climbing the .....on Friday mornings.  
a) library                      b) horse                      c) mountain                      d) continent
4. My father ..... poor people with money and foods.  
a) helps                      b) speaks                      c) reads                      d) listens
5. Elham asked Sara: "could you ..... your notebook tomorrow, please?"  
a) bring                      b) begin                      c) big                      d) playing
6. The doctor said to the patient: "You have a ....., you should have some pills."  
a) matter                      b) fever                      c) father                      d) center
7. A ..... is a place for buying medicine, pills and syrups for patient people.  
a) shopping                      b) mall                      c) dining room                      d) drugstore
8. We should cover our nose when we .....  
a) sneeze                      b) sing                      c) eat                      d) think
9. Muslims go to the mosque for praying but, Christians go to the .....  
a) church                      b) mall                      c) forest                      d) cheap
10. Babolsar is a city at the ..... of Iran.  
a) south                      b) east                      c) north                      d) west
11. 33 Pole is the name of one important ..... in Isfahan, on *Zayande Rood* river.  
a) bridge                      b) building                      c) palace                      d) store
12. We visited Tehran's old places last year. One of them was *Niavaran* .....  
a) picture                      b) place                      c) plow                      d) palace
13. When the weather is..... it is too cold for playing outside.  
a) sunny                      b) snowy                      c) windy                      d) rainy
14. .... is something with which we can see temperature.  
a) Thermometer                      b) Centimeter                      c) Kilometer                      d) Chronometer
15. I like living in ..... There are trees, rivers, sheep, cow, hen and other animals. The sky is clean.  
a) boulevard                      b) city                      c) museum                      d) village
16. Farmers use ..... and make a field ready for planting.  
a) ruler                      b) radio                      c) plow                      d) paper
17. She liked the movie in the cinema. The film was .....  
a) browsing                      b) listening                      c) running                      d) interesting
18. Mahsa and Mina are sisters. They are speaking about their .... They want to do something new in their free time, on Friday.  
a) hobbies                      b) jobs                      c) problems                      d) worries
19. .... in the park and breathing clean air helps us to be healthy.  
a) Riding                      b) Searching                      c) Browsing                      d) Walking
20. Mina: "Zahra! could you please help me with my English today?"  
Zahra: " ..... I should go to the doctor! Excuse me , I can't!"  
a) Really                      b) Happily                      c) Friendly                      d) Actually



**TEHRAN**



## Appendix C

### *The Designed Prospect 3 Multiple-Choice Test*

1. A hospital should be a ..... place, because patients need to rest well.  
a) noisy                      b) quiet                      c) cruel                      d) careless
2. My brother isn't ..... He is a generous boy; he likes to help poor people.  
a) brave                      b) neat                      c) selfish                      d) shy
3. The ..... boy didn't like to do something! He wanted to seat on a chair and just watch TV.  
a) rude                      b) hardworking                      c) cruel                      d) lazy
4. "If you want to travel to somewhere! You should..... a hotel first!"  
a) check in                      b) like                      c) book                      d) install
5. The airport employee said: "let's..... your baggage sir!" "oh no! it is so heavy!"  
a) reclaim                      b) weigh                      c) reserve                      d) check in
6. When you travel to one other country, you should ..... money to be able to buy anything needed.  
a) take out                      b) exchange                      c) check in                      d) reserve
7. Iranian people go out and watch ..... on religious ceremonies.  
a) fire work                      b) cinema                      c) TV                      d) store
8. On 22<sup>nd</sup> of Bahman, Iranian people celebrate the Islamic .....  
a) military                      b) Nature day                      c) revolution                      d) religious  
parade                      anniversary                      holiday
9. Football players ..... before starting the game.  
a) watch                      b) sing the                      c) watch                      d) celebrate  
fireworks                      national anthem                      military parade
10. "The bus is coming! Let's ..... the bus "  
a) get on                      b) get off                      c) go out                      d) check in
11. "His house is far from here! There is a long way! Let's ..... a taxi"  
a) hire                      b) hide                      c) check                      d) buy
12. The bank employee said: "you should ..... here in our bank to be able to use our services.  
a) put out                      b) open an                      c) recharge                      d) buy something  
money                      account                      your e-ticket
13. When the Corona virus affected lots of countries in the world, students had to .....  
a) ask the                      b) do                      c) participate                      d) donate blood  
information                      voluntary                      in an online  
desk                      work                      course
14. I'm waiting to ..... from my teacher! she wanted to check my homework and tell me about my errors.  
a) receive                      b) check the                      c) connect                      d) call  
an email                      time table                      the internet
15. First of all, you should ..... a program on your computer to able to use it.  
a) delete                      b) install                      c) watch                      d) interview
16. His mother didn't let him to touch the hot iron. She said" Don't touch it! You would ..... yourself!  
a) blood                      b) hurt                      c) burn                      d) cut
17. Last year he fell down from a horse. he ..... his leg! He didn't ride a horse from that time.  
a) broke                      b) bleed                      c) blocked                      d) brought



