Willingness to Communicate among Less Intelligent and More Intelligent Learners: A Case of Iranian EFL Learners across Gender

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ABSTRACT
Willingness to communicate (WTC) refers to the possibility of being involved in communication when one has the freedom to do so. Less and more intelligent people might demonstrate different WTC level in language learning classrooms. Since WTC and intelligence are two key factors in language learning, the present study was an attempt to investigate the willingness to communicate among less intelligent and more intelligent learners across gender among Iranian EFL learners. For this purpose, 46 EFL learners (homogenized by a placement test) were given the Raven’s intelligence Test. Next, based on their scores, they were divided into one less and one more intelligent groups. Then, they received the WTC questionnaire to fill out. The result of the data analysis showed that: 1) there was a statistically significant difference between the less and more intelligent groups considering their WTC level, 2) there was no statistically significant difference between the male and female participants regarding their WTC level. It was concluded that less intelligent learners had less tendency to engage in communication. Language teachers, L2 researchers, and teacher educators may benefit from the findings of this study.

Keywords: Intelligence, Willingness to Communicate, EFL Learners, Homogenized, Placement Test

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1. Introduction
Communicative approaches to language teaching have focused on the importance of cultivating communicative competence in second language (L2) learners (Green, 2000). These pedagogy-based approaches are based on the principle that performance and exchange of information can lead to the development of learners’ L2 communicative competence (Ellis, 2008). MacIntyre and Charos (1996) consider communication to be a significant goal in itself, rather than a means to enhance the language learning process. This attention on the second language use has caused L2 researchers to focus on the willingness to communicate (WTC) construct which is quite central in L2 pedagogy.

Willingness to communicate refers to the possibility of being involved in communication when one has the freedom to do so (McCroskey & Baer, 1985). In this regard, willingness to communicate should be developed and encouraged in language learning classrooms in order to maximize the communication opportunities for L2 learners (MacIntyre, Clément, Dörnyei, & Noels, 1998). However, WTC has been reported to be a construct which can vary among different individuals and language learners. It is seen as both an individual difference factor enhancing L2 learning as well as emphasizing communication and as a non-linguistic outcome of the language learning process (MacIntyre, 2007). Intelligence is also an individual factor. Now, a question is raised here: does intelligence play any role in the WTC of language learners?

Theoretically intelligence refers to the general set of cognitive abilities involved in performing a wide range of learning tasks (Ellis, 2008). According to Brown (2000), intelligence has been conventionally taken as the performance on certain kinds of tests measuring linguistic or nonlinguistic abilities. The role of intelligence has been investigated in language learning and its skill domains. Chowdhury (2010) concluded that intelligence affects second language acquisition in terms of grammatical structures of the language as well as communicative competence. Ghonechepour and Moghaddam (2018), in their research, found that intelligence was one of the important factors in acquisition of English as
a foreign language, but it was not the only factor.

However, it seems that research into foreign language learning in general and willingness to communicate in particular does not have a deep understanding of the role of intelligence. Clearly, more research needs to be done regarding WTC and intelligence in order for us to have a better realization of the role of the two mentioned variables, especially in language learning. Due to the importance of WTC and intelligence in language learning, the present study aimed to answer the following questions.

Q1: Is there any statistically significant difference between the less intelligent and more intelligent students in term of Their WTC?
Q2. Does gender have any statistically significant role in WTC of less intelligent and more intelligent EFL learners?

2. Review of the Related Literature
2.1 Theoretical Background

Willingness to communicate, as Piechurska-Kuciel (2011) assert, deals with individuals’ tendencies to engage in communication in the L1 when they are given the free choice. Piechurska-Kuciel (2011) believes that WTC can be applied to a second language context and be interpreted as a readiness to embark on discourse at a certain time with a certain person or persons, using the second or foreign language. He considers two major factors contributing to WTC, situational influences and enduring influences. Situational influences can be referred to as the desire to communicate with a certain person in a certain context while enduring influences take in factors such as motivation and self-esteem. On the other hand, McCroskey and Baer (as cited in Baker & McIntyre, 2000) contend that cognitions regarding communication are strongly influenced by one’s personality, thereby paving the path for the extrapolation that an individual’s personality heavily impinges upon their decision to initiate communication. Besides, Baker and MacIntyre (2000) state that WTC is likely to change over time as learners obtain more experience in the second language. Willingness to communicate, as Cao and Philip (2006) believe, should be treated as a situational variable which can alter during time. Furthermore, as much as L2 communication is concerned, L1 and L2 WTC are independent, referring to the fact that WTC does not transfer from L1 to L2 (Cao & Philip, 2006).

