Teachers' Knowledge of and Attitude Towards Incorporating Computer Assisted Language Learning in EFL Classrooms

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Abstract

This study's aim was to explore the teachers' knowledge of, and attitudes towards, Computer Assisted Language Learning (CALL) at Salalah College of Technology (SCT), Oman. A questionnaire was used to collect the data from 40 EFL teachers (16 males & 24 females) in the academic year 2016-2017. They were randomly selected using a stratified sampling technique to investigate first, the influence of gender, as well as the impact that years of teaching experience played on the teachers' knowledge of and attitudes towards CALL, respectively, followed by the correlation between the teachers' knowledge of and attitudes towards CALL, and finally the predictability of CALL knowledge based on the teachers' attitudes, gender and years of teaching experience. A metric known as the 'Mann-Whitney U Test' showed statistically significant differences between male and female teachers in their knowledge of CALL. Moreover, the sample independent t-test results showed no statistically significant interactive effect between the teachers' attitudes towards CALL and their years of teaching experience. A Spearman's rank order correlation coefficient indicated no noticeable significant correlation between the participants' CALL attitudes and CALL knowledge. Finally, a model for predicting the participants' knowledge of CALL from their attitudes, years of teaching experiences and gender was developed. The model as a whole contributed only as much as 6% of the variance in the knowledge of CALL. However, the findings revealed that gender significantly contributed to the prediction of the knowledge of CALL. Thus, the model suggested other possible variables to check their predictability of the teachers' knowledge of CALL.

Keywords: Computer Assisted Language Learning (CALL); English as a foreign language (EFL); knowledge; attitude; EFL teacher gender, teaching experience.

1. Theoretical and Conceptual Background

Language teaching is a dynamic and active process in the educational field. Therefore, teachers are required to find effective teaching techniques that are commensurate with the rapid rate of technological developments around the world. Integrating computers technology into the process of teaching a language is a constructive strategy which facilitates language teaching and helps teachers improve their teaching skills. Hence, CALL is highly recommended in educational institutions to teach the knowledge and skills students need. Furthermore, it helps teachers accelerate their students' learning. According to a definition provided by Chapelle and Jamiesen (2008:1), CALL is 'the area of applied linguistics concerned with the use of computers for teaching and learning a second language'. A lot of educational institutions all over the world are trying to reform their educational systems in order to bridge the present technological gap that exists in the curriculum (Buabeng-Andoh, 2012). The reforming process needs to include the successful implementation of technologies like computers in different educational curriculums, to help teachers implement productive methods of teaching (Tomei, 2005).

1.1 Factors Influencing Teacher's Attitudes Towards and Knowledge of CALL

A significant number of factors influencing the teacher's attitudes towards and knowledge of CALL have been identified by researchers. For example, teachers' implementation of CALL might be influenced by attitudes towards it. There may also be organizational factors, and personal factors like age, gender and years of teaching experience (Clausen, 2007; Alshumaimeri, 2008; Ambusaidi, 2010; Mahdi & Al-Dera, 2013). Alshumaimeri (2008) revealed a positive correlation between a teacher's attendance during training for CALL, and a positive attitude towards the use of CALL approaches to learning in Saudi Arabian classrooms. However, two main factors were considered in our study as they are ssential in determining the teachers' attitudes towards and knowledge of CALL.

1.2 Gender

Although some studies revealed that gender differences did not influence teachers' knowledge of CALL, a lot of studies indicated that gender influenced the effective incorporation of CALL in teaching. For instance, many researchers argue that male teachers tend to use computers in language teaching, as they were more competent in computer skills (Mahdi & Al-Dera, 2013; Kay, 2006; Volman & van Eck, 2001). However, the situation was different in a study reported by Breisser (2006). The findings revealed that females' competence of computers improved, while males' knowledge of computers remained unchanged during the period of the study. The study was

in agreement with a previous study conducted by Yukselturk and Bulut (2009). They had argued that the gap between male and female teachers has been reduced over the past years.

However, some recent studies showed that the gender variable did not have any sort of influence on teacher's CALL knowledge (Kay, 2006, Norris, Sullivan, Poirot & Soloway, 2003). They claimed that there was no gender difference regarding computer attitude and ability.

