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## The dynamic interplay among EFL learners' ambiguity tolerance, adaptability, cultural intelligence, learning approach, and language achievement

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### ABSTRACT

A key objective of education is to prepare individuals to be fully-functioning learners. This entails developing the cognitive, metacognitive, motivational, cultural, and emotional competencies. The present study aimed to examine the interrelationships among adaptability, tolerance of ambiguity, cultural intelligence, learning approach, and language achievement as manifestations of the above competencies within a single model. The participants comprised one hundred eighty BA and MA Iranian university students studying English language teaching and translation. The instruments used in this study consisted of the translated versions of four questionnaires: second language tolerance of ambiguity scale, adaptability taken from emotional intelligence inventory, cultural intelligence (CQ) inventory, and the revised study process questionnaire measuring surface and deep learning. The results estimated via structural equation modeling (SEM) revealed that the proposed model containing the variables under study had a good fit with the data. It was found that all the variables except adaptability directly influenced language achievement with deep approach having the highest impact and ambiguity tolerance having the lowest influence. In addition, ambiguity tolerance was a positive and significant predictor of deep approach. CQ was found to be under the influence of both ambiguity tolerance and adaptability. The findings were discussed in the light of the yielded results.

**Keywords:** adaptability; tolerance of ambiguity; cultural intelligence; learning approach; SEM

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## Introduction

Any learning attempt is under the influence of a host of variables and its psychological factor is shaped by individual differences. Ellis (1994) maintained that most scholars and practitioners in the field of second language learning agree that the degree of success in second language learning is affected by individual differences that embrace cognitive, meta-cognitive, cultural, emotional, and motivational factors. Thus, in order to enhance the learning process in educational settings, the individual differences must be appreciated. The present study seeks to investigate a number of factors conducive to effective learning within a single framework. In particular, adaptability from emotional component, tolerance of ambiguity from cognitive component, cultural intelligence from cultural component, and learning approaches from metacognitive component were studied. The underlying impetus behind this study is that it is important to examine how these four components of individual differences are linked to learning and achievement and how they are related to each other.

*Adaptability*, as one of the components of emotional intelligence is the ability to adjust one's feelings and thoughts to change and it includes three dimensions: 1) the ability to change and adapt when it is necessary, 2) the ability to be flexible and recover quickly from changes, difficulties or constraints, and 3) the ability to be and remain confident and active after changes have occurred (Schetter & Dolbier, 2011). Thus, adaptability is generally defined as "positive adaptation despite adversity" (Bottrell, 2009, p.323). Masten, Best, and Gamezy (1990, p. 425) described it as "the process of capacity for or outcome of successful adaptation despite challenging or threatening conditions".

In various conditions, those learners who have adaptability can modify their thoughts, attitudes, and behaviors to become more functional (Schetter & Dolbier, 2011). According to Durlak, Weissberg, Dymnicki, Taylor, and Schellinger (2011), learners need to be emotionally healthy and socially adjusted in order to achieve success. Waxman, Grayand, and Padrou (2004) found there is a difference between learners who have adaptability and those who are non-resilient.

The second variable of this study which pertains to cognitive component is *tolerance of ambiguity*. It is defined as perception of inadequate information to clearly understand reaction (Mori, 1999). In language learning, ambiguity tolerance is considered as the ability of dealing with new ambiguous conditions without being frustrated (Ellis, 1994). In the realm of L2 education, Brown (2000) contended that ambiguity tolerance is one of the issues in second language research as contribution to successful acquisition (p. 114).

Students who have high tolerance of ambiguity feel more comfortable when they face unknown cases and uncertainties during different learning situations. Degree of tolerance of ambiguity can influence learner's achievement. Several studies were conducted to find the relationship between EFL learners' ambiguity tolerance and their achievement in English learning. Result of these studies indicated that ambiguity tolerance positively correlated with EFL learner's general English scores (Chapelle, 1983, Horng-Yi, 1992; Khajeh, 2002). It implies the more tolerant of ambiguity the learner is, the higher his or her score on general English test would be. Mori (1999) examined the level of ambiguity tolerance through qualitative and quantitative methods. He found that the avoidance of ambiguity tolerance leads to lower achievement and those learners who seek to find a single, clear-cut answer do not have a good performance in foreign language classrooms. Ehrman and Oxford (1990) found the effect of high tolerance of ambiguity on the performance for guessing from context.

