

**THE ROLE OF OPENNESS PERSONALITY
TRAIT IN THE CHOICE OF LANGUAGE
LEARNING STRATEGY¹**

**Dil Öğrenim Strateji Seçiminde Deneyime Açıklık Kişilik
Özelliğinin Rolü**

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Abstract

This study aimed to investigate the role of openness personality trait in the choice of language learning strategies. The study was carried out in Bosnian context. 252 students from 8 different departments of a Bosnian university participated in the study. The research data were collected by employing two inventories: NEO PI-R (Revised- NEO Personality Inventory) (Costa, P. T. & McCrae, R.,1992) of Five Factor Model (FFM) and SILL (Strategy Inventory of Language Learning) (Oxford, 1990) based on the quantitative method. To analyze the gathered data several statistical procedures were utilized such as descriptive statistics, Cronbach's Alpha test, and the Pearson r Correlation test. First, personality traits of the participants were identified using NEO PI-R and secondly, the choice of language learning strategy of them use was investigated through Oxford's (1990) SILL. The findings showed that the openness trait plays a significant role in the choice of language learning strategy in language learning and use. The results provide significant practical and pedagogical implications regarding language learning and teaching, understanding the role of personality concept in language education. Based on the results, it is implied that this study will contribute to the learner-centered modern educational models which are underlaid on the individual differences studies in language learning

Keywords: Bosnian context, personality, language learning strategies, openness

Öz

Bu çalışma dil öğrenim stratejileri seçiminde deneyime açıklık kişilik özelliğinin rolünü araştırmayı amaçlamaktadır. Çalışma, Bosna bağlamında gerçekleştirilmiştir. Bir Boşnak üniversitesinin sekiz farklı bölümünde 252 öğrenci çalışmaya katılmıştır. Çalışma verileri beş faktörlü kişilik modeline dayalı NEOP-R kişilik envanteri (Costa, P. T. & McCrae, R.,1992) ve Dil Öğrenim Strateji Envanteri

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(SILL)(Oxford, 1990) kullanılarak ve nicel yöntemle dayalı olarak elde edilmiştir. Verileri analiz etmek için betimleyici istatistik, Cronbach Alpha testi ve Pearson r korelasyon testi kullanılmıştır. Çalışmada, ilk olarak katılımcıların kişilik özellikleri NEO PI-R kullanılarak analiz edilmiş, daha sonra ise dil öğrenim strateji kullanım tercihleri Dil Öğrenim Strateji Envanteri (SILL)(Oxford, 1990) kullanılarak araştırılmıştır. Araştırma bulguları, deneyime açıklık kişilik özelliğinin, dilin kullanım ve öğreniminde dil öğrenim strateji seçiminin anlamlı bir rolünün olduğunu göstermiştir. Bu sonuçlar, dil öğrenim ve öğretimi ve dil eğitiminde kişiliğin rolünü anlama açısından önemli uygulamalı ve pedagojik sonuçlar sağlamaktadır. Çalışmanın sonuçları, dil öğrenmede bireysel farklılık çalışmalarının üzerine temellendirilen modern öğrenci merkezli eğitim modellerine yönelik katkılarda bulunacaktır.

Anahtar Kelimeler: Bosna bağlamı, kişilik, dil öğrenim stratejileri, deneyime açıklık

Introduction

Bosnia and Herzegovina have distinct features compared to other European countries. Because of the historical background of the country, an observer can easily notice the eastern and western cultural traits existing together in society. Rather than contradictions, the discrepancies complete each other like the pieces of a puzzle. This acceptance of cultural differences brings about positive perceptions of the languages of various cultures. In daily life, people look very interested in learning different foreign languages from media, TV programs, cultural activities etc. Bosnian, Croatian, and Serbian Bosnian, Croatian, and Serbian are the three official languages of the country since this country is home to three main ethnic groups of different religious beliefs. The difference between the three official languages is similar to those found in British, American and Australian English, with certain variations at the levels of lexicon, syntax, and phonetics (Busch & Schick, 2007).

English, German, Turkish and Spanish are the most popular languages learned. Spreading and competence in English at an unprecedented rate were not before Yugoslavia's disintegration in the early 1990s. In the post-war era, English meant economic survival for many years through a range of diverse social and professional contexts from schools to courts to the military. Its sudden arrival contributed to the separation of those with and without adequate language skills. Normalization of the presence of English and its wide adoption in the country has been fed by the high level of international intervention in the country for the last two decades.

