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# Investigating the relationship between foreign language learning and call attitudes among EFL freshman students

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## Abstract

Over the last two decades rapid developments in computer sciences and technology have established the persistent role of technology-based learning in all walks of education, more specifically in second or foreign language learning. Thus, the current study was an attempt to investigate the relationship between attitudes towards foreign language learning and computer-assisted language learning. A total of 128 university students majoring in English as foreign language from a major state university were randomly selected for the study. Data were collected using the Attitudes towards Foreign Language Learning (A-FLL) and Attitudes towards Computer-Assisted Language Learning (A-CALL) scales. Findings revealed that there are statistically positive correlations between attitudes towards foreign language learning (A-FLL) and attitudes towards computer-assisted language learning, suggesting that the bidirectional relationship between computer technology and human interface greatly influences learning a L2. Moreover, some of the subcomponents of A-FLL including teacher influence, tolerance of ambiguity and extrinsic motivation greatly contributed to the prediction of the participants' attitudes towards computer-assisted language learning. Gender and age differences were also found to potentially affect some aspects of human interface, and the participants' years of language learning experience and their academic achievement also correlated positively with degree of inhibition component of CALL. It is concluded that inquiry into language learners' attitudes towards technology-based L2 learning will greatly constitute a viable and secure avenue towards the betterment of L2 learning programs and quality language learning.

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## 1. Introduction

Over the past few decades there has been a growing interest in researching numerous variables which affect achievement in learning a second or foreign language (L2) in an effort to give the most comprehensive account of

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language proficiency as well as successful L2 use. A myriad of variables such as cognitive, affective disposition, personality, attitudes, values, mood, motivation, intelligence (Dörnyei, 2005, 2009, 2014) have been found to account for a significant proportion of the variance in L2 learners' performance. Gardner's (1985, 2001) socio-educational model of motivation claims that various individual differences, more specifically integrativeness, i.e. attitudes towards the target language community, attitudes towards learning situation, and instrumental motivation greatly contribute to the establishment of language learners' level of motivation referred to as integrative motivation. Dörnyei (2005), however, asserts that the concept of individual differences is "rather loose" by definition since it contains a myriad of "certain core variables and many optional ones" (p. 7). Thus, he opts for *personality*, *ability/aptitude*, and *motivation* (encompassing Gardner's integrative motivation and plus (Dörnyei, 2005, 2009)) as principal learner variables which have the potential to account for a significant proportion of the variance in one's achievement in learning an L2.

The integration of technology and computer-assisted tools into education during the past few decades has also provided the necessary impetus to explore the role of technological developments in L2 teaching and learning. Researchers have attempted to investigate the issue from a variety of perspectives. The main objective has often focused on an attempt to find out the relationship between language learning capacity or aptitude and ability to use technology, especially computers, for language learning purposes. In other words, investigating the role of technology-based instruction and pedagogically-oriented implementation of technological and pedagogical developments in L2 learning and teaching have gained more momentum during recent decades. According to Chapelle (2001), a great majority of research on computer-assisted language learning (CALL) has been revolving around issues such as software developed for language learning purposes and designing language learning tasks. However, the potential role of language learners in how to use computers and technology for successful language learning, i.e. the human interface and computer use aspect of CALL (Rahimi & Yadollahi, 2011), has not been given much attention in CALL studies. Put another way, language learners' interaction with computers and individual differences such as their capacity and attitudes towards using CALL, or "human ware" (Warschauer, 2002), for foreign language learning (FLL) and success in learning an L2 have not been taken into account appropriately (Vandewaetere & Desmet, 2009; Tunçok, 2010).

The strength of research on CALL with emphasis on L2 learners' attitudes towards CALL is that "learners can be ensured against failure and a more adaptive way of CALL becomes possible" (Vandewaetere & Desmet, 2009, p. 350). However, relatively little research has been done to examine the relationship between attitudes towards foreign language learning and CALL, especially in the Turkish context. To address the lack, this study aims to investigate the relationship between attitudes towards FLL and CALL, and determine to what extent attitudes towards FLL contribute to the prediction of attitudes towards CALL, in the hope of shedding some light on the betterment of CALL-based instruction in Turkey.

