

Cultural Intelligence in Foreign Language Learning Contexts

Behzad Ghonsooly, Masoud Sharififar
Shabram Raeisi Sistani, Shima Ghabari

Abstract

The language we hear or use carries with it not only background or world knowledge but also cultural information. Listening comprehension, as one of the primary language skills, is no exception. Researchers (e.g., Ervin, 1992; Gardner & Lambert, 1972; Kito, 2000; Markham & Latham, 1987; Mueller, 1980; Othman & Vanathas, 2004) have found that the listening comprehension of ESL students is highly affected by their culture-related (e.g., religion-biased, ethnicity-biased) background knowledge and that cultural information arouses learners' interest and motivation towards learning and comprehending a second language. Likewise, research has substantiated the pivotal role cultural intelligence or quotient (CQ) serves in individual's success in cross-cultural interactions. CQ is a momentous multi-component individual capability with important personal, interpersonal, and work-related implications (Van Dyne, Ang & Nielsen 2007). The current study was run to examine if listening comprehension of EFL learners is correlated with their CQ and, if yes, which of the CQ components (including metacognitive, cognitive, motivational, and behavioral CQ) better predict learners' performance on listening comprehension. The four-factor model of CQ together with an IELTS listening exam was administered to a number of Iranian EFL learners. The results are discussed and implications are provided.

1. Introduction

CQ is a multidimensional construct targeted at situations involving cross-cultural interactions arising from differences in race, ethnicity, and nationality. Ang, Van Dyne and Koh defined CQ as "an individual's

capability to deal effectively in situations characterized by cultural diversity" (2006: 101).

The concept has gained considerable popularity in business and management areas, but not much in areas such as in foreign language learning. Listening proficiency is an interactive skill in that it requires a great deal of uncertainty tolerance, openness to experience, and socio-cultural skills and strategies on the part of the learners. This study is one of the first attempts to study the role of CQ in foreign language learning, in general, and in listening skill development, in particular.

1.1 Language learning and culture

According to McDevitt (2004), there is no such a thing as human nature independent of culture. The context in which a speech event occurs includes elements related to the culture of the interlocutors. If the reader or listener does not share pertinent elements of that culture, the meaning might be lost.

The mutual relation between language and culture has long been established thanks to the writings of outstanding philosophers such as Wittgenstein, de Saussure, Foucault, Dilthey, Von Humboldt, Adorno, Davidson, and Quine. Yet, the most striking linguists dealing with the issue of language and culture are Sapir and Whorf. The core of their theory which is commonly referred to as *linguistic relativity* is that "a) we perceive the world in terms of categories and distinctions found in our native language and b) what is found in one language may not be found in another language due to cultural differences" (Genc & Bada, 2005: 74).

Various justifications have been proposed for the significance of culture in second language learning. According to Stainer (1971), studying culture gives students a reason to study the target language and renders second language learning meaningful. Chastain (1971) views culture learning as a way to help learners relate the abstract sounds and forms of a language to real people and places. Although language textbooks provide authentic examples from real life, without background knowledge those real situations may be considered fictive by the learners. Moreover, cultural issues are a source of learners' motivation, which, according to Gardner & Lambert (1972), is a crucial factor in second language learning. The study of culture, for instance by introducing the cultural system of L2s, increases not only learners' curiosity and interest in target countries but also their motivation (Kito, 2000).

Finally, among other things, studying culture can give learners a liking for the native speakers of the target language, contribute to general education, and help learn about the geography, history, customs and values of the target culture (Cooke, 1970).

To sum up, according to Bakhtiarvand and Adinevand (2011), culture is “an inseparable part of the way in which we live our lives and the way we use language, [and] an important requirement for learning spoken English, is the acquisition of cultural knowledge”. With respect to listening comprehension, which is the focus of the current research, there is almost total consensus among the researchers (e.g., Mueller, 1980; Othman & Vanathas, 2004; Sadighi & Zare, 2002) about the substantial role of prior and cultural knowledge. Markham and Latham (1987), for instance, have shown that religion-specific background knowledge (Islam or Christianity) affect the listening comprehension of ESL students, in that the subjects recalled more information and provided more elaborations for the passage that related to their own religion. Ervin (1992), too, studied whether listeners better understand material related to their own culture and ethnicity. His results indicated that the Scottish, ethnic minority group, scored significantly higher on the same-culture test (i.e. items related to their own culture) than the other-culture test (i.e. items about foreign cultures). Genc and Bada (2005) also found that attending the ‘culture class’ raised cultural awareness in ELT students concerning both native and target societies. Tsou’s (2005) study also supported the role of culture by concluding that when culture lessons were integrated into EFL instruction, students’ language proficiency as well as their interests in language learning were significantly improved.