The transition from traditional teacher-centered models to learner-centered instruction can be accepted as a revolution in the 21st century. This revolution has led the researchers to reconsider the roles of teachers and language learners from different perspectives. Switching roles of learners from passive receivers of knowledge, listeners etc. in the classroom to active part of the teaching-learning process, additionally, reconceptualization of the roles of instructors from authority of the classroom and sole source of knowledge to facilitator, counsellor, moderator of the classroom necessitated to re-interpret the interaction between teacher and learners in the learning environment. This raised an awareness of the research for the individual differences in education.

Many researchers emphasized the importance of understanding individual differences in language learning (Dörnyei, 2008a, p. 6; Larsen-Freeman & Long, 199, p.534-536; Skehan, 1989; Lalonde & Gardner, 1984). Among them, Dörnyei (2008b) stated that the outcomes at the end of the language learning process vary a great deal depending on the learner characteristics. Regarding the relationships between English proficiency and individual learner differences such as motivation, age, aptitude, cognitive style,

personality, and learning strategies, there have been many types of researches. Among these studies, language learning strategies (LLSs) seem to be important because language learning strategies are teachable in a classroom to a certain extent and it contributes a great deal to communicative competence as a tool for active, self-directed involvement (Brown, 2002, p. vii-viii; Green & Oxford, 1995; Oxford, 1990, pp 10).

Even though studies on the individual differences are not new in literature, personality and its role in the second language learning seem unsatisfactory. Ellis (1994) states this situation by those words: "...in the eyes of many language teachers, the personality of their students constitutes a major factor contributing to success or failure in language learning, and learners also consider personality factors to be important" (pp.73-76). However, even though more than a decade has passed over those words, the studies about the relationship between personality and language learning haven't reached at the desired rate yet. Dörnyei (2008c, pp.2-3) claims that future research which involves the personality factor as an independent variable is still desirable, however, there is a further need for more comprehensive studies in this area.

Personality

Personality word comes from a Latin word *persona*, meaning an actor's mask or character in the theater. The studies on personality are generally traced back to the year 1930s. Gordon Allport's *Personality: A Psychological Interpretation* (1937), Ross Stagner's *Psychology of Personality* (1937), and Henry Murray's *Explorations in Personality* were rising on the horizon (1938) (Özer, 1993).

Throughout history, personality has been conceptualized from many different perspectives by many researchers and diverse approaches to the field have competed.

Language Learning Strategies

To get an insight into learning strategies, we need to consider the term "*strategy*". It derives from a Greek term "*strategia*" in the meaning of generalship of war. Specifically, it refers to the optimal management of troops, aircraft and ships as planned. In educational context, it can be defined as the operations maintained by the learner to aid acquisition, storage, retrieval and use of information (Oxford, 1990a). Accordingly, in language education, language learning strategies are the ways playing a role in facilitating and helping language learners learn in a more enjoyable, faster, easier, autonomous, effective and practical way (Oxford, 1990b). Similarly, Allwright (1990) points out the role of language learning strategies in enabling language learners to be more independent and to study autonomously and continuously throughout their life. Studies on language learning strategy use originated from the search for successful language learners' behaviors, techniques, habits, and actions in the 1970s. According to Cohen and Macaro (2007) stated that the starting point of those studies was "*What the Good Language Learners Can Teach Us?*" (Rubin, 1975). After this effort to define the characteristics of a good language learner, similar studies followed developing the list of the characteristics of successful language learners. (Stern, 1975; Nisbet & Schucksmith, 1986; Oxford, 1996; Riding & Rayner, 1998; Riding, 2000).

As a result of these ongoing studies, the language learning strategies were composed and then, systematic categorization of the strategies came out to understand the learning processes and effective teaching purposes. While there are some classifications (Dörnyei, 2008; O'Malley, Chamot, Stewner-Manzaranes, Oxford, 1985; Rubin, 1981), There are still some uncertain things about language learning strategies such as the number of

strategies, what strategies there are, how to define and classify them and the possibility of generating an exact hierarchy of strategies.

In this study, Strategy Inventory of Language Learning (SILL) by Oxford (1990) was employed. She considers her classification more a strategy system which interrelates and supports each other rather than a taxonomy which indicates a clear set of hierarchical relationships. They are first grouped into two as *direct* and *indirect* strategies then into six sub-categories with differing number of items. They are memory strategies, cognitive strategies and compensation strategies, metacognitive strategies, affective strategies and social strategies (See Table 1.1: Oxford's Language Learning Strategies-SILL-1990).

Table 1.1 Oxford's Direct and Indirect Strategy Groups and Sets

Direct Strategies	Indirect Strategies
Memory Strategies	Meta-cognitive Strategies
Cognitive Strategies	Affective Strategies
Compensation Strategies	Social Strategies

The relationship between the personality types of Indonesian EFL students and their academic performance was sought in a semester-long course including a series of EFL language measures (Carrell et al, 1996). They used the Myers-Briggs Type Indicator (MBTI), one of the personality inventory used in personality researches. They investigated the students' monthly performance on language skills such as reading, writing, vocabulary, comprehension and grammar. Results pointed out a significant relationship between their L2 development and personality in addition to their demographic variables.

