

*Full Length Research Paper*

# **Scale of vocabulary learning strategies for learners of Turkish as a foreign language: A scale development study**

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**It does not seem to be possible to teach all the words needed by learners of Turkish as a foreign language in the target language just through classroom applications. Thus, students should be taught vocabulary learning strategies that will contribute to their independent learning and raise their awareness of vocabulary learning processes. In this regard, the purpose of the current study is to develop a scale to determine the vocabulary learning strategies used by learners of Turkish as a foreign language. The data of the current study were collected from a total of 507 students attending Turkish teaching centres in five different cities of Turkey. In the development of the scale, all stages of scale development process were followed and then the required reliability calculations were performed. On the basis of the scores obtained from the scale, exploratory and confirmatory factor analyses were conducted to test the construct validity of the scale. As a result of the factor analysis, it was found that the scale consists of four factors that are “learning process”, “technological material”, “psychological process” and “visual materials” and its Cronbach Alpha internal consistency value was calculated to be 0.86. After the completion of all the stages of scale development, a 23-item scale whose psychometric features had been examined was developed to be used to determine students’ vocabulary learning strategies.**

**Key words:** Teaching Turkish as a foreign language, vocabulary learning strategies scale, vocabulary, word.

## **INTRODUCTION**

In the process of teaching Turkish as a foreign language, the ultimate goal is to make the learner proficient in listening, speaking (verbal production and verbal interaction), reading and writing skills. One of the basic elements necessary for the accomplishment of the stated goal is to strengthen the learner's vocabulary in the target language. The learner can only use his/her listening,

speaking, reading and writing skills in the target language to the extent which is allowed by his/her vocabulary. In this regard, Nation (1990) states that the difficulties faced by learners in using their comprehension and expression skills are largely due to the lack of vocabulary. Gough (2001) emphasizes that there is a direct relationship between language skills and vocabulary and the existing

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research shows that the vocabulary that the learner has about the target language predicts the development of language skills (Meara and Jones, 1987; Karatay, 2007; Özbay and Melanlioğlu, 2008). Seen from this perspective, the vocabulary possessed by the learner draws the boundaries of his success in language learning as well as the extent to which he/she carries the language he/she has learned to his/her daily life.

The vocabulary that can be explained as the sum of the words in a vocabulary repertoire of a person or a society (Korkmaz, 1992) can be described as a complementary area in the teaching of Turkish as a foreign language. In this respect, Karadağ (2013) states that the development of vocabulary forms the basis for the teaching of all language skills. Skehan (2003) says that the word is the basis of both language use and language teaching.

The vocabulary possessed by a learner consists of active and passive vocabulary. While the words defined as active vocabulary refer to the words used by the learner to produce in writing and speaking, the words defined as passive vocabulary refers to the words learned by the learner through reading and listening but not used. Baş (2006) states that the passive vocabulary is broader than the active vocabulary. The reason for this is explained by the fact that many words that are not used while talking or writing can be used while listening or reading. It is necessary to support the student's vocabulary in the target language with words to be used both actively and passively.

To this end, Karadağ (2013) lists the points to be considered in applications to be made for vocabulary teaching:

- (1) Priority should be given to the most frequently used words of the language.
- (2) Words to be learned by different age groups should be determined.
- (3) Meaning relations should be established between the known and newly learned words.
- (4) The use of the words taught should be ensured.
- (5) The pronunciation features of words should be taken into consideration.
- (6) Spelling of words should be taught.
- (7) Context-based vocabulary teaching should be performed.
- (8) Cognates should be taken into consideration in vocabulary teaching.
- (9) Learners should be encouraged to master vocabulary learning strategies.

Considering the listed items, it is understood that it is important to teach a word with its all aspects to the learner and to synthesize the prior information with new information while doing this. Existing vocabulary is an important step in teaching new words. The words the student encounters for the first time are stored in memory by associating them with the known words having close

or similar meanings to these new words (Kurudayıoğlu, 2005). Indeed, it is a fact that the most important variable affecting new learning is prior information. Demirel (2013) states that it is easier for learners to learn words specific to the same concept area. Memiş (2018) states that providing students with morphological awareness in the target language positively affect their efforts to improve vocabulary. For this reason, vocabulary should be seen as vocabulary units to be learned in a meaningful and contextual language rather than a long and boring list that needs to be defined and memorized (Büyükkiz and Hasırcı, 2013). According to Stahl and Nagy (2006), the “importance and benefit” level of words should be taken into consideration as a general criterion in determining the words that should be taught to learners. Aksan (2009) believes that frequency should be used as a criterion in the selection of words to be taught to learners.

Learning a word means an exact match or integration between the word's sensation and meaning (Karadağ, 2013). In this sense, the learner is expected to have knowledge of the word's form (affix-root, pronunciation and spelling), meaning (concept area, connotation world, type) and usage (collocation, limitation, grammatical function) (Nation, 1990). One of the difficulties experienced by foreign language learners in the process of language learning is to recall the newly learned words. Chang and Millet (2014) state that a word must be repeated 5 to 16 times, and this repetition must be supported by use for this word to stick in the mind of the learner. Besides repetition, elements such as the meaning of the word in context, the learner's language ability, the methods and techniques used in the process, and the quality of the instructor are also considered to be important variables for any word to be permanently stored in the mind (Hu and Deng, 2007; Kim and Gilman, 2008; Brown, 1993). Many new methods and applications have been proposed in recent years to develop vocabulary in students and it has been emphasized that the activities focusing on vocabulary development should not be limited to teaching primary meanings of some certain words (Çalışkan, 2010; Büyükkiz and Hasırcı, 2013; Karadağ, 2013).

In the classes where Turkish is taught as a foreign language, the limits of what to give to learners and what to expect from them in relation to vocabulary teaching are defined in the European Common Framework as *lexical, grammatical, semantical, phonological* under the main heading “*Communicative Language Competences*” and in the sub-dimension “*Grammatical Competences*”. The content of the four items listed earlier are directly related to vocabulary knowledge.