## **2. Literature review**

The history of the thriving area of L2 motivation and attitudes towards language learning situation as well as target language community dates back to the studies in social psychology pioneered by Wallace Lambert and Robert Gardner in Canadian context during the 1970s, and Gardner's (1985) socio-educational model of L2 learning. This model integrates aspects of traditional motivational research on L2 learning, which puts emphasis entirely on individual and social psychological insights addressing the relationship between L1 and L2 communities (Dörnyei, 2005). Gardner (1985) asserts that students' attitudes towards specific language community will certainly influence the degree of success in incorporating aspects of that language. This assertion highlights the significance of learners' attitudes as one of the most important motivational factors that have impact on learning an L2. Indeed, the socio-educational model highlights integrative motivation as the cornerstone. Later, Tremblay and Gardner (1995) broadened the scope of Gardner's social psychological model of L2 motivation only to integrate socially oriented construct with new elements from other cognitive motivational and goal-oriented theories. Based on the new extended model, the construct of language attitudes included attitudes towards L2 speakers, integrative orientation, interest in foreign language, attitudes towards L2 course, attitudes towards L2 teacher, and instrumental orientation.

Information and Communication Technologies (ICT) have become an integral part of our lives, affecting all walks of human life and endeavor. Through widespread availability and practicality, computers in particular have made their way into education, attracting teachers' and students' attention. Over the past decade, computers have been widely used for educational purposes, and more specifically for second or foreign language learning in a way

that computer assisted language learning (CALL) has become an indispensable part of language learning process in the third millennium. However, no single well-defined definition of CALL-related attitude has been offered so far. The construct of CALL is often defined as incorporation of computers into language learning process for presenting language learning materials, or “any process in which a learner uses a computer and, as a result, improves his or her language” (Beatty, 2003, p. 7).

Research has shown that affective variables such as personal attitudes are important factors to affect an individual’s language learning and use (Baker & MacIntyre, 2000; Gardner, 2001; Gardner & MacIntyre 1993; Gardner et al., 2004; Karahan, 2007; MacIntyre, MacMaster, & Baker, 2001). The core content of attitude/motivational studies in foreign language learning (FLL) and second language acquisition (SLA) is the contention that positive attitudes towards language learning motivates learners and contributes greatly to achievement in different domains. Conversely, negative attitude serves a psychological barrier against successful L2 learning (Dörnyei & Csizér, 2002). Recent developments in SLA research have established the fact that the degree of desire to be identified with international community or international posture (Yashima, 2002, 2009), intercultural communicative competence (Byram, 1997; Mirzaei & Forouzandeh, 2013), and international citizenship (Byram, 2013) play a crucial role in motivating L2 learners to successfully learn and use an L2.

Similarly, positive attitudes towards the effectiveness of CALL applications in language learning can raise learners’ behavioral intention of using it (Akbulut, 2008; Ayres, 2002; Başöz & Çubukçu, 2014; Desmet, 2007; Fatemi Jahromi & Salimi, 2013; Felix, 2005, 2008; Liaw et al., 2007; Rahimi & Yadollahi, 2011; Tunçok, 2010; Vandewaetere & Desmet, 2009). It is concluded, therefore, that understanding language learners’ attitudes towards foreign language learning and application of ITC for language learning purposes facilitate the use of appropriate CALL, paving the way for the implementation of CALL-based pedagogy and the use of CALL applications for teaching and learning languages. Akbulut (2008), for instance, investigated attitudes of Turkish university students ( $N = 155$ ) towards effectiveness of CALL. The students all had high levels of proficiency in English. The findings revealed that the participants had positive attitudes towards CALL since computers were found to be helpful in sustaining “independence, learning, collaboration, instrumental benefits, empowerment, comfort and communication” (p. 1).

Most studies have shown that the attitudes towards FLL and CALL can be decomposed into a tripartite model, consisting of a *cognitive* component which entails beliefs about attitude-related situations, an *affective/evaluative* component expressing feelings arising about cognitive element and appraisal of these feelings, and a *behavioral* component which includes particular learning behaviors adopted by the learners (Vandewaetere & Desmet, 2009, p. 351). These attitudes towards foreign language learning and CALL are interrelated. The close association between these two constructs is central to the successful application of CALL in FLL (Liu & Reed, 1995; Masgoret & Gardner, 2003). In line with this, the present study aimed at exploring the viable relationship between attitudes towards FLL and CALL, in the hope of shedding more light on the relationship between “hardware”, “software”, and “human ware” in the application of CALL in language learning process. For this purpose, the following research questions were formulated to guide the study.

1. What are Turkish freshmen EFL students’ attitudes towards FLL and CALL?
2. Is there any relationship between attitudes towards FLL and CALL?
3. How well can the variance in attitudes towards CALL be predicted by attitudes towards FLL?
4. Do demographic factors such as gender, age and GPA moderate on attitudes towards FLL and CALL?