In another study conducted in the Chinese context, personality traits were sought out based on its relationship with the role on the success of speaking skills of the students (Chen, Y., Jiang, Y. & Mu, Z, 2015). In contrast to the belief that extrovert students are more successful in speaking while introverts are less, they found no relationship between personality and L2 success. They pointed out the how significant role the employed strategy has. They implied that introversion shouldn't be seen as a barrier to the development of language learning success.

In another language learning and personality study which was conducted in the Iran context, researchers studied the impact of introversion and extroversion personality types on EFL learners' writing ability. Results of their study found significant relationships between the performance of the students' writing performance and their personality. Introverts outperformed extroverts in all subsets of the writing measurement except organization (Boroujeni, A, Roohani, A & Hasanimanesh, A, 2015).

In Japan, a study on the relationship between language learning strategy use and personality factor among Japanese students was carried (Kato, S., 2009). Japanese researcher found a positive correlation between some language strategies while he couldn't find any significant relationship between personality and proficiency of the students.

Kang (2012) studied the personality traits and their relationship with language strategy choice of Korean learners in his dissertation. He employed SILL and NEO PI-R to collect data and found a significant relationship. According to his findings, neuroticism had a

negative correlation with meta-cognitive strategy use, and similarly, its two facets angry hostility and vulnerability correlated negatively with the use of some strategies as well. Other facets were not found to have a significant relationship to strategy use. Extraversion was one of the domains with the strongest relationship to strategy use. Memory and cognitive, meta-cognitive, affective and social strategies positively correlated with extraversion personality trait.

Ehrman and Oxford (1990) investigated relationships between language learning strategies among Turkish learners. They utilized MBTI, SILL, and interviews to collect data and confirmed that certain personality types affect the learners' choice of strategy. For example, they found that introverts used meta-cognitive strategies to coordinate their learning and plan language tasks, and they best learned by themselves, thus they avoided social contact, in contrast, extroverts used social strategies to cope with stress to deal with the environment rather than with themselves. A variety of strategy use choices emerged from this study however, mostly memory strategies and sentient learners preferred to use compensation strategies, used global processing and imposed their own learning design. While thinkers preferred cognitive strategy use for reasoning and analysis aims, therefore, they learned through books more than from people and they didn't need social harmony, feelers tended to use meta-cognitive strategies laying emphasize on social and interpersonal issues and appreciating social connections and additionally, they seemed not to prefer cognitive strategies frequently. Similarly, judges and perceivers tended to show a variety of strategy choice in language learning. The judges made use of meta-cognitive and social strategies to control and environment and content. This seems to cause difficulty in the practice of compensation strategies; perceivers, on the other hand, used a variety of compensation strategies. They were found to be open to experiments of the learning process and used cognitive strategies to catch the idea easily (Ehrman and Oxford, 1990).

Another researcher, Liyanage (2004) investigated the relationships between language learning strategies and personality types. 948 ESL students, 470 males and 478 females, in government schools in Colombo, Sri Lanka participated in the study. He employed the Language Learning Strategy Inventory (LLSI) and the EPQ - Eysenck Personality Questionnaire. According to his findings, there are four personality types (sanguine, melancholic, choleric, and phlegmatic), which affect the choice of meta-cognitive, cognitive, or social-affective strategies. Additionally, it was found that learners with high extraversion scores who belong to the choleric (unstable extrovert) and sanguine (stable extrovert) types were good users of those three types of strategies. However, learners with high introversion scores who belong to melancholic (unstable introvert) and phlegmatic (stable introvert) types got higher scores for the use of meta-cognitive strategies than for cognitive and social-affective scores.

Ongoing studies give an insight and contribute on the understanding of the role of personality factor on language learning strategies and language learning variables. Understanding the individual differences in language learning and teaching education through the transition from teacher-centered to learner-centered learning and teaching models necessitates the studies on this field. In the current study, Bosnian students' openness personality trait was scrutinized in terms of their use of language learning strategies.

Openness

The openness scale of the NEO Inventories might be the most widely sought measure of this broad domain (McCrae, 1996; McCrae and Sutin, 2009). Both outer and inner worlds

are matters of curiosity of open individuals, and their lives are experientially richer than those of closed individuals. Entertaining novel ideas and conventional values are interesting for them, they are usually ready to understand, search, because of this, enjoy new ethical, social and political ideas and closed individuals experience both positive and negative emotions less keenly than them. Openness is particularly related to aspects of intelligence, such as divergent thinking, that contribute to creativity. Elements of Openness are active imagination, intellectual curiosity, attentiveness to inner feelings, preference for variety, aesthetic sensitivity and independence of judgment (McCrae, 1994).