1.2 Cultural Quotient (CQ)

Cultural intelligence, cultural quotient, or CQ (or CULTINT as termed in some texts), is defined as an individual’s capability to function and manage effectively in culturally diverse settings. It is a theory within management and organizational psychology which deals with understanding the impact of an individual's cultural background on their behavior. It is regarded as essential for effective business and successful engagement in any environment or social setting (Ang, Van Dyne, Koh, Ng, Templer, Tay, & Chandrasekar, 2007). CQ is consistent with Schmidt and Hunter’s (2000) definition of general intelligence as the ability to

reason correctly with abstractions and solve problems. However, it recognizes that intelligence is more than general mental ability, namely the traditional IQ and EQ. CQ acknowledges the practical realities of globalization (Ang & Van Dyne 2008; Earley & Ang 2003) and is a specific form of intelligence focused on capabilities to grasp and behave effectively in situations characterized by cultural diversity (Van Dyne, Ang & Nielsen, 2007).

Contemporary research has identified multiple types of intelligence, which include IQ (i.e. cognitive intelligence or general mental ability), EQ (i.e. emotional intelligence), and CQ (cultural intelligence). Different types of intelligence represent certain capabilities required in different situations. Below is a set of CQ characteristics:

→ *Cultural Intelligence builds upon and extends emotional intelligence.*

→ *Cultural Intelligence is an individual capability:* It is not an aspect of personality or personal interests, but a set of capabilities that leads to specific outcomes - such as decision making, performance, and adjustment in culturally diverse settings.

→ *Cultural Intelligence is a state-like capability:* It is malleable, in that it changes over time based on people's interactions, efforts, and experiences. Cultural intelligence can be developed through a set of steps and capabilities which not only evoke one's respect and dignity for others but enhance their effectiveness and in multicultural contexts

→ *Cultural Intelligence is a specific individual difference capability:* This is because it focuses on culturally relevant capabilities. CQ is more specific than IQ or EQ.

→ *Cultural Intelligence is NOT specific to a particular culture:* It does not, for example, focus on the capability to function effectively in France or in Japan. Instead, it focuses on the more general capability to function effectively in culturally diverse situations. (Van Dyne, Ang & Livermore, 2010)

1.3 Four Factors of CQ

CQ is a multidimensional construct. Earley and Ang (2003) conceptualized CQ as comprising metacognitive, cognitive, motivational and behavioral dimensions with specific relevance to functioning in culturally diverse settings. Van Dyne, Ang and Nielsen (2007) and Ang, Van Dyne, Koh, Ng, Templer, Tay, and Chandrasekar (2007) provide an account of the four components of cultural intelligence as follows.

→ *Metacognitive CQ* reflects the processes individuals use to acquire and understand cultural knowledge. It occurs when people make judgments about their own thought processes and those of others. Those with high metacognitive CQ question cultural assumptions and adjust their mental models during and after interactions (Brislin, Worthley & Macnab 2006; Triandis, 2006).

→ *Cognitive CQ* is a person's knowledge and understanding of how cultures are similar to and different from each other. It reflects general knowledge structures and mental maps about cultures. Those with high cognitive CQ understand similarities and differences across cultures (Brislin, Worthley & Macnab 2006).

→ *Motivational CQ* is a person's capability and motivation in learning about and functioning in cross-cultural situations. It includes a person's inherent interest in experiencing other cultures and interacting with people from different cultures. Those with high motivational CQ direct attention and energy toward cross-cultural situations based on intrinsic interest and confidence in their cross-cultural effectiveness (Bandura, 2002).

→ *Behavioral CQ* is a person's capability to exhibit appropriate verbal and nonverbal behavior when interacting with people from different cultures. Those with high behavioral CQ exhibit situationally appropriate behaviors based on their broad range of verbal and nonverbal capabilities, such as exhibiting culturally appropriate words, tone, gestures and facial expressions.

