The Relationship between Spiritual Intelligence and Vocabulary Learning Strategies in EFL Learners

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Abstract—Spiritual intelligent or spiritual quotient refers to people's capacity to express, manifest, and represent spiritual resources, values, and properties to improve every day performance. Vocabulary learning strategies relates to any group of procedures which language learners apply to find the meaning of a new word, to keep in mind the knowledge of newly-learned word, and to develop one's vocabulary. This paper investigates the relationship between EFL learners' spiritual intelligence (SI) and their use of vocabulary learning strategies. The aim of the study was to determine how these two constructs correlate with each other. To this end, 120 EFL students from Public University of Shiraz and Islamic Azad University of Shiraz took part in vocabulary learning strategy questionnaire (Schmitt's, 2001) and the Spiritual Intelligence Self-Report Inventory (King, 2008) questionnaires. The obtained results indicated a statistically significant relationship between SI and vocabulary learning strategies. The results of multiple regressions showed that there was a significant correlation between all SI subscales and metacognitive strategies and social strategies. The results also showed that males with their higher scores in vocabulary learning strategies usage and are significantly superior to females. Also females are superior to males and they have higher spiritual intelligence scores.

Index Terms—spiritual intelligence, vocabulary learning strategies, gender

I. INTRODUCTION

In the last years SQ has emerged as a controversial issue in various fields and many definitions have been proposed by researchers and theories. However it is still one of issues which until now little research have been done on it in the field of language teaching. In 2000, Zohar and Ian Marshall in their book “SQ: the ultimate intelligence” defined SI as the intelligence we use for asking fundamental questions and reframing our answers. Later on, Robert Emmons illustrates SQ as the adaptive use of spiritual resources to promote everyday problem solving and goal achievement (Amram, 2007).

Language learning strategies are defined as a number of activities used by learners to make learning process easier, faster, pleasurable, more self-directed, more beneficial, and more conveyable to new situations (Oxford, 1990). In the studies carried out by Cohen (1998), O’Malley & Chamot (1990), and Oxford (1990), vocabulary learning strategies have drawn much attention. Language learning strategies are important factors in learning a second or a foreign language which depend on the learner and his/her personality factors, learning style, age, sex and cultural background. These strategies help learners to improve their proficiency in a second or foreign language. Moreover, employment of vocabulary learning strategies affects students’ performance in language learning (Sarani and Kafipour, 2008). Schmitt (1997) asserts that with the growing nature of vocabulary acquisition, vocabulary learning strategies have obtained more emphasis in second language learning. Learners need to develop appropriate learning strategies for long-term learning to learn and use English better. In second language learning process, one of the most significant problems that learners will encounter is learning vocabulary. Vocabulary has been known as essential factor in language learning in which not having enough vocabulary knowledge causes difficulties in second language learning. Therefore for learning vocabulary in second language learning, vocabulary learning strategies need to be taught to students.

A. Spiritual Intelligence

According to Seybold and Hill (2001), the results of prior studies illustrated positive results such as psychological and physical health; marital satisfaction and safety and positive interpersonal performance can be the result of spiritual beliefs, practices and commitments and this also can improve the quality of life. Emmons (2000) believes that these positive results may be due to the fact that having spiritual orientation about life saves humans against non-pleasant and non-adaptive behaviors such as behaving in socially or personally destructive ways.

Zohar & Marshall (2000) stated that when spiritual intelligence is high, we appear to be intellectual and have proper behavior. However when spiritual intelligence is low, people will appear to have problematic behavior. They stated...
individuals with high spiritual intelligence demonstrated higher measures of satisfaction and performance. Zohar & Marshall (2004) believed, spiritual intelligence must be grown and developed with training. It can be learned again, and it can be modified. To achieve this, we should search for those capabilities of an individual's being and behavior which signify the presence of spiritual intelligence at work.

