

## **Investigating the Influence of Teaching Experience on the Use of ICT in Education**

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### **Abstract**

*The majority of today's jobs require sufficient understanding of the new technologies and appropriate computer skills. Therefore, professors need to be qualified to integrate computers in their classroom practices. Actually, teachers are recommended to develop adequate and effective training so as to be able to make successful use of computer technologies in their classrooms. With the advent of the new technologies, learning has become more exciting for learners regardless of their level of education. A lot of studies have revealed that the implementation of ICT in classrooms have come up with many fruitful consequences for both teachers and learners as well. It has increased their willingness to develop their knowledge through these modern tools. Therefore, universities and other educational institutions have realized the value of including computer technologies in instructional processes. This paper aims to explore the impact of teaching experience on the integration of computer technologies in teaching practices. Descriptive analysis of means, and standard deviations were employed to analyse the collected data. Also, inferential statistics, especially the ANOVA test, were used to determine the impact of teaching experience on ICT use for pedagogical objectives. The findings revealed that there are statistically significant differences between professors' integration of ICT in education based on teaching experience,  $F(4,158)=20.279, p<0.05$ .*

**Keywords:** *new technologies, computer skills, computer training, ICT, instructional processes*

## **1. INTRODUCTION**

It is self evident that ICT has been developing very quickly in recent years and opens new directions in the area of education. In other words, the speedy growth in ICT has brought conspicuous and notable changes in the twenty-first century, and influenced the requirements of modern societies. Bransford et al. (2000) confirm that “ what is now known about learning provides important guidelines for uses of technology that can help students and teachers develop the competencies needed for the twenty-first century” (p. 206).

Information and Communication Technology (ICT) has become a crucial section of most organisations and businesses these days (Zhang, Aikman, 2007). Computers started to be placed in schools in the early 1980s, and numerous researchers propose that ICT will be a significant segment of education for the next generation too (Bransford et al., 2000). It is self evident that ICT has been developing very quickly in recent years and opens new directions in the area of education. In other words, the speedy growth in ICT has brought conspicuous and notable changes in the twenty-first century, and influenced the requirements of modern societies. Bransford et al. (2000) confirm that “ what is now known about learning provides important guidelines for uses of technology that can help students and teachers develop the competencies needed for the twenty-first century” (p. 206).

Several teachers possessing positive attitudes are expected to adopt computers and develop more computer skills than the ones who have negative attitudes. For instance, Teo et al. (2008) concluded that teachers who possess favourable attitudes with regards to computer technologies would feel comfortable employing them in their classrooms. Moreover, Braak (2001) examined the correlation between computer implementation in teaching and numerous factors which could have a great impact on the use of computers in the classroom. One of these various factor was professors’ attitudes. The results of his study revealed that teachers with favourable attitudes are more prepared to integrate computers to boost the quality of learning and teaching. Besides, previous literature found that professors’ attitudes are affected by many other factors including gender, age, teaching experience, computer experience, computer and internet ownership both in class and at home, computer skills and computer training ( Berner, 2003, Teo et al., 2008).

Many researchers have proposed that technology could not be integrated in teaching unless professors possess positive attitudes towards the new technological instruments. Rogers (2000) pointed out that attitudes regarding computers play a considerable part in the process of ICT implementation since these attitudes might become a big obstacle hindering the successful and effective use of computer technologies in the classrooms. In other words, negative attitudes are expected to have a considerable negative influence on the use of computers in teaching. In this context, Worthington & Zhao ( 1999) stated that “ there have been growing concerns that computer anxiety or negative attitudes

towards computers among teachers and students will prevent them from reaping the pedagogical, social, and economical benefits of computer technology” ( p.299). Additionally, Chin and Hortin ( 1994) revealed that professors’ attitudes toward ICT use in instruction is an important “ condition for effective use of computers in the classroom” ( p.200).

