

CALL normalization: A survey on inhibitive factors

Parviz Maftoon

Islamic Azad University, Science and
Research Branch
pmaftoon@srbiau.ac.ir

Amin Shahini

Islamic Azad University, Science and
Research Branch
aminshahini@yahoo.com

The growing body of literature on Computer Assisted Language Learning (CALL) in the past decades has advocated the use of CALL in educational circles in order to get to a normalized state. However, the uptake of CALL is stipulated by various known and unknown factors. This study examined various factors that may have influenced the uptake of CALL resulting in disuse and discouragement. Fifty Iranian in-service teachers filled out a questionnaire on the sources of CALL use discouragement. The results indicated a comparative analysis of these sources. Lack of facilities and perceived usefulness were regarded as the most and the least discouraging factors in the uptake of CALL respectively. Pertinent discussion and some suggestions for consideration were also put forth.

Introduction

Normalization of Computer Assisted Language Learning (CALL) refers to the stage in which computer use has been so integrated into our educational practices that it is no longer considered as something exceptional or as an experience of anxiety. This stage is the end state and the ultimate goal of CALL – a stage where a group of CALL experts and educators wish to approach (Bax, 2002, 2003; Chambers & Bax, 2006, Hubbard, 2008). According to Bax (2003), CALL is normalized only:

when computers are used every day by language students and teachers as an integral part of every lesson, like a pen or a book . . . without fear or inhibition, and equally without an exaggerated respect for what they can do. They will not be

the centre of any lesson, but they will play a part in almost all. They will be completely integrated into all other aspects of classroom life, alongside course books, teachers and notepads. They will go almost unnoticed. (p. 23)

As it is obviously inferred from the above quote, “This will probably mean that computers will be at the centre of no lessons, but will play a part in almost all. This in turn gives us an agenda for research and development, namely to find ways of moving towards that normalized state.” “Only when **CALL** is normalized will teachers and learners reap its full benefits.” (Chambers & Bax, 2006, p. 465).

According to Bax (2003), if **CALL** is to be normalized it has to be “integrated” into the routine classroom activities. By “integration” he means that **CALL** should merge into the daily classroom tasks to the extent that it becomes “invisible” in the same way that we have Book Assisted Language Learning (**BALL**) or Pen Assisted Language Learning (**PALL**). However, this integration is not easy and the necessary grounds should be established. The first step in normalizing **CALL** is to remove the sources of discouragement that teachers may confront in **CALL** application.

This paper proposes some sources of teachers’ **CALL** use discouragement and the possible solutions that may lessen the distance between teachers and **CALL**, all with the aim of normalizing **CALL** in **ELT** settings.

This study is important due to the following reasons:

1. By removing the sources of discouragement in **CALL** application in classes, we can move towards normalization. The research highlights the fact that in a successful approach to teaching a second language, many ecological complexities – rather than technological “one-shot” solutions – are at work to produce a desirable outcome. (Tudor, 2003)
2. When normalization is achieved through removing the technical fallacy, **CALL** will become an integrated part of the syllabus. Consequently, the decision-makers can consider **CALL** as an important part of the course materials and syllabi so they can confidently timetable **CALL** into teaching practice and assessment.
3. In this way, the technology immigrants (Prensky, 2001), no longer have the phobia to confront computers and the probable technical failures. The mere fact of **CALL** as a separate and monstrous phenomenon brings with it reluctance and uneasiness in its application.

Review of literature

Why normalization?

Chambers and Bax (2006) argued that **CALL** in its present status is exclusive to a few groups of people. They remarked that for **CALL** to be normalized, first it has to be incorporated into the daily life of every school and educational systems exactly in the same way as pens, books and whiteboards.

Normalization, as an end state in itself is significant in the field of language teaching on the following grounds: First of all, normalization is the gateway that leads us to the vast world of educational evolution through connecting us with the past literature. Normalization makes this connection feasible as it treats **CALL** like any other innovation among myriads of innovations. Not that it downgrades **CALL** but it tries to induce the feeling that **CALL** is not something unique that should be avoided (Fullan, 2005).

The second merit of normalization builds on the idea that it makes practitioners keep pace with the most recent and state-of-the-art studies on educational change and advancements. It advances humans capacity on how to cope with this educational change and builds their know-how on the way that these innovations function and integrate into our everyday life (Rogers, 1995). This knowledge is undoubtedly of certain value to **ELT** profession in a computer assisted environment. Moreover, it is of undeniable value to **CALL** practitioners to base their research partly on the findings of the pertinent literature concerning the more meticulous analysis and discussion of new technologies and also in part to direct their focus to the new aspects of the emerging innovation all with one aim which is helping **CALL** move towards normalization. Accordingly, the usefulness of normalization finds significance in **ELT** in that it draws on insights from that wider literature on how human beings deal with change in general.

The third merit of normalization which is actually an amalgamation of the first two provides **CALL** practitioners with an objective aim and agenda. In fact, normalization sheds light on the path stretched between computer application in one end and language teaching in another with the aim of making **CALL** as unremarkable in **ELT** setting as **BALL** and **PALL** (Chambers & Bax, 2006).