In their book, SQ: Spiritual Intelligence, the Ultimate Intelligence (2000), Danah Zohar and Ian Marshall deal with the scientific evidence for SI. They consider scientific evidence done at the University of California by neuropsychologist Michael Persinger and neurologist V.S. Ramachandran and his team. Their research demonstrated a form of spiritual intelligence called “God spot” situated among neural connections in the brain temporal lobes (Rendon, 2005).

Noble (2001) stated that spiritual intelligence integrates the qualities of flexibility and emotional resilience (that may arise out of spiritual experiences), which play a role in psychological health and behavior.

According to Nasel (2004) spiritual intelligence is the ability to better identify, find meaning in, and solve existential, spiritual, and practical problems by gaining inspiration from one’s spiritual abilities.

Emmons (cited in Amram, 2008) offers the following discussion that while spirituality ascribes to the investigation, and the experience of elements of the sacred, meaning, higher-consciousness, and transcendence, spiritual intelligence includes the abilities that are connected to spiritual matters which help individuals to predict functioning and adaptation and to present valuable results. He also relies on Gardner’s definition of intelligence and asserts that spirituality can be considered as an intelligence because it anticipates functioning and modification and suggests abilities that make people able to solve their problems and achieve their goals in life. Gardner’s definition offers five elements for SI: (a) ability to utilize spiritual resources to solve problems; (b) ability to enter heightened states of consciousness; (c) ability to invest everyday activities and relationships with a sense of the sacred; (d) capacity for transcendence of the physical and material; and (e) capacity to be virtuous.

In a quite different framework Vaughan (cited in Amram, 2008) defines SI as the ability for a profound perception of existential questions and also as an understanding of different parts of consciousness. It implies awareness of our relationship to the transcendent, to each other, to the earth and all beings.” According to Amram (2008) Vaughan’s model involves three components the first one is the ability to create meaning based on deep understanding of existential questions; the second one involves an awareness of and the ability to use multiple levels of consciousness in problem solving; and the last one refers to an awareness of the interconnection of all beings to each other and to the transcendent.

Sisk (2008) mentioned that spiritual intelligence pertains to multiple senses to attain individual’s inner sides in order to answer the fundamental questions and problems to create global awareness among teachers and students.

Humans are inherently spiritual beings; all human beings are born spiritual. Since essential elements for achieving success are multidimensional, there should be greater emphasize on the role of education. Learners should be able to unify all their intelligences; IQ, EQ, and now SQ. Near the end of the twentieth century SQ emerged as the third intelligence called spiritual intelligence or spiritual quotient. Since then many studies have been done on SQ in different areas such as psychology, neurology, anthropology and cognitive science. There have been various definitions of spiritual intelligence up to now. Each of them drives from the faith in a greater whole, God, by which we generate meaning for life experiences.

According to Hassan (2009) students with high levels of SQ are more confident in taking an action and more sensitive towards their surroundings. Hence, they are able to situate themselves within any condition, and produce a good condition that increases their achievement in education. Spiritual intelligences help an individual to explore his self-potential.

David B. King (2007) has done a study on spiritual intelligence at Trent University in Peterborough, Ontario, Canada. He defines SI as arranged adaptive mental capacities based on the aspects of reality which are non-material and transcendent. In the model offered by him, spiritual intelligence is interpreted as a group of mental abilities which help to the awareness, integration, and adaptive application of the nonmaterial and transcendent aspects of one’s existence, directing to results such as deep existential reflection, improvement of meaning, recognition of a transcendent self, and control of spiritual states (King, 2008). King proposes four core abilities or capacities of spiritual intelligence; this study is conducted on king’s model of spiritual intelligence. A comprehensive review of previous research on SI affirms four basic components: critical existential thinking, personal meaning production, transcendental awareness, and conscious state expansion.