Computer technology has the capability to increase teaching and learning opportunities through providing professors as well as learners with more appropriate knowledge and suitable skills ( Ouzts & Palombo, 2004). For this reason, ICT should be incorporated within classrooms. In this context, Miller et al. ( 2000) noted that “ the use of technology in education can facilitate learning by providing more relevant learning opportunities, changing the orientation of the classroom from professor to student-centered, preparing students for employment, increasing flexibility of delivery, increasing access, and potentially satisfying demands for efficiency” (p.231). Apparently, higher education institutions are encountering different challenges due to the influence of technological devices on the field of education. Rice and Miller ( 2001) revealed that:

Institutions face major challenges in trying to keep pace with technological advances. These challenges include keeping up with the costs of rapidly changing technologies, fostering changes in the learning processes and teaching methods, providing students with the electronic resources they expect, competing with private enterprises investing in distance learning, and training faculty in the use and integration of various technologies. (p. 330).

In fact, professors’ implementation of computers in instruction could be affected by many different factors and obstacles. According to Ertmer ( 1999), computer technology use in teaching could be affected by two basic kinds of barriers : First-order and Second-order barriers. First-order obstacles which are extrinsic to professors may incorporate lack of infrastructure, insufficient time, inadequate training, and lack of technical assistance. On the other hand, Second-order barriers which are intrinsic to professors include professors’ attitudes and beliefs. Many researchers found that teachers’ attitudes could have a great impact on their adoption of computers while instructing. Bullock (2004) revealed that effective integration of computers presupposed the existence of positive attitudes regarding these new technologies. Furthermore, Teo Lee & Chai ( 2008) found professors with favourable attitudes are more prepared to integrate computers in their teaching practices than those professors who possessed negative attitudes. Therefore, grasping teachers’ attitudes towards the use of computers in classrooms might offer several opportunities to find effective methods to promote the infusion of these new technologies in education. Thus, this current paper intends to answer the following research question: are there any significant statistical differences in professors’ use of ICT based on teaching experience? In other words, does teaching

experience have a great influence upon professors' willingness to integrate computer technologies in their classroom practices?

## **2. LITERATURE REVIEW**

### **2.1. The use of ICT in education**

Computer Technology can be defined as new multimedia technologies, including computer software, CD-ROM, the Internet, mobile phone, television, movie as well as Internet-based Project work, e-mail, chat, blogs, wikis, podcasts, and so on (Andrews, 2000). Lever-Duffy et al. (2005), state that some 'educators may take a narrower view' and predominantly 'confine educational technology (ICTs) primarily to computers, computer peripherals and related software used for teaching and learning' (p. 4-5).

ICTs, particularly computers and Internet technologies, facilitate new manners of teaching and learning rather than merely permit educators and learners to perform what they have executed before in a correct way. Learners employing ICTs for learning aims become involved in the process of learning and as more and more learners employ computers as information sources and cognitive means (Jonassen, Reeves, 1996), the effect of the technology on aiding how learners learn will go on to grow. Parkinson & Hollamby, (2003) ; Roweliffe, (2003) discover that PowerPoint motivates students, if it is exploited adequately. Obviously, ICT like videos, television and multimedia computer software can be employed to supply real content that will attract and involve the learners in the learning process.

In the last decades, much research has been carried out to investigate the use of the new technologies in the field of education. During this time, there has been a shift from the focus on what computers could offer students to how to make effective and successful use of computer technology to facilitate learning (Chapelle, 2001). Hence, the integration of computer technologies in English Language Teaching (ELT) has become the interest of different educational stakeholders and policymakers since Information and Communication Technologies (ICT) provide several effective instruments that boost both English language learning and teaching (Steel & Hudson, 2001). Higher educational institutions have recognized the importance of incorporating these new innovative gadgets within classroom practices. Indeed, these institutions have understood that computer technology could play a big part in transforming all the levels of education. For this reason, universities and other higher educational institutions are determined to provide the necessary devices and effective training for professors to achieve successful implementation of ICT in the classroom (Sahin & Thompson, 2006).

