The Comparison of the Translation Ability of Students of Translation Studies and Those of Medical Science in Translating Medical Collocations

Forouzan Dehbashi Sharif (Ph.D.), Atefeh Banifatemi (M.A.)

Department of English Language, Central Tehran Branch, Islamic Azad University, Tehran, Iran

Corresponding: at.banifatemi@yahoo.com

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Abstract: This article reports a comparison between translation ability of the students of the translation studies and the students of medical science in translating medical collocations from English into Persian and vice versa. So, after holding a general English test as a pretest, among the 120 participants, the researcher chose 80 Iranian undergraduates whose general English knowledge were almost the same and divided them into two groups both studying in the 8\textsuperscript{th} semester in the field of translation and in the field of medicine. Then to measure their collocational knowledge and translation competence of the participants, a researcher made translation test was administered, the results demonstrated that there was a significant difference between the ability of these two groups of students in translating medical texts which almost contains a lot of medical collocations. The obtained results of this research showed that BA students of English translation studies in spite of passing almost all of the predicted translation courses showed less ability in presenting appropriate translation of textual medical collocation than the students of medicine at almost the same level of general English knowledge and academic level with no translation background knowledge.

Index Terms: Collocational Competence, Medical Collocation, Translation Ability

1. INTRODUCTION

Scientific translation, differing from other translations, goes beyond just rendering words from one language into another. Rather, it is considered a tool that helps people around the world develop and progress in the field of science. Byrne (2006) claims that, scientific translation primary goal is to deliver scientific information; it aims at presenting well expressed information, that may be used easily, properly and effectively. He referred to scientific translation as a communicative service, which offers new information for new audience, since scientific translation is regarded as communicative service; it certainly involves three main people, which are the author, the translator and the reader. Furthermore, there are distinctions between scientific translation and technical translation despite the common mix-up and Byrne (2006) points out the differences by stating that: Scientific translation relates to pure science in all of its theoretical, esoteric and cerebral
glory while technical translation relates to how scientific knowledge is actually put to practical use, dirty fingernails and all. The differentiation between scientific and technical translation is also acknowledged by the information sciences. (p. 8)

Medicine has always held a special position because it deals with human beings, i.e., with individuals —their personality, their body and their life. This is probably the reason why medical translation belongs to one of the oldest fields of translation (Lee-Jahnke, 1998). Medical translation has always been of major importance within the field of translation, because a large number of texts are translations into and from many languages and hence this area represents vast part of the market. By and large, translators fall into two categories of people: translators who are also professionals in health sciences and are familiar with both translation techniques, strategies and medical sciences and the ones who are not professionals in health sciences and rely on different strategies and solutions in dealing with the problems they encounter. Those in the second kind must acquire specialized knowledge and therefore need more feedback from the medical community (Lee-Jahnke, 1998).

This study deals with translation of lexical collocations in medical English. Their significance is manifested in the fact that they represent the connection between words on one side and the text on the other. Evidence-centered theses claim that collocations are indeed a problematic area for non-native users of medical English. Knowledge of collocations is essential for English learners to master L2 vocabulary, i.e. to naturally use collocations in a way native speakers do (Lewis, 2000). The concept of “collocational competence” was coined by Lewis (2000) who said: “We are familiar with the concept of communicative competence, but we need to add the concept of collocational competence to our thinking” (p.49).

As the study of Pavicic and Miščin (2013) showed, the analysis of erroneous use of collocations showed two major trends: the first was a heavy reliance on the first language and the second is the use of approximation. However, the comparison of collocational competence across the three groups of their participants indicates that continuous exposure to and active use of medical English increases the knowledge of collocations (Pavicic & Miščin, 2013).

Collocational competence was also addressed by some other researchers (Lewis, 2000; Nattinger & DeCarrico 1992) who claim that it contributes to better understanding of difficulties encountered by language learners (as cited in Nattinger & DeCarrico, 1992). The importance of acquiring collocations in language learning has been particularly emphasised in the last two decades. Research studies have also shown that collocation errors are the most frequent mistakes made by non-native speakers (James 1998).