Critical existential thinking is the first component of spiritual intelligence. It is defined as the capacity to critically think about the nature of existence, reality, the universe, space, time, death, and other existential or metaphysical issues. The second one refers to creating personal meaning and purpose in all physical and mental experiences, such as the capacity to create a purpose in life. Transcendental awareness as the third component of spiritual intelligence is defined as the capacity to recognize transcendent dimensions of the self, of others, and of the physical world throughout normal states of consciousness, with the capacity to identify their relationship to one’s self and to the physical world (king, 2008). The last factor which is Conscious State Expansion refers to a capacity to go through higher/spiritual states of consciousness like pure consciousness and cosmic consciousness at one’s own discretion. Significant relationship between spiritual intelligence and mental health has been reported in previous studies (Emmons, 2000).
B. Vocabulary Learning Strategies

Vocabulary learning strategies enable learners to be more responsible for their studies by controlling their own learning (Nation, 2001; Scharle & Szabó, 2000). Therefore, the strategies improve "learner autonomy, independence, and self-direction" (Oxford & Nyikos, 1989, p.291). Students decide what type of vocabulary learning strategies and how exactly they would like to use when they see unfamiliar words. A good amount of the strategies and the ability to use them in suitable occasions might significantly make easier the learning process of new vocabulary for students. As an example, freedom in choosing which words to study will lead to better remember the words than when the words are chosen by someone else. (Ranalli, 2003, p. 9)

Nation (1990; 2001) believes that the most important way for learning vocabulary is the use of strategies without dependence on teacher. In his new publication, strategy training is implied to be part of a vocabulary development program. Schmitt and Schmitt (1995) emphasize introducing a variety of learning strategies to students so that they can decide independently the ones they favor. They consider this plan as the most suitable teaching program which will help learners to improve their knowledge of strategies.

Acquisition of a second language needs a strong knowledge of vocabulary. In the acquisition of second language vocabulary, researchers have concentrated on the need for second language learners to improve their knowledge of vocabulary (Singleton, 1999; Schmitt, 2000). Vocabulary learning strategies (VLS) as part of language learning strategies are being the focus of more attention since the late 1970s and the previous studies has helped us to know more about the processes learners use to develop their skills in a second or foreign language. According to Nation (2001) in defining vocabulary learning strategies we should take into account a conscious choice factor. A strategy would need to involve choice, which states that there are several strategies to choose from; and then to be complex, it means that there are several steps to learn; and next it requires knowledge and needs to benefit from training; and the last factor is to increase the efficiency of vocabulary learning and vocabulary use.

Schmitt’s (1997, pp.206-208) taxonomy of vocabulary learning strategies supports Oxford’s (1990) taxonomy of learning strategies. According to this classification, there are two categories of strategies: discovery and consolidation strategies. The former refers to strategies which are used in discovering the meaning of a new word while the latter consider the consolidation of a word when it has been faced. Discovery strategies contains of determination and social strategies and consolidation strategies comprises of social, memory, cognitive and metacognitive strategies. Schmitt’s taxonomy classifies vocabulary learning strategies to five sub-groups as determination, social, memory, cognitive and metacognitive strategies.

The available literature in Iran is admittedly low on empirical research on the relationship between VLS and spiritual intelligence, especially in the context of EFL. As such, the scarcity of research and a need for spirituality in learning and teaching situations necessitates undertaking a precise study in a foreign language context.

Research Questions

Based on the objectives, this study seeks to answer the following questions:
1. Is there a significant relationship between student’s spiritual intelligence, and their use of vocabulary learning strategies?
2. Is there a relationship between students’ gender and their vocabulary learning strategies and spiritual intelligence?

II. Methodology

A. Participants

The participants of this study were chosen from both Shiraz Public University and Shiraz Azad University. The total number of participants was 120 EFL senior and junior undergraduate university students majoring in English Literature, English Translation or English Language Teaching and from among all participants, 75 were female and 45 were male.

B. Instruments

Three consecutive questionnaires were used to elicit data in this study. They were vocabulary learning strategy questionnaire (Schmitt’s, 2001), the Spiritual Intelligence Self-Report Inventory (King, 2008).

