

IMPACT OF HUMANITIES AND SOCIAL SCIENCES ON FOREIGN LANGUAGE LEARNING AND VERBAL INTELLIGENCE: A MODEL STUDY ON BOSNIAN AND TURKISH STUDENTS

Hakan Aydoğan¹, Somali Gupta²

¹Muğla Sıtkı Kocman University, Turkey, e-mail:aydoganh@hotmail.com

²Professor & Head, Department of English, CLC Govt College, Dhamdha, Dist Durg., Chhattisgarh, India,
e-mail: somaligupta@gmail.com

Abstract. *This study addresses major areas relevant to the study and understanding of the relationships between human verbal intelligence, their social being and humanistic assets in an individual-differences framework. It aims to reinvigorate discussions of language learning intelligence types, speed of verbal access, verbal language interaction practises, language comprehension between foreign language learning and verbal ability in English. A total of 125 students participated in our research. The current research has been conducted in international high schools and universities in Sarajevo, Bosnia & Herzegovina. In order to fulfill the main purposes of this research, we have composed nine questions in the form of Likert five-point scale. In order to test the proposed hypothesis, we have conducted correlational analysis, t-tests for independent samples and multiple regression analysis (MRA).*

The participants who showed verbal linguistic intelligence were found to be higher users of cognitive strategies which in turn plays an important role in the development of language and literacy skills. Self-reported verbal intelligence reveals statistically significant correlations with learning skills of our subjects and with their degree of liking humanities and social sciences. Bosnian students speak more languages than Turkish students, but these groups of participants have similar interest for learning foreign languages. Self-assessed verbal intelligence is in a statistically significant correlation with number of languages which are spoken by our respondents. Verbal intelligence is not significantly correlated with the interest to learn foreign languages, nor is the last mentioned variable with the number of spoken languages.

Key words: *verbal intelligence, learning skills, foreign language learning, attitudes towards learning, motivation for learning*

1. INTRODUCTION

The purpose of writing this paper is to understand the correlation between the study of Social Sciences and Humanities with the development of Verbal Intelligence in a foreign language. English is the most common foreign language in Turkey and Bosnia and Herzegovina. The introduction of the English language in these countries has been voluntary. Neither had English speaking colonial masters to introduce or impose the same. With a rapidly shrinking world and the rising demands of a developing economy, the need for a commonly comprehensible language across borders has necessitated the need for learning English in these areas. Also, with the resurrection of Humanities and Social Sciences, language learning has had a rebirth in Government aided schools of these countries.

English is, most definitely, a foreign language in these areas which is now being introduced and encouraged as a second language in these two countries.

Humanities and Social Sciences is at the heart of knowing about human condition. Language aids in this learning. This study seeks to find out to what extent English language learners internalize foreign language aptitude and Verbal Intelligence. During the study it was found that the students who understood the language were able to connect better with the culture and vice-versa. The learner-centered pedagogy in Foreign Language Learning in recent years has led to a heightened need for Verbal Intelligence. This paper aims at drawing a correlation between Social Sciences and Humanities and Language Learning for the purpose of understanding and improving the subject knowledge and linguistic competence along with socio-cultural concerns of students from Turkey, Bosnia and Hercegovina, and Balkans in general, at the International University of Burch, through a wide ranging questionnaire built on culture education and verbal competencies.

Foreign Language Learning involves more than simple acquisition of a target language as learners develop cognitive, social and linguistic competences at the same time. This study rests on the hypothesis that verbal intelligence can be developed by incorporating humanistic education, social and emotional nurturing along with scientific education. During the study, the participants of verbal-linguistic type were found to be higher/better users of cognitive strategies which play an important role in the development of language and literacy skills.

There is no overarching theory of second language acquisition which would explain how people learn a second language. Worldwide, theories related to second language acquisition have popped up only when the instructional objective became 'oral competence', or what we term 'verbal intelligence'. The 1990s saw a host of new theories introduced to the field, such as Michael Long's interaction hypothesis, Merrill Swain's output hypothesis and Richard Schmidt's noticing hypothesis. However, two main areas of research interest were linguistic theories of Second Language Acquisition based upon Noam Chomsky's universal grammar, and psychological approaches such as skill acquisition theory and connectionism. The latter category also saw the new theories of processability and input processing in this time period. The 1990s also saw the introduction of sociocultural theory, an approach to explain second-language acquisition in terms of the social environment of the learner. In the 2000s research was focused on much the same areas as in the 1990s, with research split into two main camps of linguistic and psychological approaches. VanPatten and Benati do not see this state of affairs as prone to changing in the near future, pointing to the support both areas of research have in the wider fields of linguistics and psychology, respectively.