The results of the study shed light on the importance of accurate translation of medical collocations. Taking into consideration the importance of collocations on the one hand and the fact that they are one of the most difficult areas for non-native users on the other, it seems safe to argue that the approach to learning collocations needs to be more systematic as well as anchored in research (as cited in Pavicic & Miščin, 2013). Most students in Iran – who are non-native users of English - are facing difficulties in producing, applying and translating collocations especially in technical fields. That is why they don’t have enough knowledge on general and technical collocations. Therefore acquiring appropriate knowledge on different collocations comes to the force (Bagher, 2012). Richards (2003) believes collocations usually represent a huge problem to non-native speakers due to interference with their mother tongue.

Finally, the results of the study shed light on the importance of accurate translation of medical collocations. Taking into consideration the importance of collocations on the one hand and the fact that they are one of the most difficult areas for non-native users on the other, it seems safe to argue that the approach to learning collocations needs to be more systematic as well as anchored in research (as cited in Pavicic & Miščin, 2013). So according to the questions of this study, the researcher purpose is to measure the students knowledge of medical collocations, compare their ability in translating collocations and provide answer for this question that if there is any relationship between their knowledge and their ability in translating collocations.
2. REVIEW OF THE RELATED LITERATURE

2.1. Theoretical Background

The term collocation, introduced by Firth in the 1950s, derives from Latin (con- together + locare - locate) and refers to a multi-word construct which occurs in a procedure of locating, i.e. co-occurrence or combination of words on the syntactic level. Firth (1957) tried to explain collocations by a syntagmatic and paradigmatic relation between lexical units which can be shown by two axes – horizontal and vertical. The paradigmatic axis is vertical and includes words which belong to the same class and can be inter-changed. The horizontal axis is syntagmatic and refers to the ability of words to be connected with others. For instance, in a sentence Mary drank beer, beer is in a paradigmatic relation to wine, juice, Coke and in a syntagmatic relation with drank and Mary (as cited in Pavicic & Miščin, 2013).

According to Firth (1957, p.192), collocation is a “mode of meaning”. He maintains that the lexical meaning should be analyzed on four levels: the orthographic level, the phonological level, the grammatical level, and the collocational level. As Benson (1986, p.85) states, collocations are “fixed recurrent combinations of words in which each word basically retains its meaning”. Collocation refers to the way in which some words are mostly used together, or a particular combination of words which are often used in this way. For example, do yoga, play ping pong, play football (Hamidi & Montazeri, 2014).

According to Newmark (1988, p.114) “a collocation consists basically of two or three lexical words which usually are linked by grammatical words for example a mental illness”. As Newmark (1988) states collocation is the element of system in the lexis of language. It may be syntagmatic or horizontal therefore consisting of a common structure, or paradigmatic or vertical, consisting of words belonging to the same semantic field which may substitute for each other or be semantic opposites. These became collocations only when they are arranged syntagmatically.

According to Seretan (2011, p. 15), “collocations are prefabricated phrases” emerged from studies on language acquisition, showing that children memorize not only words in isolation, but also to a large extent, groups(chunks) of words which are available to speakers as readymade or prefabricated units.

According to Seretan (2011, P.15), collocations are arbitrary. They are not regular productions of language but arbitrary word usages”. Arbitrariness of a collocation may refer not only to the choice of a particular word in conjunction with another in order to express a given meaning, but also to its syntactic and semantic properties. Seretan (2011) states that “Collocations are unpredictable. It refers to the affinity of a word for a particular collocate, which is strongly preferred over other words from the same synonymy. These affinities cannot be predicted on the basis of semantic or the syntactic rules,
but can be observed with some regularity in text” (p. 15). Seretan (2011) states that “Collocation are recurrent. It refers to the frequent usage of collocations that determines their institutionalization” (p. 15). Their recurrence enables their recognition and learning based on experience (as cited in Seretan, 2011).

According to Cowie (1981) “collocation is co-occurrence of two or more lexical items or it is sequence of two or more consecutive words” (as cited in Seretan, 2011, p. 15). Cruse (1986) states that The main characteristics of collocations are that their meanings reflect the meaning of their constituent parts (in contrast to idioms) and that they are used frequently, spring to mind readily, and in contrast to free combinations they are psychologically salient (Cruse, 1986).