Willingness to communicate, as discussed earlier, refers to the individuals’ tendencies to get engaged in communication which is mainly verbal. Now, the question which is raised here is that can WTC be related to non-verbal ability of the learners like intelligence quotient?

According to Brown (2000), intelligence has been traditionally used to refer to performance on specific types of tests which measure linguistic or non-verbal abilities. Dornyei (2005) defines intelligence as a general source of aptitude not restricted to a certain performance area but is transferable to many kinds of performance. In facts, as Ellis (2008) puts it, intelligence is considered to be the general set of cognitive abilities which are involved in performing a wide range of learning tasks.

There have been controversies about the role of intelligence in language learning. General intelligence and second language learning ability are said to be correlated (Gardner & Lambert, 1972). Ellis (2008) purports that intelligence has a key role in cognitive academic language proficiency; however, it is less involved where basic interpersonal communication skills are under focus. Previous research has shown that learner's language learning ability can be predicted by their average grade in all school subjects (Pimsleur, 1971). In this study, the focus was on the difference between the less intelligent and more intelligent groups considering their willingness to communicate.

2.2 Empirical Studies

Chowdhury (2010) did a research to find whether intelligence affects the acquisition of formal structure of a second language when taught in a formal setting. After considering their intelligence, grammatical proficiency, and communicative competence, he concluded that intelligence affects second language acquisition in terms of grammatical structures of the language as well as communicative competence.

In the most similar study, Gholami (2015) sought the relationship between learners’ WTC and their emotional intelligence using two questionnaires of Bar-On’s (1997) emotional intelligence and McCrosky’s (1992) willingness to communicate scale. In her study, she found a positive correlation between language learners’ WTC and their emotional intelligence level. Female language learners...
were also found to be performing better both in terms of emotional intelligence and WTC.

Ghonchepour and Moghaddam (2018) carried out a study to investigate the relationship between intelligence and learning English in general, and learning grammar and reading comprehension in particular. The results of their study showed that unlike first language acquisition, there was a positive correlation between verbal and nonverbal intelligence and learners' English language development. They found that intelligence scores and those of comprehension and grammar scores were significantly correlated across all the groups.

Afghari and Sadeghi (2012) conducted a research to investigate the difference in WTC, perceived competence, and communication apprehension between male and female English major students at Khorasgan University, Iran. The results showed no significant difference between male and female students in WTC, perceived competence and communication apprehension.

Maftoon and Najafi (2013) carried out a research to investigate the relationship between Iranian EFL learners’ gender and their willingness to communicate using the WTC questionnaire developed by MacIntyre, Baker, Clément, and Conrod (2001). The results of their study showed that Iranian EFL female learners were more willing to communicate compared to their male counterparts. Also, a research conducted by Fahim, Hamidi, and Najafi (2013) proved that the level of WTC could be changed by teacher’s self-monitoring techniques.

3. Methodology
3.1 Participants

The initial participants of the study were 62 language learners from Ideal and Simin Language Institutes. Out of this number 46 were considered homogenized members based on the Oxford Placement Test. There were 23 students in each group (less intelligent and more intelligent), consisting of 10 male and 13 female participants in each.

3.2 Instruments and materials

Oxford Placement Test (OPT)

The Oxford Placement Test is primarily used in order to measure and determine the participants’ level of general English language proficiency and ensure their homogeneity. The test consists of 60 items in the form of multiple choice questions, and students are supposed to choose the correct answer from among the alternatives. The required time to complete the test is 45 minutes. The reliability of the OPT has been reported by Hamidi (2015) to be .82 using KR-21 formula having seventy students studying New Interchange 3 and .86 using a test-retest method with a 2-week interval having ninety students almost finishing Four Corners 4, both of which show a high reliability index.

WTC Questionnaire

The questionnaire of willingness to communicate developed by MacIntyre, Baker, Clement, and Conrod (2001) was applied in this study (see Appendix). It included factors relating to WTC outside and inside the classroom. The in-class section of this questionnaire consisted of 27 items ranging from almost never willing to almost always willing (1-5). Learners were asked to show how much they were willing to communicate in class tasks related to four main language skills: speaking (item 1-8), reading (item 1-6), writing (item 1-8), and comprehension (1-5). The WTC questionnaire has been reported to be both valid and reliable (MacIntyre et al., 2001) based on the following measures: speaking ($\alpha = .79$), reading ($\alpha = .80$), writing ($\alpha = .82$), and comprehension ($\alpha = .81$). The out-class section of the questionnaire included 27 items which ranged from almost never willing to almost always willing. The participants were asked to choose how willing they were to communicate in the class tasks which focused on language skills: speaking (item 1-8), reading (item 1-6), writing (item 1-8), and comprehension (1-5).