The employment of ICTs in the classroom could foster 'deep' learning and permit teachers to react better to the various requirements of different students (Lau, Sim 2008). In other words, ICT is a very significant instrument which, when employed suitably, can cultivate the move to a learner centered environment. Harris (2002) carries

out case studies in three primary and three secondary schools, which concentrated on innovative pedagogical practices including ICT. Harries deduces that the advantages of ICT will be obtained "...when confident teachers are willing to explore new opportunities for changing their classroom practices by using ICT". The employment of technology will not only intensify learning conditions but also get next generation ready for coming lives and occupations (Wheeler, 2001).

One of the most essential gifts of ICT in the discipline of education is easy access to learning. ICT enhances the flexibility of delivery of education so that students can approach knowledge anytime and from anywhere. It can affect the way learners are taught and how they learn. Indeed, this would get the learners ready for lifelong learning as well as to ameliorate the value of learning. Individuals are recommended to access knowledge by means of ICT to keep pace with the latest advancements (Plomp, Pelgrum, & Law, 2007). ICT can be employed to eliminate communication obstacles such as that of space and time (Lim, Chai, 2004). More precisely, teachers and learners no longer have to depend only on printed books for their educational requirements. With the Internet, a plenty of learning materials can now be accessed from anywhere at anytime of the day. Attwell and Battle (1999) investigate the connection between owning a home computer and school performance, their conclusions propose that learners who have access to a computer at home for educational aims, have advanced scores in reading and math. Becker (2000) discovers that ICT magnifies learner engagement, which guides to an addition amount of time learners to expend working outside class.

Successful integration of ICT depends on several factors. Professors' attitudes toward instructional technologies have a great impact on their current and future use of computer tools in classroom. Negative attitudes toward the use of computer technologies, caused by various variables such as anxiety and fear are thought to affect effective adoption of these sophisticated devices in teaching ( Yildmir, 2000). Some studies have shown that professors who possess positive attitudes with regards to computers will feel more comfortable to integrate computer technology within classrooms practices than those who do not ( Willis, 1995; Selwyn, 1997). Therefore, it is essential for professors to possess positive attitudes toward instructional technologies so as to achieve successful integration of ICT in teaching. Positive attitudes could be developed through offering professors the necessary training that would help them understand how to fully benefit from utilizing computers, smart phones, tablets and other devices within their classrooms. Also, positive attitudes could be developed though providing sufficient computer infrastructure and other associated infrastructure (Yildirim, 2000). In spite of the fact that there is a noticeable augmentation in the availability of computer devices in universities, the integration of ICT across the curriculum has been unproductive. In other words, though large amounts of money have been invested in educational technology, many professors have not managed to integrate computer technologies successfully in their classrooms. Indeed, a great deal of

research in contemporary years has found that computer technology implementation across the curriculum is not advancing due to the presence of numerous obstacles ranging from institutional barriers to personal ones (Wu, Chang, & Guo, 2008; Sureshramana, 2007).

## **2.2. The impact of teaching experience on ICT integration**

Previous literature also reveals conflicting findings regarding the influence of teaching experience upon the use of ICT in the classroom. Some researchers have reported that the effect of teaching experience is not very significant. For instance, Becker (1999) concluded that teaching experience should not be regarded as an important variable affecting the implementation of ICT in schooling. In the same context, Dusick and Yildirim (2000) stated that there is not any significant correlation between computer usage and teachers' teaching experience. In the same framework, Shegog (1997) conducted a research study to investigate professors' attitudes regarding computer integration on the basis of their age, gender, teaching experience, ethnicity, and computer experience. The researcher concluded that teaching experience should not be a predictor of professors' attitudes toward the use of computer technology in the teaching process.