According to Cruse (1986) there are, however, ‘transitional areas’ between free combinations/collocations and collocations/idioms. Phillips (1983) and Hoey (2005) states that the textual view of collocation also emphasizes the fact that collocations are not disembodied lexical units inserted into the body of a text without modification, but are the result of reformulations and paraphrases which have developed throughout the length of a text. According to them a textual collocation is likely to have a specific textual function or may occur in a rather restricted set of contexts. These expressions can be seen to be couched seamlessly in the surrounding text, and in many of the examples we see below, the collocational patterns of a specific phrase are motivated or triggered by other phrases which appear to be at some distance. This is what is meant by long-range collocation.

2.3. Collocation and its Variation

Collocational variation covers Semantic Collocation (which involves a meaningful association of words, including pairs such as husky + voice, nuclear + atom, etc.) and Structural Collocation (which involves a co-selection of words within a particular structure, phrase or clause, as in ask a question, to curry favour etc.) (as cited in Nesselhauf, 2005).

The notion of ‘semantic collocation’ originates in Halliday and Hasan (1976)’s landmark study, in which they claim that collocation has an important role to play in building chains of referential links within a text. Examples of textual or semantic cohesion can be seen in such examples as climate + environment, recycle + paper cup, volcano + erupt, etc. Within the category of structural collocations, it is also possible to make a further distinction between ‘free’ and ‘bound’ collocations. As Benson (1986) states Free collocations are more productive than bound collocations, and it is usually possible to list several possible variant collocates for any one construction (such as ask + a favor, a question, the way, make + love, peace, sense, set + free, sail, store, etc.).

According to Benson (1986) Bound collocations are those sequences which co-occur so predictably that they have been highly predictable units (such as nowadays, so to speak, curry favor etc.). In bound collocations, the meanings of the different words often complement each other, with one word being the main point of reference or ‘base’ (thus in auburn hair, rancid butter, torrential rain: hair, butter and rain are the ‘bases’). or a fixed or lexicalized as a single (Benson, 1986).

About Collocations and Register, Baker (1992, p.52) states register specific collocations are "are not simply the set of terms that go with a discipline, they extend far beyond the list of terms that one normally finds in specialized dictionaries and glossaries”. Baker illustrated this point by the collocations "biased errors” and "tolerable errors" which seem untypical to someone who is not familiar with the statistics, though they are very common in the statistics register (as cited in Boussalia, 2010).

2.4. Translation

According to Bloom (1964) since translation is viewed as a complicated process that integrates cognitive, psychological, linguistic and even psycho-motor processes, a translation test can be used for assessing foreign language candidates’ skill in translation. These tests should have good potential for measuring translation skills. According to Bloom (1964) scientific translation is not like other translations. It goes beyond just rendering words from one language into an-
other. It is rather considered a tool that helps people around the world develop and progress in the field of science. Thus a translator needs to ensure an accurate delivery of information and shows faithfulness and commitment to the source and the target language, so that the translated information can be used easily and help in developing other countries.

Schaffner suggests that to really grasp the translation process, a set of competences should be equipped, she describes these competences as:

1. linguistic competence of the languages concerned;
2. cultural competence, i.e. general knowledge about historical, political, economic, cultural, etc. aspects in the respective countries;
3. textual competence, i.e. knowledge of regularities and conventions of texts, genres, text types;
4. domain/subject specific competence, i.e. knowledge of the relevant subject, the area of expertise;
5. re(search) competence, i.e. general strategy competence whose aim is the ability to resolve problems specific to the cross cultural transfer of texts;
6. Transfer competence, i.e. ability to produce target texts that satisfy the demands of the translation task. (Schaffner, 2000, p.146)

The society expect that undergraduate education focus on gaining and instructing translation competence and students should be graduated as translation specialists. Translators who want to gain knowledge on a different field should join different programs and work on different fields. Field specialization requires huge resources and a change in current educational conditions.

As Pedersen and Halliday (2009) state, when translating a medical text, translators choose appropriate methods or strategies in order to communicate the same message. In fact here translators play the role of a medium in communication between patients and physician, where patients need to understand the details of their disease, or need to understand all aspects of this kind of communication or maybe they are in communication which they need to know about any progress of research made in their disease. Finally, in communication between physicians and researchers in which physicians need to apply advances in research in order to improve clinical practice, clinical guidelines or review articles would be the texts and messages need to be translated and communicated (Pedersen & Halliday, 2009).