### 3. Method

#### 3.1. Research design

This study was carried out with a quantitative research design using survey methodology to collect data about participants’ attitudes towards foreign language learning (A-FLL) and attitudes towards computer-assisted language learning (A-CALL). As a cross-sectional study conducted at one point in time, this design is useful to employ when researchers try to gather information quickly and economically (Creswell, 2012). Further quantitative data were also gathered from the participants’ course grades and cumulative grade point average (GPA) scores.

#### 3.2. Setting and participants

This study was conducted in an English as a foreign language (EFL) teacher education program at a major state university in Ankara, Turkey. Convenience sampling was used to select the participants of the study. A total of 128 undergraduate freshman students (females: 75% and males: 25%) enrolled in the department voluntarily participated

in the study, responding to the statements on a 7-point Likert scale. Their mean age was 19.08 years ( $SD = .88$ , range 18~22). Without any consultation among themselves they completed the anonymous survey during the regular class hours and also gave consent for data collection.

### 3.3. Research instruments

#### 3.3.1. Attitudes towards foreign language learning (A-FLL)

Attitudes towards foreign language learning were measured by the English version of Attitudes towards Foreign Language Learning (A-FLL) Scale (Vandewaetere & Desmet, 2009). The A-FLL consists of 31 statements which participants rate on a 7-point (ranging from 1. *totally disagree* to 7. *totally agree*) Likert scale. It has three major components: *cognitive* component, *affective/evaluative* component with three sub-scales of *extrinsic*, *intrinsic*, and *teacher influence*, and *behavioral* component with four subscales of *exhibition*, *inhibition*, *tolerance of ambiguity*, and *learning effort*. The scores for factors are calculated by adding the scores on statements related to each factor. Higher scores represent more positive attitudes towards FLL. The internal consistency of A-FLL in this study was  $\alpha = .83$  for the entire scale.

#### 3.3.2. Attitudes towards computer-assisted language learning (A-CALL)

Attitudes towards CALL were measured by the English version of Attitudes towards Computer-Assisted Language Learning (CALL) Scale (Vandewaetere & Desmet, 2009). The A-CALL consists of 20 statements which participants rate on a 7-point (ranging from 1. *totally disagree* to 7. *totally agree*) Likert scale. It has four major components: *effectiveness of CALL vs. non-CALL*, *surplus value of CALL*, *teacher influence*, and *degree of exhibition*. The scores for factors are calculated by adding the scores on statements related to each factor. Higher scores represent more positive attitudes towards CALL. The internal consistency of A-CALL in this study was  $\alpha = .83$  for the entire scale, ranging between .69 and .89 for the subscales. The instrument employed in the study was also used to gather demographic and background information with regard to participants' grade point average (GPA), gender, and age.

#### 3.3.3. Procedures for data collection and analysis

This study was conducted in an undergraduate EFL teacher training program at a major state university in Ankara in May 2014. It took participants around fifteen minutes on average to complete the survey. Data analysis was carried out in order to address the research questions formulated for the present study. The statistical analyses were performed using IBM SPSS Statistics 21, a comprehensive computer program used to help researchers perform statistical analysis quickly and accurately.

In order to characterize the scores of the participants' attitudes and for the ease of interpretation of results, the perfect scores were computed and mean values were obtained. Descriptive analyses such as frequency and mean were obtained to characterize the collected data. Other statistical analysis tests conducted for the study consisted of the Pearson product-moment correlation test, the independent-samples t-test, the one-way analysis of variance (one-way ANOVA), and regression analysis. Statistical tests conducted for this study were assessed at the 0.01 and 0.05 levels of significance.

## 4. Results

### 4.1. Descriptive statistics for EFL students' attitudes towards FLL and CALL

When the participants were asked to rate their attitudes towards foreign language learning, 75% of the participants agreed with cognitive component, 79% with affective/ evaluate component and 64% with behavioral component of A-FLL. Understandably, 73% of them expressed positive attitudes towards foreign language learning with higher mean score ( $M = 71.62$ ,  $SD = 11.11$ ) ascribed to affective/evaluative component. Furthermore, the highest mean score ( $M = 38.42$ ,  $SD = 6.48$ ) was observed in intrinsic motivation subcomponent of affective /evaluate component, while the highest mean score ( $M = 17.94$ ,  $SD = 3.13$ ) was ascribed to exhibition subcomponent of behavioral component.

