The Relationship between Language skill, Intelligence and Creativity among Iranian Intermediate EFL Learners

Houman Bijani¹, Jafar Asadi², Parisa Bagheri², Alireza Toulabi³

¹. Assistant professor, English Language Department, Islamic AZAD University, Zanjan branch, Zanjan Iran
². English Language Department, Islamic AZAD University, Zanjan branch, Zanjan Iran
³. Department of English language Teaching, Islamic Azad University of Ahvaz, Khuzestan, Iran

Corresponding Author email: JafarAsadi2015@gmail.com

ABSTRACT: Teaching second language is in urgent need of some researches to investigate the role of intelligence and creativity in FL/SL learning because realizing particular learners’ psychological features such as intelligence and creativity has an effective role and it will improve both teachers and learners’ understanding about the level and complexity of these two items on language skills. Creativity is considered as an infinite and unique feature of human nature in FL learning. Intelligence as an effective factor in learning a new language has been under question for a long time and various kinds of intelligence have been studied to explicate different facets of human ability in learning a new language as a sophisticated phenomenon. This study aims to clarify the relationship between language skill, creativity and intelligence. It also illuminates the merits and drawbacks of creative thinking and using multiple intelligences in learning. This research was confronted with some difficulties such as abstract concepts of creativity and intelligence but through psychological tests and applying a plethora of particular tenets those problems were tackled. This study is an experimental research and the researcher has used random sampling process to conduct it and used oxford placement test at the first phase. The sample of this group consists of sixty male pre-university students. This study strongly recommends that further researches are needed to reveal different effects of creativity and multiple intelligences on language learning.

Key words: language skill, creativity, intelligence, human nature, multiple intelligences.

INTRODUCTION

Eric Lenneberg (1967) proposed that language is a “species-specific” behavior and that certain modes of perception, categorizing abilities, and other language-related mechanisms are biologically determined. Chomsky (1965) similarly claimed that the existence of innate properties of language to explain the child’s mastery of his/her native language in such a short time despite the highly abstract nature of the rules of language. This knowledge, according to Chomsky, is embodied in a “little black box” of sorts, a language acquisition device (LAD).

Brown (1994) Chomsky and his proponents have tried to claim eloquent arguments for appropriateness of the LAD proposition, especially in contrast to behaviorism. The child language at any stage is systematic and child is continuously forming hypotheses on the basis of the input received and then testing them in speech and comprehension. This constructing hypotheses originated from their ability which helps them to be a creative language learner. Those hypotheses get continually revised, reshaped, or sometimes abandoned.

To enumerate the prominent effective factors in language learning it seems essential to explain some important key words

Creativity

Creativity is the mind ability to turn the old notions to the new and imaginative ideas then turn them into reality. Creativity is assumed the ability of human mind to perceive the world in new ways, to probe and find hidden patterns, to revise the connections between seemingly unrelated phenomena and background knowledge, and to generate solutions and create different situation. Creativity involves two processes: thinking, then producing. If you
have ideas, but don’t act on them, you are imaginative but not creative." Creativity is the process of bringing something new into being. Creativity requires imaginative mind and a great effort to come up with the harsh situations. It brings to our awareness what was previously hidden and points to a new life. Creative learning has two essential features: first: novelty second: appropriacy. For instance, the novel sentences are original not predictable and fixed and they are used in appropriate situational contexts (Brown, 1994). According to systematicity and variability processes of language learning, a learner tries to learn language through different stages of language acquisition and after several stages he/she can be capable of using their internal structures and lexical storage their competence. Through acquiring language abilities and skills, the creativity and intelligence have crucial roles. According to behaviorism, language learning is just a mimic exercise and the only role learner is repeating the teachers patterns and no creativity existed. After Chomsky’s controversy tenet about creativity feature of human learning, and the only role for learner is linguists tried to focus more on this facet of language learning.

**Intelligence**

Brown (1994) state traditionally, intelligence is defined and measured in terms of linguistic and logical-mathematical abilities. Our notion of "IQ" (Intelligence Quotient) is based on several generations of testing of these two domains, stemming from the research of Alfred Binet in the early years of century. Success in educational institutions and in life in general seems to be a correlate of high IQ. In terms of Ausubel's meaningful learning model, high intelligence would not doubt, imply a very efficient process of storing items that are particularly useful in building conceptual hierarchies and systematically pruning those which are not useful. Other cognitive psychologists have dealt with in much more sophisticated way with memory processing and recall systems. At the first stage it seems better to define intelligence scientifically.

**What is intelligence?**

Intelligence is an estimate of the quality that we attribute to the decision-making and abstract thinking of people around us.