1. VLSQ

Schmitt’s vocabulary learning strategy questionnaire with a reliability coefficient of 0.78 refers to a questionnaire that consists of 41-items classified under 5 groups of strategies called determination, memory, social, cognitive, and metacognitive. This questionnaire had previously administered and validated in a research done by Kafipour (2011). In the present study, the Cronbach’s Alpha was .75

2. SISRI-24

The Spiritual Intelligence Self-Report Inventory is a 24 item questionnaire developed by D. King (2008) that contains 4 factors / Subscales: Critical Existential Thinking (CET), Personal Meaning Production (PMP), Transcendental Awareness (TA) and Conscious State Expansion (CSE). The questionnaire’s reliability and validity were satisfactory according to a research conducted by Raghibi (2010), the questionnaire’s reliability coefficient was 67% and its Cronbach’s alpha coefficient was 89%. In the current research the Cronbach’s Alpha was .86.

C. Data Collection Procedure
Before administering the questionnaires, all participants were given an oral description of objectives and procedures of the study in order to make the instructions clear thoroughly. The two instruments were administered in one session. First, the participants were asked to answer spiritual intelligence and vocabulary learning strategy questionnaires. They completed them in 20 minutes. Then the questionnaires were collected. And finally, the answers were gathered to be matched with the questionnaires for further data analysis. The information collected from 120 questionnaires was first coded for all relevant variables and computed for statistical analyses. An inspection of missing values or non-responses indicated that there were no missing values or non-responses in the collected data. As a first step of data analysis, mean scores and standard deviations of each variable were calculated to summarize the responses. The relationships among students’ spiritual intelligence, vocabulary learning strategies were then examined using Pearson correlation. A multiple regression analysis was done to find the predictors in correlations.

III. RESULTS

**TABLE 1. DESCRIPTIVE STATISTICS OF THE PARTICIPANT’S PERFORMANCE ON SPIRITUAL INTELLIGENCE (SI) AND VOCABULARY LEARNING STRATEGIES (VLS).**

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>SI</td>
<td>120</td>
<td>90</td>
<td>162</td>
<td>115.91</td>
<td>10.83</td>
</tr>
<tr>
<td>VLS</td>
<td>120</td>
<td>46</td>
<td>92</td>
<td>68.41</td>
<td>9.989</td>
</tr>
</tbody>
</table>

Table 1. Summarizes the descriptive statistics of the participant’s performance for Spiritual intelligence (SI) and Vocabulary learning strategies (VLS). It shows that the participants’ scores ranged from 90 to 162 on SI and from 46 to 92 on vocabulary learning strategy test.

**TABLE 2. SUMMARY OF THE DESCRIPTIVE STATISTICS OF THE PARTICIPANT’S PERFORMANCE ON SPIRITUAL INTELLIGENCE QUESTIONNAIRE:**

<table>
<thead>
<tr>
<th>Spiritual intelligence</th>
<th>Mean</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>PMP</td>
<td>3.09</td>
<td>.810</td>
<td>8</td>
<td>20</td>
<td>1</td>
</tr>
<tr>
<td>CET</td>
<td>2.95</td>
<td>.808</td>
<td>12</td>
<td>28</td>
<td>2</td>
</tr>
<tr>
<td>TA</td>
<td>2.93</td>
<td>.932</td>
<td>13</td>
<td>28</td>
<td>3</td>
</tr>
<tr>
<td>CSE</td>
<td>2.88</td>
<td>.663</td>
<td>5</td>
<td>20</td>
<td>4</td>
</tr>
</tbody>
</table>

Table 2 summarizes the descriptive statistics of the participant’s performance on Spiritual intelligence questionnaire as follow: Mean differences for spiritual intelligence factors show that the mostly used factor was PMP, followed by CET, TA and CSE.

