The Relationship between Willingness to Communicate and Multiple Intelligences among Learners of English as a Foreign Language

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Abstract

The present study was conducted to examine the existence of any possible relationship between willingness to communicate (WTC) and multiple intelligences (MI) among over 500 EFL learners. The study also investigated the effect of gender on the relationship between these two constructs. The data for the research were gathered using a three-part questionnaire which was presented in the students' native language. A revised version of Gardner's MI measure was used to assess the participants' intelligences. Students' WTC was measured through a twenty-item WTC scale. In addition, a biodata questionnaire was used to get some demographic information about the learners. The findings revealed that the MI profile of learners of English has a significant correlation with their willingness to participate in L2 communication and that the link between MI and WTC is affected by gender.

Keywords: willingness to communicate, multiple intelligences, English as a foreign language

1. Introduction

In the past decades, two important concepts have been put forward and explored to a large extent in order to explain the individual differences and to modify the learning environments according to these differences. The first one is the Multiple Intelligences (MI) Theory proposed by Gardner in 1983 (cited in Gardner, 1999b) which suggests that each individual has his own unique set of abilities and intelligences. The second concept is known as the Willingness To Communicate (WTC), pioneered by McCroskey and Baer (1985), which according to MacDonald, Clement, and MacIntyre (2003), deals with the learners' psychological readiness to initiate communication. Although research pertaining to these two concepts, i.e. WTC and MI, has been conducted independently of one another, it is hard to find a single study on the relationship between WTC and MI theory. Therefore, the aim of this study is to investigate the relationship between English language students' intelligences and their WTC.

The current study explores the possibility of merging WTC concept and MI theory to see how MI can pertain to and explain the acquisition and the use of L2 by students. Taking into consideration stronger types of intelligences in EFL learners provides a more complete view of individual differences in L2 communication in general, and WTC in particular. The study further emphasizes the role of gender in the relation between MI and intention to initiate communication. The findings of this study can be of valuable help to those who seek to affect WTC through pedagogical intervention.

The concept of WTC has been actively around not more than a decade. The concept advocates that a person's willingness to engage in communication can play a significant role in creating individual differences in both language learning and communication. Like any other concept, it takes researchers some decades to investigate its different aspects and its possible relationships with other variables. This study is almost the first attempt to explore the role of a person's intelligence types in shaping his/her willingness to have interpersonal communication with others. Consequently, this study can be truly considered an original one in its own kind.

2. Willingness to Communicate

Recent approaches to teaching a second language (e.g. communicative language teaching) have attached great importance to the role of frequent meaningful communication in gaining L2 competence (Richards & Rodgers, 2001). According to Howat (1984, p. 279, cited in Richards and Rodgers, 2001, p. 155), "language is acquired through communication". No matter how proficient a person is in using a foreign language, his attempts at establishing sound communication will be less than desirable if he or she is not fully willing to communicate. Therefore, learners' willingness to use language to communicate is crucial to their second language acquisition.

The concept of WTC has been commonly defined as a speaker's or writer's propensity to voluntarily engage into an

interpersonal communication when the situation requires (McCroskey, 1992; MacIntyre &Charos, 1996; MacIntyre, Clement, Dornyei, & Noels, 1998). This concept is represented in modern language literature as the key component of second language acquisition (Kang, 2005). The enhancement of WTC is also assumed to be the ultimate goal of foreign and second language pedagogy (MacIntyre et al., 1998).

As long as communicative competence is the emphasis of pedagogical instruction, L2 learners will have high communicative competence, but they will not find opportunities to engage in authentic communication. By introducing willingness to communicate to L2 pedagogy we can help our learners to become autonomous learners, use L2 in authentic communication, and get involved in outside the classroom activities (Kang, 2005).

According to McCroskey and Richmond (1989, cited in Simic & Tanaka, 2008), more communication leads other people to have a better evaluation of a person, making him/her socially and emotionally happy. MacIntyre et al. (1998) state that in order to be successful, any language learning program should concentrate on encouraging the willingness to communicate, and if a program fails to do so, it is a failed program.

As pointed out in McCroskey and Baer (1985), the concept of WTC has been developed from three different constructs: "unwillingness to communicate" (Burgoon 1976, cited in McCroskey & Baer, 1985), "predispositions toward verbal behavior" (Mortensen, Arntson, & Lusting, 1977, cited in McCroskey & Baer, 1985), and "shyness" (McCroskey & Richmond, 1982). Although the WTC construct was originally applied in L1communication context, it is now a "necessary part of becoming fluent in a second language, which is the ultimate goal of many L2 learners" (MacIntyre & Doucette, 2010, p. 196). Interaction plays an important role in the development of language. Higher language proficiency leads to higher WTC and Higher WTC is an outcome of language learning (MacIntyre, 2003).

