The Correlation Between EFL College Students’ Learning Styles and Their Academic Performance

ABSTRACT

It is clear to everyone that understanding students’ learning styles and preferences can benefit both students and teachers. Learning styles play a significant role in the lives of learners. When students recognize their own learning style, they will be able to integrate it into their learning process. As a result, the learning process will be easier, faster, more enjoyable and more successful. The present study aims to identify:

1. Iraqi EFL students’ learning styles.
2. The differences between the learning styles of Iraqi students.
4. The relationship between the academic performance of Iraqi EFL students and the three types of learning styles (visual, auditory, and kinesthetic).

This study is a correlation study and the sample of this study is fifty students in the second grade of the Department of English-College of Basic Education at Tikrit University during the academic year 2020/2021. The data is gathered using a questionnaire to assess students’ learning styles and students’ averages from the previous year in all subjects to determine academic performance. According to the findings of the study, the visual learning style is more dominant than the kinesthetic and auditory styles. There is a negative correlation between students’ learning styles and their academic performance, and the Pearson Correlation coefficient indicates a moderately negative relationship between learning styles and academic performance. In the light of these results, some conclusions, recommendations and suggestions for further studies are presented.
Section One: Introduction

1. Problem of the Study:

   Teachers may not be aware of their own learning styles, or that their learning style preferences may differ from those of their students (Mulalic et al., 2009:10). Ibrahim and Ramli (2010:1) say that students feel drowsy during the class because there is no match between teachers’ styles with their learners’ learning styles. If students’ needs are neglected or not met properly, they will get bored, inattentive, demotivated and discouraged leading to poor performance in the course (Al-Hebaishi, 2012:511).

   Lugya (2010:4) mentions that teachers as well as learners must put an effort in studying the possible problems and implications of the learning styles. Khudhur (2011:4) mentions that most EFL students are not aware of their own learning style preferences. If the students have information about their learning style preferences, then they will learn the target language more effectively and will be able to improve their weak points as well as their motivation will be increased.

   For optimal language progress, language instructors need to understand their students’ learning styles. The problem is that many language teachers have not yet been taught to identify their individuals’ students’ styles, or comprehend the myriad influences on learning styles (Cuban, 1989:782).

   Lack of understanding students’ learning styles and of their academic performance is not necessarily the fault of the teacher. Many teacher educations programmers’ do not provide the kind of experiences that will allow prospective teachers to develop their skills in identifying students’ learning styles (Oxford & Anderson, 1995: 201). Conflicts occur when a student has a learning style that differs from the instructional style of the teacher, especially when the teacher does not understand the personal reasons for this difference (Cohen, 1969:829).

   So, there is a need to investigate the possible relationship between the learning styles and academic performance.

1.2. Aims of the Study:

   The study aims to identify:

   1. The variety of Iraqi EFL students’ learning styles.
   2. The differences among the Iraqi EFL students’ learning styles.
   4. The relationship between academic performance of Iraqi EFL students and the three types of learning styles (visual, auditory, and kinesthetic).

1.3. Limits of the Study:

   The current study is limited to the second grade EFL students of the College of Basic Education at Tikrit University during the academic year 2020/2021.
1.4. Value of the Study:
A. Teachers raise EFL learners’ awareness of their own learning styles to enhance the learning process.
B. Teachers give the students sufficient information about language learning styles.
C. Developing and understanding learning styles will enable students to take control of their learning.
D. Help instructors be conscious of some factors affecting academic performance.
E. Assist curriculum designers and material producers to integrate the appropriate activities, aids, drills ... etc that fit the preferred styles and techniques used by EFL students.

1.5. Definition of Basic Terms:
1.5.1. Learning Styles:
Pritchard (2009:41) states that learning style is “an individual’s preferred means of acquiring knowledge and skills.”
Also, Grasha (1996: 41) states that learning styles are "personal qualities that influence a student's ability to acquire information, to interact with peers and the teacher, and otherwise participate in learning experiences". 