The components of intelligence have been studied in what Jersild (1968) terms the "anatomy of intelligence" (p487). Spearman (1927) described intelligence as consisting of a general factor representing the total mental energy at an individual's command and operating through the channel of specific ability. Thurstone (1938) identified seven "primary abilities": visualization of figures in space; perceptual speed; quickness in dealing with numerical computations; grasp of ideas and meanings of words; word fluency; rote memory; and the ability through induction to extract a rule common to the materials of a problem or test. Howard Gardner (1983) claims "Intelligence is what you do when you don't know what to do or "Intelligence is a hypothetical idea which we have defined as being reflected by certain types of behavior."


There are two types of theories of intelligence. You can either believe that there is a single factor of intelligence that determines the level of ability that we have in any task – a theory put forward by Charles Spearman who hypothesized that each individual might have a general intelligence factor. This intelligence factor would make people better at tasks that are apparently unrelated and likely demand very different cognitive abilities. The second set of theories of intelligence stipulate that intelligence is divided into distinct categories; people would have specific ease with tasks of a particular domain and there would be no single factor explaining performance across different domains of intelligence.

Language knowledge is considered as one of the main sources of intelligence. Also, intelligence is one of the specific effective elements in language learning.

Brown (1994) stated: "It seems that success in education and life directly related to the level of people's intelligence." It can be claim that the talented person learns a second language effectively. According to different researches there is a positive relationship between general intelligence and language knowledge. It is observed that intelligence has a high positive relationship with reading, vocabulary and French grammar.

There is a crucial change towards learning studies and learning styles. Numerous studies on cognitive styles personality characteristics of second language learners have recently been administered. Celce-murcia (2001) stated that "learning styles in language learning have the incisive role in determining the way second or foreign language has been learnt. For instance, self-confidence is one of the personality characteristics in which is pertinent to second language learning." Krashen has enunciated the relationship between intelligence and oral
production in ESL but unfortunately the relationship between intelligence and personality attributes have been ignored or underestimated. There are several questions which are incorporated in language leaning and intelligence types. This research aimed at to find out the answer these questions:

- Does intelligence effect on FL learning?
- Does creativity effect on FL learning?
- Is there any relationship between intelligence level, creativity and language skill?

**Research Questions**

- Is there any relationship between intelligence and learning language skills?
- Is there any relationship between creativity and learning language skills?

**Review of literature**

The pertinent literature on intelligence and creativity is substantially enriched and myriads of studies were conducted to pave the way to further researches. Robert Stenberg (1985-1988) has been shaking up the world of traditional intelligence measurement. In his “triarchic” view of intelligence, Stenberg says there are three types of “smartness”:

1. Componential ability for analytical thinking
2. Experiential ability to engage in creating thinking, combining, disparate experiences in insightful ways
3. Contextual ability, “street smartness” that enables people to “play the game” of manipulating their environment.

Stenberg contends that too much of psychometric theory is obsessed with mental speed and has therefore dedicated his research to tests that measure insight, real-life problem solving “common sense”, getting a wider picture of things, and other practical tasks that are closely related to success in the real world.

If the researchers are unified on the relationship between higher intelligence and greater success with academic L2 language, they are equally convinced that higher intelligence plays little or no role in many communicative tasks (Genesee, 1976; McLaughlin, 1990). Geneseepoints out that IQ scores played no role in the ability of individuals to acquire certain communicative aspects of a second language. On such skills as interpersonal communication, pronunciation, and listening comprehension, higher IQ scores were shown to be insignificant.

A recent study published by Hampshire et al. from the University of Western Ontario has looked into the brain areas that are activated by tasks that are typically used to test for intelligence. In doing so they hoped to determine if the brain areas related to cognitive demands are activated altogether as demands increase during intelligence tests of various kinds, or if some areas were activated during tests for a specific intelligence domain and not for others.

(Jersild 1968) It is generally recognized that a positive relationship exists between language ability and mental ability as measured by a standard intelligence test. The relationship has been suspect, however, since the understanding and use of words play so large a role in many of the intelligence tests. The question has been raised of whether a child earns a high score on a verbal intelligence test because he has a good command of language, or whether he has a good command of language because of his verbal intelligence.

(Mussen 1963) Although the relationship between verbal ability and measured intelligence is most striking, the intelligence tests are highly correlated with and probably depend on facility in language. This note of probability of the dependence on language suggests the limitations of these intelligence tests and the controversy over the validity of the scores.

**METHODOLOGY**

Several tests have been administered to control the English Language skills, intelligence and creativity level. Oxford placement test in which 100 items were included as a proficiency test was administered to evaluate the language ability. Raven matrix was used as the evaluating device to measure the non-verbal intelligence. Each item is demanded to complete the other part of the sentence and difficulty level of items were gradually increased and they needed more cognitive capacity. This test was used in Iran and to assess the creativity of items, Torrance creativity test was applied. The test consists of sixty multiple choice items in which was correlated with the other creativity tests.