CALL discouragement in teachers

A number of studies have been carried out to investigate the possible sources of discouragement in computer use (Demetriadis et al., 2003; Jaeglin, 1998; Ioannou-Georgiou, 2006; Mumtaz, 2000; Russel & Bradley, 1997; Teo, Lee & Chai, 2008).

Mumtaz (2000) argued that although there was some evidence that Information and Commuication Technology (**ICT**) is finding its way into education system, regrettably it was not equally welcomed by teachers. In her study she brought to light three interconnected factors that affect teachers' take-up of technology in classrooms. She categorized these factors under the general headings of institution, resources, and the teacher himself.

Rosen and Weil (1995) maintained that schools and institutions give little support to teachers in their use of **ICT** in their classes. These limited resources within schools are a great impediment to the take up of **ICT** (Teo et al., 2008). Limited resources will lead to the lack of computer integration into the classroom and thus a hindrance to **CALL** normalization.

However, Veen (1993) showed that teacher factors far outweighed the institutional or school factors. Despite essential technical support provided by the school and a positive attitude to Information Technology (**IT**) from the school principal, the teacher factors that involved beliefs about the way the subject should be taught and skills associated with competence in managing classroom activities and computer-handling technical skills were the most influential in teachers' use of computers.

In a related vein, Askar and Umay (2001) referring to the possible sources of discouragement pinpointed that if teachers do not perceive computers as to be fulfilling their own and their students' needs, they will most probably resist applying computers in their teaching. Research has shown that teachers attitudes towards the computer is a major predictor for future computer use (Myers & Halpin, 2002) and their need for learning computing skills that in turn will lead to computer literacy (Zhang & Espinoza, 1997). As an example, Yildirim (2000) found that teachers who used computers more would tend to develop positive attitudes that promote further use of the computer in their daily teaching tasks.

Obstacles to normalization

Teo (2006) argued that teachers' attitudes towards computers – whether positive or negative – will have a direct effect on their students' attitudes towards **CALL** and in case of teacher's negative attitude it may adversely affect students' current and future computer application which may endanger **CALL** integration and normalization.

A study carried out by Chambers and Bax (2006) dealt with identifying the contextual sources and other obstacles that intervened with the 'normalization' of **CALL**. In this qualitative study, they identified productive ways of moving towards normalization in the future. They proposed Stakeholders' Conceptions, Knowledge and Abilities as one of the barriers on the way to normalization.

In a more detailed analysis of their proposal, they came up with (a) worries, expectations and misunderstandings, and (b) monitoring and evaluation. With regard to worries, expectations and misunderstandings, Chambers and Bax believed that although some teachers are skilled computer users, they are apprehensive that they might "lose face" in confrontation with students who are more technologically competent. Some other teachers, based on the study report, misunderstood the role of **CALL** in language classrooms. They proved to have a wrong conception of **CALL** by placing the students in front of the computers for all session long without any role for the teacher.

As for monitoring and evaluation, Chambers and Bax (2006) discerned that no systematic appraisal of current practice in applying **CALL** in the curriculum has been carried out. And even if there were any evaluation, it would be limited to evaluation of the technological issues rather than the ecological and pedagogical dimensions, along with a bulk of recommendations on the needed types of equipment to improve current application of **CALL** (Tudor, 2003).

The increasing emphasis on the evaluation of physical aspects of **CALL** per se was somehow due to experts' recommendation for heavily investing on the technological dimensions of **CALL** application. Many teachers reported they had not been consulted as which software, for example, was better in terms of educational merits. On the whole, the prevalent belief was that the mere provision of software and hardware could thoroughly obviate **CALL** problems without considering the teachers' real needs and factors (Lam, 2000).

The false belief of considering technology as the only cure-all or way to successful teaching has been dubbed 'technical fallacy' (Bax, 2000). According to Bax (2000) technical fallacy may lead to "misusing" or "underusing" of the device since the teacher merely relies on the technology and nothing beyond (Healey, 1998). To worsen the issue further, the technology being misused will not reach its full potential and applications, thus inducing a feeling of ineffectiveness among other teachers. This impedes **CALL** to enter the public world and keeps it in the confined world of so-called geeks and experts, acting as a barrier to normalization (Levy, 1997).

Chamber and Bax (2006) argued that schools, universities, and institutions will have a more valuable and productive output in future if teachers make more effective use of the facilities at hand. To put it another way, development of teachers might be more effective than simply assuming that the solution is to focus on buying more technology. This study is an extension of Chamber and Bax's (2006) study of **CALL** normalization, aiming at investigating the sources of discouragement in **CALL** in language teaching settings. The questions guiding data collection were:

1. What is the relationship between the familiarity of teachers with computers and their recognition of the sources of discouragement in computer use?
2. Which of these factors are the most influential in discouraging teachers in using computers?

Method

Participants

Out of 70 Iranian teachers who were approached, a total of fifty in-service male and female teachers (female = 34, male = 16) took part in this study. They worked in different English language teaching institutions and universities in Tehran with at least three years of experience. Stratified random sampling was carried out not only to come up with a more or less homogeneous population of participants but also to account for the typicality of the recruited teachers. Some control factors were considered when drawing from the total population. For example, all participants had to be majored or studying in Teaching of English as a Foreign Language (**TEFL**) and all were between 20 to 50 years old.