The four dimensions of CQ are different facets of the overall capability to function and manage effectively in culturally diverse settings (Earley and Ang, 2003). Like different facets of job satisfaction, the dimensions of CQ may or may not correlate with each other. In sum, these are different capabilities that together form overall CQ. (See Figure 1)

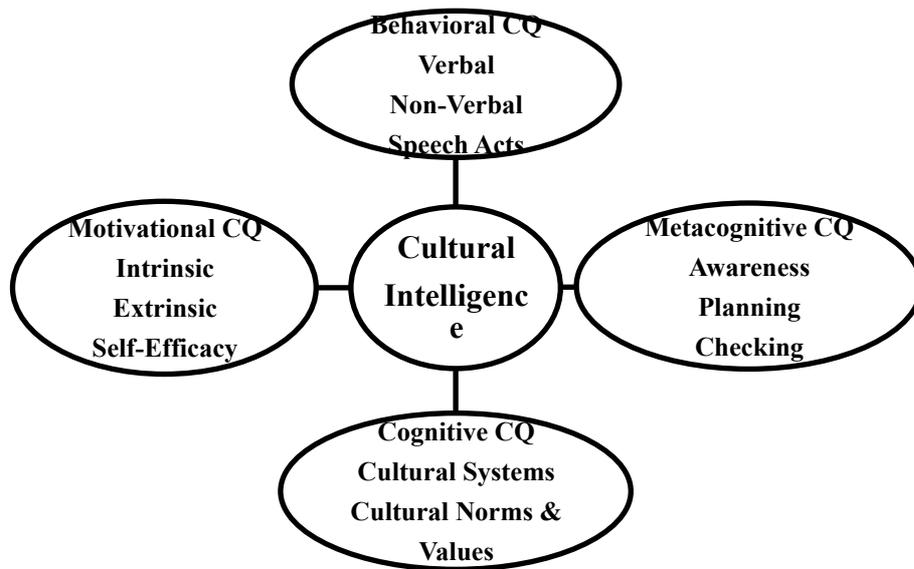


Figure 1: The Four-Factor Model of Cultural Intelligence (Adapted from Van Dyne & Ang, 2008)

1.4 Research to date on CQ

People with higher CQs are regarded as better able to successfully blend into any environment, using more effective business practices, than those with a lower CQ. It is, therefore, important to understand why some individuals are more effective than others in dealing with situations that are culturally diverse.

Ang, Van Dyne, Koh and Ng (2004) showed that CQ explained variance in performance and adjustment among international executives more than demographic characteristics and general cognitive ability did. Messara, Karkoulian, and Al Harake (2008) conducted the first study examining the relationship between CQ and locus of control (LOC)¹ in employees working in multicultural organizations, and suggested that the need to have cross-cultural skills in order to acquire cultural adaptation is of utmost importance in this age of globalization.

¹ An important aspect of personality, which refers to individuals' perception about the underlying main causes of events in their life, for example whether their destiny is controlled by themselves or by external forces.

Ang, Van Dyne and Koh (2006) conducted the first study on the relationship between the Big Five personality² and the four-factor model of CQ. Their results showed significant links between (a) conscientiousness and meta-cognitive CQ; (b) agreeableness and emotional stability with behavioral CQ; (c) extraversion with cognitive, motivational, and behavioral CQ; and (d) openness to experience with all four factors of CQ.

In an empirical study, Templer, Tay, and Chandrasekar (2006) examined and demonstrated that CQ predicted adjustment of global professionals, beyond realistic job and living conditions previews. Given that CQ predicts performance and adjustment, it is important to understand what predicts CQ. Ang, Van Dyne, and Koh (2006) have demonstrated that those with more experience interacting with people who have different cultural backgrounds have higher CQ. This includes each of the four factors of CQ (meta-cognitive, cognitive, motivational, and behavioral).