Lexical competence is explained as follows: “It covers the vocabulary knowledge of a language which consisted of lexical and grammatical elements and the ability of using this knowledge” (TELC, 2013). Accordingly, the elements related to vocabulary consist of fixed expressions which consist of many words and learned

**Table 1.** Expectations from students of different levels in terms of vocabulary range.

C2	Has a good command of a very broad lexical repertoire including idiomatic expressions and colloquialisms; shows awareness of connotative levels of meaning.
C1	Has a good command of a broad lexical repertoire allowing gaps to be readily overcome with circumlocutions; little obvious searching for expressions or avoidance strategies. Good command of idiomatic expressions and colloquialisms.
B2	Has a good range of vocabulary for matters connected to his/her field and most general topics. Can vary formulation to avoid frequent repetition, but lexical gaps can still cause hesitation and circumlocution.
B1	Has a sufficient vocabulary to express him/herself with some circumlocutions on most topics pertinent to his/her everyday life such as family, hobbies and interests, work, travel, and current events.  Has sufficient vocabulary to conduct routine, everyday transactions involving familiar situations and topics.
A2	Has sufficient vocabulary for the expression of basic communicative needs. Has a sufficient vocabulary for coping with simple survival needs.
A1	Has a basic vocabulary repertoire of isolated words and phrases related to particular concrete situations.

**Table 2.** Competences related to control of vocabulary repertoire.

Level	Competence
A1	No descriptor available
A2	Can control a narrow repertoire dealing with concrete everyday needs.
B1	Shows good control of elementary vocabulary but major errors still occur when expressing more complex thoughts or handling unfamiliar topics and situations.
B2	Lexical accuracy is generally high, though some confusion and incorrect word choice does occur without hindering communication.
C1	Occasional minor slips, but no significant vocabulary errors.
C2	Consistently correct and appropriate use of vocabulary.

and used as whole and simple words. While fixed phrases (Good morning! I am pleased), proverbs, idioms, stereotypical metaphorical expressions, intensifiers, fixed frames, expressions that have fallen out of use constitute sub-steps in the first category, simple words correspond to the words that make sense alone (noun, verb, adjective, adverb, days, months, weight and units of measure) (TELC, 2013).

What is expected of the students from different levels in terms of vocabulary knowledge in the European Common Framework of Reference is shown in Table 1 (TELC, 2013).

As shown in Table 1, competences defined for levels A1 and A2 are generally related to teaching of the words to be needed by students to communicate in their daily life. From level B2 onwards, it is aimed to teach students the vocabulary needed in their field of expertise as well

as in their daily life. In level C1, the student is expected to have a rich lexical repertoire that allows him/her to understand subtle differences in meaning. In line with the competences defined in Table 1, the competences related to the student's *Control of Vocabulary Repertoire* somehow describing the student's world of vocabulary for different levels are also presented. These competences are shown in Table 2.

As can be seen in Table 2, there is no expectation from the student in level A1 in terms of controlling his/her personal vocabulary. This is largely because of the fact that the student has just been introduced to a new language and the subjects taught in level A1 generally focus on the teaching of fixed phrases. B1 is called the threshold level. Therefore, for this level, the student is expected to have mastered the basic vocabulary of the target language (family relations, numbers, names of

body parts, etc). While students are expected to have vocabulary sufficient not to hinder communication in level B2, they are expected to actively use the words they have learned in level C.

After vocabulary competence, grammatical competence is defined and within this grammatical competence, issues such as types of words, syntax, phonology and semantics are also discussed. Within semantic competence, relationships between words and general context (such as reference, connotation) and inter-lexical relations (synonym, antonym, collocations, etc.) are mentioned. Phonological competence on the other hand involves teaching prosodic features of the target language (TELC, 2013). The framework includes grammatical subjects to improve the student's vocabulary. When the four sub-dimensions of grammatical competence are considered, it is understood that teaching a word with its all aspects is prioritized in research on vocabulary.

The Common European Framework of Reference does not specify which words should be taught in each level by providing vocabulary lists. Yet, it suggests that the following points should be taken into consideration in the selection of the words to be taught:

- (1) Words required for students to achieve communicative tasks.
- (2) Words that comply with the language learning objective of the target group.
- (3) Words that are most frequently used in daily life in the target language.
- (4) Words repeated in the texts encountered by the student (TELC, 2013).

In addition to these suggestions, the framework answers the question "*How the vocabulary of language learners should be developed?*"

- (1) Through direct exposure to the words and fixed idioms used in daily life conversation texts and written texts
- (2) By looking up a dictionary, etc., when necessary for some certain communication-oriented tasks and activities
- (3) By guessing the meaning of an unknown word from the context and then using it in different contexts
- (4) By learning words with visual materials (pictures, gestures and mimics, activities and tools)
- (5) By memorizing bilingual lists of words, etc.
- (6) By creating concept and mind maps, etc.
- (7) By studying from mono-lingual and bilingual dictionaries and other reference sources.
- (8) By having information about the structural features and the areas of use of the words learned in the target language.
- (9) By knowing the semantic conceptual load of words.

Considering the items listed earlier, it is understood that

the framework refers to the methods and techniques to be used in vocabulary learning. In order for the learner to select and use some of the specified ways, he/she must first be allowed to try and use them in classroom activities. Thus, the learner will be accustomed to trying different ways of learning while learning new words of the target language.

While learning Turkish as a foreign language, the learner needs many words of the target language in order to be competent in listening, speaking, reading and writing skills. Considering the amount of words that need to be learned, it can be said that a significant part of the learner's vocabulary should be gained with out-of-class experiences, since the contribution of classroom activities to the development of vocabulary is limited due to shortage of time spent in the class. One way to help learners in this regard is to introduce them to vocabulary learning strategies. Learners should be provided with opportunities to acquire vocabulary learning strategies that will support their vocabulary learning and that will foster their independent learning (Morin and Goebel, 2001). According to Graves (2016), teaching vocabulary learning strategies is extremely important, and considering the thousands of words to learn, it is an absolute necessity to develop learners' independent vocabulary learning skills. Therefore, in addition to teaching certain words within the framework of vocabulary teaching, inclusion of practices necessary for teaching vocabulary learning strategies is seen as a must.