Those who score high on openness can be more unconventional in behavior and modern in outlook. In contrast, low scorers prefer the familiarity to the novel and their emotional responses are somewhat more silent. Closedness does not refer to the hostile intolerance or authoritarian aggression. These are more likely to be signs of extremely low agreeableness.

Openness (O) trait has six facets: (O1) Fantasy, (O2) Aesthetics, (O3) Feelings, (O4) Actions, (O5) Ideas and (O6) Values (See Table 1.2: Openness Facets).

Table 1.2: Openness (O)

Facet	Low Score	High Score
Fantasy (O1)	Prefers facts to fantasy.	Loves to fantasize and has a creative imagination.
Aesthetics (O2)	Less aware of their feelings and not so good at expressing emotions.	Aware of their own emotions.
Feelings (O3)	No interest in the arts. Not aesthetically sensitive.	Interested in all types of beauty. Seeks the beauty in life. Appreciates the Arts.
Actions (O4)	Prefers the familiar and routine. Uncomfortable with change.	Keen on traveling to new places, exploring new things and trying new activities. Hates routine.
Ideas (O5)	Prefers the stability and security of tradition and rules.	Tends to challenge authority and inquires the traditional values from different aspects.
Values (O6)	Prefers things to abstract ideas and actual people. Thinks intellectual discussions are a waste of their time	Interested in playing and debating with ideas. Enjoys riddles, puzzles, and brain teasers. Engages in intellectual discussions.

Method

This study aimed to examine the role of openness personality trait in the choice of language learning strategies among Bosnian university students studying at a private university.

The data were collected from 2 inventories NEO PI-R and SILL. The gathered data were analyzed by utilizing quantitative method. Firstly, openness personality traits of the students were identified using NEO PI-R, which included 6 facets under this category. Secondly, the frequency of language learning strategy use was investigated using Oxford's SILL (1990). Third and final, the NEO PI-R and SILL were examined in search of the role of openness personality trait in the use of language learning strategies.

Research Questions

The primary objective of this study is to investigate the relationship between openness personality domain with its facets and language learning strategies of Bosnian university students studying at an international university. Based on this main purpose, this study sought answers to the following research questions:

- a. What is the level of openness personality trait of Bosnian university students studying English as a foreign language?
- b. Which language learning strategies do Bosnian EFL students prefer in language learning and use?
- c. Do openness personality trait and its facets have any impact in the choice of language learning strategies?

Design of the Study

This study was designed to investigate the possible role of openness personality trait in language learning strategies among Bosnian university students based on a descriptive quantitative research design. The official languages in Bosnia and Herzegovina are Bosnian/Serbian/Croatian. After a pilot study to decide whether to use Serbian or Croatian adaptations, the Croatian adaptation of NEO PI-R was chosen as the closest adaptation of this inventory. Croatian adaptations of NEO PI-R and SILL were distributed to students. To analyze the gathered data, quantitative method was used. Including descriptive statistics for demographic information of the participants, Cronbach's Alpha test to check the reliability of the data, and the Pearson *r* Correlation test to find out the relationship between openness and language learning strategy choice, several statistical procedures were utilized.

Participants

This study was conducted at a university in Sarajevo, the capital city of Bosnia and Herzegovina. The medium of instruction at this university is English and students are actively involved in an ongoing language learning process. Students from different nationalities at this university weren't included in the study, only Bosnian students participated on voluntary basis. In order to study at any department of the university, students have to pass the proficiency test (B2 level) administered by the university. In total, 252 male and female students at differing ages from 18-26 and 8 various departments participated in the study on voluntary basis. (See Table 2.1. for gender distribution, 2.2. for age distribution and 2.3. for major distribution.

Table 2.1 Distribution of Participants by Gender

		Frequency	Percent	ValidPercent	CumulativePercent
Valid	MALES	108	42,9	42,9	42,9
	FEMALES	144	57,1	57,1	100,0
	Total	252	100,0	100,0	

Table 2.2 Distribution of Participants by Age

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 18	45	17,9	17,9	17,9
19	71	28,2	28,2	46,0
20	60	23,8	23,8	69,8
21	50	19,8	19,8	89,7
22	15	6,0	6,0	95,6
23	9	3,6	3,6	99,2
24	1	,4	,4	99,6
25	1	,4	,4	100,0
Total	252	100,0	100,0	

Table 2.3. Distribution of Participants by Major

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid ELL	61	24,2	24,2	24,2
EEE	40	15,9	15,9	40,1
OP	16	6,3	6,3	46,4
IRES	9	3,6	3,6	50,0
MNGMT	40	15,9	15,9	65,9
ARCH	34	13,5	13,5	79,4
GBE	31	12,3	12,3	91,7
IT	21	8,3	8,3	100,0
Total	252	100,0	100,0	

Instrumentation of the Study: SILL & NEO PI-R

SILL

The SILL has two forms: a 50-item questionnaire for people learning ESL or EFL and an 80- item questionnaire for native English speakers learning other languages. In this study, the first one was utilized. The SILL is comprised of Likert-scaled items (scale 1-5, ranging from “never or almost never” to “always or almost always”), with each item expressing a learning strategy.