WTC has been defined by MacIntyre et al. (1998) to be an aim of second language instruction which can enhance language learning and exert significant impacts on society. Kang (2005) also conceptualizes WTC as the key component of second language acquisition. Various studies have examined the role of different variables which are directly or indirectly responsible for the emergence of WTC (e.g. MacIntyre & Doucette, 2010; Kang, 2005; McCroskey, Fayer, McCroskey, & Richmond, 2007; etc.). However, the role that a person's type of intelligence can play in his degree of willingness to communicate with others is an area that has not been explored yet.

2.1 WTC Studies Related to Second Language Acquisition

Baker and MacIntyre (2000) investigated the relationships of gender and immersion to L2 communication. The study was conducted with Canadian high school immersion and non-immersion students who spoke English as a mother tongue and learned French as a second language. In this study, male and female immersion and non-immersion students were compared with regard to WTC, attitudes toward learning French, orientation for learning, communication anxiety, perceived communicative competence, and self-reported frequency of communication in English and French. The participants were asked to fill out some questionnaires and write about their positive and negative experiences of speaking in French. The findings revealed that immersion students were more willing to communicate, had lower French anxiety, had greater competence, and communicated more frequently in French. In the case of gender, female immersion students appeared to be more motivated to learn French than their male counterparts; however, such a difference was not found in the case of non-immersion students.

In another study, Peng (2007) examined the relationship between integrative motivation and L2 willingness to communicate. This study was based on MacIntyre et al.'s (1998) WTC model and Gardner's (1985, cited in Kang, 2007) socio-educational model. The socio-educational model assumes that integrative motivation is a determining factor in L2 learning. Three components of integrative motivation are: integrativeness, attitudes toward the learning situation, and motivation. Integrativeness, which shows the learner's tendency to identify with the target language community, includes integrative orientation, attitudes toward the L2 community, and interest in foreign languages. Attitudes toward the learning situation are shaped by attitudes to language teacher and the L2 course. And finally, motivation, which is the third component of integrative motivation, reflects an L2 learner's inclination and attitude to learn the L2 and the amount of effort he/she puts in. This third component is influenced by the first two components. The study revealed that there was a significant positive relationship between motivation and L2 WTC. As compared to motivation, integrativeness was a weaker predictor of WTC. Attitudes toward the learning situation were not a predictor of WTC. Peng (2007) went on to propose that an intensive program might have provided the students with the opportunity to get familiar with the target language community and their culture, hence integrativeness and attitudes toward the learning situation could have a greater predictive effect on WTC.

3. The Theory of Multiple Intelligences

According to Gardner (1999a), in the past, linguistic and logical-mathematical abilities were supposed to be

indicators of intelligence. Early IQ tests which were based on Alfred Binet's (1905, cited in Gardner, 1999a) intelligence tests were used to assess these two abilities. Binet, who was a French psychologist, designed the intelligence test to categorize children according to their mental ability. In the traditional view, intelligence varies from one individual to another, and a person who is highly intelligent will be more likely to solve a problem than one who is less intelligent. Gardner, who was convinced that the skills and capacities of painters, writers, dancers, and artists are as fully cognitive as those of the scientists and physicians, began his research to gain information about human faculties.

Gardner drew on various fields to help him in his enquiry. The fields of most obvious importance were anthropology, developmental psychology, animal physiology, brain research, cognitive sciences, and biographies of exceptional individuals. In his theory of MI, Gardner argues that each person possesses at least eight intelligences which vary from one person to another and that an individual might use one or more of the intelligences dominantly. By proposing the MI theory, Gardner pushed for a significant reform in intelligence tests employed in educational and psychological settings and stated that intelligence is not a singular phenomenon, but rather a plurality of capacities (Armstrong, 2003).

MI theory points out that learners are endowed with different capacities which are employed while performing different activities. The theory, as Armstrong (2003, p. 4) notes: "serves as a critique of the values of our schools and our culture, suggesting that we need to pay much more attention to the neglected intelligences, especially those such as spatial, bodily-kinesthetic, musical, and naturalistic".