### Vocabulary learning strategies

One of the goals of the applications directed to developing vocabulary is to impart the skills and habit of vocabulary learning to learners (Karadağ, 2013). Since it is not possible to teach students all the words they need in the target language with in-class practices, it is a necessity in this sense to inculcate the knowledge and skills of independent vocabulary learning in learners. According to Balcı and Çakır (2012), learners should make an individual effort outside of school time to learn words. At this point, it can be said that the learners' gaining the ability to cope with the words that they encounter for the first time or that they do not know is part of the efforts to improve vocabulary in the target language. Therefore, it should be ensured that learners gain vocabulary learning strategies that will raise their awareness of vocabulary learning processes.

When the literature is reviewed, it is seen that vocabulary learning strategies are evaluated within foreign language learning strategies (Oxford, 1990; Schmitt, 1997; Nation, 2001). Foreign language learning strategies can be defined as activities carried out by the learner to make it fast, effective, fun, self-controlled and transferable (Oxford and Scarcella, 1994). Learning

strategies enable the learner to build an independent learning process, taking responsibility for his/her own learning process, which also applies to vocabulary learning strategies (Oxford, 1990). Seen from this perspective, vocabulary learning strategies can be explained as the learner's taking the control of the vocabulary development process and managing the process. Research shows that the learner improves his/her vocabulary by using vocabulary learning strategies (Nation, 2001; Oxford, 1990). What motivates learners to use vocabulary learning strategies is the desire to express themselves both orally and in writing in the target language.

Oxford's (1990) classification of language learning strategies consists of six sub-dimensions based on direct and indirect learning strategies. These sub-dimensions are memory strategies (They are used to transfer the knowledge into the long-term memory and to recall it for communicative purposes), cognitive strategies (They are used to create mental models, revise and receive and produce messages in the target language), compensation strategies (They are used to compensate for any shortage of information in language use), metacognitive strategies (They allow the student to plan, organize and evaluate his/her own learning process), affective strategies (They help students control their emotions, motivation and attitudes related to learning), and social strategies (They help establish interaction in verbal communication).

Gu and Johnson (1996) address vocabulary learning strategies in four groups as metacognitive, cognitive, memory, and activation. Metacognitive strategies involve the learner's determining the words that will enable him/her to understand in the target language and determining the appropriate strategies, methods and techniques to learn these words. Of course, the ability to realize all these steps is closely related to the learner's awareness of his/her own learning process. Cognition strategies are listed as guessing, using dictionary and taking notes. What is expected from the learner while using guessing strategy is to use his/her prior knowledge and to act on the basis of the grammatical structures of the target language. Memory strategies aim to transfer the learned word from short term memory to long term memory considering both pronunciation and meaning. For this, it is necessary to create word lists, to pay attention to pronunciation, to code with the help of visual and audio cues and to revise. Practice strategies mean that the learned word is used by the learner in different contexts in a suitable place.

Schmitt (1997) evaluates vocabulary learning strategies under two headings; the strategies that are used to determine the meaning of a word when first encountered and the strategies that are used to reinforce the meaning when encountered again. Determination strategies mean that the learner discovers the meaning of a new word by both guessing and receiving help. Consolidation

strategies on the other hand include cognitive, metacognitive and memory strategies as seen in Gu and Johnson (1996). Schmitt (1997) thinks that both determination and combining strategies should be supported with social strategies. Thus, both groups of strategies include some content related to social strategies.

Nation (2001) treats vocabulary learning strategies together with key strategies and classifies them as planning, source and processes. Planning involves deciding where, how and how often attention should focus on vocabulary: selecting words, selecting the dimensions of vocabulary and determining strategies, revision. Resource strategies involve gaining information about the word. While having information about the word, the learner can use the clues given in the context, can use reference sources such as dictionaries and can relate some elements of his/her mother tongue to the word. Process strategies, on the other hand, refer to raising the learner's awareness of vocabulary learning process and enhancing the vocabulary in the target language by using different vocabulary learning strategies.

When the classifications made by Oxford (1990), Gu and Johnson (1996), Schmitt (1997) and Nation (2001) regarding vocabulary learning strategies are examined, it is seen that there are many similar aspects in the content although different names are used to name these strategies. This is because researchers do not think of word learning strategies as independent of learning strategies.

Tağa (2018) argues that three basic independent vocabulary learning strategies should be taught to learners to be used when a new word is encountered for the first time: using contextual clues, using lexical elements and using dictionary. Karadağ (2013) evaluates vocabulary learning strategies as the following.

When Table 3 is examined, it is seen that the listed vocabulary learning strategies are related to all language learning processes. Although there is no unity regarding the name and content of vocabulary learning strategies in the literature, it can be said that the most important thing is that the learner will benefit from these strategies in the process of learning vocabulary and in the process of independent learning.

The effectiveness of teaching and using vocabulary learning strategies depends on variables such as proficiency level, task, language method, prior knowledge and readiness, learning context, target language and learner characteristics (Chamot and Rubin, 1994). It is not possible to draw sharp boundaries for applications designed for vocabulary learning strategies due to many variables such as proficiency level of learners, language teaching method, task, text, etc. Learners try to learn new words with a word learning strategy that suits them (Biçer and Polatcan, 2015). Schmitt (1997) notes that learners mostly tend to use basic vocabulary learning strategies.

**Table 3.** Vocabulary learning strategies and their content.

Vocabulary learning strategy	Content
Strategies to be used when an unknown word is encountered to assign a meaning to this word	Guessing from the context
	Looking at the meaning of the word within a context of another expression, sentence and text
	Using the morphological awareness
	Predicting
Strategies to be used to be sure of the meaning of the word and to enhance vocabulary	Using dictionary
	Creating context
	Performing inter-textual reading
	Keeping a vocabulary notebook
Strategies to be used to learn new words and concepts	Creating a context map
	Gaining linguistic awareness
	Being open to communication
	Gaining the habit of listening and reading

In this process, learners learn words in line with their own interests and needs (Apaydın, 2007).

