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Students' Learning Styles, Self-efficacy and its Correlation with their Social Interaction

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ABSTRACT

This cross-sectional study has been prepared to investigate the self-efficacy levels and preferred learning styles of EFL learners at Gaziantep University School of Foreign Languages GUSFL along with revealing the relationship between these two variables and the learners' social interaction. The present study was conducted in March of 2017-2018 academic year. The participants are students, who are learning English as a foreign language. The total number of participants is 312 from different nationalities, but mainly Turkish and Syrian, male and female. Before start applying the questionnaire, the tool's three variables were checked and proved their reliability (Learning Styles =, 732; Social Interactions =, 799; Self-Efficacy =, 900). The next step was conducting the questionnaire. It's worth mentioning that elements such as gender, nationality, proficiency level and age were taken into consideration while collecting and analyzing the data. The results indicated that learners use various learning styles and don't rely on a particular one. However, the logical learning style registered the highest score (20,416) whereas, the lowest learning style was the reading and writing learning style (16,737). As for the student's self-efficacy level, the participants showed a high level of self-efficacy (30,096 with a standard deviation of 6,498) especially the male participants where the results indicated a statistically significant difference in favour for men (p>, 05). Furthermore, as the study is concerned with uncovering any possible relationship between these three variables, the analyzed data has shown that there is a positive relationship between the learners' preferred learning styles, their self-efficacy, and their social interaction. The article highlights how these variables are correlated with each other. Additionally, the results showed a major difference between Turkish and non-Turkish participants in terms of their social interaction.

BACKGROUND OF THE STUDY

For econs of time, researchers were interested in the different ways EFL learners are following in their English learning process and how the same idea is understood differently. Hence, numerous studies in this field have been done trying to reveal the curtain of this world (Norman, 2009; Kolb & Kolb, 2005; Fleming, 1995; Marcy, 2001; Myers & Briggs, 1945; Gardner, 1983). Different behaviours or tendencies to behave in a particular manner were given the term learning styles (Claxton & Ralston, 1978; Grasha 1990; Price, 1983) or cognitive styles (Goldstein & Blackman, 1978; Knox, 1977; Witkin & Goodenough, 1982).

PURPOSE OF THE STUDY

The first purpose of the study is to detect the different preferred learning styles of EFL learners at Gaziantep Univerity School of Foreign Languages (GUSFL). The second purpose of the study is to define the level of self-efficacy the same EFL learners have. The third considerable purpose of the study is to exhibit the patterns of social interaction the EFL learners adopt in their communication with others including different types of the social environment surrounding them. The last but not least purpose of the study and which seems to be a criss-cross one between all the three pre-mentioned purposes is the attempt to discover how potentially preferred learning styles and Self-efficacy can have a correlation with the social interaction of EFL learners studying at GUSFL taking into consideration their age, gender, proficiency level and nationality.

SIGNIFICANCE OF THE STUDY

Lack of research on EFL learners' self-efficacy, preferred learning styles and their correlation and influence on the learners' social interaction was the main trigger behind studying these three variables. For that reason, the researcher preferred to conduct a three-section questionnaire where each section stands for a specific variable. Quantitative data were collected because from the arithmetical perspective, integrating results across studies lies in the framework of recent advances in literature review via the quantitative synthesis mechanisms instead of using the narrative approaches (Cooper, 1979; Cooper & Rosenthal, 1980).

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Additionally, the discovered results would be of great prominence for learners in general and EFL learners, teachers, administrators, curriculum designers and researchers in particular. Findings can give a fertile start point about the preferred learning styles, self-efficacy and social interaction of EFL learners with different nationalities and who are studying in Gaziantep University which may lead to other researches in the future.

DEFINITION OF TERMS

Preferred Learning Style

Is a technique followed and relied on by students and according to them is the best way to learn.

Social Interaction

Is the process in which we interact with each other. We act and react towards everything surrounding us in our unique way.

Self-efficacy

Is the individuals' views about their competence to construct specific phases of performance that practice authority over events, which affect their lives (Bandura, 1994).

Kinesthetic

Is the person who prefers to learn by using hands and practising things by himself not by reading instruction.

EFL

English as a Foreign Language.

ELT

English Language Teaching.

GUSFL

Gaziantep University School of Foreign Languages.

REVIEW OF THE RELATED LITERATURE

The Notion of Learning Style

Students learn in a different way from each other (Price, 1977) and for that reason, many studies and research have been written and conducted for the purpose of discovering the different means learners are following in their studying and how these different styles affect their performance in return. Majority of researchers attempted to clarify how the learning process generally can be improved when learning styles are taken into consideration (Keefe, 1991; Reiff, 1992; Brown, 1994) and how much learning styles are important for language learning in particular as Oxford deems. Nowadays, universities and colleges are showing a growing disparity between students and teachers because the learners' differences are called deficiencies and ignored and as a consequence, learning was suffering (Zhou, 2011).

The Notion of Self-efficacy

Self-efficacy, which is defined as people's belief about their own capabilities and ability to produce designated levels of performance that would have an influence over events affecting their lives (Bandura, 1986). Self-efficacy plays a key role in the learning process either by helping or impeding the learner's progress (Bandura,1984). A great number of studies were produced after Bandura had published his groundbreaking work entitled "Self-Efficacy: Toward a Unifying Theory of Behavioral Change" in 1977. His innovative work added great value to self-efficacy.

Learning Styles

Through years, there have been diverse attempts which tried to interpret learning styles and add new aspects to it when possible. Literature has provided a 'myriad definitions' related to learning styles (De Vita, 2001, p.166). Miscellaneous definitions were formulated by theorists, researchers, and scientists, but all agreed that learning styles stand for the person's special way whereby he or she learns, perceives, analyzes the information, interact with others, and reflects the way one responds to learning (Keefe, 1979; Silver et al, 1997; Marcy, 2001; Clay & Orwig, 1999; Kharb & Samanta & Jindal & Singh 2013; Smith & Dalton, 2005; Felder & Silverman, 1988; Kolb, 1984; Lohri-Posey, 2003). In another word, "learning styles refer to the way we like to learn"(Cohen & Weaver, 2005, p. 8).