1.3 Teaching experience

A great number of studies have shown that the individual levels of teaching experience influence teachers' attitudes towards incorporating CALL in their classrooms. Many of these studies in the area of CALL have revealed that the amount of teaching experience had a great influence on the attitudes of teachers towards CALL and the effective implementation of CALL (Wong & Li, 2008; Lau & Sim, 2008; Giordano, 2007). Furthermore, Gorder (2008) conducted a study about the correlation between teachers' experience and their attitude towards using computers in their classrooms. The findings indicated that a positive attitude towards using computers in teaching correlated significantly with the teachers' experience and competence in working with computers. Conversely, Baek, Jong & Kim (2008) found that new teachers have a more positive attitude towards implementing CALL into their teaching compared with older teachers. Similarly, Russell, Bebell, O'Dwyer, & O'Connor (2003) argued that experienced teachers have a less positive attitude towards CALL, although they were highly competent in using computers and different programmes in comparison with new teachers. These differences were attributed to two main causes, which were that new teachers lack confidence and they focus on familiarizing themselves with their new school's system and preferred style of classroom management.

On the other hand, some competing studies have revealed that teaching experience did not influence the teachers' integration of computer technology in their classrooms (Granger, Morbey, Lotherington, Owston and Wideman, 2002; Niederhauser & Stoddart, 2001). This collection of findings found no difference between the experienced and new teachers in terms of their attitudes towards the implementation of computers in their teaching.

With regard to the Omani context, most of the studies conducted in the area of technology enhanced learning were about the students' attitudes towards, and their motivation to learn through, the new technology. However, a supplementary focus has also been given to teachers' knowledge of and attitudes towards CALL. Moreover, the few studies about CALL have been focused on teachers in general, regardless of the differences in gender or years of teaching experience. Therefore, my study aimed to find out and describe teachers' knowledge of and attitudes towards CALL and the influence of

gender and teaching experience on it. The study was carried out at SCT, Dhofar Province, Oman. English is the language of instruction in all departments of the college, so students are expected to have a good command and knowledge of English. In the last few years, the college has implemented an ambitious programme to develop the quality of English language teaching among its teachers. The programme concentrates on providing more classes in which students are encouraged to work and study in designated laboratories and participate in exercises through the Moodle software system.

We were highly motivated to conduct this study as we recognized throughout our prior work experiences at the college as lecturers, that understanding the mentioned issue will allow teachers to enhance their language teaching approaches. Moreover, it will help curriculum designers decide appropriate CALL training programmes for the teachers, which will improve their attitudes towards and knowledge of CALL in Omani EFL classrooms.

1.4 Aims of the Study

The purpose of this small-scale study was to investigate knowledge of and attitudes towards the integration of CALL in EFL classes held by the Foundation Programme teachers at SCT, Oman. The study shed light on three main points:

1.   The relationship between EFL teachers' knowledge of and attitudes towards incorporating CALL in EFL classrooms.
2.   The impact of the background variables such as gender and years of experience on EFL teachers' knowledge and attitudes towards incorporating CALL in their classes.
3.   The probability of predicting EFL teachers' levels of knowledge of CALL based upon the following variables: their attitudes towards CALL, gender and years of teaching experience.

1.5 Operationalization of Constructs

What follows is the operationalization of the constructs which were measured in order to achieve the objectives of this study throughout a set of multi-item questionnaire instruments:

1.   Knowledge of the use of CALL in EFL classrooms: EFL teachers' ability to properly answer 20 closed, multiple choice questions based on their knowledge of the incorporation of CALL in EFL classrooms. A high mean score unquestionably revealed high levels of knowledge of the use of CALL in EFL classrooms, and a low score demonstrated low levels of knowledge.
2.   The attitude EFL teachers have towards the use of CALL: EFL teachers' self-reported responses to 20 statements regarding the use of CALL. For each statement the respondents were required to clarify their level of

agreement on a 5-point Likert scale (5=strongly agree, 4=agree, 3=neutral, 2=disagree, 1=strongly disagree). The higher score indicated a high positive attitude towards CALL and vice versa. However, the negative items were reversed to ensure internal consistency and eliminate the possible impact of directing the respondents to respond in a certain way.

3.   Background Data: Respondents' background data were collected on:

A.   Gender: Respondents were requested to choose a male or female box.

B.   Years of teaching experience: Participants were requested to select from the following categories: 10 years or less, or more than 10 years.

The initial intention was to divide the years of teaching experience into five groups; 5 years or less, 6 to 10 years, 11 to 15 years, 16 to 20 years and more than 20 years. However, it was found that almost half of the participants in the study had more than 10 years of experience and no teachers had less than 5 teaching years. Consequently, it was decided to reduce the possible divisions or categories of possible teaching experience to two: 10 years or less and more than 10 years.