The Operational Definition:
As far as this research is concerned, learning styles refer to the mechanism that explains the differences between learners in recognizing, arranging, and maintaining experience using one or more senses.

1.5.2. Academic Performance:
Academic performance is the outcome of education, that is, the extent which a student, teacher or institution has achieved their educational goals. Academic performance is commonly measured by examination or continuous assessment but there is no general agreement on how it is best tested or which aspect is most important knowledge such as facts (Unity & Igbudu, 2015:102).

“Student achievement is a multifaceted construct that can address different domains of learning, often measured in many different ways, and for distinctly different purposes” (Hattie & Anderman, 2013: 5).

The Operational Definition:
Academic performance means the knowledge and skills of students who have studied or mastered in a topic or a course. It is essentially a measure of how well learners perform in the different assessment items set for them on based on certain educational criteria that is defined or determined by skilled educators.

Section Two: Theoretical Background and Previous Studies:
2.1. The concept of Learning styles:
Students learn better by seeing the benefit of the knowledge gained in the classroom. If the students are not interested, they will not learn the content. It is important to use various teaching methods to effectively educate the students. Students learn in various ways. Some learners learn more by
listening and some by touching. Visual learners absorb knowledge visually. Students learn best by hearing lectures and reading content. Kinesthetic learners learn by actually performing. Students may choose from one, two or three types of learning styles. Enhance learning by encouraging various learning styles is important in education. We each have individual characteristics that make us prefer learning in specific ways. Students are more successful learning if all preferences are met (Gilakjani, 2012:105).

The lack of a clear definition of the concept of learning style forces researchers to define it according to their academic and experiential background. However, each learner has a particular way of learning a foreign language with which he/she feels most comfortable. In other words, students learn more effectively when they process information in their own natural and preferred way. That is to say, as the result of heredity, upbringing, and current environmental demands, different individuals tend to both perceive and process information differently (Khudhur, 2011:22).

2. 2. Types of Learning Styles:

There are several forms of modes of learning that are categorized under three main styles: visual, auditory, and kinesthetic learners.

1. **Visual Learners**: Visual learners rely on vision and can absorb knowledge through imagery. Information is not always expressed in structured patterns of concepts, but it is also described in ways through charts, diagrams, and so on. In this way students can arrange information and ideas as they need and keep or store it graphically (Nilson, 2003:233).

   Visual learners tend to learn mainly by seeing things. If anyone wants to read too much, it typically takes a great amount of focus and time alone. Visual students need to see standard graphics such as screen displays, video monitors, and the like. They must follow guidelines written on the board to operate well in the classroom (Tabanlıoğlu, 2003: 7).

2. **Auditory Learners**: Auditory learners learn best by hearing or listening to items. If they listen to themselves can learn best by expressing a new idea (Nilson, 2003: 232). Auditory learners are students who enjoy the oral-aural learning channel. Thus, they want to engage in discussions, conversations, and group work. These students typically require only “oral directions” (kaşifşor et al., 2011:308).

3. **Kinesthetic Learners**: The kinesthetic style refers to learning most effectively through complete body experience (e.g., whole body movement). The key issue for the kinesthetic is movement. Kinesthetic learners thus require frequent breaks or else they become fidgety-sitting motionless for hours is a real challenge for them. They often find that walking around while trying to memorize something helps. kinesthetic learners learn better with and active “hands-on” approach. Those learners enjoy interaction with the physical world. Most of the time kinesthetic learners have a tough time remaining on target and can be easily distracted (Dornyei & Ryan, 2015:126).

2. 3. Model of the Study:

Several models of learning styles have been proposed, but this study is based on O’Brien’s (1985) model. See appendix (B).
This model is designed as a Learning Channel Preference Questionnaire, which helps teachers and students to determine what facilitates students’ learning by discovering their preferred learning style.