Shaffer, Harrison, Gregersen, Black, & Ferzandi (2006) examined and substantiated cognitive, affective, and behavioral aspects of intercultural effectiveness. Using their framework, Ang, Van Dyne, Koh, Ng, Templer, Tay, and Chandrasekar (2007) considered the relationship between CQ and cultural judgment and decision making (a cognitive outcome), cultural adjustment and well-being (an affective outcome), and task performance (a behavioral outcome). The results of their study demonstrated that CQ has a unique explanatory power in predicting the three aspects of intercultural effectiveness over and above demographic characteristics, general cognitive ability, emotional intelligence, and openness to experience. Those with higher CQ were found to be more effective at making decisions about, as well as making adjustments in, situations characterized by cultural diversity. Crowne (2008) showed education and employment in different cultures increases cognitive and behavioral aspects of CQ while motivational CQ was higher for those who visited more countries for vacation and other purposes. Therefore, the results show that the best way to develop CQ is through engaging in activities involving cross-cultural interaction, while passive activities are significantly less effective in nurturing CQ.

² A five-factor model of personality including broad personality traits of extraversion, agreeableness, conscientiousness, neuroticism, and openness

1.5 CQ Measurement and Enhancement Techniques

CQ is measured on a scale, similar to that used to measure an individual's intelligence quotient (IQ). In order to measure it, the researchers use the Cultural Intelligence Scale called the Four-Factor Model of CQ. The scale was developed and validated by Ang, Van Dyne, Koh and Ng (2004). The CQ scale is a 20-item questionnaire with four questions relating to metacognitive CQ (Q1-Q4), six to cognitive CQ (Q5-Q10), five to motivational CQ (Q11-Q15), and five to behavioral CQ (Q16-Q20).

The respondents are asked to self-assess themselves against a 5-point Likert scale ranging from complete disagreement (1) to complete agreement (5). The questions from the 20-Item Four-Factor Cultural Intelligence Scale, adapted from Ang, Van Dyne, Koh, Ng, Templer, Tay, Chandrasekar (2007) are reported below:

→ **Metacognitive CQ questions:**

1. I am conscious of the cultural knowledge I use when interacting with people with different cultural backgrounds
2. I adjust my cultural knowledge as I interact with people from a culture that is unfamiliar to me
3. I am conscious of the cultural knowledge I apply to cross-cultural interactions
4. I check the accuracy of my cultural knowledge as I interact with people from different cultures

→ **Cognitive CQ questions**

5. I know the legal and economic systems of other cultures
6. I know the rules (e.g., vocabulary, grammar) of other languages
7. I know the cultural values and religious beliefs of other cultures
8. I know the marriage systems of other cultures
9. I know the arts and crafts of other cultures
10. I know the rules for expressing nonverbal behavior in other cultures

→ **Motivational CQ questions**

11. I enjoy interacting with people from different cultures
12. I am confident that I can socialize with locals in a culture that is unfamiliar to me

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13. I am sure I can deal with stresses of adjusting to a culture that is new to me
 14. I enjoy living in cultures that are unfamiliar to me
 15. I am confident that I can get used to the shopping conditions in a different culture

→ **Behavioral CQ Questions**

16. I change my verbal behavior (e.g., accent, tone) when cross-cultural interaction requires it
17. I use pause and silence differently to suit cross-cultural situations
18. I vary the rate of my speaking when a cross-cultural situation requires it
19. I change my non-verbal behavior when a cross-cultural situation requires it
20. I alter my facial expressions when a cross-cultural interaction requires it

The results of these questions are inputted into the computer using SPSS and averaged giving a single value for each facet.

2. Statement of the problem

Due to the novelty of CQ, empirical research is sparse, though growing (Ang, Van Dyne & Koh, 2006). Moreover, most of the studies to date (e.g., Ang & Ng 2005; Ang, Van Dyne & Koh 2005; Berry & Ward 2006; Earley, Ang & Tan 2006; Earley & Mosakowski 2005; Van Dyne, Ang & Koh 2009; Van Dyne & Ang 2006; Thomas 2006; Sternberg & Grigorenko 2006; Ng, Van Dyne & Ang 2009; Ng, Tan & Ang 2009; Ng & Earley 2006; Ng & Ang 2007; Leung & Ang 2008; Koh, Joseph & Ang 2009; Janssens & Brett 2006; Hampden-Turner & Trompenaars 2006; Karma & Vedina 2009) have concerned the role of CQ in organizational management, globalization, and personality characteristics in multicultural institutions. Little research (e.g. Khodadady & Ghahari, 2011) has been conducted on the possible relation between CQ and foreign language learning.