Other researchers, on the other hand, have stated that teaching experience affects teachers' acceptance of computer technology. Indeed, teaching experience is thought to have a significant impact on teachers' attitude toward the use of computers in teaching (Asan 2003 ; Chiero,1997) . Adams (2002) noted that professors who possess three years of teaching experience are likely to integrate computer technology in their classrooms. Also, he found that instructors with 10 to 19 years of teaching experience tend to have less computer usage in their teaching. Similarly, Dorman (2001) pointed out that teachers with few years of teaching experience are more interested in the adoption of educational technology than those who have longer experience in teaching. Moreover, Dexter, Anderson,& Becker (1999) showed that teachers who had less than 10 years of teaching experience tended to have more willingness to adjust with new innovations than those who had more experience.

In this respect, Migliorino and Maiden (2004) studied the attitudes of 770 teachers regarding the implementation of electronic scoring software. The researchers concluded that gender, age, and teaching experience are significant predictors of teachers' attitudes toward the use of electronic grading software. So, teachers should be given five to six years using computer technology to become a bit competent. If they achieve this standard, they may have the willingness to change their methods of teaching and may accept to integrate ICT in classroom practices (Hadley & Sheingold, 1993).

## **3. RESEARCH METHODOLOGY**

In this study, approximately 300 teachers were summoned to take part. However, only 195 (65 %) full-time and part-time English teachers agreed to respond to the survey.

The researcher discarded 32 questionnaires which were incomplete since they had significant parts of the survey instrument missing. Hence, 163 (54, 33%) answered the questionnaire appropriately. Finally, the resulting sample size employed in this study was a total of 163 teachers working in various Moroccan higher institutions.

The researcher used a questionnaire entitled “Use of Computer Technology”. It was adapted from the instrument designed by O’Dwyer et al.(2004). The instrument was originally developed to assess the integration of computer technology by middle and high school teachers in the U.S. It contained four major aspects regarding teachers’ use of ICT in their teaching. These aspects were: Teachers’ Use of ICT tools for Delivering Instruction (TUTDI), Teachers’ Use of ICT for Class Preparation (TUTCP), Teachers and Students’ Use of ICT to Create Products (TSUTCP), and Teachers’ Use of ICT during Class Time (TUTCT). The items included in the instrument were rated on a five-point scale (1= never, 2 = once or twice a year, 3 = several times a year, 4 = several times a month, and 5 =several times a week). Higher scores on each facet suggest that teachers employ ICT devices more often in their teaching. It is worth-stating that the questionnaire was slightly modified by removing and adding other statements related to the use of computer technology in classrooms. It was originally composed of twenty items. However, in this paper, it consisted of twelve items that were ranked on a five-point Likert scale ranging from never, once or twice a year, few times a year, few times a month and several times a month. O’Dwyer et al. ( 2004) tested the reliability of the instrument they employed to collect the necessary data. They reported that the coefficient alpha reliabilities were .74 for TUTCP and .85 for TUTCT. As far as validity, it was established by having experienced professors thoughtfully scrutinize the material this instrument was to cover.

Both descriptive and inferential statistical analyses were used to answer the research question: are there statistically differences in professors’ use of computer technology based on the factor of teaching experience? Inferential statistics, the ANOVA test, was use to answer this research question and to conclude whether there were statistically significant differences among the means of the groups. The dependent variable was professors’ use of computer technology and the independent variable was teachers’ teaching experience.

## **4. FINDINGS AND DISCUSSION**

### **4.1. Demographic data of the participants**

Responses on the first section of the survey questionnaire provided demographic data about the professors who participated in this study. The data describing the demographic characteristics were computed and analyzed using descriptive statistics such as frequencies and percentages. The examined demographic information incorporated teachers’ age and their teaching experience.

#### 4.1.1. Age of the respondents

The first demographic variable examined on the questionnaire was age. The age of the participants in this study ranged from less than 30 to greater than 51. This information is demonstrated in figure 1. About half of the participants (46.6%,  $n = 76$ ) were 51 years old or older. Also, almost one third of the respondents (28.2 %;  $n = 46$ ) were within the 41-50 age range, 16.6 % ( $n = 27$ ) were between 30-40 age range, and only 8.6% ( $n = 14$ ) were less than 30 years old.