Ambiguous situations are common in language learning, simply because both linguistic input and cultural knowledge very likely represent uncertain conditions. For example, when EFL learners

encounter new lexical or grammatical structures, they often face lack of information, confusion, vagueness, and so on (Grace, 1998). Apart from forms and text structure with which students tackle, they often have to continue with incomplete background knowledge for comprehending a text and compensate for the lack of essential elements to complete the task of comprehension (Alderson, 2000).

*Cultural intelligence* or CQ, as another variable of this study, is defined as individual's capability to function and manage effectively in culturally diverse settings. CQ is an essential element for successful engagement in any social setting or environment (Ang, et al., 2007). It is also defined as the ability to reason properly with solving problem. CQ is a vital individual ability with important personal, interpersonal, and work-related implications given the wide-ranging effect of globalization and diversity throughout the world (Van Dyne, Ang, & Nielson, 2007).

CQ includes a host of capabilities that lead to specific outcomes such as decision making, performance, and adjustment in different conditions and cultural settings. If a person has higher CQ, he or she has higher capabilities such as anticipation or prediction of what will happen in cross-cultural situations, has a wide understanding of multicultural situations, has intrinsic motivation in experiencing different cultural settings, and is able to adapt and alter his/her verbal and non-verbal behaviors in response to cultural characteristics of the situation (Van Dyne, Ang, & Nielsen, 2007).

The importance of culture is reflected in the concept of "situated cognition" which holds that the setting and activities in which knowledge is developed are not separate from learning, nor are they neutral, rather they are integral parts of learning (Van Dyne, Ang, & Nielsen, 2007). The contribution of CQ in foreign or second language classroom is clear because culture cannot be separated from what is learned and classroom is full of interactions and communication tasks, oral skills, and interpersonal and social skills (Kramsch, 2013), all of which fall within the domain of CQ. Those learners with higher CQ have a better performance in undertaking the tasks and building relationships and communications; thus, it is clear that language learning is fully situated within a given cultural context. Learners often do not respond well to cultural diversity. CQ changes the condition and allows learners to consider different aspects so that CQ differences become possibilities for learning.

Another factor which has a great impact on learners' achievement and is classified as the motivational and metacognitive component is the type of the approach that a learner adopts during learning. The types of approach to learning can determine the quality and quantity of learning. Usually students choose an approach for their learning according to the objectives of the course they are studying. Marton and Saljo (1976) divided approaches to learning into categories of *deep* and *surface*. According to Marton and Saljo (1976), learners who adopt deep approach for their learning are usually engaged in searching for meaning, while those who adopt surface strategies focus on memorizing the parts that might be questioned about.

Bernardo (2003) found that there is a relationship between deep approach of learning and student's motivation and levels of anxiety. Students who choose deep approaches to learning are more intrinsically motivated while students who adopt surface approaches have more extrinsic motivation prompted by the fear of failure. Tickle (2001) reported that students who adopt surface strategies are motivated by pass-only aspirations and have minimum degree of effort for learning, and usually prefer rote learning. Students who choose a deep approach are motivated for subject material and this kind of approach will help learners to remember the details more effectively while those who adopt surface approach just fear from failure.

Taken together, as the literature clearly demonstrates previous studies examined the above-mentioned variables in parallel in the educational domain. Notwithstanding the plethora of research on these factors, to the researchers' best knowledge, no study to date has delved into the interaction among these constructs in accounting for language achievement. The present research, hence, takes the initiative to explore the dynamic interplay between emotional facet (adaptability), cognitive strategies (ambiguity tolerance), meta-cognitive strategies (learning approach), and cultural domain (CQ) in a single framework and to determine the contribution of each component to language achievement. In so doing, we present a model depicting connections and causal relations among these factors. Based on our proposed model, the present study seeks to put forward a number of pertinent recommendations to enhance learner's emotional, cultural, and learning strategies in order to improve their achievement.

Figure 1 depicts our model examining the role of adaptability, ambiguity tolerance, cultural intelligence, and learning approach in EFL learners' achievement as measured by their grade point average (GPA). It is hypothesized that CQ can be predicted by students' level of adaptability and deep learning approach can be predicted by students' level of ambiguity tolerance. It is also hypothesized that ambiguity tolerance influences CQ.