Listening plays an important role in communication. Matsuoka (2009) cites Rivers' (1981) research who reports that of the total time spent on

language learning, listening takes up 40-50%, speaking 25-30%, reading 11-16%, and writing about 9%. The current research aimed at examining the possible relation between CQ and listening proficiency has been guided by the following question,

→ How well does the CQ scale predict learners' performance on listening comprehension? How much variance in listening comprehension scores can be explained by multidimensional CQ scores?

→ Which of the four factors of CQ is the best predictor of listening comprehension performance: metacognitive, cognitive, motivational, or behavioral?

3. Method

3.1. Participants

A total of 87 students (54 females and 33 males) participated in the study for course credits. They were learners of English as their foreign language in two language institutes in Tehran, Iran. The participants were of different language ability levels and their general proficiency was not separately tested. The average age of the participants was 21, ranging from 15 up to 32.

3.2. Instrumentation

The current study involved two sets of instruments: 1) an IELTS listening test, and 2) the four-factor model of culture quotient. Further elaboration of each instrument is provided below. The IELTS listening test included four parts. Each part consisted of a number of recorded conversations followed by a set of multiple-choice questions. The whole test was comprised of 40 questions. The reliability of the IELTS scores, based on the KR-21 formula³, was estimated to be 0.759.

³ Kuder-Richardson formula 21 (KR-21) estimates the reliability coefficient of a test on the basis of the statistical characteristics of its items. KR-21 is superior to KR-20 in that it assumes the items are of equal difficulty.

The second instrument was the previously discussed Four-Factor Model of CQ Cultural Intelligence Scale. Using the KR-21 formula, the reliability of the CQ test was estimated to be 0.741.

3.3. Procedure

The participants listened to four recorded conversations. After each conversation, they were required to answer a set of multiple-choice questions regarding comprehension. The whole listening test lasted around 40 minutes. Immediately afterwards the CQ scale was administered. It took around 15 minutes for the participants to answer the 20 questions of the CQ test.

4. Results

Table 1 below shows the results for the listening comprehension and for the CQ. The highest mean score in the sub-components of CQ pertains to the learners' cognitive CQ ($\bar{X}' = 6.191$), and the lowest to metacognitive CQ ($\bar{X}' = 3.175$). The mean score of their listening comprehension as obtained from their IELTS subtest is 19.01 out of 40.

	Mean	Std. Deviation	N
Listening comprehension	19.01	7.726	87
Metacognitive CQ	3.175	1.4721	87
Cognitive CQ	6.191	.8019	87
Motivational CQ	3.193	1.5478	87
Behavioral CQ	4.721	.7219	87

Table 1. Descriptive Statistics for Learners' Four-Factor CQ Scale and Listening Comprehension

Standard multiple regression was conducted to assess the ability of the four-factor CQ model to predict learners' listening comprehension performance. Preliminary analyses were conducted to ensure non-violation

of the assumptions of normality⁴, linearity⁵ or multicollinearity⁶ (Figure 2). The total variance explained by the model as a whole was statistically significant as $F(4, 82) = 61.189, p < .005$ (see Table 2, appendix).

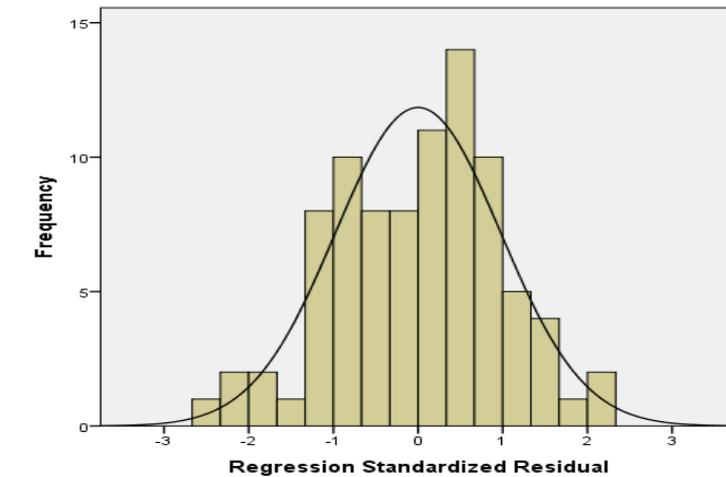


Figure 2: Model Summary

As Table 2 (see appendix) and Figure 3 below suggest, there is a generally significant positive correlation between CQ and listening comprehension; that is, the learners with a higher CQ index have significantly outperformed that of the lower CQ group in their listening comprehension tasks.