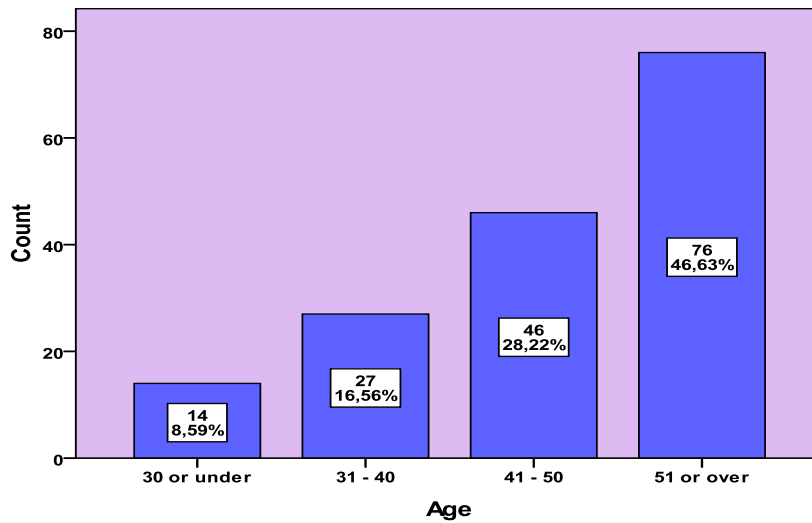


Figure 1. Distribution of Participants by Age

#### 4.1.2. Teaching experience of the participants

The survey collected information on the number of years professors have spent in the profession (see figure 2). Participants' responses about the number of years of teaching experience showed that the majority of them, 41.1 % ( $n = 67$ ), had more than 20 years teaching experience. The results also indicated that 20.9 % ( $n = 34$ ) had 11 to 15 years of experience, 14.1 % ( $n = 23$ ) had 1 to 5 years of experience, 13.5 % ( $n = 22$ ) had 16 to 20 years of experience, and only 10.4 % ( $n = 17$ ) had 6 to 10 years of experience.