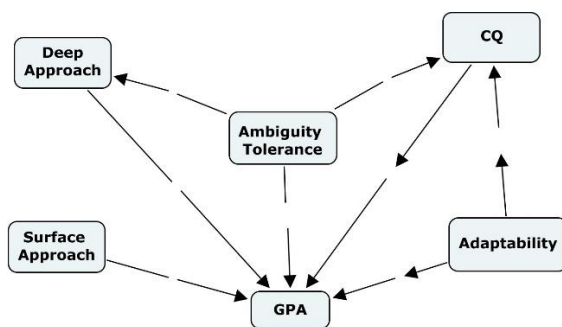


Figure 1. Hypothetical model for the dynamic interplay among EFL learners' ambiguity tolerance, adaptability, cultural intelligence, learning approach, and language achievement

As Figure 1 indicates, the model contains eight direct paths each capable of generating an area of investigation. Hence, seven research questions were formulated in the present study as follows:

- 1) Does Iranian EFL learners' adaptability play any role in their language achievement?
- 2) Does Iranian EFL learners' tolerance of ambiguity play any role in their language achievement?
- 3) Does Iranian EFL learners' cultural intelligence play any role in their language achievement?
- 4) Does Iranian EFL learners' learning approach play any role in their language achievement?
  - 4a) Does Iranian EFL learners' deep approach play any role in their language achievement?
  - 4b) Does Iranian EFL learners' surface approach play any role in their language achievement?
- 5) Does Iranian EFL learners' adaptability play any role in their cultural intelligence?

- 6) Does Iranian EFL learners' ambiguity tolerance play any role in their learning approach?
- 7) Does Iranian EFL learners' ambiguity tolerance play any role in their cultural intelligence?

## Method

### *Participants*

The participants of this study consisted of one hundred eighty BA and MA Iranian university students studying English language teaching (TEFL) and translation at Imam Reza International University, Mashhad. The sample included 40 males and 140 females, aged 18 to 42. Convenience sampling was used due to the accessibility and features related to the purpose of the investigation. Students' participation was completely voluntary and they were not required to write their names on the questionnaires. They were asked to provide information on their educational level, major, age, gender, current term of study, and grade point average (GPA).

### *Instrumentation*

#### *Adaptability from Emotional Intelligence Inventory*

Eight items which assessed students' emotional adaptability and flexibility were extracted from emotional intelligence inventory. This questionnaire employs 5- point response scale with a textual response format ranging from "very seldom" or "not true of me" to "very often" or "true of me." Each item has the value of 5 to 1. The Persian EQ-i translated and validated by Dehshiri (2003) was employed in this study. According to Dehshiri (2003), this test and its subscales do have reliability and validity in Iranian culture. To analyze the questionnaire in Iran, Dehshiri chose a group of 250 university students in Tehran and analyzed the norms of the test. As he stated, the questionnaire has generally good internal consistency, test-retest reliability, and construct validity. With the adapted version in Iran, the Cronbach's alpha coefficient was found to be 0.76 and the results of the factor analysis provided some support for the inventory hypothesized structure (Dehshiri, 2003). The reliability of the adaptability items in the present study estimated via Cronbach's alpha was found to be 0.80.

#### *Second Language Tolerance of Ambiguity Scale*

Second language tolerance of ambiguity scale (SLTA) developed by Ely (1995) was utilized to measure students' level of tolerating ambiguities. It include 12 items and employs 5-point Likert scale with a textual response format ranging from strongly disagree to strongly agree. Cronbach's alpha internal consistency of SLTA is 0.84 (Ely, 1995). The sample items includes: "when I am reading something in English, I feel impatient when I do not really understand the meaning," and "when I write English compositions, I do not like it when I cannot express my ideas clearly."

The Persian SLAT validated by Ghanizadeh and Allahdadi (2015) was employed in this study. According to Ghanizadeh and Allahdadi (2015), this test has reliability and validity in Iranian context. To determine the validity of the questionnaire, Ghanizadeh and Allahdadi (2015) utilized confirmatory factor analyses (CFA). The chi-square/df ratio (2.50), the RMSEA (.073), and the

GFI (.90) all reached the acceptable fit thresholds. The reliability of the questionnaire estimated via Cronbach's alpha was found to be 0.77.