3.1 Different Intelligences

As Armstrong (2003) notes, Gardner introduced seven types of intelligence in 1983. These intelligences were: Linguistic, Logical/mathematical, Interpersonal, Intrapersonal, Bodily-Kinesthetic, and Musical. Later, in 1993, he added an eighth intelligence i.e. naturalistic intelligence to the original list. Table 1 summarizes abilities and behaviors associated with each intelligence type.

Table 1. multiple intelligences' descriptions

Linguistic intelligence	sensitivity to language and the keen ability to acquire languages quickly
Logical-mathematical intelligence	Ability to recognize logical patterns through scientific investigation
Musical intelligence	Talent for appreciating melodic and rhythmic patterns
Bodily-kinesthetic intelligence	the ability to control body movements and handle objects
Spatial intelligence	a three-dimensional relational sense which can be used to find spatial relationships
Interpersonal intelligence	The ability to get intentions, motivations, and desires of other people
Intrapersonal intelligence	The capacity to understand one's emotional life through awareness of their inner moods, intentions, motivations, potentials, temperaments, and desires
Naturalistic intelligence	great expertise in the recognition and classification of different objects

3.2 Multiple Intelligences in Language Teaching and Learning

Since Gardner proposed MI theory, educators and parents became extremely interested in the theory (Visser, Ashton, & Vernon, 2006). Kirkgoz (2010) claims that MI theory had considerable influence on both the design of the foreign language curriculum and the design of textbook materials. In the following section, some empirical research studies on the applications of MI theory to the teaching and learning of English as a second/foreign language will be summarized.

Akbari and Hosseini (2008) undertook a research to determine whether any relationship exists between EFL learners' multiple intelligences and their use of different language learning strategies. The findings demonstrate that such a relationship does exist. The study also found the verbal/linguistic intelligence to be a predictor of language proficiency. In addition, musical intelligence did not significantly correlate with any strategy use.

In another study, Kirkgoz (2010) examined five locally designed English textbooks in Turkish schools to see the extent to which MI was reflected in different activities and tasks in the books. The study suggested that the most frequently addressed intelligence types were verbal/linguistic and visual/spatial intelligences. Naturalistic intelligence was the category that was least catered and no textbook addressed spiritual/existential intelligence. A fair percentage of distribution for logical/mathematical, bodily/kinesthetic, musical, interpersonal and intrapersonal intelligences was recorded.

And last but not least, Rahimi and Qannadzadeh (2010) made an attempt to discover the relationship between quantitative usage of logical connectors in Iranians' EFL essay writing and their logical/mathematical and linguistic intelligences. There were two sources of data used in this study: a corpus of three hundred essay-type compositions written in English by one hundred participants, and an intelligence questionnaire. The results revealed that those high in logical/mathematical domain tended to use more logical-connectors in their essay writing. Also, linguistic intelligence, which was maintained to play a key role in developing second or foreign language skills, was found to be less significant in the usage of logical connectors.

4. Methodology

The participants were 517 EnglishLiterature and English Translation students attending two centers of Payame-Noor university at BA level. The participants were involved in the study, based upon a convenience sampling procedure due to availability reasons. The participants ranged in age from 18 to 43 years. Among the participants, 188 were male and 329 were female.

The principal material consisted of two sets of self-report questionnaires: one eighty-item questionnaire (Chislett&Chapman, 2006 based on Gardner's, 1999 MI Model retrieved from www.businessballs.com) assessing MI and one twenty-item questionnaire from McCroskey (1992) assessing WTC. The questionnaires were presented in Persian to the students in order to prevent any complication which might result from some of the participants' limited level of proficiency in English. Moreover, the WTC scale was changed slightly to fit McCroskey's description of the scale. In addition to the MI and WTC questionnaires, a biodata questionnaire was designed to obtain some information about the participants' age, gender, etc.

5. Results and Discussions

To find the answer to the first question of the study, that is the one dealing with the relationship between learners' WTC with their self-perceived MI, Pearson product moment was used. As displayed in Table 2, the observed Pearson R of .29 (critical value of .25) showed a statistically significant relationship between a person's degree of willingness to communicate and his/her strength of different intelligences (P = .000 < .01).

Table 2. Pearson Correlation of WTC with MI

		MI
WTC	R	.295**
	P	.000
	N	517

**. Correlation is significant at the 0.01 level (2-tailed).

To further analyze the data, correlations between WTC components and MI components were calculated using Pearson formula. Table 3 displays the summary of the significant relationships the components of MI have with the sub-categories of WTC. The Linguistic, Musical and Inter-Personal intelligences correlate significantly with all of the components of WTC.