Linguistic Intelligence is a part of Howard Gardner's multiple intelligence theory that deals with an individual's ability to understand both spoken and written language, as well as their ability to speak and write themselves. The Theory of Multiple Intelligences, developed by Howard Gardner, Ph.D., Professor of Education at Harvard University, states Verbal-linguistic intelligence as well-developed verbal skills and sensitivity to the sounds, meanings and rhythms of words. Gardner's early work in psychology and later in human cognition and human potential led to the development of the initial six intelligences. Today there are nine intelligences and the possibility of others may eventually expand the list. These intelligences (or competencies) relate to a person's unique aptitude and set of capabilities and the ways in which they might prefer to demonstrate intellectual abilities. In a practical sense, linguistic intelligence is the extent to which an individual can use language, both written and verbal, to achieve goals. In addition to this, high linguistic intelligence has been linked to improved problem solving, as well as to increased abstract reasoning. In many cases, only

the verbal aspects are taken into consideration. This is usually referred to as verbal intelligence or verbal fluency, and is commonly a reflection of an individual's overall linguistic intelligence.

Good second language speakers are often considered to be talented people with special verbal abilities who possess more than one code to understand and acquire knowledge in order to use it in new situations. Various empirical studies (Gardner & Lambert, 1972; Skehan, 1982; Silva & White 2002) have investigated the relationship between IQ and the capacity for learning foreign languages but have found only a moderate level of correlation; therefore, Spearman's traditional static concept of intelligence cannot be used as a predictor of successful language learning.

There are three general categories in which people learn: visual learners, auditory learners, and kinesthetic learners. Beyond these three general categories, many theories of and approaches toward human potential have been developed. Among them is the theory of multiple intelligences, developed by Howard Gardner, Ph.D., Professor of Education at Harvard University. Gardner's early work in psychology and later in human cognition and human potential led to the development of the initial six intelligences. Today there are nine intelligences and the possibility of others may eventually expand the list. These intelligences (or competencies) relate to a person's unique aptitude set of capabilities and ways they might prefer to demonstrate intellectual abilities.

According to Gardner's theory of Multiple Intelligences Verbal-linguistic intelligence implies well-developed verbal skills and sensitivity to the sounds, meanings and rhythms of words. English as a Foreign Language (EFL), indicates the teaching of English in a non-English-speaking region. Study can occur either in the student's home country, as part of the school curriculum or, for the more privileged minority, in an anglophone country that they visit as a sort of educational tourist, particularly immediately before or after graduating from university.

Theories related to second language acquisition popped up only when the instructional objective became oral competence. Structural linguists analyze how language is formed, not in a historical-descriptive, or diachronic sense, but as it is currently spoken in the speech community. Language is now seen as a set of abstract linguistic units that make up the whole language system. The realization that all languages are complex, unique systems, allowed linguists to understand the multifaceted, singular structure of English without comparing it to Latin, which had long been the paragon of excellence among prescriptive grammarians. This led to new thinking in terms of how language should be taught. Individual structures should be presented one at a time and practiced via repetition drills. Grammar explanations should be minimal or nonexistent, for students will learn grammatical structures by inductive analogy.

The most common foreign language is English, which in public schools is taught from 4th grade (age 10) onwards, through to the end of high school. In high school a second foreign language is introduced. However, the number of lessons given in public schools is minimal compared to private schools, which begin teaching English in kindergarten, have two or three times as many English lessons in the timetable, and in many cases employ native speakers of English as teachers. In 2011, the Ministry of Education, under pressure from the Prime Minister to improve the learning of English in Turkey, announced that the approach to language would be thoroughly revised, part of which would include a plan to hire 40,000 foreigners as language assistants in public schools. As a result of the poor standards achieved by the public system many students take an intensive English language 'prep year' when entering university. These are offered by both state and private universities throughout Turkey.

2. AIMS OF THE RESEARCH

This research aims to study if a personal preference for Humanities and Social Sciences facilitates better Verbal Intelligence and Foreign Language Learning. This is the reason behind the decision to examine the following:

1. Relationship between self-assessed verbal intelligence, number of spoken languages, and interest in language learning.
2. Difference in the number of spoken languages and the interest in language learning between Turkish and Bosnian students from the research sample.
3. Gender differences in spoken languages and interest in learning foreign languages.
4. Correlations between: self-assessed verbal intelligence, degree of liking humanities and social sciences, and learning skills of students.
5. Potential of: general attitude toward studying, learning skills, overall motivation for learning, self-esteem, and extroversion, to predict to what extent students like humanities and social sciences.