The learner can use more than one vocabulary strategy together in vocabulary learning. While guessing the meaning of the word from the context, the learner can find its meaning from a dictionary, take notes and while doing this, he/she uses cognitive and metacognitive learning strategies. Each vocabulary strategy used by the learner gives clues about how well the newly learned word has been learned (Gu, 2003). The learner should be given the opportunity to develop an awareness of his/her own learning process when faced with a vocabulary activity to deal with words they do not know. For example, the steps taken by the learner in guessing the meaning of the word based on the context should be questioned one by one while proceeding with it. Thus, the learner can evaluate to what extent he/she can benefit from a vocabulary learning strategy (Porte, 1988). In addition, in this way learners are directed to different vocabulary activities and exposed to different vocabulary learning strategies and discover which of these strategies benefit them.

Although there are studies focusing on vocabulary teaching and vocabulary development in literature (Aşık, 2007; Hasekioğlu, 2009; Özlü, 2009; Bayraktar, 2010, 2011; Çalışkan, 2010; Erer, 2011; Büyükkiz and Hasırcı, 2013; Demirel, 2013; Memiş, 2018), there is a limited amount of research to determine the vocabulary learning strategies used by learners of Turkish as a foreign language (Yığın, 2013; Biçer and Polatcan, 2015; Başutku and Durmuş, 2018; Saydam, 2018; Tağa, 2018). Thus, in line with the findings and opinions in the literature related to vocabulary strategies in foreign language teaching, and in compliance with the competences defined in relation to vocabulary in the Common European Framework of Reference, the current study aimed to develop a scale to reveal the vocabulary

learning strategies used by the learners of Turkish as a foreign language and to check the psychometric features of this scale. This developed scale is thought to be useful in determining the vocabulary learning strategies used by learners.

## METHODOLOGY

Here, information is given about the study group, preparation of scale items, validity and reliability studies.

### Study group

The pilot and actual applications of the draft scale were conducted in Turkish Teaching Centres (TÖMER) operating within the universities selected by means of the random sampling selection method in the 2018-2019 academic year. A total of 30 students participated in the first pilot application and 15 students in the second one. These students were attending the Turkish Teaching Centres which were not included in the actual application. The actual application was conducted with the participation of 507 students from different levels (A2, B1, B2 and C1) attending Turkish Teaching Centres in the cities of Ankara, Adana, İstanbul, Kütahya, and Eskişehir. As students from A1 level were thought to not understand the items in the draft scale, they were not included in the study group. Comrey and Lee (1992) proposed the following numbers to determine the adequacy of sample size: 200 - fair, 300 - good, 500 - very good, and 1000 - excellent (cited in Çokluk et al., 2010). By using this information given in the literature about the adequate size of the sample, the number which is defined as "very good" was reached in the current study. Thus, the data collection process covered a two-year period due to the characteristics of the participants. After the completed scales were collected, they were examined to detect the ones having problems such as missing data or multiple markings and thus, a total of 72 scales were excluded from the study.

Of the participating students, 61% (308) are males and 39% (199) are females. Thirty two percent (164) of them are students of Arabic origin (Syria, Iraq, Egypt, Lebanon, Palestine). The same percentage of the participants is constituted by the students of

Persian origin (32% (164)). The total number of the students coming from Tanzania, Kenya, Somalia, Mauritania and Burkina Faso is 80 (16%). And the other students in the study group are as follows: 10% (48) are Mongolian, 7% (33) are Bosnian and 3% (18) are Russian. Of the participating students, 15% (76) are in level A2, 25% (130) are in level B1, 27% (135) are in level B2 and 33% (166) are in level C1. The reason for not including students from the level C2 is that students are graduated from Turkish Teaching Centres when they have completed C1.

### Stages followed in the scale development process

#### Generation of the item pool

The first stage in the development process of the scale prepared to determine the vocabulary learning strategies used by the learners of Turkish as a foreign language is the review of the research on the subject (Oxford, 1990; Gu and Johnson, 1996; Schmitt, 1997; Nation, 2001; Yiğın, 2013; Biçer and Polatcan, 2015; Başutku and Durmuş, 2018; Saydam, 2018; Karadağ, 2013; Aşık, 2007; Hasekioglu, 2009; Özlü, 2009; Bayraktar, 2010, 2011; Çalışkan, 2010; Erer, 2011; Büyükkız and Hasırcı, 2013; Demirel, 2013; Memiş, 2018). In the second stage, 15-min interviews were conducted with a small heterogeneous group of students who could represent the study group by using the questions “*How do you learn Turkish words and how do you recall Turkish words?*” in order to collect information that could contribute to the formation of the item pool. Thirteen students from each language level (A2, B1, B2, C1) participated in these interviews. In the light of the interviews, a pool of items consisting of 47 items was created to reveal the vocabulary learning strategies used by the learners of Turkish as a foreign language. In order to evaluate the reflections of the generated items in practice, the competences defined in relation to vocabulary in the Common European Framework of Reference were taken into consideration. This draft was checked in terms of compliance with the spelling rules of Turkish and then submitted to expert review.

#### Expert review (Content validity)

In this stage, the main emphasis is on the content validity of the draft scale. According to Büyüköztürk (2007), the success of a measurement tool in predicting individuals' behaviour is closely related to its validity and reliability. The extent to which a measurement tool measures the variable that it claims to measure correctly is explained by the concept of validity. Three types of validity are mentioned in the literature: content, criterion and construct validity (Tyler, 1971). In the current study, the content validity of the scale was checked. The 47-item draft form was submitted to the review of the experts (four teachers of Turkish as a foreign language, a measurement and evaluation expert). In the review process, the experts evaluated the items to determine whether there are items including expressions that might lead to misunderstanding and whether they are really related to vocabulary learning strategies. On the basis of the feedbacks given by the experts, 2 items were discarded and 3 items were corrected; thus, a total of 45 items were included in the draft scale. In this way, the content validity of the scale was established.