The present findings indicate that the correlation between self-perceived linguistic intelligence and self-report WTC is statistically significant. Given that EFL students enjoy higher linguistic ability, as noted by Armstrong (2003), Gardner (1999a, 1999 b), Nicolini (2011), etc., it is reasonable to argue that the high linguistic intelligence promotes learners' language proficiency, thus, according to Matsuoka and Evans (2005), enhancing learners' willingness to use the L2 to communicate. In this respect, the obtained result conforms to theoretical expectations of MacIntyre et al. (1998) in that high self-perceived language proficiency is a precursor to willingness to interact with others.

Table 3. Pearson Correlation between Components of WTC and MI

		linguistic	Logical	musical	Bodily	spatial	interpersonal	Intra personal	naturalistic
group discussion	R	.188**	.062	.173*	.125	.145*	.106	.072	.106
	P	.006	.362	.011	.066	.034	.120	.291	.119
	N	216	216	216	216	216	216	216	216
Meetings	R	.248**	.039	.190**	.195**	.170*	.297**	.124	.205**
	P	.000	.564	.005	.004	.012	.000	.068	.002
	N	217	217	217	217	217	217	217	217
Interpersonal discussion	R	.160*	.050	.137*	.124	.007	.177**	.052	.027
	P	.018	.459	.044	.068	.921	.009	.445	.692
	N	217	217	217	217	217	217	217	217
public speaking	R	.197**	.034	.202**	.158*	.129	.250**	.118	.182**
	P	.004	.617	.003	.019	.058	.000	.083	.007
	N	217	217	217	217	217	217	217	217
Stranger	R	.224**	.027	.193**	.167*	.146*	.200**	.090	.188**
	P	.001	.693	.004	.014	.031	.003	.185	.005
	N	217	217	217	217	217	217	217	217
Acquaintance	R	.157*	.058	.143*	.133	.131	.145*	.073	.130
	P	.020	.397	.035	.051	.054	.032	.284	.057
	N	217	217	217	217	217	217	217	217
Friend	R	.208**	.097	.165*	.178**	.112	.198**	.099	.113
	P	.002	.156	.015	.008	.099	.003	.146	.097
	N	217	217	217	217	217	217	217	217

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

In addition to linguistic intelligence, interpersonal intelligence is shown to be linked with WTC. A similar explanation pertains to the effect of interpersonal intelligence on L2 use and communication. In fact, the obtained result can for the most part be attributed to the pronounced role of interpersonal intelligence in successful communication, as previously noted by various authors such as Armstrong (2003), Gardner (1999b), Nicolini (2011), etc. A further interpretation may be that interpersonal learners, as maintained by Armstrong (2003), need to learn in social settings rather than solitary ones. In conclusion, those possessing high interpersonal intelligence are more willing to get involved in interpersonal conversation.

The finding that WTC is related to interpersonal intelligence also lends support to Green and Tanner's (2005) description of interpersonal learners. The authors maintain that interpersonal learners take interest in the interaction with others. In addition, a communicator's desire to influence other people's behavior to attain a certain goal is believed by Gardner (1999b) to be an indicator of interpersonal intelligence, and by MacDonald et al. (2003) to be a predictor of higher WTC.

The results also indicate that self-perceived musical intelligence correlates with the components of WTC. One interpretation is that, as Fonseca-Mora, Toskano-Fuentes, & Wermke (2011) put, high linguistic intelligence correlates with high musical intelligence or sensitivity to sounds or phonology. Based on various authors, e.g. Armstrong (2003), linguistic intelligence helps individuals in language learning. No doubt that EFL learners, in this case Payame-Noor students, are better equipped with linguistic ability thus possess high level of musical intelligence.

Moreover, bodily-kinesthetic intelligence was observed to have correlation with some components of WTC. One explanation could be related to the fact that nonverbal communication or body language is part of every language (Brown, 2000). Language speakers need to perform body movements; they need to move their hands, arms, and headsduring their interaction. On the other hand, Bodily-kinesthetic intelligence is responsible for making gestural signals. Therefore, bodily-kinesthetic intelligence, which is believed to facilitate communication, correlates with WTC.

Naturalistic and spatial intelligences correlated significantly with three components of WTC. This result may be explained by definitions of each intelligence type. Naturalistic intelligence is responsible for discrimination and

classification of the natural world i.e. plants, animals, etc. Spatial intelligence deals with the comprehension and interpretation of visual information such as pictures, maps, or plans. It seems that both of these intelligences may equip learners to deal with new situations and sort out the correct distance from other speakers.