Educational Implications

Learning styles play a critical role in learners' learning process. Nowadays, Colleges and universities are showing an increased variance between the university on one hand and students on the other hand. That's why, understanding of the most preferred learning style of students can provide effective learning strategies for teachers to employ in their classrooms (Lohri-Posey, 2003).

In the same time knowing one's learning style does not mean necessarily to expect a learning improvement because it's mainly what one will do after recognizing his or her preferred learning style and the gained outcomes will determine whether the preferred style has a positive or negative effect. Embracing learning behaviours that are in line with your preferences is more likely to result in positive learning outcomes than embracing other styles that are the opposite of your preferences.

Self-efficacy

The term self-efficacy is commonly used to "refer to the beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (Bandura, 1997b, p.3). Within Bandura's theory of self-efficacy theory which he developed in 1977, individuals have various

efficacy beliefs towards situations and problems. People with high and low self-efficacy levels display different attitudes and thoughts towards certain events and how to solve problems. Bandura suggested four sources to acquire self-efficacy whereby, these elements are used by individuals to assess their self-efficacy levels (Bandura, 1988).

Learning Style and Self-efficacy

Working on developing the awareness of learning styles can help learners to recognize their strengths, knowing their weak areas, work more effectively leading eventually to build effective cooperation with others (Provident, Leibold, Dolhi & Jeffcoat, 2009; Rogers, 2009).

Apart from L2, there has been a clear relationship between using learning strategies and students' progress and proficiency (Pressley & Associates, 1990). As a result, it's not surprising to discover that learners who frequently employ learning strategies have a high level of self-efficacy (Zimmerman & Pons, 1986). Those studies noticed that learners with lower self-efficacy used strategies random and uncontrolled fashion (Abraham & Vann, 1987; Chamot et al., 1996). In Turkey, a correlation was studied and examined pointing to discover the relationship between learning styles and self-efficacy perception along with problem-solving skills (Alaçayir, 2011; Budakoglu, 2011; Deveci, 2011; Sentürk, 2010; Uysal, 2010).

Learning Style and Social Interaction

Individual study of learning styles may decrease naivete, works on strengthening the personal responsibility of actions and words and makes your relationships better relationships (Gregorc, 1985).

According to Dewey "education must be conceived as a continuing reconstruction of experience" (Dewey, 1897, p.53) and that "the teacher is engaged, not simply in the training of individuals, but in the formation of the proper social life" (Dewey, 1897, p.59).

Pedagogy involves the act of teaching along with the theories, beliefs, policies and controversies that inform and shape it and in the same time link the act of teaching with culture, society, and mechanisms of social control (Dewey, 2000, p.540).

By conducting a simple process of rational analysis of the two terms 'culture' and 'learning style', one may have a minor doubt on the of cultural influence over the development of individual learning preferences because culture expresses the way we perceive, organize and process information (Samovar et al., 1981) and the manner via which we communicate, interact with others and solve problems (Terpstra & David, 1985). A potential linkage between culture and learning styles is not completely new. The main elements of any society such as family or school…etc which act as the major channel of cultural values transmission and straightly directed to the culture have an impact on the learning styles development (Kolb & Fry, 1975).

In 1986, Hughes-Wiener discussed differences in cultural orientation in terms of Kolb's model and suggested that cross-cultural distinction does exist within each stage of the experiential learning cycle while Jackson (1995) tested Hughes-Wiener's hypothesis through using a swab evolving five national categorizes and these groups are; French, German, Spanish, Anglo-Irish and East European and chosen from the population of a graduate business school exists in four European locations. The results came as supporting evidence for this hypothesis.

Another study conducted by Hayes and Allinson in (1988) investigated whether culture looks on as the responsible for differences in learning styles through comparing the styles of British, Indian and East African managers where Honey and Mumford's Questionnaire LSQ was used and scores reported on two scales only "analysis" and "action". Their extracted results suggest an important difference among all these three cultures on each of the above-mentioned dimensions. Learning styles have an impact on the way learners learn, how teachers teach and how they interact (Reiff, 1992).

Bandura 1977, sees that individuals have a self-system giving them the power to control their thoughts, feelings and actions including the capacity of learning from others and strategies which will help them organize their behaviour. Self-efficacy is not a general emotion but more about what the person thinks about himself, his hard work and the exerted effort, his flexibility while dealing with difficult and complicated situations along with with changeling the faced difficulties and resisting failure (Bandura, 1989, p.729). People realization of their self-efficacy affects the plans type they establish. People with high self-efficacy tend to design successful plans whereas, individuals with low self-efficacy tend to design unsuccessful plans in addition to poor performance and repeated failure because high self-efficacy works on strengthening the self-awareness of the self-effectiveness (Bandura, 1989). The intensity of an individual self-efficacy is determined in the light of his past experience and its convenience to the situation (Bandura, 1977, p.85).

METHODOLOGY

Research Design

The research design adopted in the current presented study is descriptive. Employing descriptive research contains collecting data which depicts incidents and events, then arranges, classifies, describes the data collection process (Glass & Hopkins, 1984). The study aims to distinguish the preferred learning styles of EFL learners at GUSFL, their level of self-efficacy and how it can be connected to their social interaction through collecting quantitative data gained via applying a three-section questionnaire exhibiting the three variables; learning styles, social interaction and self-efficacy respectively. (Appendix A).

Participants

312 Students participated in this study from a student population of about 1300 students attending at GUSFL. In the current study, there are four main independent variables related

to participant were taken into account and these are; gender, age, English proficiency level and nationality on which the research questions are based. The first of these variables is the gender of the participants and the demographic data related to this variable is presented in the following table.

Frequency, raw, valid and cumulative percentages related to the gender of the participants are presented in Table 1. As can be seen in the table, 97 (31,1 %) of the participants were female while 215 (68,9) of them were male.

The second independent variable in the current study is the ages of the participants. Frequency, raw, valid and cumulative percentages related to participants' ages are presented in Table 2.