Raven’s Intelligence Test

Raven’s intelligence test was used to assess students’ non-verbal, abstract and cognitive ability. This test was first developed in 1930 and has been widely used in many studies (Chowdhury, 2010; Cotton & Crewther, 2009), reporting a high reliability and validity index. In this test, the participants were presented with a matrix of 3x3 geometric and non-verbal designs, and in each case there was one piece missing. They were required to select the right diagram, from a set of options which could best complete a pattern in the matrix. There were totally 60 items and the required time to finish the test was 40 minutes.

3.3 Procedure

The present study was an attempt to investigate the willingness to communicate among less intelligent and more intelligent learners across gender among Iranian EFL learners. In order to have homogenized participants in terms of language
proficiency, they were given the Oxford Placement Test (OPT). Those who scored between 28 and 36 were considered homogenized members based on the guideline of the OPT. The remaining 46 members received the Raven’s Intelligence Test consisting of 60 items. Next, based on their intelligence scores (Raven’s Intelligence Test), they were grouped into less intelligent and more intelligent members. Then, they received the WTC questionnaire to fill out. After collecting the information from the intelligence test and WTC, related test were run through SPSS version 21 in order to find the result.

3.4 Design

The design of the study was an ex post facto type, which is a type of quasi-experimental study examining how an already existing independent variable affects a dependent variable. The variables of this study were WTC, intelligence, and gender of language learners.

4. Data Analysis & Results

4.1 Result of Language Proficiency Test

In order to have homogenized participants in terms of their general English language proficiency, the Oxford Placement Test (OPT) was administered. The descriptive statistics for the OPT is displayed in following table.

Table 1: The Descriptive Statistics of the Oxford Placement Test

<table>
<thead>
<tr>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>62</td>
<td>25.00</td>
<td>39.00</td>
<td>32.435</td>
<td>3.63228</td>
</tr>
</tbody>
</table>

Table 1 above shows the descriptive statistics of the OPT test. As it can be seen in Table 4.1 above, the mean and the standard deviation of the participants were 30.49 and 4.52 respectively, having 25 as the minimum score and 39 as the maximum score. After administering the language proficiency test, out of 62 participants, 46 were considered homogenous members based on their scores of OPT ranging from 28 to 36 (lower-intermediate level). The homogenized participants were divided into 2 groups: less intelligent and more group.

Table 2: The Descriptive Statistics of the Homogenized Participants

<table>
<thead>
<tr>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>46</td>
<td>28.00</td>
<td>36.00</td>
<td>32.3478</td>
<td>2.17273</td>
</tr>
</tbody>
</table>

As it can be seen in table 2 above, the mean score of the homogenized participants was 32.34, having 28 as the meaning score and 36 as the maximum score.

4.2 Answering of the First Research Question

The first research question of this study was as follows:

Q1: Is there any statistically significant difference between the less intelligent and more intelligent students in term of Their WTC?

Table 3 below shows the test of normality for the selection of the appropriate inferential test.

Table 3: The Test of Normality for the WTC Scores of the Two Groups

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>Std Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less-Intelligent</td>
<td>46</td>
<td>105.3913</td>
<td>.72232</td>
</tr>
<tr>
<td>More-Intelligent</td>
<td>16</td>
<td>116.6078</td>
<td>.99044</td>
</tr>
</tbody>
</table>

The result of the Shapiro-Wilk test of normality shows that the data are not normally distributed for the two sets of scores (Sig<.05). Therefore, the appropriate test for mean comparison would be the Mann-Whitney U test. The descriptive statistics of the two groups is shown below.

Table 4: Descriptive Statistics for the WTC of the Less and More Intelligent Groups

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>Std Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less-Intelligent</td>
<td>23</td>
<td>105.3913</td>
<td>.72232</td>
</tr>
<tr>
<td>More-Intelligent</td>
<td>23</td>
<td>116.6078</td>
<td>.99044</td>
</tr>
</tbody>
</table>

The mean scores of the less and more intelligent groups are 105.39 and 116.60 respectively. The next table shows the result of the inferential test.