3. RESEARCH HYPOTHESES

Based on the aims of the study/research questions and purposes, we have defined five hypotheses:

1. Correlations between self-assessed (self-reported) verbal intelligence, number of spoken languages, and interest in language learning are statistically significant.
2. Differences in number of spoken languages and interest in language learning between Turkish and Bosnian students are not statistically significant.
3. There are no statistically significant gender differences in the number of spoken languages and interest in language learning.
4. Correlations between: self-assessed verbal intelligence, degree of liking humanities and social sciences, and learning skills are statistically significant.
5. Explained variance (by five mentioned predictors) of liking humanities and social sciences is statistically significant.

4. METHODOLOGY

4.1. Participants and procedure

A total of 125 students participated in our research. The current research has been conducted in international high schools and universities in Sarajevo, Bosnia & Herzegovina. The questionnaire (described below in *Instruments*) has been administered through the Internet server for survey research. The participants' answers have been automatically recorded and the database has been generated in MS Excel. Finally, appropriate statistical analyses have been done in *SPSS 16.0* for Win. The mean age of our respondents was $M = 18.58$ and standard deviation was $SD = 2.95$. Minimal age was 14 and maximal 26. The average number of years of participants' formal education was $M = 12.42$, with $SD = 1.95$. The number of years of formal education ranged from 9 to 16. In the figure below (Fig. 1), there are displayed data for nationality and educational level/institution for our subjects.

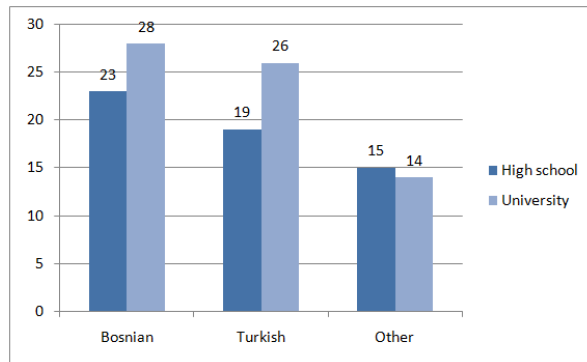


Fig. 1 Sample distribution by nationality and educational level/institution

Looking at Figure 1 and based on additional calculations, there were 51 Bosnian (40.8% of the total sample) and 45 Turkish students (36.0% of all respondents) in our sample. There were also 29 students of other nations (i.e. 23.2% of the total sample). Fifty seven of our subjects went to high school (45.6% of all respondents) and 68 of them are at university (54.4% of all participants).

Among Bosnian students, 23 went to high school and 28 were at university. Among Turkish students, 19 of them were at high school and 26 went to university. Fifteen participants who belonged to other nations were at high school and 14 of them were at university. Gender distribution of our sample is shown in Figure 2.

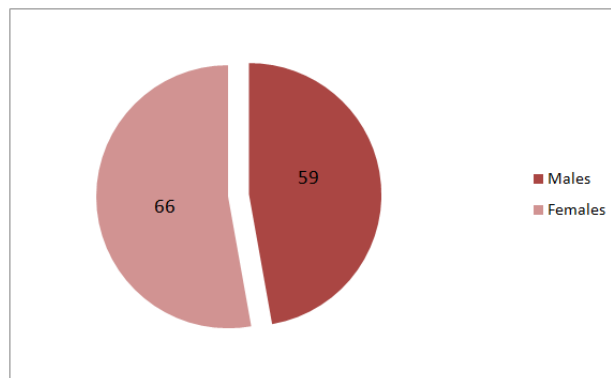


Fig. 2 Frequencies of males and females in the sample

As we can notice (Fig. 2), there were 59 males (or 47.2% of all participants) and 66 females (52.8% of all respondents) in our sample.

4.2. Instruments

Regarding the previous literature in this field, and in order to fulfill the main purposes of this research, we have composed nine questions (items, statements) in the form of Likert five-point scale (with the exception of the first question). The items are:

1. How many languages (except for mother tongue) do you speak (please write the number).
2. To which extent are you (generally) interested in learning foreign languages (from 1 – not at all to 5 – very interested)?
3. How can you grade (evaluate) your overall verbal intelligence (from 1 – very poor to 5 – excellent)?
4. What is your general attitude towards studying (1 – don't like it at all to 5 – I enjoy in it very much)?
5. How much do you like humanities and social sciences (1 – not at all to 5 – very much)?
6. Are you an extroverted person (1 – not at all to 5 - very extroverted)?
7. How would you grade your learning skills (1 – very poor to 5 – excellent)?
8. How would you grade your overall motivation for learning (1 – very poor to 5 excellent)?
9. How would you grade your personal self-esteem (1 – very low to 5 – very high)?