Intrapersonal and logical-mathematical intelligences did not influence WTC, suggesting that these intelligence domains do not play a key role in the emergence of a learners' degree of willingness to use L2. Intrapersonal intelligence is described by Gardner (1999b) as the ability to develop awareness of oneself and understand ones' own feelings. Logical-mathematical intelligence is the key factor responsible for deductive and inductive reasoning, understanding logical or mathematical patterns, and problem solving. It appears then that these typesof intelligence play extremely smaller role than linguistic, interpersonal, and musical intelligences when it comes to willingness to interact in L2 situations.

To find out whether gender affects the relationship between WTC and MI, Pearson product-moment correlation was conducted. Table 4 displays the Pearson correlation coefficients between the WTC and MI for male and female students. Both coefficients are statistically significant ($P < .05$) although the probability associated with male students' R ($P = .047$) seems rather trivial compared with the ($P = .000$) for female students.

Table 4. Pearson Correlations between WTC and MI by Gender

Gender			MI
Male	WTC	Pearson Correlation	.324*
		Sig. (2-tailed)	.047
		N	188
Female	WTC	Pearson Correlation	.287**
		Sig. (2-tailed)	.000
		N	329

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

The discrepancy mentioned above can be resolved through the Cohen's effect size indices (Cohen 1988; cited form Field, 2009). Based on the criteria developed by Cohen the meaningfulness of the Pearson correlation can be judged through the following indices:

.1: weak

.2: moderate

.3: strong

Based on these criteria it can be claimed that the Pearson correlation for the male students is above the moderate criterion of .3 while the Pearson R for the female students is lower than the moderate index of .3. Thus the null-hypothesis as gender does not affect the relationship between his/her degree of willingness to communicate and the strength of different intelligences is rejected (critical values being .30 for males and .25 for females). Male students' MI tends to show a higher relationship with WTC.

To analyze the data further, the Pearson correlations between the components of WTC and MI for male and female students were calculated. Since discussing 96 distinct R-values is practically impossible, the summary of results is displayed in Table 5. Based on the results it can be concluded that although on total the male students showed a higher relationship between WTC and MI, the female students show higher correlations on the components levels. The absence of any single research on the relationship between WTC and MI makes it difficult to speculate why this finding emerged. This result can be explained by the fact that there is a significant difference between men and women with regard to their intelligences and WTC. However, it should be noted that further exploration is needed to go beyond this speculation.

Table 5. Number of Significant Pearson Correlations between Components of MI and WTC by Gender

	Linguistic	logical	musical	bodily	spatial	Interpersonal	intrapersonal	Naturalistic
Male	0	3	0	3	0	1	0	1
Female	7	0	7	1	2	5	0	2

Hensley (2009) notes that men and women differ in the way they communicate. The author also puts that women tend to have more effective communication, use non-verbal cues (e.g. tone) during communication, are more sensitive to feelings, perform less successful in mathematical tasks, are better language learners, and possess weaker spatial abilities. It can be inferred that women are stronger in linguistic, interpersonal, intrapersonal intelligence while men are stronger in logical-mathematical and spatial intelligences.

In addition, previous research has shown that gender exerts impact on the level of willingness to communicate. For example, Fulmer (2010) argues that men and women slightly differ in the degree of willingness to communicate in the workplace, with men being more willing to communicate. MacIntyre, Baker, Clement, and Donovan (2002) also points to gender differences in WTC and anxiety which is a crucial factor determining WTC.

6. Conclusions and Implications

In this study, it has been assumed that MI is a factor responsible for determining an individual's degree of willingness to talk. Linguistic, interpersonal, and musical intelligences were shown to have relations with WTC components. Then it should be possible to increase WTC with changes in intelligence types. In addition, differences between men and women when comparing the link between their willingness to communicate and intelligence profiles creates an interesting challenge for those who try to increase L2 WTC.

Gender variation in the relationship between learners' willingness to communicate and their different intelligences might reflect the difference between males and females with regard to their willingness to communicate and intelligence types. Due to the scant research available on the association between WTC and MI, the reason for the obtained result is difficult to explain. This result could suggest the need to develop awareness of gender differences in educational settings; for example, teachers might need to increase women's amount of mandatory L2 use or cater for men's weaker intelligence types, which contribute positively to the emergence of WTC.

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