#### *Cultural Intelligence Questionnaire*

Cultural intelligence questionnaire was developed by Van Dyne, Ang, and Koh (2008). It includes 20 items which contains 4 meta-cognitive, 6 cognitive, 5 motivational and 5 behavioral items. This questionnaire is a highly reliable measure of cultural intelligence ( $\alpha = 0.86$ ); the reliability of its cognitive, meta-cognitive, motivational, and behavioral factors, are 0.81, 0.82, 0.64, 0.72, respectively (Van Dyne, Ang, & Koh, 2008).

The Persian CQ scale validated by Khodadady and Ghahari (2011) was employed in this study. According to Khodadady and Ghahari (2011), this test enjoys acceptable reliability and validity indices in Iranian context.

#### *Revised Study Process Questionnaire (R-S-PQ-2F)*

Revised study process questionnaire was designed and validated by Biggs, Kember, and Leung (2001). It consists of 20 items and employs a 5-point Likert scale ranging from 1 (never true of me) to 5 (always true of me). It has two main scales: Deep approach (DA) and surface approach (SA) with four subscales, deep motive (DM), deep strategies (DS), surface motive (SM), and surface strategies (SS). The scale enjoys an acceptable Cronbach's alpha value for each subscale reported by designers, as follows: DM= 0.62, DS= 0.63, SM= 0.72, SS= 0.57 (Biggs, Kember, & Leung, 2001).

The Persian version of R-SPQ-2 validated by Ghanizadeh and Allahdadi (2015) was used in this study. According to Ghanizadeh and Allahdadi (2015), this test has reliability and validity in Iranian context. The fit indices all had satisfactory magnitudes: The chi-square/df ratio (2.78), the RMSEA (.06), and the GFI (0.91). The reliability of the questionnaire estimated via Cronbach's alpha was found to be .69. The Cronbach's alpha estimates for each factor ranged from .61 to .65. (DM = .68, DS = .61, SM = .62, SS = .65). The reliability of DA was .77 and SA was .66.

#### *Procedure*

The above-mentioned questionnaires investigated four variables of the study: adaptability, tolerance of ambiguity, cultural intelligence and learning approaches. The researchers distributed the questionnaires in university classes among one hundred eighty Iranian EFL university students and the students completed the questionnaires at the presence of the researchers. The data were collected during the second educational semester of 2014. They were required to write their GPA, as well. The four scales contained about 60 items and it took about 20 minutes to answer all the items. To get more reliable and accessible responses, the questionnaires were given together in a single session. Since the participants were already briefed on the purpose of the study and given that all participants were guaranteed anonymity and confidentiality, it was hoped that these would add to the validity of the students' report of their academic average. As an incentive, the participants were given the opportunity to receive feedback about their performance on the instruments by presenting their codes.

## Results

Table 1 presents descriptive statistics of deep approach (deep strategies and deep motive) and surface approach (surface strategies and surface motive). As the table indicates, deep approach has a higher mean value ( $M=28.52$ ,  $SD= 6.21$ ) than that of surface approach ( $M=25.07$ ,  $SD= 5.79$ ).

Table 1  
*Descriptive Statistics of Deep Approach (Deep Strategies and Deep Motive) and Surface Approach (Surface Strategies and Surface Motive)*

	N	Minimum	Maximum	Mean	Std. Deviation
Deep Motive	180	6.00	25.00	14.7333	3.60261
Deep Strategies	180	6.00	23.00	13.7889	3.23561
Surface Motive	180	5.00	24.00	11.3833	3.31625
Surface Strategies	180	7.00	21.00	13.6944	3.16245
Deep Approach	180	14.00	46.00	28.5222	6.21267
Surface Approach	180	13.00	45.00	25.0778	5.79198
Valid N (listwise)	180				

Table 2 represents descriptive statistics of CQ and its comprising factors (cognitive, metacognitive, behavioral, and motivational). According to Table 2, behavioral CQ has the highest mean score ( $M=16.92$ ,  $SD= 4.07$ ) and motivational CQ receives the lowest mean score ( $M=12.28$ ,  $SD= 3.51$ ). The mean score of CQ is ( $M=59.61$ ,  $SD= 11.80$ ).