With regard to the importance of CALL in second or foreign language learning, the ratings also indicated positive attitudes (Table 1). Specifically, 60% of participants expressed positive attitudes towards the overall impact of CALL on language learning with higher mean score observed in *surplus value of CALL* ( $M = 41.55$ ,  $SD = 8.66$ ). It was also found that 58% of the participants expressed positive attitudes towards the effectiveness of CALL, 66% for surplus value of CALL, 65% for teacher influence, and 54% for the degree of exhibition to CALL.

Table 1. Descriptive statistics for components of A-FLL and A-CALL

Components of A_FLL	Subcomponents	N	Mean	SD	%
Cognitive	-	128	26.28	5.77	75
Affective/Evaluative	Extrinsic	128	16.25	4.37	78
	Intrinsic	128	38.42	6.48	79
	Teacher Influence	128	16.93	3.60	81
Total		128	71.62	11.11	79
Behavioral	Inhibition	128	7.50	2.67	54
	Exhibition	128	17.94	3.13	86
	Tolerance of ambiguity	128	14.93	3.25	72
	Learning Effort	128	17.19	5.12	50
Total		128	57.58	8.63	64
Components of CALL					
Effectiveness of CALL	-	128	16.25	4.72	58
Surplus Value of CALL	-	128	41.55	8.66	66
Teacher Influence	-	128	13.56	3.59	65
Degree Of exhibition	-	128	11.34	2.17	54
Total		128	82.71	12.58	60

#### 4.2. Relationship between attitudes towards FLL and CALL

The Pearson correlation coefficients revealed a statistically slight positive correlation between three components of A-FLL and CALL,  $r(128) = .29, p < .01$  for *cognitive component*,  $r(128) = .26, p < .01$  for *affective/evaluative component*, and  $r(128) = .19, p < .01$  for *behavioral component*. Moreover, there was statistically a moderate significant correlation between overall A-FLL and overall A-CALL,  $r(128) = .51, p < .01$ . Significant correlations were also found between some sub-scales of A-FLL and A-CALL. These are presented in Table 2 below.

Table 2. Correlation between A-FLL and components of A-CALL

Components of A-FLL	Subcomponents of A-FLL	Effectiveness of CALL	Surplus value of CALL	Teacher influence	Degree of exhibition	Overall CALL
Cognitive	-	-.12	.36*	.27**	.03	.29**
Affective/Evaluative	Extrinsic motivation	.16	.06	.06	.09	.26**
	Intrinsic motivation	.11	.36*	.23*	-.06	
	Teacher influence	-.06	.19*	.41**	-.10	
Behavioral	Inhibition	.19*	-.06	-.15	.34**	.19*
	Exhibition	-.08	.38**	.32**	-.03	
	Tolerance of Ambiguity	-.16	.27**	.19*	.11	
	Learning effort	-.20*	-.17	-.20*	.27**	
Overall FLL	-	.11	.31**	.21*	.13	.51**

\* Significant at .05 level.

\*\* Significant at .01 level.

#### 4.3. Attitudes towards FLL as predictors of attitudes towards CALL

Multiple regression analysis was conducted to test if Attitudes towards Foreign Language Learning (A-FLL) significantly predicted the participants' ratings of Attitudes towards Computer-Assisted Language Learning (A-CALL). Cognitive component of A-FLL explained 13% of the variance in surplus value of CALL ( $R^2 = .13, F(1,126) = 17.86, p < .01$ ) with ( $\beta = .36, p < .01$ ) power of prediction and 7% in teacher influence ( $R^2 = .07, F(1,126) = 9.19, p < .05$ ) with ( $\beta = .26, p < .01$ ) power of prediction.

The results of the regression analysis indicated that the three subcomponents of affective/evaluative component of A-FLL, namely extrinsic and intrinsic motivation along with teacher influence, as predictor variables explained 18% of the variance in teacher influence component of CALL ( $R^2 = .18$ ,  $F(3,124) = 8.80$ ,  $p < .01$ ), 13% in surplus value of CALL ( $R^2 = .13$ ,  $F(1,126) = 18.40$ ,  $p < .01$ ). It was also found that teacher influence subcomponent of A-FLL significantly predicted teacher influence in CALL ( $\beta = .41$ ,  $p < .01$ ) while intrinsic motivation significantly contributed to the prediction of surplus value of CALL ( $\beta = .36$ ,  $p < .01$ ).