1.6 The Hypotheses

All of the following hypotheses were tested along with their variables as follows:

•   H1: EFL teachers of differing gender will hold significantly different levels of knowledge of CALL.

•   H01: There will be no statistically significant difference between the levels of knowledge of CALL held by EFL teachers of different gender.

•   H2: EFL teachers with 10 years of teaching experience or less will hold significantly different attitudes towards CALL than EFL teachers with more than 10 years of experience.

•   H02: There will be no statistically significant difference between the attitudes towards CALL held by EFL teachers with 10 years of experience or less, and more than 10 years.

•   H3: EFL teachers' knowledge of CALL will correlate significantly with their attitude towards CALL.

•   H03: There will be no statistically significant correlation between the knowledge of and attitudes towards CALL held by EFL teachers.

•   H4: EFL teachers' knowledge of CALL will be predictable based upon their attitude towards CALL, gender and years of teaching experience.

•   H04: EFL teachers' knowledge of CALL will not be statistically predictable based upon their attitude towards CALL, gender and years of teaching experience.

Table 1. Independent and Dependent Variables

Hypothesis	Independent Variables	Dependent Variable	Variables
1	Gender	Knowledge of CALL	
2	Teaching experience	Attitude towards CALL	
3	-	-	Knowledge of CALL Attitude towards CALL
4	1. Attitude towards CALL 2. Teaching experience 3. Gender	Knowledge of CALL	

2. Materials and Methods

A survey questionnaire was conducted to achieve the objectives of my current study. According to Creswell (2009), questionnaires are the most appropriate quantitative instrument when the focus is on describing attitudes or trends of population by studying a sample of that population.

2.1 Participants and Sampling

The population of the study consisted of all the 106 Foundation Programme teachers (42 males and 64 females) at SCT. A system of random stratified sampling was employed to ensure that the gender factor would be represented in the same sample proportion that it existed in the population. A total of 40 teachers (16 males and 24 females) from the Foundation Programme participated in the study. In order to comply with the established stratified random sampling procedures, two lists were generated, one including all male teachers and one including all female teachers. Consecutive numbers were assigned to each of the teachers in each list. Then, 16 male and 24 female teachers were chosen randomly from the two lists of males and females.

2.2 Design of the Research Instrument

The questionnaire included three main sections. The first section was designed to attain demographic information such as the participants' gender and years of teaching experience. The second section was developed on a five-point Likert scale, with 20 attitude measuring statements (3 negatively phrased statements and 17 positively phrased statements). Then, the knowledge questionnaire included 20 multiple choice items to measure the participants' knowledge of CALL. The questions were about the teachers' knowledge of implementing computer software programs in their teaching.

2.3 Validity of the Research Instruments

Content validity was explored to assess the validity of the items in both the attitude and knowledge instruments. First of all, the instrument was compared to existing instruments in the area of CALL. Secondly, the questionnaire procedures and the feedback which were obtained from the

academics and teachers helped to overcome any possible problems related to the instruments.

The following is a brief description of the development of the questionnaire (see Appendix A):

1. Exploratory interviews: Interviews with four EFL teachers who are currently doing their PhDs at the University of Exeter provided a great opportunity to elicit their attitudes towards and knowledge of CALL in their respective contexts.

2. Consultation with academics: Three academic colleagues who are interested in CALL were consulted about the study: (a) an/the IT coordinator at the Foundation Programme at SCT; (b) The head of programmes in the English Language Centre at Salalah College of Technology in Oman; (c) A senior lecturer at Salalah College of Technology. Through email communications, all experts reported saying that both instruments were valid. However, the first and the third experts recommended to remove the qualification variable, as most of the participating teachers are the holders of a Master's Degree. Also, the first expert recommended deleting the items no. 9 and 38, as they were asked about the same issues in their other prepared statements. Furthermore, the second expert from Salalah College of Technology suggested making some changes in the phrasing of the items no 4, 6, 9, 23, 25 and 41 to avoid neutral and extreme items (Appendix B).

3. Literature searches: A great number of books, journals, dissertations and academic websites were investigated for existing CALL test instruments.

4. Question construction: The knowledge and attitude instruments were designed based upon the information gained from the above-mentioned stages.

5. Pilot distribution: A pilot version of the questionnaire was sent by e-mail to a colleague at SCT. Then, the questionnaire was given to four EFL teachers (non-sample) to ensure that all problems in the questionnaire would be handled appropriately.