⁴ The data is normally distributed.

⁵ There is a straight line relationship between the dependent and independent variables.

⁶ There are no predictors in the model which are correlated and provide redundant information about the response.

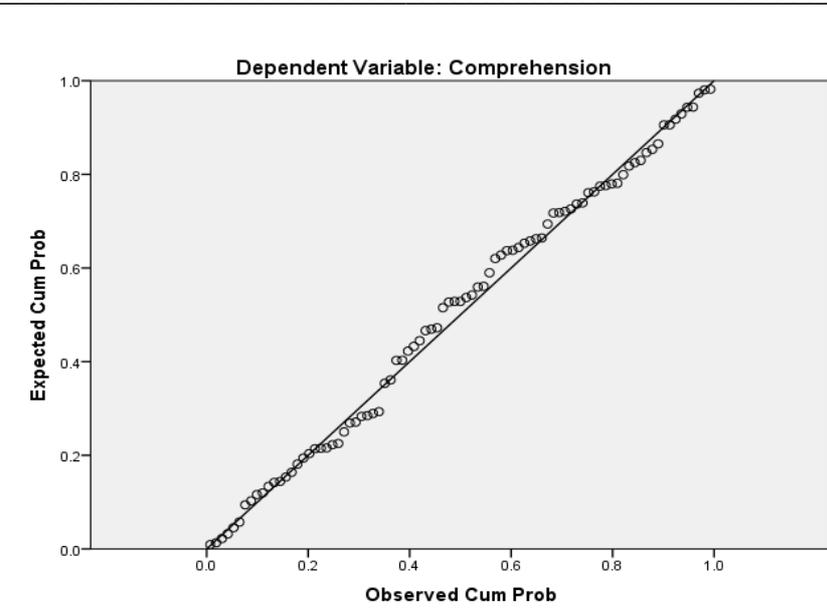


Figure 3: Normal P-P Plot of Regression Standardized Residual

In the final model, only two components of metacognitive CQ and motivational CQ were statistically significant, as can be seen from the table below:

Model	Standardized Coefficients Beta	t	Sig.
1 (Constant)		6.924	.000
Metacognitive CQ	.682	3.596	.001
Cognitive CQ	.009	.162	.871
Motivational CQ	.533	2.780	.030
Behavioral CQ	.038	.658	.513

Table 3. Coefficients Results between Four Factors of CQ Model and Listening Comprehension

Overall, the results suggest that CQ does predict learners' performance in listening comprehension, and that metacognitive and motivational factors of CQ are the significantly better predictors of listening comprehension than the other two components.

5. Discussion and conclusion

Culture is embedded in even the simplest act of language to the extent that every speech event, in fact, amounts to performing a cultural act (Hao, 2000; Kramsch, 1993). Therefore, if students' command of pronunciation, grammar, vocabulary, and cultural knowledge is to improve, it "must be grounded in a sound knowledge of the society in which the language is based" (Bakhtiarvand & Adinevand, 2011: 112). Cook (2003) rightly claims that the successful interpretation of language (spoken or written) in context depends on the degree to which the participants share conventions and procedures. Such conventions, together with the values and beliefs behind them, are elements of cultural background knowledge. And "this is the area where misunderstandings and even helplessness in interpretation occur" (Trivedi, 1978: 93).

According to Van Dyne, Ang and Nielsen (2007), those with high CQ are characterized by having four key capabilities, including

- a) the ability to anticipate what will happen in cross-cultural situations,
- b) a wide understanding of multicultural situations,
- c) great confidence in their capabilities and being intrinsically interested in experiencing culturally diverse settings and finally,

d) the ability to vary their verbal and non-verbal behaviors in response to cultural characteristics of the situation.

Much of mass communication is oral, so listening is a fundamental language skill. It is the medium through which one can gain a large portion of information, understanding of the world and of human affairs, their ideals, and sense of values (Guo & Robin, 2006). According to Mendelsohn (1994), listening is an active process in which the listener constructs meaning by using cues from both contextual information and existing world knowledge: "Understanding is not something that happens because of what a speaker says; the listener has a crucial part to play in the process, by activating various types of knowledge, and by applying what he knows to what he hears and trying to understand what the speaker means" (Anderson & Lynch 1988: 6).