Items in the SILL, firstly categorized into two, each of which include differing number of items, are divided into the six categories of strategies: memory (items 1 to 9), cognitive (items 10 to 23), compensatory (items 24 to 29), metacognitive (items 30 to 38), affective (items 39 to 44), and social strategies (items 45 to 50). While the reason of titling first group as direct strategies is because they include processing or using the language that is being learned directly, the reason of titling second group as indirect strategies is that because they do not involve the language itself; instead, they allow the learner to manage himself or herself with regard to the following: planning, organizing, monitoring, evaluating, maintaining motivation, lowering anxiety, and learning with others. The SILL’s essential purpose is a specific picture of the strategies used by the learner on a particular language task but to provide a general picture of the individual learner’s typical strategy use.

NEO PI-R

The revised NEO Personality Inventory (NEO PI-R; Costa & Mcrae, 1992) is a 240 item self-report questionnaire designed to operationalize the five-factor model of personality (FFM; Digman, 1990; McCrae & John, 1992).

This scale gives a systematic assessment of attitudinal, emotional, motivational and experiential styles of individuals based on five domains and 30 facet scales which define each domain. Each domain is measured through the sum of six facets. The assessment on a five-point Likert scale system for each personality trait is on a range from 1 to 5: 5) Strongly Agree; 4) Agree; 3) Neither Agree Nor Disagree; 2) Agree; 1) Strongly Agree.

For the current study, upon the application to use this questionnaire, Croatian and Serbian versions were sent by Psychological Assessment Resources Incorporation to allow the researcher to choose the best one for the Bosnian students. The Croatian adaptation was chosen after a pilot study at the university and PAR Inc. was informed of this preference. For this study, the data collected from the openness domain and its facets were utilized.

Data Collection Procedures

In this study, for the analysis of the data collected, the quantitative research design was applied. Statistical Package for the Social Science (SPSS) for Windows, version 20.0, was used. To ensure the reliability, Cronbach's alpha reliability test for the openness and its facets and six groups of language learning strategies. Pearson's *r* correlation was utilized to find the relationships of the language learning strategies and openness traits facets.

Data analysis**Five-Factor Model of Personality**

Five Factor-Model of personality is a representation of the structure of personality traits developed. It has been elaborated over many years. (Digman, 1990; John, Nauman & Soto, 2008). The five factors refer to the most essential dimensions defined in both psychological questionnaires and natural languages. These factors are defined by groups of inter-correlated traits. These specific traits are referred to "facets," and each group of facets is called a "domain." The sum of the facet scale scores gives the domain score, which is an approximation of the factor score. The NEO PI-R gives a description of the individuals' motivational, emotional, experiential, attitudinal, and interpersonal styles through the standing scores. Each domain scale and factor measures personality, while facet scales provide a more detailed analysis by measuring the specific traits within each domain.

In this study, the participants' openness domain scales and openness facets (Fantasy (O1), aesthetics (O2), feelings (O3), actions (O4), ideas (O5) and values (O6)) based on the five-factor model were examined through the NEO PI-R. Students' responses to the items of the inventory were computed for descriptive statistics. They were ranged from 1 to 5 based on a Likert-type scale system. The range from 1 to 5 is used to indicate how much each item describes each participant's feelings, thoughts, manner, etc.: 1 – Strongly Disagree, 2 – Disagree, 3 – Neutral, 4 – Agree, 5 – Strongly Agree.

To find internal consistency and the degree of the accuracy of the scores of the NEO PI-R, Cronbach's alpha coefficient was used and tested to find the relevancy of the items to their closeness as groups at the beginning of the statistical procedures. Cronbach's alpha coefficient was found reasonably high for openness domain (.704). The overall means and

standard deviations of this domain in the study are indicated in Table 2.1. The mean found for openness was ($M=2,84$).

Table 3.1 Five Domains: Means and Standard Deviations

	Mean	Std. Deviation	N
OPENNESS	2,8436	,39617	252

Six Openness Facets

In the examination of facets of the openness domain, firstly, means and standard deviations were computed. As shown in Table 3.2, the actions (O4) facet had the highest mean. This was followed by values (O6), fantasy (O1), aesthetics (O2), ideas (O5) and feelings (O3).