#### Pilot study

In order to determine whether the items in the draft scale arranged in light of the feedbacks given by the experts could be understood by students, their pilot application was conducted on 30 students. This application was conducted by the researcher and the feedbacks given by the students were taken into consideration. As

they led the students to different judgments from the ones intended to be measured in the study, 2 items were excluded from the scale. A second pilot application was conducted with the participation of 15 students (five from each level) randomly selected from among the students attending a Turkish Teaching Centre (TÖMER) to see whether the remaining 43 items in the scale to be correctly understood by the students in the target population. The items in the draft scale were loudly read by each student and then they were asked questions to elicit what they understood about the item they had read. As a result of the application, ten students stated that they had understood the items and made similar explanations. Only five students at the level A2 could not understand 6 items and misinterpreted 1 item. These 7 items were discarded from the scale; thus, the 36-item scale became ready for the actual application. The researcher prepared a five Likert-type measurement tool with the following response options: “Never”, “Rarely”, “Sometimes”, “Usually” and “Always” for these 36 vocabulary learning strategy items. Thus, a form that allowed the students to respond to each item by using any of the five response options was presented to them.

#### Data analysis

Within the context of the validity studies of “The Scale of Vocabulary Strategies for Learners of Turkish as a Foreign Language”, its content and construct validity was studied. In order to establish content validity, expert review was used. As for the construct validity, Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) were conducted to determine the factor structure and sub-dimensions of the scale. For EFA, the data obtained from 302 students were used while for CFA, the data obtained from 205 students were used. In the analyses, the cut-off point for factor loadings was set to be 0.30. In the determination of the reliability of the scale, Cronbach Alpha reliability coefficient was checked. The item-factor structure obtained from EFA was tested with CFA. EFA was conducted by using SPSS 22.0 package program and CFA was conducted by using AMOS 23.0 program package.

## FINDINGS AND DISCUSSION

The data collected from 507 students were divided into two and 302 of them were used for exploratory factor analysis and 205 of them were used for confirmatory factor analysis. For the reliability of the scale, the item total score correlation was examined. Büyüköztürk (2007) argues that correlation explains the relationship between the scores taken from the test items and the total score of the test and that the items with item total correlation of 0.30 or higher have a better rate of discrimination. None of the 36 items in the scale revealed a correlation lower than 0.30 with the total score. As all the 36 items in the scale have positive statements, there is no item to be reverse scored. In order to elicit the best possible construct showing the relationships among the 36 items in the scale, exploratory factor analysis was used.

#### Exploratory factor analysis

In order to evaluate the suitability of the data collected for the Scale of Vocabulary Strategies for the Learners of

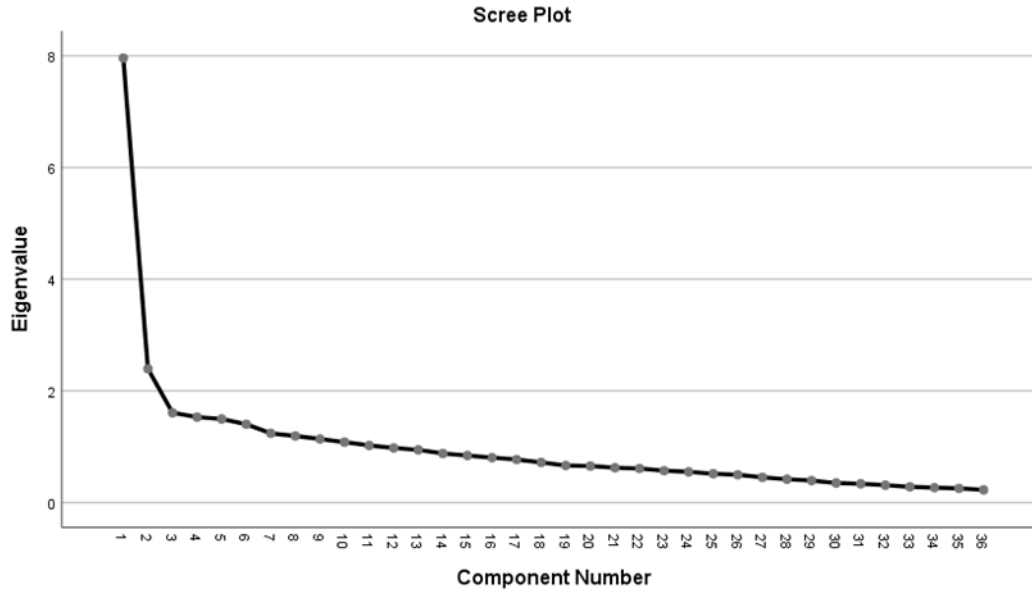


Figure 1. Scree plot.

Turkish as a Second Language for exploratory factor analysis, Kaiser-Meyer-Olkin (KMO) and Bartlett's test of sphericity were conducted.

The measurement value of the KMO test used to test whether the sample is suitable for factoring was found to be 0.815 and the result of Bartlett's Test of Sphericity ( $\chi^2 = 2220.072$ ,  $sd=630$ ,  $p=0.000$ ) was found to be significant. After collecting this evidence showing that the data set is suitable for factor analysis, factor analysis was conducted by using the Principle Components Analysis method to reveal the factor structure (Tabachnick and Fidell, 1996). In order to determine the number of factors in the scale, the scree plot graph was also examined.

In the scree plot shown in Figure 1, it is seen that after the fourth point, the shape of the curve changes direction and becomes horizontal. Then, the data were analyzed by using the Direct Oblimin oblique rotation method. Oblique rotation is used when it is thought that there is a correlation between the factors (Çokluk et al., 2010). After the rotation, the loading value of 0.30 was taken as the cut-off point and another point taken into consideration was that for any item loading on two different factors, the difference between the two loading values should be 0.10 and higher (Büyüköztürk, 2005). From among the scale items, 13 items were discarded as they were not loaded on any factor and had loadings on more than one factor with values very close to each other. The remaining 23 items were gathered under 4 factors. In Table 4, the variances explained by the factors in the Scale of Vocabulary Strategies for the Learners of Turkish as a Foreign Language.

As can be seen in Table 5, the first factor having 12 items explains 21.317% of the total variance and its

eigenvalue is 5.116. The second factor having 4 items explains 10.921% of the total variance and its eigenvalue is 2.621. The third factor having 3 items explains 6.361% of the total variance and its eigenvalue is 1.527. The fourth factor having 4 items explains 1.280% of the total variance and its eigenvalue is 5.333. The scale explains 43.932% of the total variance, which is considered to be sufficient because for it to be acceptable, it needs to explain a percentage of the total variance ranging from 40 to 60% (Tavşancıl, 2002). In this regard, Büyüköztürk (2007) states that the highness of the variance explained is an indicator of how well the related concept or construct is measured. The distribution of the items across the factors with their factor loadings are shown in Table 6.