As can be observed from the above table, the ages of the participants range between 18 and 34 years-old with the exception of two students who were aged over 31. 46 students (14,7%) were 18 years old. 187 students (60%) were between 19 and 20 years old. 63 Students (20,2%) were between 21 and 22 years olds whereas, 10 students (3.2%) and 4 students (1,3%) were 23 and 24 years old accordingly. In the age groups of 32 and 34 years old, only one student existed in each. The average age of the students was 19.9 years. However, it is also quite clear that the majority of the participants were actually under 24 years of age with a cumulative percentage of 99,4.

The level of English proficiency is the third independent variable in the current study and the related demographic data are presented in table 3.3.

Frequency, raw, valid and cumulative percentages about the English proficiency level of the participants are presented in Table 3.3. It is clear in the table above that the participants were at two different English proficiency levels as B1 and B2. 85 (27,2 %) of the participants were at B1 level of English proficiency while the rest 227 (72,8 %) were at B2 level.

The last independent variable in the current study is related to the nationalities of the participants and the related data is presented in the following table.

In Table 4 raw frequencies along with valid and cumulative percentages concerning the nationalities of the participants are provided. As can be understood from the table, the majority of the participants are either Turkish (*f*=269; 84,3 %) or Syrian (*f*=40; 12,8 %) originated with a total percentage of 97,1.

Table 1. Descriptive statistics of the participants' gender

Gender	f	%	$\%_{valid}$	$\%_{cumulative}$
Female	97	31,1	31,1	31,1
Male	215	68,9	68,9	68,9
Total	312	100	100	100

Table 2. Descriptive statistics of the participants' ages

Age	f	%	$\%_{valid}$	$\%_{cumulative}$
18	46	14,7	14,7	14,7
19	76	24,4	24,4	39,1
20	111	35,6	35,6	74,7
21	42	13,5	13,5	88,1
22	21	6,7	6,7	94,9
23	10	3,2	3,2	98,1
24	4	1,3	1,3	99,4
32	1	0,3	0,3	99,7
34	1	0,3	0,3	100,0
Total	312	100	100	

Table 3. Descriptive statistics of the participants' english proficiency level

Proficiency Level	f	%	$\%_{valid}$	$\%_{cumulative}$
B1	85	27,2	27,2	27,2
B2	227	72,8	72,8	100,0
Total	312	100,0	100,0	

Table 4. Descriptive Statistics of the Participants' Nationalities

Nationality	f	%	$\%_{valid}$	$\%_{cumulative}$
Armenia	1	0,3	0,3	0,3
USA	1	0,3	0,3	0,6
Yemen	1	0,3	0,3	1,0
Iraq	1	0,3	0,3	1,3
Iran	1	0,3	0,3	1,6
Jordan	1	0,3	0,3	1,9
Korea	1	0,3	0,3	2,2
Russia	1	0,3	0,3	2,6
Syria	40	12,8	12,8	15,4
Spain	1	,3	,3	15,7
Turkey	263	84,3	84,3	100,0
Total	312	100,0	100,0	

Setting

The presented study took place in Gaziantep city at Gaziantep University School of Foreign Languages (GUSFL), which is located in the south-east region of Turkey. The University of Gaziantep is a governmental university funded by the Turkish government. The number of students who are learning English as a second or foreign language at this school is approximately 1,300. These students have been enrolled in Gaziantep University within different departments and field of specializations.

Data Collection Tool

In order to measure the three variables presented in this study, a three-section questionnaire has been employed and conducted within the School of Foreign Languages at Gaziantep University where each section presents a definite variable. The questionnaire starts with a brief introduction explaining the questionnaire goal and explains that participating in the questionnaire is totally voluntarily in addition to four demographic questions; age, gender, level and nationality that are extremely important for the study. The sections stand for learning styles, social interaction and self-efficacy

respectively. The questionnaire was approved by a field expert before the piloting process started. It was observed that students managed to complete the questionnaire in ten to fifteen minutes with no encountered difficulties. It's worth mentioning that the questionnaire was translated into both Turkish and Arabic by translation experts to avoid any misunderstanding from the students' part.

Learning Styles Questionnaire

The first part of the questionnaire consisted of 35 Likert type questions embracing seven learning styles and these styles are; visual, auditory, kinesthetic, read/write, individual, group/social and logical. The researcher has developed this section in cooperation with the field expert and together eliminated any ambiguous or unwanted element. VRAK questionnaire created by Neil Fleming and Multiple Intelligence Theory invented by Howard Gardner were great sources to depend on while preparing this section. Students' answers would reveal their particular learning styles preferences.

Social Interaction Questionnaire

The second section of the designed tool was related to social interaction. This section consisted of Likert type 25 questions aiming to evaluate the students' level of social interaction. The questions included various social situations to help assess accurately the learners' level. Like the first part, this section was created by the researcher in cooperation with the field expert who provided the need recommendation.

Self-efficacy Questionnaire

As for the last part of the questionnaire and unlike the first two sections, the researcher has adopted the self-efficacy scale originally created by Jerusalem and Schwarzer in 1981. The German version of this scale first contained 20-item but reduced later to 10-item (Jerusalem & Schwarzer, 1986,1992; Schwarzer & Jerusalem, 1989). The genuine German instrument proved its reliability and validity in different field studies which are described elsewhere (Schwarzer, 1993). Many translations into various languages were done for this scale. No approval was needed for this adoption; however, the researcher has informed the author about the adoption.

Data Collection

The questionnaires were distributed at the building of the School of foreign languages at Gaziantep University GUSFL in the Spring semester of the academic year 2017/2018. As when the piloting took place, the questionnaire was handed to students during the official working hours. Permission was gained as well for applying the questionnaire with the assistance of the administrative team works at the schools. The researcher gave a short introduction to doing this questionnaire and the confidentiality issue. Uncompleted questionnaires were excluded.

Data Analysis

Data collected via the questionnaires were entered into the statistical package for the social sciences (SPSS). Analysing the data meant to consider and analyse all the demographical variables in addition to means, standards deviations, frequencies and ranges for each component.

All the calculations would be carried out through non-parametric statistical techniques because the scale data results showed non-normal distributions. That's why a non-parametric test called Mann-Whitney U test was utilized to analyse the quantitative data. The test has been applied to all the questions because the non-normal distribution was related to all questions.

FINDINGS

Demographic Data about the Participants

In the current study, there are four main independent variables as gender, age, English proficiency level and nationality on which the research questions are based. The first of these variables is the gender of the participants and the demographic data related to this variable are presented in the following table.