2.4 Reliability of the Research Instruments

After checking the validity of the instruments, a Cronbach's alpha coefficient was used to confirm the internal consistency of the instruments. It was used to measure the reliability of the instruments accurately, where 0 indicates no reliability and +1 reveals optimal reliability.

2.5 Reliability of the attitude scale

The questionnaire statements of numbers 8, 18 and 20 were recoded as they were negatively phrased (See Appendix A). Then, the Cronbach's alpha coefficient for the attitude scale value was 0.788, (Table 2 below). It is recommended that a workable Cronbach alpha should be above .7 (Pallant,

2016). Such a level indicated an acceptable internal consistency reliability maintained by this instrument.

Table 2. *Reliability of the Attitude Scale*

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.788	.823	20

2.6 Reliability of the knowledge test.

The reliability of the knowledge test questionnaire was measured. The Cronbach's alpha coefficient was 0.678, which was less the recommended critical value, as presented in Table 3 below.

Table 3. Knowledge Questionnaire's First Reliability

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.678	.691	20

However, the item 26 showed a negative correlation with the other items in the questionnaire. Therefore, it was removed from the scale. The Cronbach's alpha coefficient was measured again to be 0.703, indicating a high reliability, as shown in Table 4 below.

Table 4. Knowledge Questionnaire's Final Reliability

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.703	.714	19

2.7 Data Collection Procedure

At the very beginning of the study, ethical approval was sought from the Graduate School of Education (Appendix C). After that, a copy of the letter and a copy of the questionnaire was sent to the administration of the SCT to gain permission from the college. Then, the Director of the Foundation Programme sent an e-mail to all academic staff asking them to facilitate the researcher's mission in carrying out his questionnaire at the college.

Prior to handing out the questionnaire, the researcher himself visited the Foundation Programme in December 2016, met the teachers in their end-of- term meeting and briefly informed them about the purpose of the study. Then, the researcher told the participants about the procedures of the study and the protocols they should employ in answering the questionnaire. Specifically, the participants were informed to respond to the attitude questionnaire first before responding to the knowledge test to avoid the potential influence of the test difficulty on their responses. Moreover, the participants were told that they could withdraw at any time, and all their information would be kept confidential to ensure a positive participation rate. The teachers were requested to read each statement carefully, then tick only one box for each statement that best showed their attitudes toward and knowledge of the

statement. Then, the researcher left the meeting room, requesting one of the teachers to collect the research instruments to avoid any influence on their responses. These procedures encouraged a high rate of responses, which was 100 % of the selected teachers. A total number of 40 teachers participated in completing the questionnaire during their meetings.

2.8 Limitations of the study

This study has a number of limitations. These limitations can be attributed to both the sample and the instrument applied in collecting the data. For instance, the small number of participants in the study may not be representative of the whole population. The results of this study can only be generalized to contexts and participants who share the same or similar features or characteristics of the sample and context of the present study. Thus, it has the negative effect of limiting the value of this research to this sample only. The contribution of the study may be extended to other EFL contexts, such as Saudi Arabia, Yemen, or any other county within the Gulf region, or even anywhere else around the world.

The small number of teachers did not allow me to fully develop the design of the instrument. This study was limited to only two factors that might influence teacher's attitudes towards and knowledge of CALL, which were the gender and the teaching experience. The current and sole available CALL option at SCT, a Moodle-based CALL system, is only supported by Microsoft Office-based applications which may be regarded as a limitation, as other CALL systems include more modern and various software-based applications. Future research in this area could investigate other aspects like the learning environment, the culture and the students, as well as increasingly complex and modernized CALL tools available.

2.9 Statistical Analysis

The statistical package for the social sciences (SPSS) was used to run the statistical analyses of the research data. The data was entered into the SPSS and was coded. Descriptive statistics such as mean, median and standard deviation were run to analyse the collected data. Furthermore, inferential statistics were used to test the research hypotheses at the point ($p=.05$). Reliability of both the attitude and knowledge scales were checked. Then, the normality tests were run to decide whether to use parametric or non-parametric tests (Field, 2013). Four statistical tests were used to test the four hypotheses of the study: an independent sample t-test, a Mann Whitney U test, and, finally, a Spearman's rank order correlations and multiple regression.