Table 3.2 Six Openness Facets: Means and Standard Deviations

	Mean	Std. Deviation	N
O1FANTASY	2,6980	,67117	252
O2AESTHETICS	2,6543	,79428	252
O3FEELINGS	2,4072	,55034	252
O4ACTIONS	3,8395	,54154	252
O5IDEAS	2,4379	,72094	252
O6VALUES	3,0249	,50668	252

Language Learning Strategies

The second quantitative instrument, SILL, which is composed of 50 items, was utilized to measure the strategy use of the learners across six groups of strategies. Descriptive analysis of the statistics was conducted using the SPSS 20.0 version. 50 strategy items were divided into six groups: memory strategies, cognitive strategies, compensation strategies, meta-cognitive strategies, affective strategies, and social strategies. It is rated on a five-point Likert scale, which ranges from 1 to 5 to show the frequency of the use of each strategy: 1) never or almost never true of me, 2) generally not true of me, 3) somewhat true of me, 4) generally true of me, 5) always or almost always true of me.

The Cronbach alpha coefficient test was employed to measure internal consistency, precise decision making on the questionnaire and accuracy of the scores and to test how closely related the items in each group were. As many studies that have used the SILL showed a high prediction of reliability scores, this study indicated a high reliability by utilizing the Cronbach alpha coefficient (.79). That indicated that scores were reasonably consistent and reasonably high. On the level of strategy type, moderately high reliability was shown by the Cronbach alpha coefficient: memory strategies (.702), cognitive strategies (.798), compensation strategies (.561), meta-cognitive strategies (.864), affective strategies, (.594) and social strategies (.809) (See Table 3.3).

Table 3.3 Six Strategy Groups: Reliability Statistics

Strategy Group	Cronbach's Alpha
Memory Strategies	.702
Cognitive Strategies	.798
Compensation Strategies	.561
Metacognitive Strategies	.864
Affective Strategies	.594
Social Strategies	.809

Based on Oxford's (1990) scale of strategy use, levels of participants' use of strategies were sorted into three groups: high (3.5 -5.0), medium (2.5 – 3.4), and low (1.0 – 2.4) According to this division, Table 3.4 indicates the degree of overall strategy use among the Bosnian university students in this study. Participants stated that they used all different types of strategies at differing levels. From the most preferred type to the least preferred were: Social strategies (71.4 %), cognitive strategies (65.4 %), meta-cognitive strategies (60.7 %), compensation strategies (53.5%), affective strategies (26.1 %), and memory strategies (20.4 %).

Table 3.4 Overall Strategy Use: Frequencies and Percentages

Levels of strategies	Memory Strategies		Cognitive Strategies		Compensation Strategies		Meta-cognitive Strategies		Affective Strategies		Social Strategies	
	Frequency (n)	Percent (%)	Frequency (n)	Percent (%)	Frequency (n)	Percent (%)	Frequency (n)	Percent (%)	Frequency (n)	Percent (%)	Frequency (n)	Percent (%)
High (3.5 ≤ M ≤ 5.0)	51	20.4	165	65.4	135	53.5	153	60.7	66	26.1	180	71.4
Medium (2.5 ≤ M ≤ 3.4)	166	65.8	79	31.3	106	42.0	90	35.7	141	55.9	60	23.8
Low (1.0 ≤ M ≤ 2.4)	35	13.8	8	3.1	11	4.3	9	3.5	45	17.8	12	4.7

Openness Facets and Six Strategy Groups

According to the results, openness showed significant correlation with all strategy groups. In order to investigate the possible correlations of openness with the six strategy groups at the facet level, the six facets of openness and the six strategy groups were tested in detail (See Table 3.5).

Table 3.5 Openness and Six Strategy Groups: Correlations

		MEMORY STRATEGIES	COGNITIVE STRATEGIES	COMPENSATION STRATEGIES	METACOGNITIVE STRATEGIES	AFFECTIVE STRATEGIES	SOCIAL STRATEGIES
OPENNESS	Pearson Correlation	,270**	,377**	,204**	,268**	,136*	,241**
	Sig. (2-tailed)	,000	,000	,001	,000	,030	,000
	N	252	252	252	252	252	252

***. Correlation is significant at the 0.01 level (2-tailed).*

**. Correlation is significant at the 0.05 level (2-tailed).*

Correlational Relationships Between Openness Facets and Language Learning Strategies