Concerning behavioral component, the results of multiple regression analysis revealed that the four subcomponents accounted for 11% of the variance in effectiveness of CALL ( $R^2 = .11$ ,  $F(4,123) = 3.77$ ,  $p < .01$ ), 20% in surplus value of CALL ( $R^2 = .23$ ,  $F(4,123) = 8.95$ ,  $p < .01$ ), 15% in teacher influence ( $R^2 = .15$ ,  $F(4,123) = 5.45$ ,  $p < .01$ ), and 14% in degree of exhibition to CALL ( $R^2 = .14$ ,  $F(4,123) = 4.83$ ,  $p < .01$ ). The findings also indicated that learning effect significantly predicted effectiveness of CALL ( $\beta = .23$ ,  $p < .05$ ), exhibition significantly predicted surplus value of CALL ( $\beta = .33$ ,  $p < .01$ ) as did tolerance of ambiguity ( $\beta = .24$ ,  $p < .05$ ). Likewise, exhibition ( $\beta = .30$ ,  $p < .01$ ) and learning effort ( $\beta = -.18$ ,  $p < .05$ ) greatly contributed to the prediction of teacher influence component of CALL, while inhibition significantly predicted degree of exhibition to CALL ( $\beta = .26$ ,  $p < .05$ ). Finally, the overall attitudes towards FLL explained 26% of the variance in A-CALL.

#### 4.4. Demographic factors and attitudes towards FLL and CALL

Gender differences were also found, to some extent, to moderate on the participants' attitudes towards FLL and CALL. The results indicated a statistically significant difference,  $t(126) = 2.02$ ,  $p < .05$ , between males ( $M = 15.65$ ,  $SD = 4.61$ ) and females ( $M = 17.70$ ,  $SD = 5.20$ ) only in learning effort subcomponent of A-FLL. Regarding attitudes towards CALL, the findings also revealed statistically significant differences between groups in relation to their perceptions of *effectiveness of CALL*,  $t(126) = 2.38$ ,  $p < .05$ , with females scoring higher ( $M = 16.82$ ,  $SD = 4.25$ ) than males ( $M = 14.56$ ,  $SD = 5.67$ ) and *surplus value of CALL*,  $t(126) = -2.23$ ,  $p < .05$ . Unlike effectiveness component, males had higher mean score ( $M = 9.37$ ,  $SD = 1.65$ ) in *surplus value of CALL* than females ( $M = 8.23$ ,  $SD = .84$ ) did. Moreover, 'Effect Size' statistic based on the 'Eta Square' value ( $\eta^2$ ) of Cohen (1988) indicated a slight significant difference between groups ( $\eta^2 < 0.059$ ) in all significant variables.

The results of one-way ANOVA showed a statistically significant difference in the participants' attitudes towards CALL regarding their academic achievement only in *degree of exhibition component*,  $F(62, 65) = 1.67$ ,  $p < .05$ , with a moderate effect size,  $\eta^2 = .06$  ( $\eta^2 < 0.14$ ). Likewise, the participants differed significantly in their attitudes towards CALL,  $F(9,118) = 2.77$ ,  $p < .05$ , with a large effect size,  $\eta^2 = .17$  ( $\eta^2 > 0.14$ ), in relation to their years of experience in learning EFL. Regarding age differences in the attitudes towards FLL, the results indicated statistically significant differences between age groups of 18 and 20 in exhibition subcomponent of behavioral component,  $F(4,123) = 2.56$ ,  $p < .05$ , with a moderate effect size,  $\eta^2 = .08$  ( $\eta^2 < 0.14$ ). Moreover, there was a statistically significant difference among age groups of 18, 19, 20 and 22 regarding their attitudes towards CALL only in degree of exhibition to CALL,  $F(4,123) = 4.20$ ,  $p < .05$ , with a moderate effect size,  $\eta^2 = .12$  ( $\eta^2 < 0.14$ ).

### 5. Discussion and conclusions

The main goal of the current study was to explore the relationship between language learners' attitudes towards foreign language learning (FLL) and computer-assisted language learning (CALL) in the Turkish context. The findings yielded important insights into attitudinal/motivational factors influencing attitudes towards the two interrelated constructs. The findings indicated that Turkish EFL students have positive attitudes towards FLL and integrating CALL-applications into language learning process. Other studies (Akbulut, 2008; Ayres, 2002; Mahfouz & Ihmeideh, 2009; Rahimi & Yadollahi, 2011) have also reported positive attitudes towards the effectiveness of CALL in learning an L2. Mahfouz & Ihmeideh (2009), for instance, found that university students' attitudes towards using video and text chat with anonymous English native speakers for improving their English language skills were higher regarding speaking skills, followed by listening, reading, and writing skills. Similar results were reported by Rahimi and Yadollahi (2011) who found that Iranian students expressed positive attitudes towards CALL and FLL.