3. Results

3.1 Tests of Normality

After checking the reliability of the research instrument and obtaining the total knowledge and the total attitudes scores, the totals for both scales were computed separately and the total knowledge were computed without the deleted item number 26. Then, the normality test was conducted to assess the normality of the data distribution on both instruments. As reported by Field (2013), Shapiro-Wilk was conducted to assess the normality of the distribution of data due to the small study sample size included below 50 participants (n=40).

3.2 Tests of normality of the attitude scale

It can be seen from the histogram (Figure 1) below that there is a negative skewing of the data and a normal distribution has been observed. The degree of negative skewing is -.112 and Kurtosis is - .197, which places them not far from zero.
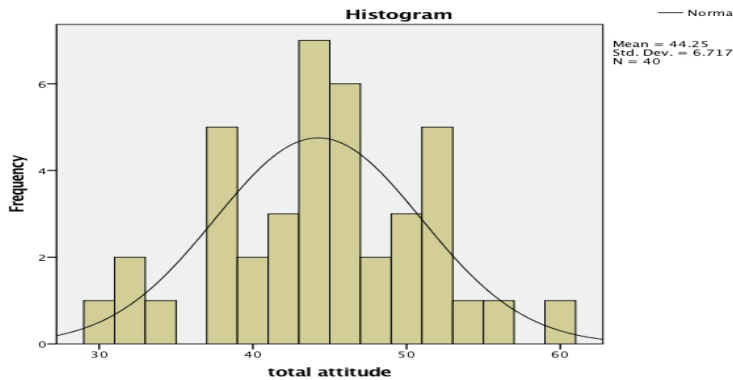

***Figure* 1.** Distribution of the Scores of the Attitude Scale

However, because of the subjectivity of the eyeballing judgment, the Shapiro-Wilk Test was conducted to make sure that the data are distributed normally. The Sig. value for the test was .836, which indicated that the data were distributed normally.

Table 5. Test of Normality of the Attitude Scale

	Kolmogorov-Smirnov[a]			**Shapiro-Wilk**		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Total Attitude	.094	40	.200[*]	.984	40	.836

Nevertheless, the Sig. value for the total attitude scores was 0.836 ($P>0.05$), which demonstrated a normal distribution of the research data on

the instrument. Therefore, the parametric tests were used to test the research attitude null hypotheses.

3.3 Tests of normality of the knowledge scale.

The histogram below (Figure 2) indicates a moderate skewing of the data. This can be confirmed through critically examining the data, which shows that the degree of skewing is .432 and kurtosis is - .817, which places it a far statistical difference from zero.
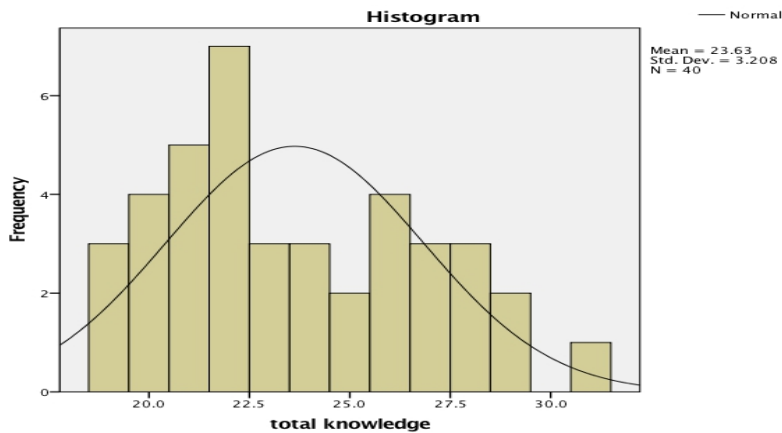

Figure 2. Distribution of the Scores of the Knowledge Scale

The normality of the knowledge scale was also checked through the Shapiro-Wilk test. The Sig. value for the data was 0.049 ($P<0.05$), which showed a non-normal distribution of the data. This might be attributed to the small number of participants in the sample. Thus, the non-parametric test was used to test the research knowledge null hypotheses

Table 6. Test of Normality of the Knowledge Scale

	Kolmogorov-Smirnov[a]			**Shapiro-Wilk**		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Total knowledge	.169	40	.006	.944	40	.049

3.4 Testing the hypotheses

The participants in the study demonstrated general positive attitudes towards CALL (m=44.25, sd=6.717) (Appendix D). Similarly, they revealed a reasonable knowledge level of CALL (m=23.63, sd=3.208). Then, inferential statistics were run to test the four hypotheses of the study. After obtaining the normality of both the knowledge and attitude scales, it was decided to use parametric tests for the attitude scale and non-parametric tests.