For the investigation of possible correlations between language learning strategies and openness and its facets, data gathered from Openness scores of NEO PI-R and the SILL was computed by utilizing Pearson's *r* correlations (See Table 3.6). Openness showed statistically significant correlations with all strategy groups (See Table 3.6). Its strongest relation was with cognitive strategies ($r = .377, p < .001$). This was followed by memory strategies ($p < .001, r = .270$); meta-cognitive strategies ($p < .001, r = .268$); social strategies ($p < .001, r = .241$); compensation strategies ($p < .001, r = .204$); and affective strategies ($p = .030, r = .136$). **Table 3.6 Openness Facets and Six Strategy Groups: Correlations**

		MEMORY STRATEGIES	COGNITIVE STRATEGIES	COMPENSATION STRATEGIES	METACOGNITIVE STRATEGIES	AFFECTIVE STRATEGIES	SOCIAL STRATEGIES
O1 FANTASY	Pearson Correlation	,076	,093	,185**	-,018	-,088	,021
	Sig. (2-tailed)	,230	,139	,003	,780	,164	,739
	N	252	252	252	252	252	252
O2 AESTHETICS	Pearson Correlation	,338**	,430**	,162**	,304**	,266**	,289**
	Sig. (2-tailed)	,000	,000	,010	,000	,000	,000
	N	252	252	252	252	252	252
O3 FEELINGS	Pearson Correlation	,226**	,284**	,139*	,262**	,212**	,199**
	Sig. (2-tailed)	,000	,000	,027	,000	,001	,001
	N	252	252	252	252	252	252
O4 ACTIONS	Pearson Correlation	-,027	-,076	-,100	-,112	-,059	-,114
	Sig. (2-tailed)	,668	,230	,112	,077	,350	,070
	N	252	252	252	252	252	252
O5 IDEAS	Pearson Correlation	,229**	,426**	,193**	,306**	,089	,274**
	Sig. (2-tailed)	,000	,000	,002	,000	,161	,000
	N	252	252	252	252	252	252
O6 VALUES	Pearson Correlation	,094	,139*	,140*	,203**	,046	,164**
	Sig. (2-tailed)	,139	,028	,026	,001	,464	,009
	N	252	252	252	252	252	252

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

As shown in Table 3.6, the first facet of openness, fantasy (O1) showed significant correlation only with compensation strategies ($r = .185, p = .003$).

Correlations of aesthetics (O2) with strategies were the strongest. It correlated most strongly with cognitive strategies ($p < .001, r = .430$), which was the strongest correlation of all facets. This was followed by the correlations with memory strategies ($p < .001, r =$

.338); meta-cognitive strategies ($p < .001$, $r = .304$); social strategies ($p < .001$, $r = .289$); affective strategies ($p < .001$, $r = .266$); and compensation strategies ($p = .010$, $r = .162$).

Feelings (O3) showed significant correlations with all strategy groups. The strongest was with cognitive strategies ($p < .001$, $r = .284$). This was followed by the correlation with meta-cognitive strategies ($p < .001$, $r = .262$); memory strategies ($p < .001$, $r = .226$); affective strategies ($p < .001$, $r = .212$); social strategies ($p < .001$, $r = .199$); and compensation strategies ($p = .027$, $r = .139$).

The ideas (O5) facet correlated significantly with all six strategy groups. Its strongest relation was found to be that with cognitive strategies ($r = .426$, $p < .001$). This was followed by the correlations with meta-cognitive strategies ($p < .001$, $r = .306$); social strategies ($p < .001$, $r = .274$); memory strategies ($p < .001$, $r = .229$); and compensation strategies ($p = .002$, $r = .193$).

Values (O6) showed significant correlation with meta-cognitive strategies ($p < .001$, $r = .203$). This was followed by the correlation with social strategies ($p = .009$, $r = .164$); compensation strategies ($p = .026$, $r = .140$); and cognitive strategies ($p = .028$, $r = .139$).

The actions facet (O4) showed no significant correlations with any of the six strategy groups.

Results and Discussion

This study presents a discussion of the findings based on the data analysis and implications for research. Openness relates to the breadth, depth, originality, and complexity of individuals' mental lives (John and Srivastava, 1999). High scorers tend to be original, curious, and complex; low scorers tend to be conventional and uncreative with narrow interests (Shen, J., 2016).

This study found that openness was significantly correlated with all six strategy groups (memory, cognitive compensation, meta-cognitive, affective and social strategies). This result showed that Bosnian university students who are open to novel ideas and unconventional values and curious about their inner worlds, as well as inquiring to discover inner and outer worlds, showed higher tendency to use all types of language learning strategies more frequently than those who scored low on the openness scale. It means that students who are high in openness control their own learning and coordinate this language learning process by different means, such as centering, arranging, planning and evaluating; learn through interactions, know how to regulate their emotions, lower their anxiety and motivate themselves, make use of their mental processing of the language in different ways, such as storing and retrieving the new information, grouping and using imagery, reasoning deductively, guessing, or using synonyms.