Resurrecció (2007) supports that showing consideration for the target audience is extremely important in translating medical texts. Footnotes make it possible to communicate medical language to a broader audience. According to Resurreccio (2007), medical language is not only for professionals anymore. Here the role of translators of this field matters greatly. Those who want to become a good translator of this field should bring with themselves certain qualities that are typically acquired outside the classrooms. They should, first of all, have a good aptitude for science. Being detail –oriented is imperative since mistakes can cause misunderstanding, can lead learners or audiences to a wrong way in improving their knowledge and even can put people’s health and life in danger. Clarity and precision of expression is essential in academic writing.

2.4.1. Medical Translation

The meaning of a word is not what its etymology suggests, interesting as this may be, but rather what the people communicating understand by the word. Etymology is, of course, a fascinating field for linguists and non-linguists alike, and it contributes greatly to the understanding of the historical development of culture, but it has little to do with the current understanding of a linguistic sign (Schmalstieg, 1969).

According to Resurrecció (2007), in medical translation, it is important to pay attention to genre. Knowing the different genres, their communicative purpose, the typical structure and form and the situations in which they are used, is a key to successful medical translation because translation strategies, procedures and decisions may depend on these four factors. Resurrecció (2007, p.59) states “Comprehension and Understanding the source text depends on the profile and previous knowledge of the reader to whom the genre is typically addressed”. A medical translation student will be cognitively and
communicatively closer to some genres – such as a patient information leaflet – than others – such as a clinical trial protocol. Socializing with genres with which we are not familiar is vital for the adequate comprehension of specialized texts (Resurreccio, 2007). Another key to successful medical translation according to Resurreccio (2007) is understanding the ST. Understanding the ST makes it possible for the translator to make the target reader understand the TT. It is not possible to produce a good translation if the ST is not understood (Resurrecció, 2007). In producing a good TT that is comprehensible for target audience, it is necessary to look at the style of the language. One way of doing so is by turning complex nominalizations into full sentences (verbal form). Another way is by turning passive sentences into active sentences. By making the subject of the verb visible it becomes easier for the reader to understand the text. For example, instead of writing other methods are employed” write “doctors employ other methods (Pedersen & Halliday, 2009).

2.4.2. Translation of Textual Medical Collocation as an Indicator for Measuring Translation Competence

According to the researcher Jean (2007) collocational measures seem to fall into two categories: the ones which attempt to test productive knowledge and those assessing receptive knowledge. From the formal perspective, they are integrated by two elements: the base and the collocate. In this regard, Nesselhauf (2005) agree with scholars who believe that these two components do not share the same linguistic status since the base is semantically autonomous whereas the collocate is determined and somehow selected by the base. Special attention was given to Bonk’s (2000) study, as it is the only one aiming to cover both productive and receptive competence. Nonetheless, it must be noted that he only performed correlation analyses between collocational proficiency and general English proficiency (Jean, 2007).

Translation Tasks will require the learners to translate their L1 collocations into English collocations. The development patterns of ESL/EFL learners collocational knowledge have also attracted the attention of researchers. Gitsakis’ study (1996) has contributed to the area of collocations, providing a different perspective and many valuable insights. Additional findings of Gitsaki (1996)’s study, which are of importance to the current study, revealed that grammatical collocations, by and large, are easier to acquire than lexical collocations. Also, among the 37 types of collocations, verb-noun creation lexical collocations (e.g., draw conclusions, face problems) were the most difficult and highly challenging for all subjects in both the translation and the cloze tests. They were also infrequent in the subjects’ writing samples. Gitsaki (1996) explains that this is due to the arbitrariness and unpredictability of such collocations that makes it difficult for L2 learners to cope with them.

Finally, Gitsaki (1996) concludes that as language proficiency develops, collocational knowledge expands steadily. However, she argues that the acquisition of collocations is affected by factors such as familiarity, frequency of the input, and “salience” of the collocation types, that is 41 simple grammatical collocations are acquired earlier, due to learners encountering and using them in everyday communication (Alsakran, 2011).