These tests were conducted for the reliability/validity of the knowledge scale. An Alpha of .05 was applied to all statistical tests.

3.4.1 H01: There will be no statistically significant difference between the levels of knowledge of CALL held by EFL teachers of different gender. (Rejected)

As the knowledge scale did not reveal a normal distribution of the data, the non-parametric Mann-Whitney *U* Test was conducted to investigate whether there was a statistically significant difference between the level of knowledge of CALL held by teachers of different gender.

Table 7. Mann-Whitney U Test

	Total Knowledge
Mann-Whitney U	252.500
Wilcoxon W	603.500
Z	.346
Asymp. Sig. (2-tailed)	.044
Exact Sig. [2*(1-tailed Sig.)]	.045

Table 8. Median of Knowledge Test by Gender

Gender	N	Median
MALE	14	22.00
FEMALE	26	24.00
Total	40	23.00

The statistics from Tables 7 and 8 demonstrated that there were statistically significant differences in the knowledge of CALL of males (*Md*=22, *n*=14) and females (*Md*=24, *n*=26), *U*=252.5, *z*= 2.010, *p*= .045, medium effect size r=.0317, suggesting that the null hypothesis be rejected.

3.4.2 H02: There will be no statistically significant difference between the attitudes towards CALL held by EFL teachers with 10 years of experience or less, and more than 10 years. (Failed to reject)

A two-tailed independent-sample t-test was conducted to compare the teachers' attitudes towards CALL based on their years of teaching experience. Levene's test for equality of variance was .385 > .05, and the equal variances were assumed.

Table 9. The Effect of Teaching Experience on the Teachers' Attitudes

TOTAL ATTITUDE	Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
	F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error	Lower	Upper
Equal variances assumed	.771	.385	.286	38	.777	.655	2.295	-3.990	5.301
Equal variances assumed			.272	21.099	.788	.655	2.409	-4.354	5.665

The statistics in table 9 revealed that there were no significant differences in scores between the group of teachers with teaching experience of 10 years or less (M= 44.69, SD=7.43) and the other group with more than 10 years of experience (M=44.04, sd=6.48); t= .286, df=38, p=.777(two-tailed). The magnitude of the difference in the means (mean differences= .655, 95% CI from -3.99 to 5.30). As p > .05, the null hypothesis was accepted. 3.4.3 H03: There will be no statistically significant correlation between the knowledge of and attitudes towards CALL held by EFL teachers. (Failed to reject).

The relationship between the two continuous variables, knowledge of CALL (as measured by the knowledge test) and CALL attitudes (as measured by the CALL attitude questionnaire) were investigated by using a Spearman's rank order correlation coefficient (Table 10). Spearman was applied, as one of the continuous variables (knowledge) was not normally distributed (Pallant, 2016).

Table 10. Spearman's Rank Order Correlations

			Total Attitude	Total Knowledge
Spearman's rho	Total Attitude	Correlation Coefficient	1.000	.058
		Sig. (2-tailed)		.724
		N		40
	Total Knowledge	Correlation Coefficient	.058	1.000
		Sig. (2-tailed)	.724	
		N	40	

Based on Table 10, there was no statistically significant correlation between the teachers' attitude scores and their knowledge test scores, *rho*= .058, *n*= 40, *p*= *.724* >.05, indicating a failure in rejecting the null hypothesis. Stated simply, this indicated that the correlation was not big enough to conclusively show that it was present in the population as a whole.

3.4.3 H04: EFL teachers' knowledge of CALL will not be statistically predictable based upon their attitude towards CALL, gender and years of experience. (Failed to reject)

Preliminary analyses were conducted to ensure that there was no violation of the assumptions of normality, multi-collinearity, linearity, and homoscedasticity. The correlations among the independent variables were tested and were below 0.7. Hence, as stated by Pallant (2016), all variables were retained in this model (See Appendix E). The tolerance values were almost .99 for all independent variables which were less than 0.10, and their VIF values were approximately 1 which were below the cut-off of 10. Thus, according to Pallant (2016), the multicollinearity assumption was not violated (See Appendix F).
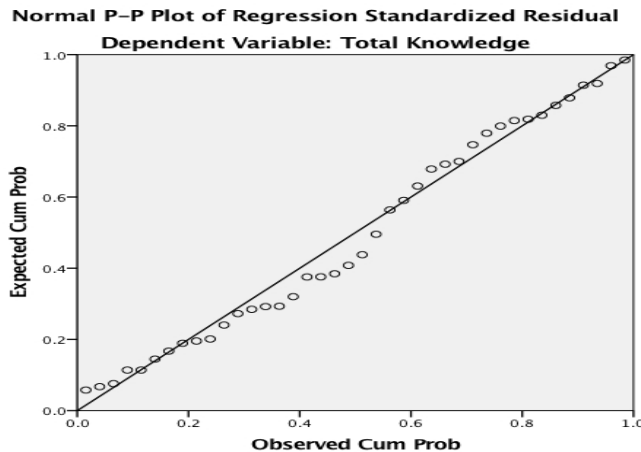