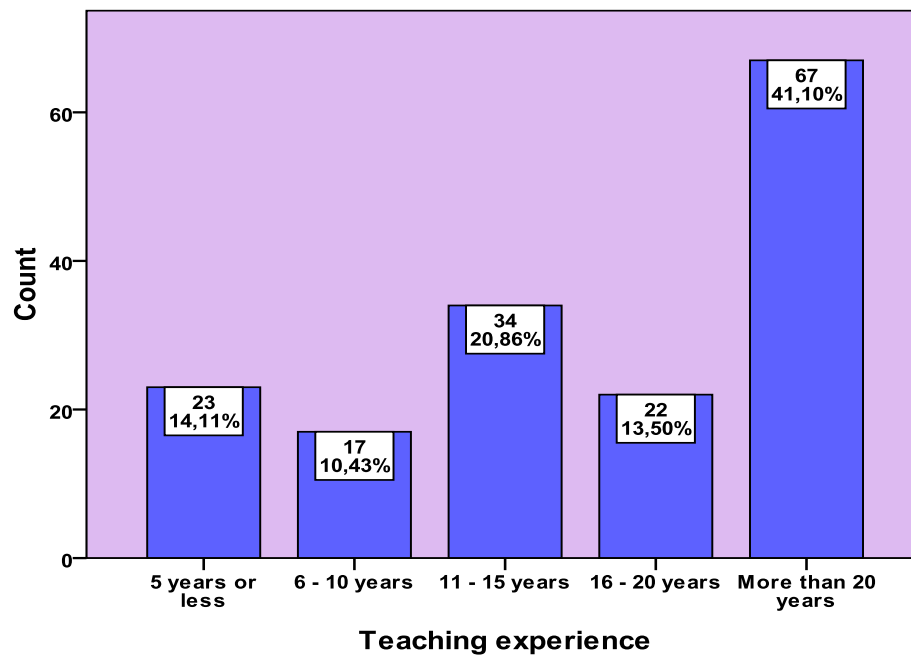


Figure 2. Distribution of Participants by Teaching Experience

#### 4.2. Findings related to the research questions

So as to explore the influence of teaching experience on professors' integration of computer technology in educational processes, one-way ANOVA analysis was carried. This test was chosen because there are two variables: one continuous dependent variable ( professors' use of ICT in teaching) and one categorical independent variable (professors' age). In fact, the categorical variable has four distinct categories ( Group1: 5 years or less ; Group 2: 6 to 10 years; Group3: 11 to 15 years ; Group 4: 16 to 20 years and Group 5: more than 20 years).The findings of the descriptive statistics and the means plot are demonstrated in Table 1 and figure 3.

Table 1. Descriptive Statistics of Professors' Teaching Experience

Teaching Experience	N	Mean	Std. Deviation	Std. Error
5 years or less	23	2,52	,62	,12
6 - 10 years	17	2,63	,67	,16
11 - 15 years	34	2,06	,85	,14
16 - 20 years	22	1,70	,93	,19
More than 20 years	67	1,10	,91	,11
Total	163	1,74	1,02	,08

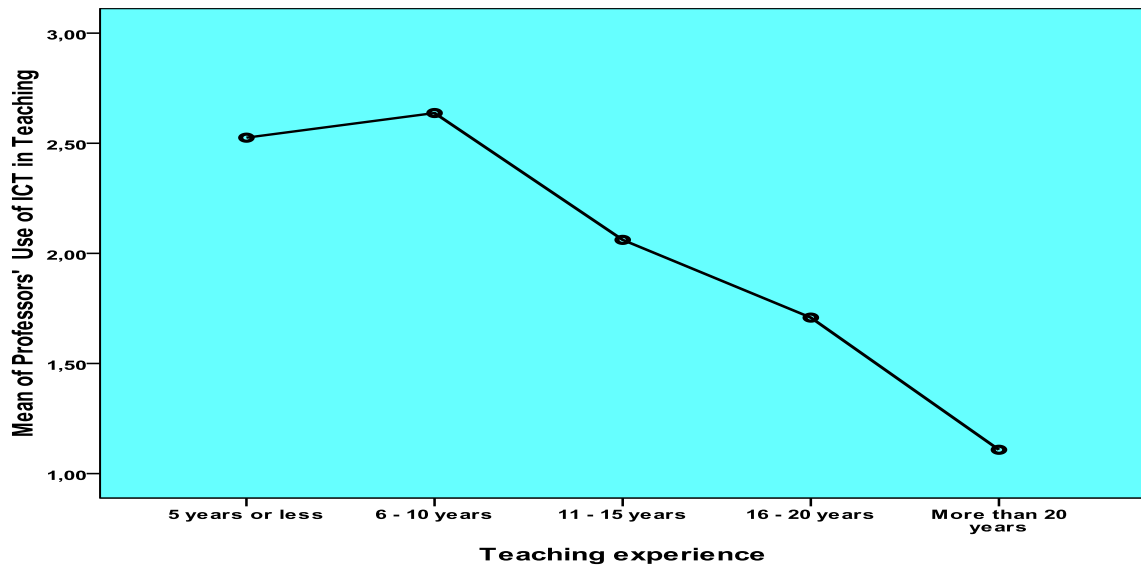


Figure 3 Means Plot for teaching experience and ICT use in teaching.

From the results displayed above, it is obvious that respondents who had 6 to 10 years of teaching experience obtained the highest mean ( $M=2.63$ ,  $SD=0.67$ ), followed by those who had 5 years or less of teaching experience ( $M=2.52$ ,  $SD=0.62$ ). Furthermore, participants who possessed 11 to 15 years of experience got a mean of 2.06 ( $SD=0.85$ ). However, the lowest means were recorded by respondents who had more 20 years of

teaching experience (M=1.10, SD=0.91) and the ones who had 16 to 20 years of experience (M=1.70, SD=0.93). Based on these results, it can be concluded that professors who had 15 or less years of teaching experience tend to use computer technology more frequently. This is further confirmed by the ANOVA test in Table 2 below.