**Procedure**

60 male pre-university students who were learning English as a foreign language selected to participate in this study. Their proficiency level was intermediate. A questionnaire was developed and modified then administered.
to elicit their attitude towards their creativity and intelligence on language learning. All test items were pretested before administering the test. Finally the relationship between all criterions were evaluated via regression analysis.

### Data Analysis

Prior to analyzing the regression hypotheses all calculating items such as different diagrams and central tendency were processed and interpreted.

#### Table 1

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opt</td>
<td>392000</td>
<td>1584330</td>
<td>60</td>
</tr>
<tr>
<td>Intelligence</td>
<td>1117500</td>
<td>666289</td>
<td>60</td>
</tr>
<tr>
<td>Creativity</td>
<td>1291500</td>
<td>1422081</td>
<td>60</td>
</tr>
</tbody>
</table>

As depicted in table 1, dependent variable mean was 39/2000 and its standard deviation was 1584330. Mean and standard deviation of intelligence and creativity was 666289, 1117500 and 1422081, 1291500.

#### Table 2

<table>
<thead>
<tr>
<th>0</th>
<th>opt</th>
<th>intelligent</th>
<th>creativity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson correlation intelligence</td>
<td>1000</td>
<td>908</td>
<td>962</td>
</tr>
<tr>
<td>Creativity</td>
<td>908</td>
<td>1000</td>
<td>517</td>
</tr>
<tr>
<td>Opt</td>
<td>962</td>
<td>517</td>
<td>1000</td>
</tr>
<tr>
<td>Sig(1-tailed) intelligence</td>
<td>000</td>
<td>000</td>
<td>000</td>
</tr>
<tr>
<td>Creativity</td>
<td>000</td>
<td>000</td>
<td>.02</td>
</tr>
<tr>
<td>Opt</td>
<td>60</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>N intelligence</td>
<td>60</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>Creativity</td>
<td>60</td>
<td>60</td>
<td>60</td>
</tr>
</tbody>
</table>

The table 2 has showed that opt test has a significant relationship between intelligence and creativity and it shows that the level of relationship between criterion is more than predictive variables. This case indicates the conformity of relationship ……. 

#### Table 3. Model summary of regression analysis

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std.Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.975</td>
<td>0.951</td>
<td>0.949</td>
<td>356283</td>
</tr>
</tbody>
</table>

a. Predictors: (constant), creativity, intelligent 

b. Dependent Variable: opt

Above mentioned information is a brief analysis of multiple regression model in which correlation ……. Equals 0.975, ……. ….. equals 0.951 and standard ……. equals ..0.949 and prediction standard deviation equals 3.56.

Regression Variance Analysis

ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>14086.057</td>
<td>2</td>
<td>7043.028</td>
<td>1554.843</td>
<td>0.00 b</td>
</tr>
<tr>
<td>Residual</td>
<td>723.543</td>
<td>57</td>
<td>12.944</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>14880.600</td>
<td>59</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable : opt 
b. Predictors (constant), creativity, intelligent

Variance analysis table will investigate the correlated regression model but if “f” be less than .0.05. As we see in table 4 we can conclude that predictive variables have performed very well.

We very suitable ……. For this model because significance of scores is 0.000 than so lower than 0.05. So , this table information will show the liner regression model.
Considering the aforementioned information in the above table will help to make sense of importance of every independent variable in predicting dependent variable. So the listed coefficients in the table should be analyzed. First: column B under standardized coefficient should be studied. To compare various variables it’s very important to consider the standardized coefficient more than unstandardized coefficient. The most B coefficient equals 0.691 that is related to creativity variable and pave the way to explain and predict the criterion variable (opt). We should analyze the significance. This measurement shows us there is any relationship between intelligence and creativity. The considerable note in the table is “t” measurement. Regarding the “t” measurement in aforementioned variables such as intelligence and creativity can be applied as the criterion of explaining variable groups.

**CONCLUSION**

Many educational English experts have tried to explicate the tremendous effects of creativity and intelligence on language learning. Numerous studies have been written on the impact of intelligence and learners’ creativity level up to now. This study was an attempt to examine the relationship between language skill, creativity and intelligence. Findings of this study revealed that there is a significant relationship between learning language and creativity and intelligence. On the other hand, it was found that both creativity and intelligence level have significant effect on participants learning. Data analysis of questionnaire on the students’ attitude toward the effect of their creativity and intelligence level on their learning also emphasized that creativity and intelligence level can affect the learning language. So for more effective learning, special training and courses should be included into language instruction program in order to help both students and teachers use their creativity and intelligence for improving both learning and teaching process.

**REFERENCES**

Abedi J.1993.Creativity and a modern method for its assessment.psychology research 25(182),46-54