Figure **3.** Normal P-P Plot of Regression Standardized Residual for Dependent

As observed in figure 3 below, the distribution of the knowledge test scores tended to follow a reasonably straight line from bottom left to top right. Therefore, there were no major deviations from normality (Pallant, 2016).

3.4.5 Variable: Total Knowledge Test

As presented in figure 4, most of the scores were concentrated in the centre (along the zero point), which showed that the standardized residuals, are mostly rectangularly distributed. Therefore, it was found that the assumptions of outliers, normality, linearity, homoscedasticity and independence of residuals were not violated (Pallant, 2016).
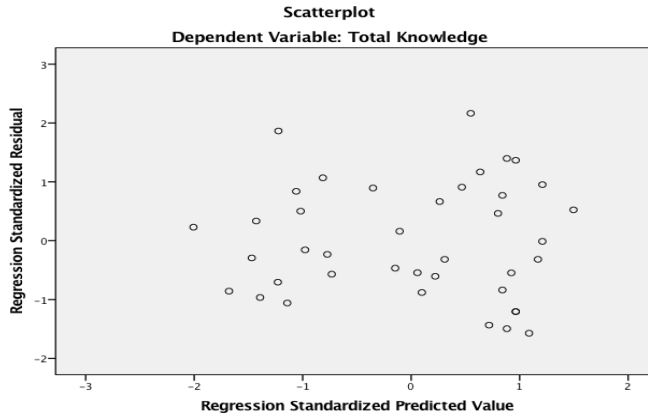
***Figure* 4.** Scatterplot of the Standardised Residual: Total Knowledge

However, Mahalanobis distances, which were produced by the multiple regression program, were inspected to check the outliers. The matching critical value was 16.27, as the analysis model had three independent variables (Tabachnick and Fidell's, 2013 as cited in Pallant, 2016). The maximum value found in the data file was 7.35, which did not exceed the critical value (See Appendix G). Thus, the case with this value was not deleted from the analysis. Furthermore, to check if there was any major problem in the analysis model, the maximum Cook's Distance was 0.208 (See Appendix G), which was less than 1, suggesting no major problems in the analysis model of this study.

A multiple linear regression was calculated to analyze the predictive value of hypothesis 4. The regression equation was found (F $(3,36)$ = 1.824, p = .160 > .05), with an adjusted R^2 of .06. The adjusted R^2 value of .060 indicated that the model predicted only 6 % of the variance in the dependent variable (Tables 11 & 12). Therefore, the model as a whole did not show a significant fit with the data. Neither of the variables (Teacher's attitudes towards CALL; Beta= .100, p =.526 and teaching experience; Beta= .128, p = .417) made a significant contribution to the prediction of the total knowledge score (Table 13). Therefore, it can be inferred that the independent variables of attitudes towards CALL and teaching experience made no statistically significant unique contribution to this prediction (p > 0.05). However, the gender variable made the strongest and the only statistically significant unique contribution to the prediction of the teachers' knowledge (Beta= 1.037, p=0.044), indicating a unique contribution of 10.5 % to the explanation of the variance in the teacher's knowledge (Table 13).

Table 11. Model Summary of Predictive Values

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.363ᵃ	.132	.060	3.111

Table 12. *ANOVA*

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	52.964	3	17.655	1.824	.160b
Residual	348.411	36	9.678		
Total	401.375	39	Total		

Table 13. Coefficients for Independent Variable in the Prediction Model

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B		Correlations		
	B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part
(Constant)	16.488	4.131		3.991	.000	8.109	24.866			
Total Attitude	.048	.074	.100	.641	.526	-.103	.199	.121	.106	.099
Gender	2.168	1.037	.326	2.091	.044	065	4.270	.327	.329	.325
Years of experience	.865	1.053	.128	.822	.417	-1.271	3.001	.103	.136	.128

According to the findings, although teachers' knowledge could be predicted based on their gender, teacher's knowledge of CALL could not be predicted based upon the prediction model as a whole. Therefore, the findings indicated failure to reject the null hypothesis.