Table 2. One-way between groups ANOVA for teaching experience and ICT use

<b>ANOVA</b>	<b>Sum of Squares</b>	<b>Df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
<b>Between Groups</b>	58,139	4	14,535	20,279	,000
<b>Within Groups</b>	113,242	158	,717		
<b>Total</b>	171,381	162			

Table 2 shows that there are statistically significant differences between professors' integration of ICT in education based on teaching experience,  $F(4,158)=20.279, p<0.05$ . Consequently, since the p value ( $p = 0.000$ ) was smaller than the significant level set at 0.05 (2-tailed), the null hypothesis indicating that there were no significant differences between the two variables was rejected whereas the alternative hypothesis was accepted. The effect size, computed using eta squared, was 0.33. To interpret the strength of Eta squared values, the following guidelines were used: 0.01= small effect, 0.06=moderate effect, 0.14=large effect (Cohen, 1988). The magnitude of the differences in the means was large ( eta squared =0.33). This indicates that 33% of the variance in professors' use of ICT in the classroom is explained by teaching experience.

Since the one-way ANOVA test revealed that differences exist among the various teaching experience groups, a Scheffé Post Hoc test was used to determine which group is significantly different from other groups. The findings are displayed in the following table 3.

Table 3 Post Hoc Test ( Scheffe) for teaching experience and ICT use in teaching.

(I) Teaching experience	(J) Teaching experience	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
<b>5 years or less</b>	<b>6 - 10 years</b>	-,11189	,27078	,997	-,9559	,7321
	11 - 15 years	,46409	,22857	,393	-,2483	1,1765
	16 - 20 years	,81703*	,25247	,037	,0301	1,6040
	More than 20 years	1,41715*	,20460	,000	,7794	2,0549
<b>6 - 10 years</b>	5 years or less	,11189	,27078	,997	-,7321	,9559
	11 - 15 years	,57598	,25148	,268	-,2079	1,3598
	16 - 20 years	,92892*	,27338	,024	,0768	1,7811
	More than 20 years	1,52905*	,22991	,000	,8124	2,2457
<b>11 - 15 years</b>	5 years or less	-,46409	,22857	,393	-1,1765	,2483
	6 - 10 years	-,57598	,25148	,268	-1,3598	,2079
	16 - 20 years	,35294	,23164	,677	-,3691	1,0750
	More than 20 years	,95307*	,17826	,000	,3974	1,5087
<b>16 - 20 years</b>	5 years or less	-,81703*	,25247	,037	-1,6040	-,0301
	6 - 10 years	-,92892*	,27338	,024	-1,7811	-,0768
	11 - 15 years	-,35294	,23164	,677	-1,0750	,3691
	More than 20 years	,60012	,20803	,086	-,0483	1,2485
<b>More than 20 years</b>	5 years or less	-1,41715*	,20460	,000	-2,0549	-,7794
	6 - 10 years	-1,52905*	,22991	,000	-2,2457	-,8124
	11 - 15 years	-,95307*	,17826	,000	-1,5087	-,3974
	16 - 20 years	-,60012	,20803	,086	-1,2485	,0483

\*. The mean difference is significant at the 0.05 level.

From the results shown above, it is apparent that group 5 (more than 20 years of teaching experience) is statistically different from group 1(16 to 20 years of teaching experience), group 2( 6 to 10 years of teaching experience) and group 3 ( 11 to 15 years of teaching experience). This difference suggests that respondents who had more than 20 years of teaching experience integrate ICT in their teaching less frequently than those who had 15 years or less of teaching experience. In fact, the findings also revealed that there are not any significant statistical differences between respondents who had more than 20 years of teaching experience and those who had 16 to 20 years of teaching experience.