Frequency, raw, valid and cumulative percentages related to the gender of the participants are presented in Table 5. As can be seen in the table, 97 (31,1 %) of the participants are female while 215 (68,9) of them are male.

The second independent variable in the current study is the ages of the participants. Frequency, raw, valid and cumulative percentages related to participants' ages are presented in Table 6.

As can be observed from the above table, the ages of the participants range between 18 and 34. However, it is also quite clear that the majority of the participants are

Table 5. Demographic data related to gender

Gender	f	%	$\%_{valid}$	$\%_{cumulative}$
Female	97	31,1	31,1	31,1
Male	215	68,9	68,9	68,9
Total	312	100	100	100

Table 6. Demographic data related to the ages of the participants

Age	f	%	$\%_{valid}$	$\%_{cumulative}$
18	46	14,7	14,7	14,7
19	76	24,4	24,4	39,1
20	111	35,6	35,6	74,7
21	42	13,5	13,5	88,1
22	21	6,7	6,7	94,9
23	10	3,2	3,2	98,1
24	4	1,3	1,3	99,4
32	1	0,3	0,3	99,7
34	1	0,3	0,3	100,0
Total	312	100	100	

actually under 24 years of age with a cumulative percentage of 99,4.

The level of English proficiency is the third independent variable in the current study and the related demographic data are presented in Table 7.

Frequency, raw, valid and cumulative percentages about the English proficiency levels of the participants are presented in Table 7. It is clear in the table above that the participants are at two different English proficiency levels as B1 and B2. 85 (27,2 %) of the participants are at B1 level of English proficiency while the rest 227 (72,8 %) are at B2 level.

The last independent variable in the current study is related to the nationalities of the participants and the related data is presented in the following table.

In Table 8, raw frequencies along with valid and cumulative percentages concerning the nationalities of the participants are provided. As can be understood from the table, the majority of the participants are either Turkish (*f*=269; 84,3 %) or Syrian (*f*=40; 12,8 %) originated with a total percentage of 97,1.

Table 7. Demographic data related to english proficiency level

Proficiency level	f	%	$\%_{valid}$	$\%_{cumulative}$
B1	85	27,2	27,2	27,2
B2	227	72,8	72,8	100,0
Total	312	100,0	100,0	

Table 8. Demographic data related to english proficiency level

Nationality	f	%	$\%_{valid}$	$\%_{cumulative}$
Armenia	1	0,3	0,3	0,3
USA	1	0,3	0,3	0,6
Yemen	1	0,3	0,3	1,0
Iraq	1	0,3	0,3	1,3
Iran	1	0,3	0,3	1,6
Jordan	1	0,3	0,3	1,9
Korea	1	0,3	0,3	2,2
Russia	1	0,3	0,3	2,6
Syria	40	12,8	12,8	15,4
Spain	1	,3	0,3	15,7
Turkey	263	84,3	84,3	100,0
Total	312	100,0	100,0	

STATISTICAL ANALYSIS PROCEDURES

Tests of Normality

As a rule of thumb, the data collected in a given study must meet certain criteria to be processed through robust parametrical tests like t-test or ANOVA (Larson-Hall, 2010: p. 58-59). Therefore, as the first step in the analysis process, all three measuring scales that were used in the survey were tested against normality. In order to see whether the data collected by means of the scales at hand, whose reliability was checked and turned out to be positive, are normally distributed, two tests of normality were performed namely: Kolmogorov-Smirnov and Shapiro-Wilk. The results of these tests are presented in Table 9 below.

The results of Kolmogorov-Smirnov and Shapiro-Wilk test are presented in the table above. In the table, the results related to statistic, degree of freedom (df) and the significance level (*p*) are presented for both tests. It can be interpreted from the table that the data collected through the scales actually do not meet the normality criteria (p <, 01). This situation is quite common in survey studies carried out in social sciences. What these results indicate is that the data collected in the current study includes a certain number of outliers which undermine the normal distribution assumption and it also implies that further analysis for the current study needs to be performed through non-parametric statistical techniques. One important point to be made at this point is that actually there is no "power" difference between parametric and non-parametric test; they can be used for the same purposes but with different assumptions (Larson-Hall, 2010: p. 58-59).

Results #1: Answers the following question;

What are the different preferred learning styles of EFL learners at GUSEL?

The first result is related to identifying the learning styles embraced by EFL learners at GUSEL. The related calculations are displayed in Table 10 below.

Table 9. Tests of normality for the scales

Scale	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	df	*p*	Statistic	df	*p*
Reading Writing	0,087	312	0,000	0,985	312	0,002
Visual	0,096	312	0,000	0,982	312	0,001
Auditory	0,088	312	0,000	0,983	312	0,001
Individual	0,111	312	0,000	0,728	312	0,000
Group	0,101	312	0,000	0,986	312	0,004
Logical	0,088	312	0,000	0,962	312	0,000
Kinesthetic	0,122	312	0,000	0,969	312	0,000
Social Interaction	0,098	312	0,000	0,942	312	0,000
Self-Efficacy	0,158	312	0,000	0,934	312	0,000

Table 10. Descriptive statistics regarding learning styles of EFL learners at GUSFL

Statistics	Learning Style						
	Reading Writing	Visual	Auditory	Individual	Group	Logical	Kinesthetic
Mean	16,737	16,769	18,041	17,576	16,788	20,416	19,246
Median	17,000	17,000	18,000	18,000	17,000	20,000	20,000
Std. Deviation	3,040	2,946	2,965	3,493	2,796	2,912	2,790
Range	16,000	17,000	16,000	20,000	18,000	18,000	18,00
Minimum	9,000	8,000	9,000	5,000	7,000	7,000	7,000
Maximum	25,000	25,000	25,000	25,000	25,000	25,000	25,000

A quick glance at the table above will reveal basic results concerning participants' learning styles. The conducted questionnaire on learners' preferred learning styles has involved seven learning styles as; Reading and Writing, Visual, Auditory, Individual, Group, Logical and Kinesthetic. It was not surprising to find out that the EFL learners who participated in the current study actually have a variety of learning styles and do not limit themselves to one style while learning English.