Table 2  
*Descriptive Statistics of CQ and its Comprising Factors*

	N	Minimum	Maximum	Mean	Std. Deviation
Cognitive	180	6.00	24.00	14.3000	3.48805
Motivational	180	5.00	25.00	12.2833	3.51259
Behavioral	180	7.00	25.00	16.9278	4.07613
Metacognitive	180	5.00	25.00	16.1056	4.15415
CQ	180	32.00	92.00	59.6167	11.80677
Valid N (listwise)	180				

Table 3 shows descriptive statistics of the other variables under study, i.e., ambiguity tolerance, adaptability, and GPA. As the table indicates, the mean scores are as follows: ambiguity tolerance ( $M=28.32$ ,  $SD= 8.13$ ), adaptability ( $M=21.20$ ,  $SD= 4.08$ ), and GPA ( $M=16.65$ ,  $SD= 1.72$ ).

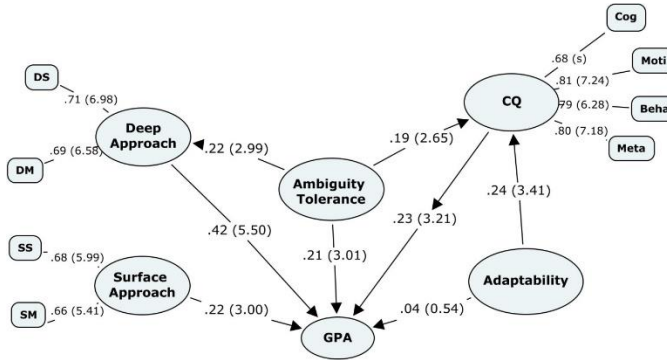
Table 3  
*Descriptive Statistics of Ambiguity Tolerance, Adaptability, and GPA*

	N	Minimum	Maximum	Mean	Std. Deviation
Ambiguity Tolerance	180	6.00	46.00	28.3222	8.13754
Adaptability	180	12.00	33.00	21.2056	4.08389
GPA	180	11.69	20.00	16.6535	1.72046
Valid N (listwise)	180				

The reliability estimates of each variable computed via Cronbach's alpha are as follows: deep approach ( $\alpha = .87$ ), surface approach ( $\alpha = .81$ ), CQ ( $\alpha = .79$ ), adaptability ( $\alpha = .68$ ), ambiguity tolerance ( $\alpha = .79$ ), and GPA ( $\alpha = .77$ ).

To examine the structural relations, the proposed model was tested using the LISREL 8.50 statistical package. A number of fit indices were examined to evaluate the model fit: the chi-square magnitude which should not be significant, Chi-square/*df* ratio which should be lower than 2 or 3, the normed fit index (NFI), the good fit index (GFI), and the comparative fit index (CFI) with the cut value greater than .90, and the Root Mean Square Error of Approximation (RMSEA) of about .06 or .07 (Schreiber, et al., 2006).

As demonstrated by Figure 2, the GFI (.95), and the chi-square/*df* ratio (2.54) reached the acceptable fit thresholds. The RMSEA (.091), NFI (.89), and CFI (.89), however, were slightly below those thresholds. This implies that the model had a moderate fit with the empirical data.



$$\chi^2 = 28.63, df = 11, RMSEA = .091, GFI = .95, CFI = .89, NFI = .88$$

Figure 2. The schematic representation of the relationships among the variables in questions. Note: For ease of presentation, observed variables are not included for most variables and only latent variables are presented.

To check the strengths of the causal relationships among the variables, the *t*-values and standardized estimates were examined. As indicated in Figure 2, two estimates were displayed on the paths. The first one is the standardized coefficient ( $\beta$ ) which explains the predictive power of the independent variable and presents an easily grasped picture of effect size. The closer the magnitude to 1.0, the higher the correlation and the greater the predictive power of the variable. The second measure is the *t*-value (*t*); if  $t > 2$  or  $t < -2$ , we consider the result statistically significant.

The results demonstrated that ambiguity tolerance is a positive and significant predictor of deep approach ( $\beta = .22, t = 2.99$ ) and GPA ( $\beta = .21, t = 3.01$ ). Deep approach ( $\beta = .42, t = 5.50$ ) and surface approach ( $\beta = .22, t = 3.00$ ) both influence positively and significantly language achievement, although the influence of deep approach is greater than that of surface approach. CQ is under the influence of both ambiguity tolerance ( $\beta = .19, t = 2.65$ ) and adaptability ( $\beta = .24, t = 3.41$ ). CQ, in turn, exerts a positive and significant impact on language achievement ( $\beta = .23, t = 3.21$ ). Adaptability, however, does not have any significant role in language achievement ( $\beta = .04, t = 0.54$ ).