As can be seen in Table 6, the factors loadings of the items in the scale vary between 0.448 and 0.826. When the sample size is taken into consideration, 0.45 or higher factor loading value of the scale items is a good criterion for item selection (Büyüköztürk, 2007). The factor loadings of the items in the first factor vary between 0.448 and 0.751. When the items in this factor are examined, it is seen that they are related to the path followed by the student in the vocabulary learning process; thus, this factor is named as "*learning process*". The factor loadings of the four items in the second factors were found to be between 0.456 and 0.791. As the items in this factor are related to the support provided by technology in the vocabulary learning process, this factor is named as "*technological materials*". The factor loadings of the three items in the third factor vary between 0.495 and 0.826. When the items in this factor are examined, it is seen that they are related to the



**Table 4.** KMO and Barlett Test Results for the Scale of Vocabulary Strategies for the Learners of Turkish as a Foreign Language.

<b>KMO</b>	-	0.815
<b>Barlett's Test of Sphericity</b>	Chi-square	2220.072
	Sd	630
	P	0.000

**Table 5.** Variances explained by the factors in the scale of vocabulary strategies for the learners of Turkish as a foreign language.

<b>Factor</b>	<b>Eigenvalue</b>	<b>Variance explained (Total)</b>	<b>Variance explained (Cumulative)</b>
1	5.116	21.317	21.317
2	2.621	10.921	32.238
3	1.527	6.361	38.598
4	1.280	5.333	43.931

**Table 6.** The exploratory factors analysis for the scale of vocabulary strategies for the learners of Turkish as a foreign language (Rotated Component Matrix).

<b>Item No.</b>	<b>Covariance</b>	<b>Factor 1</b>	<b>Factor 2</b>	<b>Factor 3</b>	<b>Factor 4</b>
M11	0.812	0.751	-	-	-
M20	0.703	0.686	-	-	-
M26	0.684	0.681	-	-	-
M36	0.635	0.637	-	-	-
M4	0.588	0.571	-	-	-
M30	0.647	0.558	-	-	-
M12	0.536	0.545	-	-	-
M23	0.512	0.525	-	-	-
M9	0.493	0.506	-	-	-
M27	0.476	0.470	-	-	-
M16	0.470	0.466	-	-	-
M32	0.402	0.448	-	-	-
M7	0.841	-	0.791	-	-
M28	0.797	-	0.727	-	-
M8	0.722	-	0.700	-	-
M22	0.636	-	0.456	-	-
M33	0.868	-	-	0.826	-
M17	0.840	-	-	0.752	-
M24	0.558	-	-	0.495	-
M19	0.644	-	-	-	0.610
M15	0.589	-	-	-	0.576
M18	0.681	-	-	-	0.517
M31	0.609	-	-	-	0.497

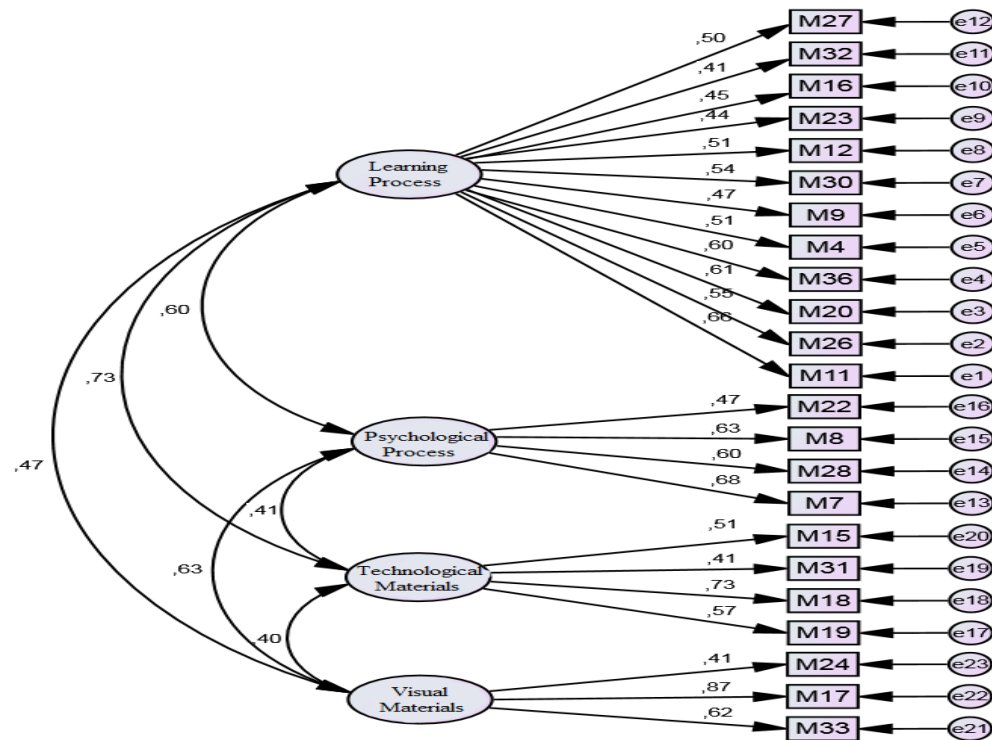
support given by the teacher, peers, etc., thus, it is named as “*psychological process*”. The factor loadings of the four items in the fourth factor vary between 0.497 and 0.610. As these items were found to be related to the use

of visuals, it is named as “*visual materials*”.

When the four-factor structure of the scale is examined, it is seen that the twelve items in the first factor are related to “*learning process*”; the four items in the second

**Table 7.** Confirmatory factor analysis goodness-of-fit values.

$\chi^2$	$\chi^2/df$	CFI	TLI (NNFI)	GFI	AGFI	RMSEA
368.211	1.644	0.912	0.914	0.939	0.902	0.064

**Figure 2.** Confirmatory factor analysis findings of the scale of vocabulary strategies for the learners of Turkish as a foreign language.

factor are related to “*technological materials*”; the three items in the third factor are related to “*psychological process*”, and the four items in the fourth factor are related to “*visual materials*”. In this connection, the opinions of experts were also sought in the naming of the factors.