The findings also showed a positive strong correlation between attitudes towards FLL and CALL. This indicates that overall attitudes towards CALL can be predicted by students' attitudes towards FLL since these two constructs are interrelated. As shown in the results section, the participants' overall attitudes towards FLL account for 26% of the variance in their attitudes towards CALL. This suggests that students' positive attitudes towards FLL and CALL applications will greatly enhance their performance both in the subject matter, i.e. learning an L2, and using information and communication technology (ICT). Obviously, this will, in turn, lower computer resistance among language users in a CALL-based curriculum (Brosnan, 1998; Nævdal, 2007).

The findings of the present study also revealed that male and female students have positive attitudes towards FLL and CALL except for differences in the *learning effort* sub-scale of A-FLL, with females having higher mean scores than males. This suggests that female students believe that language learning becomes more enjoyable when the learning effort decreases. Similarly, gender differences were found to moderate on the students' attitudes towards CALL in *effectiveness* and *surplus value of CALL*. This indicates that female students believe that language learning, assisted by computers, is better than learning by oral practice, more adequate than traditional language learning, and enhances language proficiency in comparison with non-CALL instruction. On the other hand, male students believe in the *surplus value of CALL* and that computer-assisted language learning is a valuable extension of the traditional learning methods. These findings are congruent with those of Fatemi Jahromi and Salimi (2013) who also found that gender differences potentially affect attitudes towards CALL. However, these findings are inconsistent with Akbulut's (2008) study which reported that there was no relationship between gender and attitudes towards CALL.

The participants' academic achievement (their grade point averages), years of learning experience, and age were also found to influence their attitudes towards FLL and CALL. Concerning academic achievement and learning experience, the participants only differed in their attitudes towards *degree of exhibition to CALL*. That is, great performance and having more language learning experience make students feel less inhibited when communicating in the foreign language via computer (chat) than in a face-to-face situation. Moreover, the participants differed in their attitudes towards *exhibition subscale* in FLL and *degree of exhibition to CALL*. In other words, the degree of exhibition to both FLL and CALL was found to be crucial in integrating CALL to foreign language learning process. This suggests that the degree of feeling confidence and controlling anxiety in a face-to-face learning situation (classroom) vary across age groups both in A-FLL and A-CALL. Put differently, the threshold to start a face-to-face conversation may be bigger to some students than starting a virtual (computer-assisted) conversation and vice versa. This study has also confirmed the findings of Tunçok's (2010) study which found that A-FLL and A-CALL are interrelated and that most of the students have positive attitudes towards CALL and foreign language learning. Moreover, other factors such as age, grade, gender, years of studying English and prior CALL experience affect students' attitudes. These findings enhance our understanding of students' attitudes towards FLL and CALL.

As the need for classroom CALL as a part of online courses, CALL-based materials assessment, participation in institution-wide and inter-institution partnerships, and, more specifically, the need for using or administering multimedia language laboratories are inevitable in CALL in the third millennium (Fotos & Browne, 2004; Walker & White, 2013), it seems necessary that teachers, instructors, and curricula should be equipped adequately with new technological tools that address both teaching practices and curriculum evaluation. It is actually obvious that these objectives can be met, in part, if we take the attitudes of both teachers and students toward foreign language teaching and learning into account within a CALL-based pedagogical framework. The teaching practices of teachers, their approaches toward both teaching and assessment are to be given due attention when CALL-based curriculum is designed. Thus, a multi-disciplinary research is needed to make the most of a CALL-based pedagogy.

The primary objective of the present study was to investigate the relationship between Turkish freshman EFL students' attitudes to FLL and CALL in an English as a foreign language classroom. The results indicated that A-FLL and other demographic factors such as gender, age, academic achievement, and years of language learning experience have the potential to exert influence on language learners' attitudes towards CALL, thereby, enhance or deter their ultimate achievement in a CALL-based language learning context. However, other studies found that students' attitudes towards CALL may be shaped by their accessibility, and their ability to sustain autonomous learning, language achievement, and instrumental benefits (Akbulut, 2008) as well as faculty and seniority of university, i.e. freshman, sophomore, junior, and senior students, (Mahfouz & Ihmeideh, 2009). Therefore, further research is needed to investigate the issue from various aspects of CALL-supported language instruction including conducting attitudinal studies on online chat with native speakers, and other important factors such as computer ownership and use which are potentially liable to affect CALL-application in language learning process in different learning environments.