18. The doctor said the fat man "If you don't do exercise and eat too much oily food, it is possible to have ....."
- a) bruises              b) injuries              c) a heart attack              d) a scar
19. The boy didn't see the wall in front! He ..... on the wall.
- a) heat              b) jumped              c) hurt              d) put
20. Marry had an accident! Her car ..... to the wall badly.
- a) cried              b) carried              c) crashed              d) caused

## Appendix D

### *The Designed Teen2Teen 1 Multiple-Choice Test*

1. A: Hi, Sara!  
B: I'm not Sara! I'm Daphne. She is Sara over there.  
A: oh, I'm .....  
B: Its ok  
a) sorry                      b) nice                      c) happy                      d) ok
2. He is my friend. His name is Anderson, his ..... is Andy.  
a) nickname                      b) first name                      c) last name                      d) family name
3. Ronaldo is a famous ..... . He is a Portuguese soccer player.  
a) song writer                      b) actor                      c) singer                      d) athlete
4. when I asked "what was the movie like?", she was so happy and said:" It was ...."  
a) absolute                      b) awesome                      c) boring                      d) totally
5. I enjoy ..... class. I like learning about people's lives in the past time.  
a) science                      b) math                      c) history                      d) gym
6. A: "When is our first class?"  
B: "Our first class starts at 7:30! Its 7:35! We are ....!"  
a) early                      b) late                      c) on time                      d) busy
7. My friend has a very..... hair. His hair can't be straight at all.  
a) gray                      b) long                      c) short                      d) curly
8. "Let's enjoy swimming and sitting beside the ...."  
a) bench                      b) beach                      c) mall                      d) watch
9. She said: "Turn on the TV! The volleyball .....starts now!  
a) party b) movie                      c) concert                      d) game
10. He asked: "when is the science class?"  
She looked at her paper and said: ".....let me check. It starts at 10"  
a) Great                      b) Just a minute                      c) It's too late                      d) It's bad
11. She likes sleeping in the big ..... to get clean and relax.  
a) toilet                      b) sink                      c) bathtub                      d) sofa
12. They needed some new .....like a bed, a desk, and a new fridge for their new house.  
a) living room                      b) furniture                      c) clothes                      d) pictures
13. In the middle of summer, the weather is so..... at noon to play outside.  
a) cool                      b) heavy                      c) hot                      d) hard
14. "The weather is cloudy! The sky is getting dark. The weather is getting ..... , so take an umbrella with you"  
a) sunny                      b) better                      c) rainy                      d) windy
15. "There is a beautiful park in our .....! Let's go there and play!"  
a) neighborhood                      b) building                      c) classmate                      d) location
16. She doesn't like cold weather at all! She likes to wear ..... and jeans to get warmer"  
a) T -shirt                      b) sweater                      c) dress                      d) pants
17. " Look at the price! That's too..... Sorry! we can't buy it! "  
a) cheap                      b) big                      c) small                      d) expensive
18. There is a lot of noise! Please be quiet. I need to ..... and study for my exam!"  
a) commemorate                      b) concert                      c) concentrate                      d) careful



19. There is a ..... sign on the wall which shows danger!  
a) warming                      b) beautiful                      c) swimming                      d) warning
20. Visiting the new country was so ..... for the tourist. She was so excited. She likes to see everywhere.  
a) fantastic                      b) famous                      c) bad                      d) popular

Appendix E

The Tick8 Card Format

|     |      |  |  |  |  |  |  |  |  |
|-----|------|--|--|--|--|--|--|--|--|
|     |      |  |  |  |  |  |  |  |  |
| No. | Word |  |  |  |  |  |  |  |  |
| 1   |      |  |  |  |  |  |  |  |  |
| 2   |      |  |  |  |  |  |  |  |  |
| 3   |      |  |  |  |  |  |  |  |  |
| 4   |      |  |  |  |  |  |  |  |  |
| 5   |      |  |  |  |  |  |  |  |  |
| 6   |      |  |  |  |  |  |  |  |  |
| 7   |      |  |  |  |  |  |  |  |  |
| 8   |      |  |  |  |  |  |  |  |  |
| 9   |      |  |  |  |  |  |  |  |  |
| 10  |      |  |  |  |  |  |  |  |  |