Results #1a: Answers the following question;

Is there a dominant preferred learning style among EFL learners at GUSEL?

As can be observed from the same above-mentioned table that the lowest calculated mean is for the Reading and Writing style (16,737) and the highest one is for the Logical learning style (20,416). However, these means are very close to each other that no learning style can be labelled as the prominent one. The following bar graphic can help us understand this point better.

Figure 1 above gives a graphical representation of the learning styles of the participants. because it is also clear in the figure that the means of learning style scores are very close to each other. Only the sixth bar that represents Logical learning style appears to be standing out from the other styles; however, this difference is actually only a couple of points above the lowest score which belongs to the Reading and Writing learning style. On the other hand, it is not surprising to see that the logical learning style occupied the first place because learners in different domains depend on it in order to be able to comprehend what they are studying. As Frege explained.

"To discover truths is the task of all sciences; it falls to logic to discern the laws of truth.... I assign to logic the task of discovering the laws of truth, not of assertion or thought." (Frege, 1956, p.289).

All in all, the answer to the research question dealing with whether there is a dominant learning style among EFL learners at GUSEL is negative.

Results #2: Answers the following question;

What are the self-efficacy levels of EFL learners at GUSEL?

The second question tries to deal with the self-efficacy levels of EFL learners at GUSEL. This research question requires basic descriptive statistics as there are no groups whose means are to be compared. Therefore, only descriptive calculations regarding the independent variable

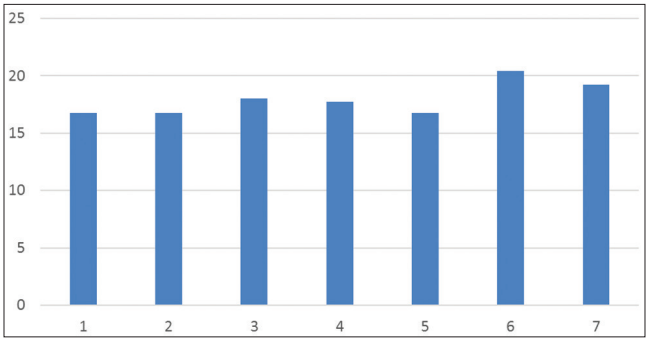

Figure 1. Comparison of learning styles means. *1 Reading writing 2 Visual 3 Auditory 4 Individual 5 Group 6 Logical 7 Kinesthetic*

were performed and the related results are presented in Table 11.

In the above table, the results of the descriptive statistics regarding self-efficacy levels of EFL learners at the GUSEL can be analyzed. Participants overall means for the self-efficacy score appears to be 30,096 with a standard deviation of 6,498 that corresponds to about 16 % of the maximum score, which is 40,00, is taken into account. This slightly high standard deviation could be an indication that some subgroups in the main sample size, which is 312, might have higher levels of self-efficacy.

Therefore, self-efficacy levels of EFL learners who participated in the current study could be regarded as high yet with a high standard deviation.

Results #2a: Answers the following question;

Is there a statistically significant difference between self-efficacy levels of female and male EFL learners at GUSEL?

The second main question of the current study tries to find out whether there is a statistically significant difference between female and male EFL learners in terms of self-efficacy. Before displaying the related statistical analysis, the following graphic will give an idea about the means of each group.

It can be inferred from the Figure 2 that both groups display a similar mean distribution. When we consider the difference in the number of female and male participants ($N_f = 97$, $N_m = 215$), the seeming difference in means can be understood. However, without seeing the results of statistical calculations, it is not safe to make assumptions. Therefore, an appropriate statistical technique was chosen and performed accordingly.

For the reasons previously explained at the very beginning, in the process of comparing the female and the male groups, a non-parametric test, Mann-Whitney U test, was employed. The means of female and male participants concerning self-efficacy were compared through this technique and the results are presented in the Table 12 below.

The table above displays the results of the Mann-Whitney U test comparing female and male participants in terms of their self-efficacy levels. The results displayed in the table clearly indicate that there is no statistically significant difference between the two groups' self-efficacy levels (p>, 05).

The null hypothesis related to the current question stating that there is a statistically significant difference between female and male EFL learners in terms of self-efficacy levels is accepted.

Results #2b: Answers the following question;

Is there a statistically significant difference between self-efficacy levels of B1 and B2 level EFL learners at GUSEL?

The next is related to the self-efficacy levels of the participants from two different English proficiency levels as B1 and B2. Before checking the statistical analysis, the following figure should be checked to get a general idea concerning the difference.

A quick look at the above Figure 3 will make it clear that self-efficacy levels of B2 EFL learners appear to be higher than those of B1 EFL learners. However, in order for this difference to be fixed, statistical computations need to be performed. To this end, a Mann-Whitney U test was used and its results are presented in Table 13.

Table 13 shows a comparison of self-efficacy means of B1 and B2 proficiency level participants through Mann-Whitney U test. Analysis of the results displayed in the table will indicate that there is no statistically significant difference between the two groups' self-efficacy levels (p>, 05).

Therefore, it becomes clear that we can accept the null hypothesis stating that there is a statistically significant difference between EFL learners at B1 and B2 English proficiency levels in terms of self-efficacy.

Result 2c#: Is there a relationship between EFL learners' self-efficacy levels and their nationality?

The comparison of Turkish and non-Turkish originated EFL learners in terms of self-efficacy levels is another concern of the current study. The following figure is a graphical representation of the two groups in terms of self-efficacy mean scores.

One can understand from the Figure 4 above that Turkish EFL learners have higher self-efficacy scores when compared to non-Turkish EFL learners. However, it is impossible to decide whether this difference in mean scores is statistically significant or not without carrying out statistical computations. Therefore, a Mann-Whitney U test was carried out and the related results are presented in Table 14 below.

The results of the Mann-Whitney U test that compares self-efficacy mean scores of Turkish and non-Turkish EFL learners clearly indicate that the difference between the two groups is statistically significant, and the difference is in favour of Turkish EFL learners because this group mean rank appears to be 164,64 while the non-Turkish EFL learners' mean score appears to be 112,81, which is statistically significant at,01 level (p <, 01).