In a sense, it can be argued that all the variables under study except adaptability directly influenced language achievement with deep approach having the highest impact and ambiguity tolerance having the lowest influence.



The correlation coefficients among EFL learners' deep approach, surface approach, CQ, adaptability, ambiguity tolerance, and GPA are presented in Table 4. As it can be seen, the highest correlation is observed between deep learning and GPA ( $r = 0.542, p < 0.05$ ). The second higher correlation was found between ambiguity tolerance and deep approach ( $r = 0.506, p < 0.05$ ). It was also found that language achievement correlates positively with ambiguity tolerance ( $r = 0.326, p < 0.05$ ) and CQ ( $r = 0.279, p < 0.05$ ). Adaptability correlated positively and significantly with deep approach ( $r = 0.256, p < 0.05$ ) and ambiguity tolerance ( $r = 0.301, p < 0.05$ ). CQ was also positively associated with deep approach ( $r = 0.383, p < 0.05$ ).

Table 4  
*The Correlation Coefficients among Deep Approach, Surface Approach, CQ, Adaptability, Ambiguity Tolerance, and GPA*

	1	2	3	4	5	6
1. Deep approach	1.00					
2. Surface approach	.244**	1.00				
3. Ambiguity tolerance	.506**	.201**	1.00			
4. Adaptability	.256**	.185	.301**	1.00		
5. CQ	.383**	.054	.294**	.258**	1.00	
6. Language achievement	.542**	-.272**	.326**	.172	.279**	1.00

\*\*Correlation is significant at the level of 0.05

## Discussion and conclusions

The present study intended to investigate the associations among cognitive, metacognitive, cultural and emotional factors within a single framework. The findings highlighted the contributing role of tolerance of ambiguity, cultural intelligence, and learning approaches in EFL learners' language achievement. Also, the study showed positive correlations between adaptability and cultural intelligence, tolerance of ambiguity and deep learning approach, tolerance of ambiguity and cultural intelligence. In other words, tolerant learners have higher level of CQ and these learners tend to adopt more deep approaches for their learning and as a result they are more successful. This study contributes to better understanding of these relations and how they are related.

The results revealed that there is a positive significant relationship between learners' tolerance of ambiguity and their achievement. This finding is in line with previous studies which showed that ambiguity tolerance positively correlated with EFL learners' general English scores (Mori, 1999; Khajeh, 2002). Mori (1999) recommended teachers design activities which encourage learners to think about alternative answers or use multiple strategies of information to handle a problem. Oxford (1999) mentioned that tolerance of ambiguity is the acceptance of confusing condition and second language learning has a great deal of uncertainties about meanings, references, and pronunciation and this can create anxiety, so ideal degree of ambiguity tolerance is essential for language learners.

The effect of cultural intelligence on learners' achievement was also demonstrated in this study. This finding is not unexpected since culture is an indispensable part of language learning, and CQ in effect embodies individual capabilities which are culturally relevant. According to Gardner and Lambert (1972), CQ is a crucial factor in second language learning. Language learning of EFL

students is highly affected by their capability to function and manage effectively in culturally diverse situations and this ability, in turn, arouses learners' motivation toward learning and comprehending a second language. In accordance with this finding, Khodadady and Ghahari (2012) reported that CQ correlates significantly with EFL proficiency.

As the results of the fourth research question showed EFL learners' deep learning approach highly influenced their language achievement. As stated earlier, deep learning is based on higher-order thinking skills including, evaluation and synthesis, and personal commitment to learn the material, not just for the purpose of passing the course. Biggs (1987) mentioned that deep learning involves positive outcome for learning and represents approaches that focus on integration, synthesis, and reflection. Needless to mention, skills and abilities associated with reflection and higher-order thinking process are determinants of effective learning (Ghanizadeh, 2016). This finding corroborates a recent experimental study by Tarabashkina and Lietz (2011). In this study, the effect of learning approach on student achievement was explored. Results indicated that deep learning approaches were associated with higher achievement and those learners who adopted surface strategies had a lower academic performance.