We have also asked our respondents some questions on: their age, number of years of formal education, gender, nationality, and educational level/institution, which have been relevant for the current research.

5. RESULTS AND DISCUSSION

In order to test the proposed hypotheses, we have conducted correlational analysis, t-tests for independent samples and multiple regression analysis (MRA). First, we have calculated descriptive values for every analyzed variable. The results are displayed in Table 1. Note that the labels mean: Min – minimal value(s), Max – maximal value(s), M – arithmetic mean(s), & SD – standard deviation(s).

Looking at Table 1, we can conclude that the average number of languages which are spoken by our participants is $M = 2.06$ (i.e. approximately two languages). The range of spoken languages is from 1 to 5. Our participants are very interested in learning foreign languages ($M = 4.50$; the range is: 3 – 5). Our participants think that their verbal intelligence is above average ($M = 4.29$), and they have answered this question very similarly one to each other ($SD = 0.693$). General participants' attitude toward studying is very positive ($M = 4.38$) and they like humanities and social sciences ($M = 4.24$).

Table 1 Descriptive statistical values

Variables	Min	Max	M	SD
Number of spoken languages	1	5	2.06	0.922
Interest in learning languages	3	5	4.50	0.577
Self-report of verbal intelligence	2	5	4.29	0.693
General attitude toward studying	1	5	4.38	0.790
Liking for humanities and social sciences	1	5	4.24	0.846
Self-assessed extroversion	1	5	4.20	0.976
Learning skills	1	5	4.08	0.989
Overall motivation for learning	1	5	4.15	0.992
Self-assessed personal self-esteem	1	5	4.10	1.027

Among our subjects, self-reported extroversion is above average ($M = 4.20$). They also think that their learning skills are very good ($M = 4.08$), as it is their overall motivation for learning ($M = 4.15$). Personal self-esteem of the subjects is also high ($M = 4.10$), but there is the greatest variability of their assessments ($SD = 1.027$). To test our first hypothesis, we have calculated correlation coefficients and displayed them as a matrix of intercorrelations (Table 2).

Table 2 Matrix of intercorrelations between: self-assessed verbal intelligence, number of spoken languages, and interest for learning foreign languages

	Self-assessed verbal intelligence	Number of spoken languages	Interest in learning languages
Self-assessed verbal intelligence	1	.186*	.068
Number of spoken languages	.186*	1	.094
Interest in learning languages	.068	.094	1

* $p < .05$

Looking at Table 2, we can see that self-reported verbal intelligence is in a positive, statistically significant correlation with the number of spoken (foreign) languages by our participants ($r = .186$, $p < .05$). It means that somebody who assesses his/her verbal abilities high, speaks more languages than somebody who gives low assessment of it. Self-reported verbal intelligence is not in a statistically significant correlation with the interest in learning foreign languages ($r = .068$, $p > .05$). The correlation between the number of spoken languages and interest for learning them is not statistically significant ($r = .094$, $p > .05$). Hence, we can reject the biggest part of our first hypothesis.

In the next two tables have tested differences between particular subsamples of our participants. The labels mean: N – number of participants in the subsample; M – arithmetic mean; SD – standard deviation; SEM – standard error of the arithmetic mean; M_{diff.} – difference between two arithmetic means; t – t value; df – degrees of freedom; and p – significance of t value.

Table 3 Differences in number of spoken languages and interest in language learning between Turkish and Bosnian students

Variable	Nationality	N	M	SD	SEM	M _{diff.}	t	df	p
Number of spoken languages	Bosnian	51	2.59	0.78	0.11	1.39	10.464	94	.000
	Turkish	45	1.20	0.46	0.07				
Interest in learning languages	Bosnian	51	4.57	0.57	0.08	0.17	1.429	94	.156
	Turkish	45	4.40	0.58	0.09				

As it can be noticed in Table 3, we have compared only Bosnian and Turkish students, because the number of students who belong to other nations have been small (that it, they have not been compared with the first two groups of subjects). Bosnian students speak more foreign languages ($M = 2.59$) than Turkish students ($M = 1.20$) in our sample, and

this difference is statistically significant ($t = 10.464$, $df = 94$, $p < .001$). On the other side, there is no statistically significant difference in interest in learning foreign languages between Bosnian and Turkish students ($t = 1.429$, $df = 94$, $p > .05$). Therefore, they are approximately equally interested in learning foreign languages. Thus, we have partially rejected and partially proved our second hypothesis.