## **4.2. Discussions of the Findings**

Respondents had varying levels of teaching experience ranging from less than 5 years to more than 20 years. It was found that the null hypothesis indicating no differences exist between teachers' use of ICT based on teaching experience was rejected because significant differences were found between the two variables,  $F(4,158)=20.279$ ,  $p<0.05$ . Actually, the results reported that professors who had 6 to 10 years of teaching experience scored the highest mean ( $M=2.63$ ,  $SD=0.67$ ). However, professors whose teaching experience exceeds 20 years obtained the lowest mean ( $M=1.10$ ,  $SD=0.91$ ). This simply means that younger professors who have less experience in teaching demonstrated high levels of ICT integration than their older counterparts who have more teaching experience. Based on these findings, it can be concluded that teaching experience appears to have a great influence on professors' integration of computer technology in the classroom.

The findings of the present study are consistent with Lamboy & Bucker (2003) who found that there was a negative correlation between teaching experience and computer technology use in teaching. This result suggested that as the years of teaching increase, professors' integration of ICT decreases. In other words, professors who have more teaching experience tend to integrate ICT tools less than those who have fewer years of experience in teaching. Similar findings were reported by Ahadiat (2008).

## **5. CONCLUSION**

According to the findings of this paper, there are significant statistical differences between professors' use of the new technologies based on their teaching experience. In fact, teachers who had 6 to 10 years of teaching experience obtained the highest mean ( $M=2.63$ ,  $SD=0.67$ ), followed by those who had 5 years or less of teaching experience ( $M=2.52$ ,  $SD=0.62$ ).

Generally, the value of modern technological gadgets in higher education institutions relies on how effectively professors integrate them into the curriculum. So as to grasp the use of ICT in Moroccan universities, the present study investigated the attitudes of teachers of English, the levels of their use of instructional technologies in the classrooms, the levels of institutional support, as well as the barriers that hinder successful technology implementation.

Information and Communication Technologies have become significant instructional instruments in higher educational institutions in different parts of the world including Morocco. However, it is apparent that the effective use of these new devices relies on the existence of appropriate conditions. In other words, successful implementation of ICT in teaching processes cannot be achieved without erasing the barriers that hinder its effective use in classrooms.

Though there is still much to know about the successful implementation of ICT in teaching and learning processes, the results of the current paper have highlighted one of

the most significant factors that influence computer technology integration, which professors' teaching experience. To guarantee effective use of information technology for educational purposes, the factors tackled in the current study should be carefully considered and addressed by policy makers. Equally important, by considering the various factors that hamper professors' decisions to bring the new technologies into classroom activities, policy makers would aid the expansion of technologically integrated instruction and thus prepare students to face the challenges of the twenty-first century. In fact, universities must go beyond the policy of providing more sophisticated technological equipments in the classrooms. Instead, the designers of professional development plans are required to provide programs that would help professors acquire suitable technological skills and thus enhance students' achievements. When employed appropriated by skilled professors, these technological instruments can increase learning opportunities for all students and become powerful tools in supporting their achievements. Finally, computer technologies have been playing a considerable role in nearly every aspect of our daily life. Consequently, the need to integrate these new technologies in teaching has expanded dramatically. Yet, the use of Information and Communication Technology in higher institutions has faced several challenges related to teachers as well as the educational intuitions. Several studies reported that professors' teaching experience affected their adoption of these new tools in classrooms. This paper was successful in providing a description of the influence of professors' teaching experience on their use of computer technologies in their classroom practices. Based on the findings of the present study, a number of implications related to ICT integration in the Moroccan universities English departments can be drawn from this piece of research. These can be summed up as follows:

1. Provide teachers with the necessary ICT tools, (hardware and software), and good network connection.
2. The classroom design should be appropriate to make a good use of ICT equipments.
3. Teachers' worries and misunderstandings about the implementation of ICT tools into the language teaching material should be minimized.
4. Encourage faculties to develop their ICT integration policies.
5. The government and its education department should provide the encouragement and support that enables teachers to integrate ICT in their lessons.
6. The institution must provide a proper evaluation on integration of ICT tools in teaching.

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