The questionnaire consists of 30 questions under the visual, auditory and kinesthetic elements. Each question has three point-Likert scales to rate students’ responses (never applies to me = 1, sometimes applies to me = 2 and often applies to me = 3) Maximum 30 marks and minimum 10 marks are given for each section. Students follow all these three modalities which are known as VAK model to receive new knowledge and information. However, with their preferences they may be biased to one of this modality, or may be two modality or all three at the same time. The dominant learning style shows students preferable learning style. Sometime student prefers to study one course with one style and another course with another style. If they prefer more than one learning style, they are considered as multimodality learners (Rajapakshe, 2018: 36).

2.4. Concept of Academic Performance:

Academic achievement or academic performance is the extent to which a student, teacher or institution has attained their short- or long-term educational goal. It is also good for students in higher education institutions in order to obtain admission and/or be promoted to a higher grade/class (Stasolla et al., 2021:187). Academic performance is also a significant requirement for obtaining a degree and having a job offer via campus or off-campus recruitment drive (Chowhan, 2013: 308).

Academic performance of students is the center around which the whole education system revolves. The success and failure of any educational institution is measured in terms of academic performance of students. Not only the schools, but parents also have very high expectations from students with respect to their academic performance, as they believe that better academic results may lead to better career options and future security. Academic performance refers to the knowledge attained and designated by marks and assigned by teacher. In educational context, academic performance is the educational goal to be achieved by a student, teacher or institution over a certain period and is measured either by examinations or continuous assessments and the goal may differ from one individual or institution to another (Narad & Abdullah, 2016: 12).

2.5. The Role of Academic Performance:

Ali et al. (2009:82) note that students’ performance (academic achievement) plays an important role in producing the best quality graduates who will become great leader and manpower for the country thus responsible for the countries economic and social development.

Academic performance is important because it is strongly linked to the positive outcomes we value. Learners who are academically successful and with high levels of education are more likely to be employed, have stable employment, have more employment opportunities than those with less education. Academic performance is important because working people
will need higher levels of education to tackle the technologically demanding occupations of the future. Academic achievement is important for the successful development of young people in society. Students who do well in school are better able to make the transition into adulthood and to achieve occupational and economic success (Regier, 2011: 1).

2. 6. Relationship between Students’ Learning Styles and Academic Performance:

There have been many attempts made to enhance students’ academic performance. It has always been the main concern of many dedicated teachers and parents that their students and children are as much successful as possible. In relation to this, many teachers are convinced that students need the positive attitude to succeed academically. Often, one’s learning style is identified to determine strengths for academic achievement or performance (Abidin et al., 2011:144).

Barman and Muhamed (2014:48-50) find that students who know how they learn can get better grades at school and then will enhance their academic performance. Therefore, any academic performance of students is an indicator of the quality of learning experiences at that institution.

Students can enhance their academic performance by being conscious of their strengths in order to utilize them in academic performance. Students should have an understanding of how they learn best and how to enhance their learning ability in the very initial periods of their registration in the academic institution. Identifying our specific learning style and also how to adequately address the requirements of that learning style is important to improve better academic performance (Cmadmin, 2005: 1).

It is possible to recognize or identify students' learning styles and share the findings with them. This can give them useful clues about their necessary strengths and weaknesses and examples of ways to enhance their academic performance (Felder & Brent, 2005:62). Learning styles can clarify how students learn and how learning and academic achievement are influential (Yazici, 2017:61). Each student has a particular way to learn. If someone who is low in academic achievement is taught in an open and understanding manner that the concepts are communicated to the learner then comprehension of the content will possibly increase (Dunn et al., 2002: 80-82).

Section Three: Procedures:

3. 1. Population and Sampling:

3. 1. 1. Population:

Population is a group of individuals who have the same characteristics (Creswell, 2012: 142). Within this target population, researchers then select a sample for study.