Table 4 Gender differences in number of spoken languages and interest in language learning

Variable	Gender	N	M	SD	SE _M	M _{diff.}	t	df	p
Number of spoken languages	Males	59	2.10	0.96	0.12	0.07	0.431	123	.668
	Females	66	2.03	0.89	0.11				
Interest in learning languages	Males	59	4.56	0.53	0.07	0.11	1.014	123	.313
	Females	66	4.45	0.61	0.07				

From Table 4, we can conclude that there are no statistically significant gender differences in the number of spoken languages ($t = 0.431$, $df = 123$, $p > .05$), nor in the interest in learning foreign languages by males and females ($t = 1.014$, $df = 123$, $p > .05$). Hence, we have proved the third hypothesis.

Table 5 Correlations between self-reported verbal intelligence, liking humanities/social sciences, and learning skills

	Self-assessed verbal intelligence	Liking humanities and social sciences	Learning skills
Self-assessed verbal intelligence	1	.426*	.317*
Liking humanities and social sciences	.426*	1	.312*
Learning skills	.317*	.312*	1

* $p < .001$

As it can be seen in Table 5, self-assessed verbal intelligence is positively correlated with liking humanities and social sciences ($r = .426$, $p < .001$) and learning skills ($r = .317$, $p < .001$). Liking humanities and social sciences is also positively correlated with learning skills ($r = .312$, $p < .001$). We can make the following conclusion: someone who thinks that he/she has high verbal intelligence, likes humanities/social sciences and estimates his/her learning skills as good. By this finding, we have proved our fourth hypothesis.

To test the last hypothesis, we conducted multiple regression analysis. The predictors were: general attitudes towards studying, extroversion (as a self-reported personality trait), learning skills, overall motivation for learning, and personal self-esteem/confidence (as a self-assessed personality trait). The criterion was the extent of liking humanities and social sciences.

The resulting coefficient of multiple correlation was $R = .678$ and coefficient of multiple determination was $R^2 = .460$. This finding means that our five predictors explain 46% of variance of criterion's results. These numbers are statistically significant ($F(5; 119) = 20.280$, $p < .001$), which allow us to accept the fifth hypothesis. More detailed results are given below, in Table 6.

Table 6 Results of multiple regression analysis

Predictors	B	SEB	Beta	t	p
Constant	1.074	.339	-	3.171	.002
General attitudes toward studying	0.293	.099	.273	2.966	.004
Extroversion	0.114	.093	.131	1.221	.224
Learning skills	0.222	.098	.260	2.257	.026
Overall motivation for learning	0.207	.088	.243	2.356	.020
Personal self-esteem	-0.088	.098	-.107	-0.894	.373

LEGEND: *B* – unstandardized regression coefficients; *SE_B* – their standard error; *Beta* (β) – standardized regression coefficients; *t* – *t* value; *p* – its significance.

From Table 6, we can see statistically significant predictors for liking humanities/social sciences. They are: general attitudes towards studying ($\beta = .273$, $p < .01$), learning skills ($\beta = .260$, $p < .05$), and overall motivation for learning ($\beta = .243$, $p < .05$). Extroversion and personal self-esteem are not statistically significant predictors of liking humanities/social sciences. Therefore, somebody who has positive general attitude toward studying, good learning skills and developed general motivation for learning will like humanities/social sciences very much.

6. CONCLUSION

The participants who showed verbal linguistic intelligence were found to be higher users of cognitive strategies which in turn plays an important role in the development of language and literacy skills.

Conclusions have been defined as answers to the proposed hypotheses:

1. Self-assessed verbal intelligence is in a statistically significant correlation with the number of languages which are spoken by our respondents. Verbal intelligence is not significantly correlated with the interest to learn foreign languages, nor is the last mentioned variable with the number of spoken languages.
2. Bosnian students speak more languages than Turkish students, but these groups of participants have similar interest for learning foreign languages.
3. There were no gender differences in number of spoken languages, nor in interest to learn foreign languages.
4. Self-reported verbal intelligence is in statistically significant correlations with learning skills of our subjects and with their degree of liking humanities and social sciences.
5. General attitude toward studying, learning skills, overall motivation for learning, self-esteem, and extroversion explains statistically significant part (amount) of variance of criterion (the degree of liking humanities and social sciences).

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