### Confirmatory factor analysis

In order to determine whether the four-factor and 23-item construct obtained from the exploratory factor analysis is confirmed, the confirmatory factor analysis model was constructed and the latent factors in the structure of the scale and the dependent relationships between them were examined in AMOS 23.0 program package. For the confirmatory factor analysis, Chi-square, GFI, RMSEA, CFI and AGFI goodness-of-fit coefficients were examined. The acceptable fit value for GFI, AGFI, CFI, NNFI and RFI coefficients should be  $>0.90$  and the

excellent fit value should be  $>0.95$  (Marsh et al., 2006). For RMSEA, the acceptable fit value is  $<0.08$ , excellent fit value is  $<0.05$  (Hooper et al., 2008; Byrne and Campbell, 1999). The goodness-of-fit values obtained from the analysis are shown in Table 7.

For the model to be acceptable, if the value obtained by dividing the Chi-square goodness-of-fit value by the degree of freedom is 2, then it means excellent fit; if it is a value between 2 and 3, then it means acceptable fit (Schermelleh-Engel et al., 2003). As can be seen in Table 7, this value is “ $\chi^2/df = 1,644$ ”. When the goodness-of-fit values of the model are examined, it is seen that RMSEA= 0.064, NNFI= 0.914, CFI= 0.912, GFI= 0.939 and AGFI= 0.902. On the basis of these values, it can be argued that the scale has an acceptable fit for the four-factor construct. The path diagram showing the standardized factor loadings for the four-factor model is as shown in Figure 2.

As can be seen in Figure 2, the results of the confirmatory factor analysis match with the results of the

**Table 8.** Internal consistency reliability coefficients of the scale of vocabulary strategies for the learner of Turkish as a foreign language.

Sub-dimension	Number of items	Internal consistency coefficient
Learning Process	12	0.81
Psychological Process	4	0.69
Technological Materials	4	0.65
Visual Materials	3	0.66
Whole Scale	23	0.84

exploratory factor analysis.

### Investigation of the reliability of the scale

Cronbach Alpha reliability coefficient was calculated in order to determine how accurately the scale measures the feature it wants to measure; that is, the reliability of the scale. According to Büyüköztürke et al. (2008), this coefficient is a measure of the consistency of the scores of the items with the total test scores. When this coefficient has a value between 0.60 and 0.80, then it means that scale is “quite reliable” and when it has a value between 0.80 and 1.00, then it means that the scale is “highly reliable” (Akgül and Çevik, 2003). Cronbach Alpha internal consistency coefficients were calculated for the Scale of Vocabulary Strategies for the Learner of Turkish as a Foreign Language. The findings obtained from these calculations are shown in Table 8.

As can be seen in Table 8, the Cronbach Alpha values calculated for the sub-dimensions are as follows; 0.81 for the learning process sub-dimension; 0.69 for the psychological process sub-dimension; 0.65 for the technological materials sub-dimension; and 0.66 for the visual materials sub-dimension. For the whole scale, it was found to be 0.84. These results show that the scale is a reliable scale and the internal consistency of the sub-dimensions of the scale is quite high.

### CONCLUSION AND SUGGESTIONS

It is not possible for a teacher to teach all the words needed by the learner in different levels (A1, A2, B1, B2, C1+) in the target language. For this reason, it is thought that teaching vocabulary learning strategies to students to improve their vocabulary will positively affect the development of comprehension and expression skills in the target language.

The reliability of the Scale of Vocabulary Strategies for the Learner of Turkish as a Foreign Language developed to measure the vocabulary learning strategies used by the learners of Turkish as a foreign language on the basis of a literature review, student interviews, the Common European Framework of Reference and expert opinions

was tested by calculating the Cronbach Alpha coefficient for the sub-dimensions of “learning process”, “psychological process”, “visual materials” and “technological materials”. For the whole scale, the Cronbach Alpha reliability coefficient was calculated to be 0.84. These values are enough to show that this scale is suitable for use with the learners of Turkish as a foreign language who are over 15 and in level A2 or higher level. As the consistency coefficients were found to be varying between 0.65 and 0.84 for the four sub-dimensions of “The Scale of Vocabulary Strategies for the Learner of Turkish as a Foreign Language”, it can be said that the scale is reliable. These findings were confirmed by the confirmatory factor analysis. All the goodness-of-fit indices found for the model are over the value 0.85 and the RMSA value for the model was found to be 0.064;  $p < 0.01$ .

There are studies in the literature investigating vocabulary learning strategies from different perspectives. In his experimental study, Sanaoui (1995) found that foreign language learners using vocabulary learning strategies have broader vocabulary and that vocabulary learning strategies serve the purpose of learning new words. Yığın (2013) found that the strategies most used by foreign learners in level B2 when learning words in the classroom are social and cognitive strategies, and least used ones are memory strategies. Biçer and Polatcan (2015) found that C1 level learners' use of vocabulary learning strategies is lower than that of the learners from other language levels. They explained that this is because these learners are proficient in the target language. Saydam (2018) determined the frequency of vocabulary learning strategies found in the textbook sets that are the source of teaching Turkish as a foreign language. The most frequently used strategy was found to be the vocabulary learning strategy related to reading and listening with 63.1%, followed by the strategy related to morphological awareness with 14.6% and the strategy related to the use of visuals with 7.31%. It was determined that the strategy with the least frequency of use in the textbooks is the strategy of enacting with a rate of 0.89%. It was understood that the strategy most frequently used by the instructors during the lesson was the vocabulary learning strategy related to reading and listening with 90%. It was determined that the vocabulary

learning strategy least used by language teachers is the strategy of using dictionary with 65%. Başıtku and Durmuş (2018) aimed to determine the targeted vocabulary to be taught from the reading texts in the Turkish textbook sets in level B1 prepared for foreigners and the vocabulary learning strategies used to teach these words. As a result of their research, they concluded that while there is a great similarity between the target vocabulary intended to be taught at the basic level, each textbook set in level B1 has different content around the same theme. Although this is not considered to be a negative situation, it was suggested that reaching an agreement on the vocabulary to be taught at different levels can be good.