The population of the present study is 103 second-year college students (male and female) at morning studies in the Department of English-College of Basic Education at Tikrit University in the academic year 2020/2021.
3. 1. 2. Sample:

A sample is a subgroup of the target population that the researcher plans to study for generalizing about the target population. In an ideal situation, a sample of individuals is selected to be representative of the entire population (Creswell, 2012: 145). According to Ary et al. (2006: 148), a sample is a number of individuals, objects or events selected for a study from a population, usually in such a way that they represent the large group from which they are selected.

The sample of the present study is fifty second-year college students which represent 49% of its original population as indicated in table (1).

<table>
<thead>
<tr>
<th>College</th>
<th>Population</th>
<th>*Involved in the pilot study</th>
<th>Involved in the Sample</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>College of Education for Humanities</td>
<td>103</td>
<td>10</td>
<td>50</td>
<td>49%</td>
</tr>
</tbody>
</table>

3. 2. Research Instrument:

Creswell (2012:355) notes that correlation research requires the researcher to collect two data sets from each individual. Therefore, questionnaire and students’ average of the last year in all subjects to know the academic performance as the tool for collecting the data of the study. The questionnaire is used to gather information about the learning styles of the students, while students’ average of the last year is used to gather data about their academic performance.

A questionnaire of O’Brien (1985) is adopted, as shown in appendix (B).

3. 2. 1. Questionnaire:

A questionnaire is one of the most widely used tools to collect data especially in social science research. The main objective of the questionnaire in research is to obtain relevant information in the most reliable and valid manner (Fowler, 2002: 73).

In the present study, a questionnaire of O’Brien (1985) is adopted which consists of three types assessed by 30 items, 10 items for each type to measure the learning style of students. The study uses close-type questionnaire to get information from the respondents.

3. 4. Validity of the Research Instrument:

Validity is the most important consideration in the development and evaluation of measurement instruments. Historically, validity has been defined as the extent to which the instrument measures what it claims to measure (Ary et al., 2010: 225).

3. 4. 1. Face Validity:

A measurement tool has face validity if its content simply looks relevant to the person taking the test or answering the questionnaire. It evaluates the
appearance of the questionnaire in terms of feasibility, readability, consistency of style and formatting, and the clarity of the language used. In order to ensure the face validity of the study instrument, it has been submitted to the jury members of teachers and specialists in the teaching of English methodology as shown in (appendix: A).

3. 5. Reliability of Questionnaire:

The reliability of the questionnaire is determined by using the Alpha formulation of Cronbach which is used to calculate the internal accuracy statistically. It measures how closely a group of items are connected to one another.

Coefficient alpha ranges from (0) to (1). Everyone can use the guidelines in table (2) as rules of thumb for interpreting alpha values. Researchers generally consider an alpha of 0.7 as a minimum. It increases with the increasing correlation between the items (Hair et al., 2019:261). The statistical findings show that the questionnaire's reliability coefficient is 0.89 as indicated in Table (3). This means that the questionnaire is reliable.

Table (2) Internal Consistency by Using Cronbach Alpha

<table>
<thead>
<tr>
<th>Alpha Coefficient Range</th>
<th>Reliability Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥ 0.95</td>
<td>Too high; indicators are redundant</td>
</tr>
<tr>
<td>0.90 to 0.95</td>
<td>Somewhat high</td>
</tr>
<tr>
<td>0.80–0.90</td>
<td>Excellent</td>
</tr>
<tr>
<td>0.70–0.80</td>
<td>Good</td>
</tr>
<tr>
<td>0.60–0.70</td>
<td>Acceptable for exploratory research</td>
</tr>
</tbody>
</table>

To obtain the reliability of the questionnaire, the researcher uses SPSS 26.0 programme to find out whether or not the questionnaire is reliable as shown in table (3).

Table (3) Reliability Statistics of Alpha Cronbach

<table>
<thead>
<tr>
<th>Reliability Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Cronbach's Alpha</td>
</tr>
</tbody>
</table>

From the above table, it can be seen that Cronbach’s Alpha is 0.891 and this mean the questionnaire is highly reliable according to Cronbach's Alpha internal consistency.