Therefore, the answer to the current question becomes clear. The null hypothesis stating that there is no statistically significant difference between Turkish and non-Turkish EFL learners in terms of self-efficacy scores is rejected.

Results #3: Answers the following question;

Is there a statistically significant relationship between preferred learning styles and self-efficacy levels of EFL learners at GUSEL?

This question tries to determine whether there is a statistically significant relationship between preferred learning styles and self-efficacy levels of EFL learners. Since it tries to find out a statistical relationship, it requires correlational calculations. As previously explained, all the calculations would be carried out through non-parametric statistical techniques because the scale data results showed non-normal distributions. Even though correlational calculations might

Table 11. Descriptive statistics regarding self-efficacy levels of EFL learners at GUSEL

Descriptive results for self-efficacy	
Mean	30,096
Median	31,000
Std. Deviation	6,498
Range	30,000
Minimum	10,000
Maximum	40,000

Table 12. Mann-Whitney U test results comparing female and male EFL learners' self-efficacy levels

Groups	***N***	$\bar{x}_{rank}$	$\sum_{rank}$	***U***	***z***	***p***
Female	97	151,84	14728	9975	–,615	,539
Male	215	158,60	34100			
Total	312					

(U=9975; N_f=97, N_m=215; *p*=,539)

Table 13. Mann-Whitney U test results comparing B1 and B2 proficiency EFL learners' self-efficacy levels

Groups	***N***	$\bar{x}_{rank}$	$\sum_{rank}$	***U***	***z***	***p***
B1	85	149,76	12729,50	9074,50	–,810	,418
B2	227	159,02	36098,50			
Total	312					

(U=9074,50;N_{B1}=85, N_{B2}=227; *p*=,418)

Table 14. Comparison of turkish and non-Turkish EFL learners in terms of self-efficacy mean scores

Groups	***N***	$\bar{x}_{rank}$	$\sum_{rank}$	***U***	***z***	***p***
Turkish	263	164,64	43300,50	4302,500	–3,702	,000
Non -Turkish	49	112,81	5527,50			
Total	312					

(U=4302,500; $N_{Turkish}$=263, $N_{Non\text{-}Turkish}$=49; *p*=,000)

require normal distributed data, there is a consensus among researchers that the normality and other assumptions could easily be disregarded when it comes to correlational studies (Field, 2009: p.12-13). Therefore, in order to determine any statistically significant relationship between preferred learning styles of EFL learners and their self-efficacy levels, a correlational calculation was performed and the output of this calculation is presented in the Table 15 below.

As can be observed in the above table, participants' self-efficacy scores are significantly correlated with some of the learning style scores, and these correlations are both negative and positive. For example, self-efficacy scores are significantly and negatively correlated with visual (r=-,138; N= 312; p=,015), auditory (r=-,186; N= 312; p=,001), and group (r=-,143; N= 312; p=,011) while self-efficacy scores are significantly and positively correlated with the logical learning style scores (r=-,132; N= 312; p=,020).

These results can lead us to answer the current question. The null hypothesis which states that there is no relationship between learning styles and self-efficacy levels is rejected.

Results #4: Answers the following question;

Is there a statistically significant relationship between preferred learning styles of EFL learners at GUSEL and their social interaction?

The current study tries to determine whether there is a statistically significant relationship between preferred learning styles of EFL learners and their social interaction levels. Again, since this question is correlational in nature, the calculations were carried out accordingly and the related results are presented in Table 16.

The analysis of the figures will make it clear that all learning style scores are positively correlated with social interaction scores. That is to say, social interaction scores are positively correlated with all the learning styles in the following manner: reading and writing (r=,363; N= 312; p=,000), visual (r=,399; N= 312; p=,000), auditory (r=,360; N= 312; p=,000), individual (r=,260; N= 312; p=,000), group (r=,144; N= 312; p=,011), logical (r=,156; N= 312; p=,006) and kinesthetic (r=,247; N= 312; p=,000).

Thus, the answer to the current question becomes clear: All the learning style scores, except for the group, are significantly correlated with social interaction scores at p <, 01 level and the group learning style is correlated at p<,05 level. The null hypothesis stating that there is no relationship between learning styles and social interaction levels is rejected. It should be born in mind that p <, 01 level correlations indicate greater relations compared to the ones at p <, 05 level of significance, which will be discussed in the following chapter.

Results #5: Answers the following question;

Is there a statistically significant relationship between self-efficacy levels of EFL learners at GUSEL and their social interaction?

The fifth question is related to the relationship between self-efficacy levels of EFL learners and their social interaction levels. What is being sought in this question is whether social-interaction and self-efficacy levels of EFL learners are somehow related. Since the question includes a relationship, a correlational calculation was done, and the results of this calculation are provided in Table 17, below.

Table 15. The relationship between preferred learning styles and self-efficacy scores

Scales	1	2	3	4	5	6	7	8
1. Reading writing	-							
2. Visual	0,343**	-						
3. Auditory	0,410**	0,345**	-					
4. Individual	0,198**	0,227**	0,204**	-				
5. Group	0,348**	0,171**	0,381**	0-,212**	-			
6. Logical	0,239**	0,166**	,169**	,221**	,115*	-		
7. Kinesthetic	0,240**	0,420**	,297**	,033	,286**	,230**	-	
8. Self-efficacy	0,011	-,138*	-,186**	-,002	-,143*	0,132*	0-,044	-

**p< ,01; *p< ,05

Table 16. The relationship between preferred learning styles and social interaction scores

Scales	1	2	3	4	5	6	7	8
1. Reading writing	-							
2. Visual	0,343**	-						
3. Auditory	0,410**	0,345**	-					
4. Individual	0,198**	0,227**	0,204**	-				
5. Group	0,348**	0,171**	0,381**	0-,212**	-			
6. Logical	0,239**	0,166**	0,169**	0,221**	0,115*	-		
7. Kinesthetic	0,240**	0,420**	0,297**	0,033	0,286**	0,230**	-	
8. Social interaction	0,363**	0,399**	0,360**	0,260**	0,144*	0,156**	0,247**	-