In the light of the above discussion, the relationship of second language learners' listening comprehension with their cultural intelligence, in general, and its subcomponents (i.e. metacognitive, cognitive, motivational, and behavioral), in particular, seems an intriguing area for research.

It was found that the two competencies of metacognitive and motivational were correlated with listening comprehension. Metacognitive CQ essentially enables one to acquire knowledge and develop strategies to cope with the new environment; it reflects the mental capability to acquire and understand cultural knowledge. Those with high metacognitive CQ are constantly aware of others' cultural preferences before and during interactions (Ng & Early 2006).

This capability seems to serve a crucial function when listening to a culturally different and/or culturally loaded stretches of language. Watching, for example, a talk show on *homosexuality* is common for a Western family, but a form of taboo for an Iranian one.

Successful listeners are better able to interpret what is going on in the speaker's head as well as within the message and to make sense of culturally diverse settings and behaviors. Their higher level of metacognitive competence enables them to draw upon their cultural knowledge to make more sense of the different cultural context and handle it more effectively. This meta-competence, in fact, equips them with the properties of awareness, planning, and checking. Through awareness, they come to realize that cultural differences exist between self and others. They are then more able to prepare for and anticipate how to

approach the people, topic, and situation. Finally, they are more likely to check and monitor if their expectations match what has actually happened or expressed (Koh, Joseph & Ang, 2009).

The results in the current study suggest that successful listeners are consciously aware of their own as well as others' cultural assumptions and values, consciously plan for multicultural settings, and reflect and adjust their mental models accordingly.

Apart from metacognitive competence, motivational CQ also affects the success of language learners in listening comprehension tasks. Motivational competence reflects the capability of directing energy towards learning about and taking part in multicultural situations (Leung & Ang 2008). Individuals with high motivational CQ show interest, confidence, and drive to adapt cross-culturally. Successful listeners are motivated enough to face challenges and welcome cultural clashes and differences. One of the primary merits of cultural discussions in language classes, according to Genc and Bada (2005), is that they have always had a humanizing and a motivating effect on the language learner and the learning process. They help learners notice similarities and differences among various cultural groups. Having lived most of their lives in monolingual and monocultural environments, L2 students around the world are culture-bound individuals who tend to make inappropriate value judgments about their own as well as about others' cultural characteristics. This can lead them to consider the native speakers of their target language "as very peculiar and even ill-mannered, which, in turn, plays a demotivating role in their language learning process" (Genc and Bada, 2005: 75). Motivational CQ includes intrinsic motivation (i.e. the degree to which an individual derives enjoyment from culturally diverse situations), extrinsic motivation (i.e. the more tangible benefits one gains from culturally diverse experiences), and self-efficacy (i.e. one's confidence in their being effective in cross-cultural encounters). All three of these motivational dynamics contribute to how one may approach cross-cultural situations (Koh, Joseph & Ang, 2008).

To sum up, the language learning classroom today is abundant with interaction and communicative tasks. Oral skills, namely speaking and listening, seem to require more social and interpersonal skills on the part of the learners as well as a better management of self and others. Overall, that those learners with higher CQ have outperformed in listening comprehension tasks can be taken to imply that they consider the language classroom as an opportunity to improve their language

proficiency. They are interested in new ideas and building relationships. They tend to communicate well with teachers and peers, express their feelings and attitudes and are open to those of others. All these tendencies can potentially build successful learners out of them, and improve their language learning process.

This study suggests, then, that the more the students are interpersonally and culturally intelligent, the better they perform in listening comprehension tests. Karma and Vedina (2009) and Ang, Van Dyne, and Koh (2006), among others, argue for the other way round too. The best way to develop CQ is through engaging learners in cross-cultural activities and interactions, while passive activities (here, for instance, reading or writing which are performed intrapersonally), are significantly less effective in nurturing CQ.

Therefore, one can claim that interactive tasks and cultural discussions and activities (here performing listening tasks) and CQ are closely interwoven: high levels of CQ encourage involvement in multicultural contexts, and involvement in interactions lead to high levels of CQ. The line of inquiry could also be expanded to studying the role of CQ in learners' success in other skills of speaking, writing and reading and in foreign language learning in general.

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Appendix

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	3844.851	4	961.213	61.189	.000
Residual	1288.138	82	15.709		
Total	5132.989	86			

Table 2. ANOVA Results