2.5. Related Studies

Only few studies have dealt with the difference between collocations in general English and those in scientific English (as cited in Wouden,1997). In countries where English is not the first language ,barrier they must overcome will offer another challenge. Many International Medical Graduates studied medicine in their native language, only communicating in English within the walls of their English classes. Although they may have learned English medical vocabulary and have developed strong academic reading skills through reading English medical journals, they often have not had any practical communicative experience in the field of medicine. They have also not been exposed to the culture and cultural norms of their new home, and the ‘culture’ of the medical profession within it (Meehan, 2004).

Manafi-Anari and Ghaffarof (2013) examined the effect of collocational competence translation accuracy of translation trainees. Their study revealed that on the one hand there was a significant relationship between the receptive knowledge of lexical collocations and grammatical collocations and on the other hand there is a significant relationship between the productive knowledge of lexical collocations and grammatical collocations and the accuracy of the translation.
In her study, Gitsaki (1996) claims that there seems to be a developmental process that L2 learners follow in the acquisition of collocations, which can be described and analyzed. She examined 275 Greek learners of ESL (junior high school students) at three different proficiency levels (post-beginner, intermediate, and post-intermediate), using three measurements: essay writing, a Greek-English translation test, and a cloze test. Thirty-seven collocation types, operationalized in the BBI Combinatory Dictionary of English, were adopted. The essay-writing task, in which participants were asked to write approximately 200 words on a given topic, was designed to elicit free production of 40 collocations, whereas the translation task (consisting of 10 sentences in Greek for each of the three groups) and the cloze test were intended to measure the cued production of collocations.

Gitsaki (1996) indicates that the target collocations used in both the translation and the cloze tests were chosen from students’ textbooks and are nonequivalent to their mother tongue. The data yielded a number of interesting results with respect to the free production and cued production of collocations. In the essay writing test, Gitsaki (1996) reported that there is a significant difference in the production of collocations between and within the different proficiency groups, in relation to Shakir and Farghal (1991) accuracy and the ample use of collocation types. The post-intermediate level is reported to be more accurate in the production of both grammatical and lexical collocations, as well as the use of various collocation types, than the other groups. Similarly, considerable differences are found across and within the three groups in the results of the translation and cloze tests, with the post-intermediate students being more accurate in their production of collocations. They drew a good conclusion after studying thirteen M.A. translation students by giving them several collocations to translate, and they found that the following strategies were adopted by the students in translating collocations: 1. Reduction (generalization, deletion, and message abandonment), 2. synonymy, 3. compensation, 4. paraphrase, and 5. transfer/calquing.

2.6. Research Question

In order to achieve the aims of the study, the following research question is formulated:

**RQ:** Is there any significant difference between translation ability of the students of translation studies and students of medical science in translating Persian medical collocations into English and vice versa?

3. METHODOLOGY

Methodology of this study introduces participants, instrumentations including General English Exam and Researcher made technical translation Exam, design, procedure and statistical analysis.

3.1. Participants

Participants of this study are divided into two groups. One group are Sixty senior students of translation studies who were studying at 8th semester in Bandar Turkman Payame-Noor University and have passed all their technical translation courses. They were twenty males and forty females with variation in their age from twenty one to forty four. The other group includes sixty students of medicine who were studying at the 8th semester of their education and have passed necessary English and medical courses in State Medical Sciences University in Gorgan.

3.2. Instruments

Instruments of this study were as follows:

3.2.1. General English Exam

This exam was a researcher-made TOEFL exam prepared based on Previously performed TOEFL exams including comprehension test, grammar test, general collocation test and technical collocation test multiple choice, gap filling and matching.

3.2.2. Researcher Made Technical Translation Exam

This exam was prepared to measure translation ability of the participants of both groups of students. Questions of his exam were extracted from englishmed.com website and previously performed exams to measure translation ability of the
participants. The items were English and Persian collocations in separate sentences, and in separate texts required to be translated by both groups of students. Its administration time limit was 65 minutes and aimed to compare two Independent variables translation ability of both groups of students and independent variable which was collocational knowledge. All the participants in this study were homogenized with respect to their language proficiency level by means of the researcher made TOEFL exam.