3. 6. Pilot Administration of the Questionnaire:

A group of ten students have been chosen for the purpose of conducting a pilot administration of the study. The pilot sample is chosen from the entire population of the study. Results indicate that all items are clear and
sufficiently understood by and the time required by 15 to 20 minutes in order to fill his/ her copy.

3. 7. Scoring Scheme of the Questionnaire:
The score is based on the Likert Scale Type. Likert Scale Type is a scale with a number of points, usually at least three but not more than seven. The questionnaire is a multiple-choice form of three alternatives.

3. 8. Final Administration of the Questionnaire:
The final administration of the questionnaire takes place on the 26th of January 2021 on second grade level in Tikrit University/college of Education for Humanities/ Department of English. The purpose of the questionnaire, as well as the purpose of the study in general, have been explained to the respondents. Each respondent has completed her/his copy completely.

3. 9. Statistical Means:
In order to achieve the aims of the current study, certain statistical means have been adopted to analyse the collected data. These statistical means comprise:
1. Pearson Correlation Formula: is used to indicate the relationship between preference learning style and academic performance to the students at College of Basic Education at Tikrit university.

\[
\rho = \frac{N\Sigma xy - (\Sigma x)(\Sigma y)}{\sqrt{[N\Sigma x^2 - (\Sigma x)^2][N\Sigma y^2 - (\Sigma y)^2]}}
\]

Where:
N = Quantity of Information
\(\Sigma x\) = Total of the First Variable Value.
\(\Sigma y\) = Total of the Second Variable Value.
\(\Sigma xy\) = Sum of the Product of & Second Value.
\(\Sigma x^2\) = Sum of the Squares of the First Value.
\(\Sigma y^2\) = Sum of the Squares of the Second Value.

2. Chronbach’s Alpha: is adopted in calculating the reliability of the questionnaire:

\[
a = \frac{n}{n-1} \left[ 1 - \frac{\sum s_i^2}{s^2_x} \right]
\]

\(n\) = the number of items.
\(s_i^2\) = the variance of a single item.
\(\sum\) = sign of summation indicates that the variance has been summed over all items (Schriever and Anser, 2011:112).

3. One sample T-Test is also used to identifying the variety of Iraqi EFL students’ learning styles.
Section Four: Analysis of Data and Discussion of Results:

4.1. The First Aim of the Study:

In order to achieve this aim, the one sample $t$-test is used. It is found that the computed $t$-value (5.759) is higher than tabulated $t$-value (2.01) at significance level 0.05 and $df = 49$, this means that Iraqi EFL students have a variety of learning styles and they prefer them. For more details see table (4).

<table>
<thead>
<tr>
<th>Learning Styles</th>
<th>N</th>
<th>Mean</th>
<th>Hypothetical Mean</th>
<th>STD. Deviation</th>
<th>DF</th>
<th>Computed T-Value</th>
<th>Tabulated T-Value</th>
<th>SIG. 0.05</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>50</td>
<td>67.340</td>
<td>60</td>
<td>9.012</td>
<td>49</td>
<td>5.759</td>
<td>2.01</td>
<td>significant</td>
</tr>
</tbody>
</table>

4.2. The Second Aim of the Study:

One-way ANOVA is also conducted to test the existence of possible differences among Iraqi EFL students’ learning style preferences and the results of the analysis are displayed in Table (5):

<table>
<thead>
<tr>
<th></th>
<th>Sun of Squares</th>
<th>DF</th>
<th>Mean Square</th>
<th>F</th>
<th>Tabulated F-Value</th>
<th>SIG. 0.05</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between groups</td>
<td>800.893</td>
<td>2</td>
<td>400.447</td>
<td>35.119</td>
<td>3.04</td>
<td>significant</td>
</tr>
<tr>
<td>Within groups</td>
<td>1676.180</td>
<td>147</td>
<td>11.403</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The data shows that the computed $F$-value value (35.119) is higher than the tabulated $F$-value (3.04) in 0.05 level of significance and $df = 2, 147$. This indicates that there is a significant difference in the learning styles of Iraqi EFL students. The differences in favour of visual learning style according to scheffe comparisons.