4. Discussion

The results of the data showed a number of important findings. Firstly, the study revealed reasonably positive attitudes towards and knowledge of CALL among EFL teachers at SCT. This did not come as a surprise, as most educational institutions all over the world tend to encourage their teachers to make use of technology in teaching (Buabeng-Andoh, 2012). A large number of studies indicated that language teachers tend to have generally positive attitudes towards CALL (Yüksel & Kavanoz, 2011; Alshumaimeri, 2008).

Another issue that this study sought is to investigate the gender differences in relation to teacher's knowledge of CALL. The findings of the study revealed a significant difference between male and female teachers. The males did better than females in the test, which was a reasonable finding. This

difference can be attributed to the fact that men are more interested and competent in using computers than females (Mahdi & Al-Dera, 2013; Kay, 2006; Volman & van Eck, 2001). This might be the most interesting finding of my study, so it needs an extensive amount of follow-up work and investigated in more depth.

Clearly, the years of teaching experience were not exhibited as a significant variable when investigating teacher's attitudes towards CALL. This might be considered a quite ambiguous point, as it would be expected that experienced teachers' attitudes would change to be more positive compared with the new teachers (Wong & Li, 2008; Lau & Sim, 2008; Giordano, 2007). It could be related to the limitations of the study such as the small size of the sample or the insufficient test power (Pallant, 2016). Moreover, other factors are expected to influence teacher's attitudes towards CALL, so those factors also need to be investigated in further research.

Furthermore, the Spearman's rank order correlation test revealed no statistically significant correlation between teachers' knowledge of CALL and their attitudes towards it. Nevertheless, this result did not follow the findings of other related studies, which revealed that there was a positive relationship between CALL attitudes and knowledge of it (Ambusaidi, 2010; Alshumaimeri, 2008; Clausen, 2007). A larger sample size could have given a significant result. Therefore, a larger sample size would be necessary to show that it was definitely present in the whole population.

The last point that this study aimed to examine was the possibility of predicting the participant's knowledge of CALL based on their attitudes in this domain, gender and years of teaching experience. The prediction model was statistically able to contribute to the prediction of 6% of the variance in the teacher's knowledge of CALL (See Table 10), However, gender was the variable that most significantly contributed to this prediction as compared to the other variables in the model (See Table 12). This means that the teachers' knowledge can be predicted based on their gender. Accordingly, it can be related to hypothesis 2, which revealed a significant relationship between gender and the knowledge of CALL among teachers. Therefore, including other possible variables in this model would be a good idea for a further prediction of the teachers' knowledge of CALL.

5. Conclusion

To conclude, the main aim of this small-scale study was to identify and investigate teacher's knowledge of and attitudes towards CALL to improve teaching strategies and bridge the gap between the learning process and the technological revolution all over the world. The findings of this study cannot be generalized and its limitations should be taken into consideration for further

studies in the future. However, the results were analysed and discussed, so some tentative conclusions can be drawn.

Most previous studies in the area of CALL were about the integration of CALL in the classroom. Investigating the attitudes and competence of CALL requires more studies, especially the factors that might influence the implementation of CALL, like the factors related to the educational environment and the academic level of the students in working with computers. Therefore, further research and studies are recommended in this particular field in order to explore the main factors that influence the teaching process with new technologies, as well as to circumvent the process of applying CALL in any educational context.

The benefits this research could provide, and the benefits of additional CALL training are, first of all, not only determined by any individual researcher, but rather to the individual stakeholders who are the most directly responsible for providing such training available to any and all faculty at their respective institutions, and second of all, the stakeholders at large, who would be the deans and administrative faculty of colleges and higher institutions around the world. The benefits may apply to any and all faculty or teaching staff that happen to teach at any institution of learning where CALL may be adapted, or expanded upon. Whether or not it is proven that a given group of individuals are more or less favorably inclined to CALL does not necessarily infer that having the opportunity to receive such instruction in the future will carry no advantages. The benefits of CALL may certainly help those who are favorably inclined towards it, or efforts like it, the most, but CALL will be made available to any and all of those whose individual subject departments determine that CALL is necessary, and the decision to allow CALL to exist, or to be used in even more cases, will be made by a large group of people, after sufficient pressure is brought to bear upon them, from various quarters.

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