**p< ,01; *p< ,05

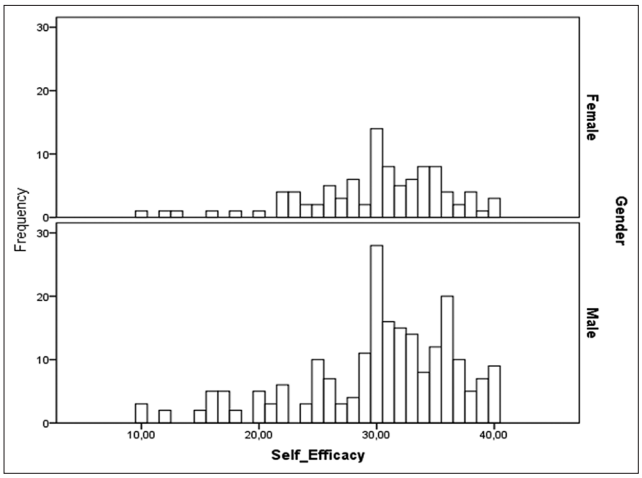

Figure 2. Graphical comparison of female and male groups in terms of self-efficacy

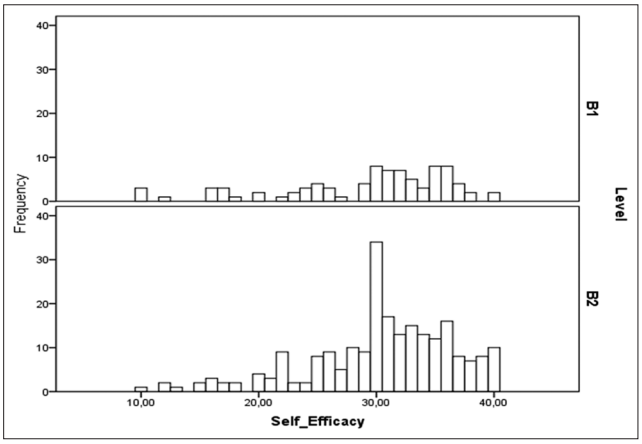

Figure 3. Graphical comparison of self-efficacy levels of B1 and B2 EFL learners

Table 17. The relationship between self-efficacy and social interaction levels of EFL learners

Scales	1	2
1.Social interaction	-	
2.Self-efficacy	,267*	-

*p< ,01

Table 18. Mann-Whitney U test results showing the differences between Turkish and non-Turkish EFL learners in terms of social interaction

Groups	*N*	$\bar{x}_{rank}$	$\sum_{rank}$	*U*	*z*	*p*
Turkish	263	158,57	41705	5898	-,942	,346
Non -Turkish	49	145,37	7123			
Total	312					

(U=5898; $N_{Turkish}$=263, $N_{Non\text{-}Turkish}$=49; *p*=,346)

As can be seen in the table above, social interaction scores are significantly and positively correlated with self-efficacy scores of EFL learners who participated in the current study (r=,267; N= 312; p=, 000).

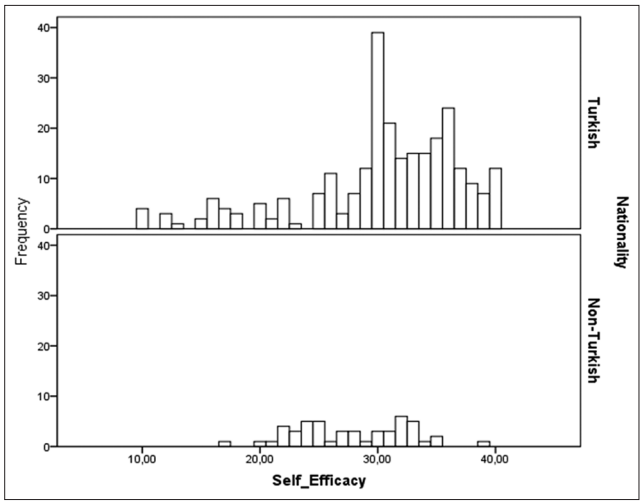

Figure 4. Graphical comparison of self-efficacy levels of Turkish and Non-Turkish EFL learners

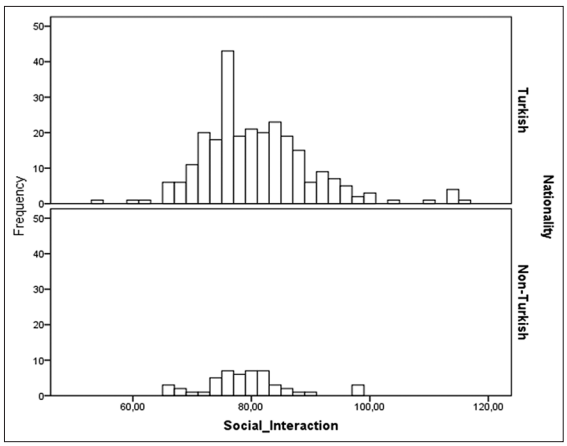

Figure 5. Graphical comparison of social interaction levels of Turkish and Non-Turkish EFL learners

As an answer to this question, it can be claimed that the null hypothesis stating that there is no statistically significant relationship between self-efficacy and social interaction levels of EFL learners should be rejected.

Results #6: #1: Answers the following question;

Is there any significant difference between Turkish and non-Turkish EFL learners at GUSEL in terms of social interaction?

The last question of the current study concerns the difference between Turkish and non-Turkish EFL learners in terms of social interaction. In order to get a rough idea about the differences between these two groups, the following graphic can be checked.

It is obvious from the above Figure 5 that there is a difference between Turkish and non-Turkish EFL learners' social interaction scores. One thing should be kept in mind that there is also a big difference between the number of Turkish and non-Turkish participants (see the demographic data presented in Table above). This difference could be misleading because we need to see the comparison of participants' mean scores; therefore, a Mann-Whitney U test was conducted to see whether this difference is statistically significant or not. The related results are presented in the following table.

The above Table 18 reveals the results of the Mann-Whitney U test regarding Turkish and non-Turkish EFL learners' social interaction scores. As can be understood from these results, statistically speaking, there is no difference between the scores of the two groups (p=, 346). Therefore, the null hypothesis stating that there is statistically no significant difference between Turkish and non-Turkish EFL learners in terms of social interaction is accepted.