## References

- Akbulut, Y. (2008). Exploration of the attitudes of freshman foreign language students toward using computers at a Turkish state university. *Turkish Online Journal of Educational Technology*, 7, 18–31.
- Ayres, R. (2002). Learner attitudes towards the use of CALL. *Computer-Assisted Language Learning Journal*, 15(3), 241–249. <http://dx.doi.org/10.1076/call.15.3.241.8189>
- Baker, S. C., & MacIntyre, P. D. (2000). The role of gender and immersion in communication and second language orientations. *Language Learning*, 50, 311–341. <http://dx.doi.org/10.1111/0023-8333.00224>
- Başöz, T., & Çubukçu, F. (2014). Pre-service EFL teacher's attitudes towards computer assisted language learning (CALL). *Procedia - Social and Behavioral Sciences*, 116, 531–535. <http://dx.doi.org/10.1016/j.sbspro.2014.01.253>
- Beatty, K. (2003). *Teaching and researching computer assisted language learning*. Applied Linguistics in Action Series. Harlow: Pearson Education.
- Brosnan, M. (1998). *Technophobia: The psychological impact of information technology*. London: Routledge.
- Byram, M. (1997). *Teaching and assessing intercultural communicative competence*. Clevedon, UK: Multilingual Matters.
- Byram, M. (2013). Foreign language teaching and intercultural citizenship. *Iranian Journal of Language Teaching Research* 1(3), 53–62.
- Chapelle, C. (2001). *Computer applications in second language acquisition: Foundations for teaching, testing and research*. Cambridge: Cambridge University Press.
- Cohen, J. W. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.) Hillsdale, NJ: Lawrence Erlbaum Associates.
- Creswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (4th ed.). Boston, MA: Pearson.
- Desmet, P. (2007). L'apport des TIC à la mise en place d'un dispositif d'apprentissage des langues centré sur l'apprenant. *TL - International Journal of Applied Linguistics*, 154, 91–110.
- Dörnyei, Z. (1998). Motivation in second and foreign language learning. *Language Teaching*, 31(3), 117–135. <http://dx.doi.org/10.1017/S026144480001315X>
- Dörnyei, Z. (2005). *The psychology of the language learner: Individual differences in second language acquisition*. Mahwah, NJ: Erlbaum.
- Dörnyei, Z. (2009). The L2 motivational self system. In Z. Dörnyei & E. Ushioda (Eds.), *Motivation, language identity and the L2 self* (pp. 9–42). Bristol, UK: Multilingual Matters.
- Dörnyei, Z. (2014). Motivation in second language learning. In M. Celce-Murcia, D. M. Brinton & M. A. Snow (Eds.), *Teaching English as a second or foreign language* (4th ed., pp. 518–531). Boston, MA: National Geographic Learning/Cengage Learning.
- Dörnyei, Z., & Csizér, K. (2002). Some dynamics of language attitudes and motivation: Results of a longitudinal nationwide survey. *Applied Linguistics*, 23, 421–462. <http://dx.doi.org/10.1093/applin/23.4.421>
- Fatemi Jahromi, S. A., & Salimi, F. (2013). Exploring the human element of computer-assisted language learning: An Iranian context. *Computer Assisted Language Learning*, 26(2), 158–176. <http://dx.doi.org/10.1080/09588221.2011.643411>
- Felix, U. (2005). What do meta-analyses tell us about CALL effectiveness? *ReCALL*, 17(2), 269–288. <http://dx.doi.org/10.1017/S0958344005000923>
- Felix, U. (2008). The unreasonable effectiveness of CALL: What have we learned in two decades of research? *ReCALL*, 20(2), 141–161. <http://dx.doi.org/10.1017/S0958344008000323>
- Fotos, S., & Browne, C.M. (2004). *New perspectives on CALL for second language classrooms*. New Jersey: Lawrence Erlbaum Associates.
- Gardner, R.C. (1985). *Social psychology and second language learning: The role of attitudes and motivation*. London: Edward Arnold.
- Gardner, R.C. (2001). Integrative motivation and second language acquisition. In Z. Dörnyei & R. Schmidt (Eds.) *Motivation and second language acquisition* (pp. 1–20). Honolulu, HI: University of Hawaii Press.
- Gardner, R. C., Masgoret, A. M., Tennant, J., & Mihic, L. (2004). Integrative motivation: Changes during a year-long intermediate-level course. *Language Learning*, 54, 1–34. <http://dx.doi.org/10.1111/j.1467-9922.2004.00247.x>
- Gardner, R. C., & MacIntyre, P. D. (1993). On the measurement of affective variables in second language learning. *Language Learning*, 43, 157–194. <http://dx.doi.org/10.1111/j.1467-1770.1992.tb00714.x>
- Karahan, F. (2007). Language attitudes of Turkish students towards the English language and its use in Turkish context. *Journal of Arts and Sciences*, 7, 73–87.
- Liaw, S. S., Huang, H. M., & Chen, G. D. (2007). Surveying instructor and learner attitudes toward e-learning. *Computers and Education*, 49, 1066–1080. <http://dx.doi.org/10.1016/j.compedu.2006.01.001>
- Liu, M., & Reed, W. M. (1995). The effect of hypermedia assisted instruction on second language learning through a semantic-network-based approach. *Journal of Educational Computing Research*, 12(2), 159–175. <http://dx.doi.org/10.2190/3161-m47f-gvam-b38k>
- Mahfouz, S. M., & Ihmeideh, F. M. (2009). Attitudes of Jordanian university students towards using online chat discourse with native speakers of English for improving their language proficiency. *Computer Assisted Language Learning*, 22, 206–227. <http://dx.doi.org/10.1080/09588220902920151>
- Masgoret, A. M., & Gardner, R. C. (2003). Attitudes, motivation, and second language learning: meta-analyses of studies by Gardner and associates. *Language Learning*, 53, 123–163. <http://dx.doi.org/10.1111/1467-9922.00227>
- MacIntyre, P. D., MacMaster, K., & Baker, S. C. (2001). The convergence of multiple models of motivation for second language learning: Gardner, Pintrich, Kuhl, and McCroskey. In Z. Dörnyei & R. Schmidt (Eds.), *Motivation and second language acquisition* (pp.461–492). Honolulu, Hawaii: University of Hawaii at Manoa, Second Language Teaching and Curriculum Center.
- Mirzaei, A., & Forouzandeh, F. (2013). Relationship between intercultural communicative competence and L2-learning motivation of Iranian EFL learners. *Journal of Intercultural Communication Research*, 42(3), 300–318. <http://dx.doi.org/10.1080/17475759.2013.816867>