On the facet level of openness, all facets except the actions facet had significant correlations with some strategies. Particularly, the aesthetics and feelings facet correlated with all six strategy types significantly. For instance, these results on the aesthetics (O2) and feelings (O3) facets showed that Bosnian learners who have a deep appreciation for art and aesthetics and have an intensive sensitivity to diverse emotions and feelings tended to use strategies much more frequently. Their inner search for artistic values and deep feeling for emotional attributes in their lives drive them to use related skills and motivate and activate the use of both direct and indirect language learning strategies to a greater degree than those who score low in the level of aesthetics and feelings, in other words, in those who are less sensitive toward feelings and pay less attention to artistic values.

The fantasy facet correlated only with compensation strategies significantly. This means students who prefer novelty and variety to familiarity tend to overcome limitations in the target language by themselves by guessing the meanings, using synonyms, inferencing, and perhaps sometimes relating to the unknown by using the already known and activating their imaginations.

The ideas facet correlated with five strategy types (memory, cognitive, compensation, metacognitive and social). This implies that students without limited curiosity and limited topics in mind, willing to consider new ideas and having intellectual curiosities, make use of the language learning strategies more frequently than the low scorers on this facet.

Another facet with significant correlation to strategies was the values (O6) facet. It correlated significantly to four strategy types (cognitive, compensation, metacognitive and social strategies). This indicates the tendency of Bosnian university students who are highly tolerant of different religious, political, and social values, ready to reexamine such values, and less conservative prefer to use those strategies more.

This result is in accordance with the activation of skills such as analyzing and reasoning about knowledge, thinking deductively, being open to diverse ideas, and interacting in the target language and creating opportunities for its social use in daily life. Individuals who are high in openness to experience “actively seek out experience and are apt to be particularly reflective and thoughtful about the ideas they encounter” (McCrae & Costa, 1997). In some models, this factor is even called intellect. The tendency of those individuals to report higher use of strategies can be explained by their high awareness of diverse interests and inspirations for the new knowledge and learning sources. Taking advantage of this willingness to welcome diverse thoughts and openness to reexamine ideas from different perspectives leads them to retrieve new knowledge in an efficient way.

Most of the previous academic studies indicate that openness correlated positively to educational outcomes. (Mumford & Gustafson, 1988; De Fruyt & Mervielde, 1996a; De Raad & Schouwenburg, 1996; Blickle, 1996; Ackerman & Heggestad, 1997; Paunonen & Ashton, 2001; Lounsbury, et al., 2003; Farsides & Woodfield, 2003; Zhang, 2003; Joseph et al, 2005; Homayouni et al, 2009; Nofle & Robins, 2007; ; Afolabi, Ogunmwonyi, Okediji, 2009; Kılıç-Bebek, 2009; Homayouni, 2011; Maldosheva, G. B. & Mahmood, M., 2014; Öz, H., 2014) On the facet level, there are many studies finding significant relationships between openness and learning as well. (Wolfe & Johnson, 1995; Chamorro-Premuzic & Furnham, 2002)

Meanwhile, some studies found no significant relationship between learning and openness to experience. (Ackerman & Heggestad, 1997; Busato et al, 2000; Zeidner & Matthews, 2000). When learners are needed to create curricular content rather than produce novel responses or solve problems creatively, the imaginative and creative nature of open individuals might be a disadvantage in academic settings particularly (De Fruyt, F. & Mervielde, I., 1996b). According to Obiunu and Ruth (2013), openness may not correlate with academic success but with higher intelligence. It is possible that openness may have a positive effect on academic performance when artistic, imaginative, and creative invention by students is highly relevant, but this happens when systematic, organized, and dutiful performance is required. This view is in accordance with some other researchers' implications as well (Wolfe & Johnson, 1995; Chamorro-Premuzic & Furnham, 2002).

Conclusion and Suggestions

In the use of the language materials, mainly textbooks, relevant strategies of the target teaching area are embedded into the curricula. Hereby, the role of the classroom teacher is explaining how to use them, modeling and reinforcing the students to use them. In the current study, openness personality factor was scrutinized with in relation to language learning strategies. In the light of the gathered significant results, it is seen how important openness personality factor is. However, one should keep in mind that the personal traits cannot be taken for granted. Since the learning activities are contextualized, strategy training by the teachers and help them get awareness of their individual differences are required. Once, the students are trained for the strategy training and helped for their own personal qualities and differences, that will deepen their understanding of the language learning process, they develop their abilities and play the self-directive role in the studies (Tudor, 1996, pp. 38), which is one of the cornerstones of learner-centered teaching models.

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