3.3. Procedure

The researcher gave the TOEFL exam, as a proficiency exam, to a group of one hundred twenty students, to choose those participants who are almost at the same level of general English knowledge. Then the researcher calculated the reliability of the general English exam by means of Cronbach's Alpha. Participants whose scores fell between one standard deviation above and below the mean were selected. Then the researcher administered the researcher made translation exam as a competence based exam to participants to ascertain there was not any significant difference between the mean of two groups regarding their abilities in translating medical collocations. Technical translation exams’ scores participants received, were determined by the number of questions they answered correctly. There was no penalty for wrong answers.

4. RESULT AND DISCUSSION

4.1. Descriptive Statistics

For obtaining descriptive statistics, the data gathered from the proficiency exam of homogenization and translation exam of both groups were analyzed with the aid of the Statistical Package for Social Sciences (SPSS).

The data gathered from the proficiency exam of homogenization and translation exam of both groups were analyzed with the aid of the Statistical Package for Social Sciences (SPSS).

| Table 1. Descriptive Statistics of the General English Exam |
|-----------------|--------|-------------|---------|---------|
| N               | Mean   | Std. Deviation | Minimum | Maximum |
| total           | 80     | 51.85        | 12.356  | 31.46   | 71.25   |

As the above table depicts the mean of the General English Exam is 51.85 and the standard deviation is 12.356. It can be said that the scores were normally distributed.
Table 2. Normality of Distribution Statistically Analyzed through K-S Test

<table>
<thead>
<tr>
<th>Toefl Medical translation score</th>
<th>Transl. score</th>
<th>Transl. score</th>
<th>Transl. score</th>
<th>Transl. score</th>
<th>Transl. score</th>
<th>Transl. score</th>
<th>Medical translation score</th>
<th>Student translation score</th>
<th>Kolmogorov-Simonov Z</th>
<th>Asymp. sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>60</td>
<td>60</td>
<td>60</td>
<td>60</td>
<td>60</td>
<td>60</td>
<td>60</td>
<td>60</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>Normal parameter mean</td>
<td><strong>51.233</strong></td>
<td>51.4500</td>
<td>52.250</td>
<td>52.250</td>
<td>41.6000</td>
<td>41.6000</td>
<td>41.6000</td>
<td>52.2500</td>
<td>41.6000</td>
<td></td>
</tr>
<tr>
<td>Std. deviation</td>
<td><strong>17.353</strong></td>
<td>14.602</td>
<td>14.579</td>
<td>14.598</td>
<td>7</td>
<td>8</td>
<td>2</td>
<td>9</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Most extreme</td>
<td><strong>.130</strong></td>
<td>.080</td>
<td>.073</td>
<td>.073</td>
<td>.114</td>
<td>.112</td>
<td>.112</td>
<td>.073</td>
<td>.112</td>
<td></td>
</tr>
<tr>
<td>Absolute differences</td>
<td><strong>.070</strong></td>
<td>-.161</td>
<td>.046</td>
<td>.046</td>
<td>-.082</td>
<td>-.069</td>
<td>-.083</td>
<td>-.073</td>
<td>-.078</td>
<td></td>
</tr>
<tr>
<td>Positive</td>
<td><strong>1.008</strong></td>
<td>.088</td>
<td>.564</td>
<td>.567</td>
<td>.565</td>
<td>.421</td>
<td>.442</td>
<td>.907</td>
<td>.443</td>
<td></td>
</tr>
<tr>
<td>Negative</td>
<td><strong>.261</strong></td>
<td>.908</td>
<td>.905</td>
<td>.907</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As the above table shows all the exams which were used as the instruments to test the general English of both groups and their translation competence in this research based on the Kolmogorov-Simonov measurement had normal distribution.