Table 5: The Result of the Mann-Whitney U Test for the Comparison of the Two Groups

<table>
<thead>
<tr>
<th>Score</th>
<th>Mann-Whitney U</th>
<th>Wilcoxon W</th>
<th>Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>.00</td>
<td>276.000</td>
<td>-5.877</td>
<td></td>
</tr>
</tbody>
</table>

As Table 5 above shows, it can be concluded that there was a significant difference between the two groups considering their WTC (U = .00, P < .00); the more intelligent group showed a better WTC level than the less intelligent group.

4.3 Answering the Second Research Question

The second question of this study was as follows:

RQ2. Does gender have any statistically significant role in WTC of less intelligent and more intelligent EFL learners?

Table 6 below shows the test of normality for the selection of the appropriate inferential test.

<table>
<thead>
<tr>
<th>Gender</th>
<th>Shapiro-Wilk Test</th>
<th>Statistic</th>
<th>df</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less_Int</td>
<td>Male</td>
<td>.653</td>
<td>10</td>
<td>.000</td>
</tr>
<tr>
<td>Female</td>
<td>.891</td>
<td>13</td>
<td>.099</td>
<td></td>
</tr>
<tr>
<td>More_Int</td>
<td>Male</td>
<td>.781</td>
<td>10</td>
<td>.009</td>
</tr>
<tr>
<td>Female</td>
<td>.931</td>
<td>13</td>
<td>.347</td>
<td></td>
</tr>
</tbody>
</table>

The result of the Shapiro-Wilk test of normality shows that the data are not normally distributed for the sets of scores (Sig<.05, except for the females in the more intelligent group). Therefore, the appropriate test for mean comparison would be the Mann-Whitney U test. The descriptive statistics of the two groups is shown below.

Table 7: The Descriptive Statistics of the Male and Female Participants Regarding WTC

<table>
<thead>
<tr>
<th>Gender</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less_Int</td>
<td>Male</td>
<td>10</td>
<td>105.500</td>
<td>.52705</td>
</tr>
<tr>
<td>Female</td>
<td>13</td>
<td>105.3077</td>
<td>8.5485</td>
<td>.23709</td>
</tr>
<tr>
<td>More_Int</td>
<td>Male</td>
<td>10</td>
<td>117.500</td>
<td>8.12746</td>
</tr>
<tr>
<td>Female</td>
<td>13</td>
<td>115.9231</td>
<td>3.88290</td>
<td>.107692</td>
</tr>
</tbody>
</table>

The calculated mean scores of the male and female participants in the less intelligent group are 105.50 and 105.30 respectively, and the calculated mean scores of the male and female participants in the more intelligent group are 117.50 and 115.92 respectively. The result of the inferential for the comparison of the groups is presented below.

Table 7: The Mann-Whitney U Test for the Male and Female Participants Regarding Their WTC

<table>
<thead>
<tr>
<th>Gender</th>
<th>Mann-Whitney U</th>
<th>Wilcoxon W</th>
<th>Z</th>
<th>Asymp. Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less_Int</td>
<td>55.000</td>
<td>146.000</td>
<td>-6.80</td>
<td>.000</td>
</tr>
<tr>
<td>More_Int</td>
<td>65.000</td>
<td>156.000</td>
<td>-6.80</td>
<td>.000</td>
</tr>
</tbody>
</table>

The result of the Mann-Whitney U Test showed that there was no statistically meaningful difference between the WTC of male and female participants in the less intelligent group, $U = 55$, $p > 0.05$. Also, there was no statistically meaningful difference between the WTC of male and female participants in the more intelligent group, $U = 65$, $p > 0.05$. Therefore, the second null hypothesis is accepted, putting emphasis on the equality of males and females in this particular study.

5. Discussion & Conclusion

The present study was an attempt to investigate whether there was any statistically significant difference between the less intelligent and more intelligent students in terms of their WTC. It also sought to find whether gender had any statistically significant role in WTC of less intelligent and more intelligent EFL learners. The result of the data analysis for the first research question revealed that there was a significant difference between the two groups considering their WTC. In fact, the more intelligent group showed a better WTC level than the less intelligent group. The result of the data analysis for the second research question showed that males and females in this particular study were equal in terms of their WTC both in the less and more intelligent groups.

As for the intelligence, the results found in this study showed that more intelligent language learners had better WTC level. Findings of Chowdhury (2010) supports the related findings in that intelligence was recognized as a positive factor in second language acquisition leading to the better learning of grammatical structures as well as communicative competence. Ghonchehpoor and Moghaddam’s (2018) findings also supports that of the present research since in their study positive correlation was found between verbal and nonverbal intelligence and learners’ English language development.