Tağa (2018) developed the “Vocabulary Awareness Scale” which consists of sub-dimensions of function, interest and strategy for foreign learners who learn Turkish as a target language. This scale has 17 items and its Cronbach Alpha internal consistency coefficient is 0.86. Some items in the scale are as follows: Vocabulary is important for effective communication. I like looking through a dictionary. I search for the meaning of the words I do not know. I enjoy learning new words. I analyze the root and suffixes of the word to determine the meaning. While learning a word, I find sample sentences (p. 239). It is important for the student to learn about the vocabulary awareness learning process through in-class and out-of-class activities. In-class activities are generally textbook-based. Fidan and İrem (2016) stated that in textbook sets prepared for teaching Turkish to foreigners, activities such as using visuals, filling in blanks, matching, acting on the basis of the features of meaning, grouping, and puzzles are frequently included for vocabulary teaching.

Kocaman and Cumaoğlu (2014) developed the “Foreign Language Vocabulary Learning Strategies Scale” for secondary school students based on Oxford (1990) inventory of word strategies. This scale developed in the form of five-point Likert-scale have six sub-dimensions “Memory Strategies”, “Cognitive Strategies”, “Compensation Strategies”, “Metacognitive Strategies”, “Affective Strategies” and “Social Strategies” and 32 items. As this scale was developed primarily for learners of English as a foreign language, its application to the learners of Turkish as a foreign language without any adaptation is thought to not reveal valid and reliable results.

The strategy used can vary according to the needs of learners, their learning styles, proficiency levels and the requirements of the task. Learners need to learn which strategy or strategies they need to choose first under the guidance of the instructor and then on their own. Therefore, the strategies are not fixed and can vary depending on the purpose of use and the place of use. By using “The Scale of Vocabulary Strategies for the Learners of Turkish as a Foreign Language”, the vocabulary learning strategies used by the students from each level can be determined. In this connection, the

instructor:

- (1) Can learn about the vocabulary learning strategies used by students and take these strategies into consideration while designing in-class vocabulary teaching activities.
- (2) Can organize training about the vocabulary learning strategies needed by students and teach the related strategies together.
- (3) Can plan on what strategies will be taught to students, how much time will be allocated to these strategies and what kinds of activities will be organized (Nation, 2001).
- (4) Can realize that in-class and out-of-class activities conducted for vocabulary teaching cannot be handled as independent of vocabulary learning strategies.
- (5) Can avoid adopting just one or several vocabulary strategies and always using them in the activities conducted with students “As the context of each vocabulary activity is different, the vocabulary learning strategy that needs to be used should be different.” (Schmitt, 1997).
- (6) Can persuade students who are not prone to independent learning or do not have any experience about it to learn and use vocabulary learning strategies; thus, support their learning processes (Ellis, 1994).
- (7) Can organize adequate number of activities for students to learn each vocabulary learning strategy.
- (8) Can remind students from time to time the goal of each strategy and in which situation it should be used and thus provide guidance for the proper use of strategies.
- (9) Can use scale items to inform students about which strategies are more suitable for themselves.

The learner can also use the suggestions listed earlier for teachers in order to monitor and plan their own learning processes. Turkish teaching centres can make inferences about learning styles by making use of the scale in their placement exams. In addition to their experimental research, researchers can benefit from the scale in their studies on vocabulary teaching that they design according to descriptive survey model. In this sense, it is important to introduce the *Scale of Vocabulary Strategies for the Learners of Turkish as a Foreign Language* into the literature so that it can be used in research on vocabulary in teaching Turkish.

## CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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**Appendix.** The Scale of Vocabulary Strategies for the Learners of Turkish as a Foreign Language

No	Items	Never	Rarely	Sometimes	Usually	Always
1	Yeni kelime öğrendiğimde hem kendi dilimdeki karşılığını hem Türkçe anlamını yan yana yazarım.					
2	Günlük hayatta ya da derste ihtiyacım olan kelimeyi öğrenirim.					
3	Kelimelerin anlamlarıyla birlikte söylenişlerini de öğrenirim.					
4	Kelime öğrenirken öğretmenimden yardım alırım.					
5	Kelimeleri eş veya zıt anlamlılarıyla birlikte öğrenirim.					
6	İhtiyaç duyduğumda telefonuma yüklediğim Türkçe sözlüğü kullanırım.					
7	Yeni öğrendiğim kelimeler için bir sözlük defteri oluştururum.					
8	Öğrendiğim kelimeleri unutmamak için sürekli tekrar ederim.					
9	Ana dilimde kullandığım günlük konuşma cümlelerini, Türkçeye tercüme etmeye çalışırım.					
10	Öğrendiğim kelimeleri doğru söyleyip söylemediğimi arkadaşlarıma sorarım.					
11	Yeni öğrendiğim kelimelerle diyalog oluştururum.					
12	Öğrenmek istediğim kelimeleri not alırım.					
13	Yeni kelimeler öğrenmeye çalışırken grup çalışması yaparım.					
14	Kelimeleri hatırlamak için kelime kartlarını görebileceğim yerlere yapıştırırım.					
15	Kelimeleri görselleriyle eşleştirerek öğrenirim.					
16	Kelimeleri kartlara yazıp bu kartları yanımdan ayırmam.					
17	Kelimeleri teknolojik oyunlar sayesinde öğrenirim.					
18	Öğrendiğim kelimeleri kalıcı hâle getirmek için metinler (hikâye vb.) okurum.					
19	Türkçe bir video izlerken bildiğim kelimelerin kullanılması dikkatimi çeker.					
20	Türkçe bir video vb. izlerken yeni kelimeler öğrenmek için alt yazılı olmasına dikkat ederim.					
21	Yeni kelimeler öğrendiğimde kendimi ödüllendiririm.					
22	Kelimeleri arkadaşlarımla rekabet hâlindeyken daha iyi öğrenirim.					
23	Öğrendiğim kelimeyi yanlış söylediğimde düzeltmesini isterim.					