Table 3. Reliability of the General English Exam 1

<table>
<thead>
<tr>
<th>Cronbach’s Alpha</th>
<th>Items</th>
<th>N of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>.831</strong></td>
<td>.844</td>
<td>80</td>
</tr>
</tbody>
</table>

As it is indicated in table 3, the reliability of the exams obtained by Cronbach’s Alpha demonstrated a high level of reliability (rGE= 0.83).
Table 4. *Descriptive Statistics of the General English Exam in Each Group*

<table>
<thead>
<tr>
<th>Groups</th>
<th>N statistics</th>
<th>Min statistics</th>
<th>Max statistics</th>
<th>Mean statistics</th>
<th>St.d statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students of Translation Studies</td>
<td>40</td>
<td>31</td>
<td>74</td>
<td>51.33</td>
<td>13.375</td>
</tr>
<tr>
<td>Students of Medical Science</td>
<td>40</td>
<td>32</td>
<td>69</td>
<td>52.63</td>
<td>11.403</td>
</tr>
</tbody>
</table>

As it can be seen the mean and standard deviation of both groups are not very different and both followed the normal distribution. However the mean of Students of Medical Science is a little higher and their standard deviation is lower which shows more homogeneity among them.

4.2. Inferential Statistics

Inferential statistics is the one with which the researcher tried to make judgments and to reach conclusions that extend beyond the immediate data alone.

Table 5. *Reliability Statistics of the Translation Exam*

<table>
<thead>
<tr>
<th>Cronbach’s Alpha Based on Standardized Items</th>
<th>N of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>.861</td>
<td>.874</td>
</tr>
<tr>
<td></td>
<td>80</td>
</tr>
</tbody>
</table>

Table 5 represents reliability statistics of the translation exam. As its depicted above the reliability of the exams obtained by Cronbach’s Alpha demonstrates a high level of reliability (rGE= 0.86).

Table 6. *Descriptive Statistics of the Translation Exam*

<table>
<thead>
<tr>
<th>n statistics</th>
<th>min statistics</th>
<th>max statistics</th>
<th>mean statistics</th>
<th>St.d statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>80</td>
<td>20</td>
<td>75</td>
<td>46.43</td>
</tr>
</tbody>
</table>

As table 6 shows, the mean of the Translation exam was 46.43 and the standard deviation was 15.585.1 Low standard deviation indicates that scores are close to the mean.
Table 7. *Independent Sample T-Test*

<table>
<thead>
<tr>
<th></th>
<th>f</th>
<th>Sig.level</th>
<th>t</th>
<th>df</th>
<th>Sig.(2-tailed)</th>
<th>Mean difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translation Exam:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>0.017</td>
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<td>- 13.042</td>
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<td>- 4.100</td>
<td>69.963</td>
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<td>- 13.042</td>
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The observed t is larger than the critical t value at the related degree of freedom in translation exam which showed that in this research there was a significant difference between the translation ability of the students of translation studies and those of medical science in translating Persian medical collocations into English medical collocations. The difference of the means showed that the medical students had gained better results and the technical knowledge would play great role in the development of the translation competence. According to the mean and standard deviation of both groups in translation exam and by comparing them, it was found that there is a significant difference between translation ability of the students of translation studies and that of medical science students in translating medical collocations.

5. CONCLUSION

Previous research on collocations had reflected on L2 learners’ inadequate proficiency of producing and recognizing collocations. Motivated by this, the present study sought to investigate the productive and receptive knowledge of the collocation of Persian-speaking learners of English in medical contexts. According to the mean and standard deviation of both groups in translation test and by comparing them, it was found that there is a significant difference between translation ability of the students of translation studies and students of medical science in translating medical collocations. The researcher found out that students of translation studies had the problem of collocational deficiency and low knowledge of collocations in technical texts, resulting in their inability to communicate with effective collocations well, whereas students of medical science translate the same texts with high accuracy and quality. So the researcher concludes that language repeated exposure to authentic sources is an important factor for implicit acquisition of collocations and has positive effect on collocational knowledge and collocational competence. However, the results showed that collocations present a source of difficulty for non-native users of English. Therefore, collocations need more attention from L2 curriculum designers and teachers.

REFERENCES


**Author Bio**

Forouzan Dehbashi Sharif is a university assistant at Islamic Azad University. She is a Ph.D. holder in virtual distance educational planning. Her areas of interest are teaching university courses, translation, teaching methodology, testing, research, morphology, and translation of idiomatic expressions and lexicons. She is the author of six books and more than twelve articles and translations.

Atefeh Banifatemi holds M.A. in English Translation at Islamic Azad University, Central Tehran Branch, Iran. She has been teaching English language and translating articles and books for about 12 years. Her area of interest is translating technical texts.