Considering gender, the results of the present research are in line with those of Afghahi and Sadeghi (2012) in that no significant difference was found between male and female students in their WTC level. However, the findings of this study are in contrast to those of Gholami (2015) and Maftoon and Najafi (2013) where female language learners were found to be performing better both in terms of their willingness to communicate in class. Gholami (2015) also found a positive correlation between language learners’ WTC and their emotional intelligence level, but the focus of this study was on IQ and WTC, not EQ.

Interpretations of the results of this study may lead to several recommendations for future research studies. It is suggested that this study be replicated with a larger number of participants across different language proficiency levels, from intermediate to advanced levels. Other psychological variables such as language learning motivation and language learning anxiety can be incorporated in future studies. Finally, it is recommended that intelligence quotient and emotional quotient variables be included in new studies and be correlated with the communicative competence of language learners, having gender as the moderator variable.
References

Appendix: WTC Questionnaire
Directions: This questionnaire is composed of statements concerning your feelings about communication with other people, in English. Please indicate in the space provided the frequency of time you choose to speak English in each classroom situation.
If you are almost never willing to speak English, write 1. If you are willing sometimes, write 2 or 3. If you are willing most of the time, write 4 or 5.
1 = Almost never willing
2 = Sometimes willing
3 = Willing half of the time
4 = Usually willing
5 = Almost always willing

Speaking in class, in English
1. Speaking to your teacher about your homework assignment.
2. Speaking in a group about your summer vacation.
3. Speaking to your teacher about your homework assignment.

3. A stranger enters the room you are in, how willing would you be to have a conversation if he talked to you first?

4. You are confused about a task you must complete, how willing are you to ask for instructions/clarification?

5. Talking to a friend while waiting in line.

6. How willing would you be to be an actor in a play?

7. Describe the rules of your favorite game.

8. Play a game in English, for example Monopoly.

Reading in class (to yourself, not out loud)

1. Read a novel.

2. Read an article in a paper.

3. Read letters from a pen pal written in native English.

4. Read personal letters or notes written to you in which the writer has deliberately used simple words and constructions.

5. Read an advertisement in the paper to find a good bicycle you can buy.

6. Read reviews for popular movies.

Writing in class, in English

1. Write an advertisement to sell an old bike.

2. Write down the instructions for your favorite hobby.

3. Write a report on your favorite animal and its habits.

4. Write a story.

5. Write a letter to a friend.

6. Write a newspaper article.

7. Write the answers to a “fun” quiz from a magazine.

8. Write down a list of things you must do tomorrow.

Comprehension in class

1. Listen to instructions and complete a task.

2. Bake a cake if instructions were not in Persian.

3. Fill out an application form.

4. Take directions from an English speaker.

5. Understand an English movie.

WILLINGNESS TO COMMUNICATE OUTSIDE THE CLASSROOM

Directions: Sometimes people differ a lot in their speaking, reading, and so forth in class and outside class. Now we would like you to consider your use of English outside the classroom. Again, please tell us the frequency that you use English in the following situations. Remember, you are telling us about your experiences outside of the classroom this time. There are no right or wrong answers.

1 = Almost never willing

2 = Sometimes willing

3 = Willing half of the time

4 = Usually willing

5 = Almost always willing

Speaking outside class, in English

1. Speaking in a group about your summer vacation.

2. Speaking to your teacher about your homework assignment.

3. A stranger enters the room you are in, how willing would you be to have a conversation if he talked to you first?

4. You are confused about a task you must complete, how willing are you to ask for instructions/clarification?

5. Talking to a friend while waiting in line.

6. How willing would you be to be an actor in a play?

7. Describe the rules of your favorite game.

8. Play a game in English, for example Monopoly.

Reading outside class, in English

1. Read a novel.

2. Read an article in a paper.

3. Read letters from a pen pal written in native English.

4. Read personal letters or notes written to you in which the writer has deliberately used simple words and constructions.

5. Read an advertisement in the paper to find a good bicycle you can buy.

6. Read reviews for popular movies.

Writing outside class, in English

1. Write an advertisement to sell an old bike.

2. Write down the instructions for your favorite hobby.

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4. Write a story.

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6. Write a newspaper article.

7. Write the answers to a “fun” quiz from a magazine.

8. Write down a list of things you must do tomorrow.

Comprehension outside class

1. Listen to instructions and complete a task.

2. Bake a cake if instructions were not in Persian.

3. Fill out an application form.

4. Take directions from an English speaker.

5. Understand an English movie.