CONCLUSION

The current study tried to investigate and shed light on the learning styles followed by learners, who are studying English as a Foreign Language at GUSFL, their level of self-efficacy and detecting any potential relationship between these aspects and the learners' social interaction. Different nationalities were targeted in this research, but can be mostly divided as Turkish and non-Turkish. Total of participants in the current research is three hundred and twelve. All of them are studying English at GUSEL. 97 of the participants were female formulating 31,1% of the total targeted population whereas, 215 of participants were male formulating 68,9% of the targeted population. The participants' age ranged between 18 and 34, but it worth to mention that the majority of participants were actually under 24 with a cumulative percentage of 99,4. The English proficiency level of all participants was either B1 or B2. Inasmuch as the study took place at GUSEL, it was mandatory to consider the different nationalities that exist. Definitely, the Turkish students compose the majority population, so to be able to abstract better conclusion, the data were analyzed to observe any difference between Turkish and non-Turkish students. As the results revealed, the learning styles that the participants employ display an important level of variety (see Table 10). It should mean that there is no one dominant learning style or styles among language learners (at least among the participants of the current study), and therefore trying to employ a wide variety of teaching techniques should be suitable for the current context.

Another important outcome of the current study suggests a strong relationship between the social domain and self-efficacy (see Tables 16 and 17). Social interaction and self-efficacy seem to be significantly related which triggers the other, is outside the scope of the current study because this relationship needs to be studied in a cause-effect framework. The social dimension of second language acquisition and the related contexts have been a topic of concern for decades (e.g. Block, 2003; Batstone, 2010; Atkinson, 2011; Duff, 2017). The results of the current study also confirm this relationship, albeit indirectly. The results suggest that the social aspects of language learning are a "never ageing" topic, which should be emphasized more with further studies.

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APPENDIX A: THREE-SECTION QUESTIONNAIRE

Dear Participant

This questionnaire aims to get essential scientific data for a study that would be conducted with the EFL learners enrolled in Gaziantep University. The participant's name, surname, and address are not required, so please do not write it. The provided information will be kept confidential. All questions should be answered. Thank you for taking the time to read this questionnaire and sharing your ideas and thoughts.
Please tick the cells with the answers that best represent you.
Example: I prefer to study with a group:

Strongly Agree
Agree ✓
Neutral
Disagree
Strongly Disagree

Are you? A) Male B) Female

English proficiency level: A) B1 B) B2

How old are you? ……..
Where are you from? …….

Section One

N	Question	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	While informing someone about something, I tend to write instructions.					
2	When I want to learn a new English rule, I use my logic to understand it.					
3	Listening to someone's words helps me to member things better.					
4	When I am happy, I like to go out with my friends.					
5	I spend my leisure time watching T.V.					
6	After having a new smartphone, I immediately start using it to know its characteristics.					
7	I study best when I am alone.					
8	Learning a new skill means trying it with my classmates.					
9	In order not to forget something I prefer to write it down.					
10	I relate everything I learn with logic.					
11	While I am learning, I tend to say; "I will see how I can do it".					
12	Remembering names is very easy for me.					
13	If I am shopping for new clothes, I try them on to see whether it fits me.					
14	Mostly, I prefer to work by myself.					
15	I prefer reading a song's lyrics while listening to it.					
16	Studying within a group enables me to better concentrate.					
17	Thinking logically of how something is done is interesting for me.					

18	When I meet someone for the first time, I concentrate on how he looks.
19	Reading a book assists me in solving a problem I am facing.
20	When I am angry, I raise my voice.
21	Studying at home alone is better than joining a studying group.
22	I remember things best when I say it loudly.
23	I like to write my diaries.
24	In English classes, doing exercises with a group makes me lose my concentration.
25	Creating logical relations between things assists me in my study.
26	I learn better when I am moving around in the classroom.
27	Doing individual assignments suits me best.
28	To remember something, I link it to an image in my head.
29	I learn better when I do activities in the classroom.
30	I understand better when the teacher gives me instructions.
31	Doing a project with a group is not problematic for me.
32	I tend to use pictures during my study.
33	My friends don't consider me as a social person.
34	To understand a new grammatical rule, I analyze it into smaller logical parts.
35	Reading written instructions helps me in my study.

Section Two

N	Question	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1	I make eye contact while talking to others.					
2	Making new friends is very easy for me.					
3	During breaks, I tend to stay alone in the classroom.					
4	People tell me that I am a social person.					
5	For me, social gatherings are boring.					
6	I can easily express my ideas and feelings in front of people.					
7	Being surrounded by a lot of people is annoying for me.					
8	Talking to new people makes me feel anxious.					
9	Working within a group is comfortable for me.					
10	I prefer hanging out with friends rather than staying alone at home.					
11	I avoid crowded places.					
12	I can discuss different issues with my classmates.					

13	When I disagree with someone, I get angry quickly.
14	To solve a problem, I prefer to discuss it with a group.
15	It is not a problem for me to admit my mistakes.
16	I don't need to like someone while I don't.
17	I can control my fears.
18	I don't enjoy talking to my classmates.
19	Attending parties and being surrounded by many people is very pleasant to me.
20	Making new friends on social network sites (SNS) is easier than real life for me.
21	I don't participate in discussions afraid of being ignored.
22	For me, I find it easy to interact with my classmates whom I study with.
23	Being the centre of attention scares me.
24	I blush while talking in front of people.
25	I don't tend to talk a lot with my classmates.

Section Three

N	Question	Not at all True	Barely True	Moderately True	Exactly True
1	I can always manage to solve difficult problems if I try hard enough.				
2	If someone opposes me, I can find means and ways to get what I want.				
3	It is easy for me to stick to my aims and accomplish my goals.				
4	I am confident that I could deal efficiently with unexpected events.				
5	Thanks to my resourcefulness, I know how to handle unforeseen situations.				
6	I can solve most problems if I invest the necessary effort.				
7	I can remain calm when facing difficulties because I can rely on my coping abilities.				
8	When I am confronted with a problem, I can usually find several solutions.				
9	If I am in a bind, I can usually think of something to do.				
10	No matter what comes my way, I'm usually able to handle it.				