<table>
<thead>
<tr>
<th>Groups</th>
<th>N</th>
<th>Subset for alpha = 0.05</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Kinesthetic</td>
<td>50</td>
<td>19.62</td>
</tr>
<tr>
<td>Auditory</td>
<td>50</td>
<td>22.44</td>
</tr>
<tr>
<td>Visual</td>
<td>50</td>
<td>25.28</td>
</tr>
<tr>
<td>Sig</td>
<td>1.000</td>
<td>1.000</td>
</tr>
</tbody>
</table>

4.3. The Third Aim of the Study:

The Pearson Correlation Coefficient is used to examine if there is a relationship between students’ learning styles and their academic performance and the results are shown that the Pearson correlated coefficient factor is (2018;9).
0.461). This means that there is an average negative relationship between the two variables.

4. 4. The Fourth Aim of the Study:
To achieve the fourth aim of this study the Pearson correlation coefficient also is used to identify the possible relationship between each type of learning style of students and their academic performance. The results are shown in table (8)

Table (7) Pearson Correlation Coefficient factors between the three Types of Learning Styles and Academic Performance

<table>
<thead>
<tr>
<th>Variables</th>
<th>Person Correlated Coefficient factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual &amp; Academic Performance</td>
<td>-0.448</td>
</tr>
<tr>
<td>Auditory &amp; Academic Performance</td>
<td>-0.375</td>
</tr>
<tr>
<td>Kinesthetic &amp; Academic Performance</td>
<td>-0.415</td>
</tr>
</tbody>
</table>

The results show that Pearson correlation coefficient factors between visual and academic performance is (-0.448) and auditory with academic performance is (-0.375) while Kinesthetic and academic performance is (-0.415). These results mean that there is an average negative relationship between visual and kinesthetic with academic performance while there is a low negative relationship between auditory and academic performance.

Section Five: Conclusions and Recommendations:
5. 1. Conclusions:
The present study has come up with some conclusions, the most important of which are the following:
1. There is a negative relationship between students’ learning styles and their academic performance.
2. It is found that the style used by most of students under investigation is Visual.
3. The percentage of visual learning style type falls into the major learning style preference category. The rest of the learning style types fall into the minor learning style preference category. Therefore, the learning style preference of EFL students is Visual learning style.
4. All individuals have their own preferred sensory learning style(s). When students understand their own preferred learning styles, they can find their strengths and weaknesses, learn more easily, remember and think better by using their own unique learning styles.
5. There is a need to provide language specialists with reliable information on the main problematic areas (learning styles) that teachers and learners need to work on in EFL classrooms.
6. The major sensory learning style for students is only visual learning, whereas other students prefer auditory and kinesthetic learning styles. It is important to mention that male and female students do not neglect any type of learning styles.

5. 2. Recommendations:
The current study hopes to provide meaningful recommendations to overcome the problems that concern with the learning styles of students in
EFL classrooms. Based on the conclusions of the present study, the following points are recommended:

1. It is recommended to use a combination of teaching methods and make the classroom environment as stimulating and interactive as possible.
2. Teachers should pay attention to students’ individual differences.
3. EFL students should try to identify their learning styles so as to take advantage of their abilities and how to overcome learning difficulties. This can help them to improve their self-confidence as well as increase their motivation and positive attitudes towards learning.
4. It is recommended that the students mostly need to study through using their sense of sight to gain knowledge. They prefer to read and watch television and other media.
5. Educators should engage Visual students in activities that require images, graphics, colors and maps.
6. EFL students need to take more responsibility for their own English language learning. They themselves know their own needs and their learning style preferences. They should try to use their preferred ways of learning and to meet those needs through their own efforts both in and outside the classroom.
References