- Nævdal, F. (2007). Home-PC usage and achievement in English. *Computers & Education*, 49, 1112–1121.  
**<http://dx.doi.org/10.1016/j.compedu.2006.01.003>**
- Rahimi, M., & Yadollahi, S. (2011). Foreign language learning attitude as a predictor of attitudes towards computer-assisted language learning. *Procedia - Computer Science*, 3, 167–174. **<http://dx.doi.org/10.1016/j.procs.2010.12.029>**
- Tremblay, P. F., & Gardner, R. C. (1995). Expanding the motivation construct in language learning. *Modern Language Journal*, 79, 505–520.  
**<http://dx.doi.org/10.1111/j.1540-4781.1995.tb05451.x>**
- Tunçok, B. (2010). *A case study: Students' attitudes towards computer assisted learning, computer assisted language learning and foreign language learning*. (Unpublished master's thesis). Middle East Technical University, Ankara.
- Vandewaetere, M., & Desmet, P. (2009). Introducing psychometrical validation of questionnaires in CALL research: The case of measuring attitude towards CALL. *Computer Assisted Language Learning*, 22, 349–380. **<http://dx.doi.org/10.1080/09588220903186547>**
- Walker, A., & White, G. (2013). *Technology enhanced language learning*. Oxford: Oxford University Press.
- Warschauer, M. (2002). A developmental perspective on technology in language education. *TESOL Quarterly*, 36, 453–475.  
**<http://dx.doi.org/10.2307/3588421>**
- Yashima, T. (2002). Willingness to communicate in a second language: The Japanese EFL context. *Modern Language Journal*, 86(1), 54–66.  
**<http://dx.doi.org/10.1111/1540-4781.00136>**
- Yashima, T. (2009). International posture and the ideal L2 self in the Japanese EFL context. In Z. Dörnyei & E. Ushioda (Eds.), *Motivation, language identity and the L2 self* (pp. 144–163). Bristol, UK: Multilingual Matters.