**TABLE 3. SUMMARY OF THE DESCRIPTIVE STATISTICS OF THE PARTICIPANT’S PERFORMANCE ON VOCABULARY LEARNING STRATEGIES QUESTIONNAIRE:**

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Mean</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metacognitive</td>
<td>3.22</td>
<td>.729</td>
<td>8</td>
<td>20</td>
<td>1</td>
</tr>
<tr>
<td>Cognitive</td>
<td>3.03</td>
<td>.819</td>
<td>13</td>
<td>28</td>
<td>2</td>
</tr>
<tr>
<td>Memory</td>
<td>2.98</td>
<td>1.004</td>
<td>34</td>
<td>68</td>
<td>3</td>
</tr>
<tr>
<td>Social</td>
<td>2.94</td>
<td>1.031</td>
<td>7</td>
<td>20</td>
<td>4</td>
</tr>
<tr>
<td>Determination</td>
<td>2.72</td>
<td>1.053</td>
<td>12</td>
<td>28</td>
<td>5</td>
</tr>
</tbody>
</table>

Table 3 shows the descriptive statistics of the participant’s performance on vocabulary learning strategies questionnaire as follow: The Mean differences show that the mostly used factor was metacognitive, followed by cognitive, memory, social and determination strategies.

The first research question concerns the students’ spiritual intelligence and their use of vocabulary learning strategies. The SISRI-24 and Schmitt’s vocabulary learning strategies are administered. In order to answer this question, Pearson correlation test was used to identify the relationship between spiritual intelligence and the use of vocabulary learning strategies.

Q1: Is there a significant relationship between student’s spiritual intelligence, and their use of vocabulary learning strategies?
The significant values for vocabulary learning strategies are less than 0.05. Therefore the variances are not equal. To determine which t-test is done in two steps. One with the assumption that the variances in the two groups are equal and the other with the assumption that the variances are not equal. A correlation coefficient was run to see the degree of the relationship between VL Strategies, determination strategies, social strategies, memory strategies, cognitive strategies and metacognitive strategies, and spiritual intelligence (SI) subscales. Based on the obtained results, a significant correlation was found between all SI subscales and metacognitive strategies and social strategies at the p<0.01, but no significant correlations were found with the others.

At the next phase, a multiple regression was run to see which of the spiritual intelligence subscales, if any, can predict the usage of vocabulary learning strategies. According to the following table PMP (Personal Meaning Production) (β =.290, p =.003, p ≤ 0.01) and CSE (Conscious State Expansion) (β =.224, p =.018, p ≤ 0.01)are found to be positive predictors of the dependent variable (VLS).

A correlation coefficient was run to see the degree of the relationship between VL Strategies, determination strategies, social strategies, memory strategies, cognitive strategies and metacognitive strategies, and spiritual intelligence (SI) subscales. Based on the obtained results, a significant correlation was found between all SI subscales and metacognitive strategies and social strategies at the p<0.01, but no significant correlations were found with the others.

Q2: Is there a relation between students’ gender and their vocabulary learning strategies, vocabulary size and spiritual intelligence?

To answer this question, the independent sample t-test was used to show whether there is a statistically significant difference in the mean of spiritual intelligence, vocabulary learning strategies and vocabulary span scores for males and females. The output generated from this procedure is shown below. The Group Statistics box (table 6) gives the mean and standard deviation for each of the groups (male and female).

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Constant)</td>
<td></td>
<td>84.713</td>
<td>.375</td>
<td>.15.762</td>
</tr>
<tr>
<td>CET</td>
<td>.27</td>
<td>.229</td>
<td>.12</td>
<td>.119</td>
</tr>
<tr>
<td>PMP</td>
<td>.997</td>
<td>.326</td>
<td>.290</td>
<td>3.058</td>
</tr>
<tr>
<td>TA</td>
<td>.251</td>
<td>.265</td>
<td>.97</td>
<td>.944</td>
</tr>
<tr>
<td>CSE</td>
<td>.683</td>
<td>.284</td>
<td>.224</td>
<td>2.408</td>
</tr>
</tbody>
</table>