The fifth research question in the present study examined the bond between adaptability and CQ. Research findings indicated that adaptability influenced significantly and positively CQ. In other words, it was shown that higher levels of adaptability were indicative of the development of intercultural competencies. This association is also evident in different conceptualizations of CQ. According to Earley and Ang (2003), CQ is a construct that encompasses and measures a person's capability for successful adaptation to new cultural settings, that is, for unfamiliar settings attributable to cultural context. It has also been maintained that CQ reflects an individual's capacity to adjust to new conditions and produce novel behavior. It is the ability to discern, adjust and behave effectively (Earley & Ang, 2003). Van Dyne, Ang, and Nielson (2007) mentioned several characteristics for those who are culturally intelligent among which is their capability to adapt themselves with new condition and modify their verbal and non-verbal behaviors in cultural characteristics of the situation. As all these definitions reflect, CQ has a convergence with adaptability and adaptability is a prerequisite for cultural intelligence, so that higher levels of adaptability are likely to lead to higher cultural intelligence.

The sixth research question probed the nexus between learners' ambiguity tolerance and deep learning approach. Results showed that ambiguity tolerance is a positive predictor of deep approach. In other words, it appears the higher the second language ambiguity tolerance is, the more likely the EFL students tend to adopt deep learning approach, both in applying strategies and in the desire to learn. While a person who cannot tolerate uncertain conditions has low motivation and tends to use surface approach. Deep learning involves the critical analysis of new ideas, linking them to already known concepts and principles, and leading to understanding and long-term retention of concepts, so that they can be used for problem solving in uncertain contexts. All these characteristics fall within the domain of ambiguity tolerance, as well. This finding can be explained in the light of previous research attesting to the association of ambiguity tolerance, learning approaches, and language achievement. It is believed that learners with a negative reaction to uncertain conditions tend to adopt more superficial and rote-based approaches to learning (Evans, Kirby, & Fabrigar, 2003). In the domain of EFL education, identical results have been reported. Varasteh, Ghanizadeh, and Akbari (2016) indicated that Iranian EFL learners' second language ambiguity tolerance predicted their utilization of higher order strategies, including elaboration strategies.

According to the results of the last research question, it was revealed that learners' ambiguity tolerance impacted on their cultural intelligence. Earley and Ang (2003) noted that cultural intelligence is a construct which encompasses and measures a person's capability for successful manipulation of new cultural settings, that is, for unfamiliar, uncertain settings attributable to

cultural context. According to Brislin, Worthley, and MacNab (2006), one of the essential skills of a culturally intelligent person is the expectation of misunderstanding because new cultural contexts will not immediately be understood and that is what Tickle (2001) calls suspending judgment. In this manner, people who are culturally intelligent not only delay judging the situation until more understanding is gained, but allow themselves the normally uncomfortable state of confusion or ambiguity. Accommodating the not knowing reduces levels of stress during cross-cultural interactions, so lowering levels of stress during interaction allows one to calmly and fully take in and evaluate the situation to help move toward reconciliation. Culturally intelligent individuals have high levels of tolerance for uncertain situations which offers more time for conflict to be resolved, reduced stress, and greater level of patience (Brislin et al., 2006). Mclain (1993) reported that students who are tolerant of ambiguity are more willing to take risks and open to change. Virtually, these characteristics are all indicators of tolerance of ambiguity.

## Conclusions

Taken together, the present study explicated the dynamic interplay among a number of cognitive, metacognitive, motivational, cultural, and emotional factors. It demonstrated how these factors interact with each other in accounting for language achievement. It also shed light on the interrelationship among these constructs. These findings have some implications for students, educators, and teachers. Teachers can design activities or use materials which can improve tolerating uncertain conditions in learners and help learners to adapt themselves with new conditions and use different forms of task which can improve learners' CQ by providing them with information about other cultures. Teachers are also recommended to consider student's attitudes, feelings, and values about resilience in class and encourage students to use deep approaches for their learning. Curriculum designers can develop programs which can improve motivational, cognitive, metacognitive, cultural, and emotional attributes in learners. And finally, by creating awareness in learners about the great role of these constructs in academic effectiveness, teachers can substantially improve their students' performance.

Based on the findings of the present study, a number of recommendations can be put forward for prospective researchers. Future studies might include random sampling techniques which are free from any bias in sample selection. Besides the questionnaires, future researchers could use different approaches because as Ghanizadeh and Ghonsooly (2014) recommended the employment of qualitative approaches such as interviews, observations, and case studies allows future researchers to determine possible interrelationships among the constructs and the processes by which these variables develop. Follow-up studies to confirm and pinpoint the results among EFL students at schools and institutes are also recommended. Future studies can also incorporate other equally important determinants of language achievement in the model, factors such as demotivators, self-regulation, learning style, and so on.

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