a. Dependent Variable: VLS

Initially, Table 7 which displays the homogeneity of the variance between the male and female participants was determined using Levene’s Test for Equality of Variances. The interpretation of the independent t-test is done in two steps. One with the assumption that the variances in the two groups are equal and the other with the assumption that the variances are not equal. To determine which t-value we have to use, we look at the result of Levene’s test for equality of variance. The significant values for vocabulary learning strategies are less than 0.05. Therefore the variances are not the
same. Consequently, it can be concluded that the differences in vocabulary learning strategies (sig = .016) of males and females are significant. The analysis shows that males with their higher scores in vocabulary learning strategies usage are significantly superior to females.

The significant values for spiritual intelligence are greater than 0.05, so we consider the row in which variances are assumed to be equal. The significant value for spiritual intelligence is .033 which is less than .05 and then there is a significant difference in the mean scores on male and female. Accordingly females are superior to males and they have higher spiritual intelligence scores.

IV. DISCUSSION

This study was an attempt to investigate the relationship between students’ spiritual intelligence, the use of vocabulary learning strategies. The discussion addresses the research questions. As descriptive results indicated mean differences for spiritual intelligence factors shows that the mostly used factor was PMP, followed by CET, TA and CSE. The Mean differences for vocabulary learning strategies show that the mostly used factor was metacognitive, followed by cognitive, memory, social and determination strategies.

In this part, the results are discussed and the research questions are answered. The first research question dealt with the relationship between students’ spiritual intelligence and their use of vocabulary learning strategies. The correlational analysis for spiritual intelligence and vocabulary learning strategies was carried out in table 4.5. There was a significant correlation between all SI subscales and metacognitive strategies and social strategies at the p<0.01, but no significant correlations were found between the others. Also PMP (Personal Meaning Production) and CSE (Conscious State Expansion) are found to be positive predictors of the vocabulary learning strategies. The results of the last question shows that males with their higher scores in vocabulary learning strategies usage are significantly superior to females. Also females are superior to males and they have higher spiritual intelligence scores.

V. CONCLUSION

High spiritual intelligence not only enables students to better learn language, but also makes students more methodical in all acts of their prospective life. This will decrease discipline problems of school students. High spiritual intelligence will also ensure a student to think logically and use his or her mind in the best way possible. Spiritual intelligence proposes a practical process of brain for simultaneous neural fluctuations that consolidate information in every part of the brain. If we learn how to use our SQ we will become less worried, more used to rely on ourselves and more ready to encounter the difficulty in life (Zohar, 2000).

In the last years SQ has emerged as a controversial issue in various fields and many definitions have been proposed by researchers and theories. However it is still one of less studied issues in the field of language teaching. Therefore there is a need for more research on this topic in EFL context.

The results indicated that there was a significant correlation between all SI subscales and metacognitive strategies and social strategies. Also PMP (Personal Meaning Production) and CSE (Conscious State Expansion) are positive predictors of the vocabulary learning strategies. It means that those students who had higher spiritual intelligence also had better performance in vocabulary learning strategies test. Also females are superior to males and they have higher spiritual intelligence scores.

Furthermore, the available literature in Iran is admittedly low on empirical research on the relationship between VLS and spiritual intelligence, especially in the context of EFL. As such, the scarcity of research and a need for spirituality in learning and teaching situations necessitates undertaking a precise study in a foreign language context.

It is extremely important that educators and teachers know vocabulary learning strategies and their interdependence with SI as two distinct but most likely constructs. The findings of the study may also help them improve their teaching skills by improving their knowledge about spiritual intelligence and different vocabulary learning strategies. The findings will also provide insights to administrators, course and syllabus designers and developers to program their planning more accurately and move toward a more efficient language learning syllabus.

Further research is needed to investigate the appropriateness of using vocabulary learning strategies and spiritual intelligence scales in ELT contexts. Another study could examine the role of spiritual intelligence or vocabulary learning strategies in language teaching and testing.

REFERENCES


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