Instruments

A 33-item questionnaire on the sources of discouragement in computer/technology use in language classrooms was given to all participants. The items of the questionnaire were in English and originally taken from a previous study done at Simon Fraser University in Canada (Akins, 1992). These items were taken and altered to a form of a questionnaire to fit the purpose of the present study. Prior to the main study, the pilot questionnaire was given to 20 in-service teachers with the same qualities of the main participants. They were required to fill out the questionnaire so that any problematic points like ambiguity or multidimensionality of the items show up. They were also required to include any sources of discouragement not mentioned in the body of the questionnaire. Later, those comments were considered and included in the body of the finalized questionnaire. The questionnaire was composed of two sections. Both sections were in the form of Likert scale – where 1 indicated strong disagreement with the statement and 5 indicated strong agreement. Section one, which consisted of nine items, measured teachers' familiarity with and interest in computers and technology. Section two with twenty four items measured the sources of discouragement and unwillingness that any teacher might experience with regard to the use of computers and technology in his/her teaching career. The questionnaire had a highly acceptable reliability index ($\alpha = 0.82$).

Procedure

The questionnaire used in the present study was distributed among the participants either by email or in person. In "in-person" mode, it didn't take more than ten minutes for the participants to fill out the questionnaire, whereas in "e-mail" mode, the majority of the questionnaires were returned only after one day. Only two participants failed to hand in the questionnaire on time.

After collection, all of the questionnaires were coded and inserted into the **SPSS** software for analysis. Also, the items of the questionnaire were grouped into seven general

Table 1: Pearson correlation teachers' familiarity with computer with the sources of discouragement

		Familiarity
Lack of time	Pearson correlation	-.082
	Sig. (2-tailed)	.572
	N	50
Lack of administrative support	Pearson correlation	.068
	Sig. (2-tailed)	.638
	N	50
Low mastery	Pearson correlation	-.176
	Sig. (2-tailed)	.221
	N	50
Perceived usefulness	Pearson correlation	-.193
	Sig. (2-tailed)	.180
	N	50
Perceived ease of use	Pearson correlation	.072
	Sig. (2-tailed)	.622
	N	50
Others' attitudes	Pearson correlation	-.101
	Sig. (2-tailed)	.486
	N	50
Facilities	Pearson correlation	.093
	Sig. (2-tailed)	.521
	N	50

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

sources of computer use discouragement: 1. Lack of time, 2. Lack of administrative support, 3. Low mastery, 4. Perceived usefulness, 5. Perceived ease of use, 6. Others' attitudes, and 7. Facilities. As for the third section of the questionnaire, the written comments were carefully read and considered as other possible participants'- believed sources of technology use discouragement in classrooms.

Results and discussion

In this section, the questions under study are statistically investigated and their results are put to discussion:

Research question 1

In order to answer the first question regarding the relationship between the familiarity of teachers with computers and their recognition of the sources of discouragement in computer use, Pearson correlation coefficients were calculated to probe the relationships

between the teachers' familiarity with the computer and their recognition of the sources of discouragement in **CALL**. As displayed in Table 1, teachers' familiarity with the computer have statistically non-significant relationships with their recognition of the sources of discouragement in computer use. Based on these results it can be claimed that there are not any significant relationships between teachers' familiarity with the computer and their recognition of the sources of discouragement in computer use.

Research question 2

As for the second research question regarding the factors that are the most influential in discouraging teacher in using computers, a repeated measures **ANOVA** is run to compare the seven factors that discourage teachers in using computers. The F-observed value for comparing the seven sources of discouragement is 21.05 (Table 2). This amount of F-value is higher than the critical value of 2.31 at 6 and 44 degrees of freedom.

Table 2: Repeated measures ANOVA seven sources of discouragement

	Value	F	Hypothesis df	Error df	Sig.
Pillai's Trace	.742	21.052 ^a	6.000	44.000	.000
Wilks' Lambda	.258	21.052 ^a	6.000	44.000	.000
Hotelling's Trace	2.871	21.052 ^a	6.000	44.000	.000
Roy's Largest Root	2.871	21.052 ^a	6.000	44.000	.000

Based on these results it can be concluded that there are significant differences between the seven sources of discouragement. As displayed in Table 3, the order of means are 1) "lack of enough facilities", 2) "lack of administrative support", 3) "lack of time", 4) "perceived ease of use", 5) "low mastery", 6) "others' attitude" and 7) "perceived usefulness".

Table 3: Descriptive statistics for sources of discouragement

Factors	Mean	Std. error	95% Confidence interval	
			Lower bound	Upper bound
Lack of Time	3.380	.164	3.051	3.709
Lack of Admin Support	3.440	.143	3.153	3.727
Low Mastery	3.020	.111	2.797	3.243
Perceived Usefulness	2.106	.091	1.924	2.288
Perceived Ease of Use	3.360	.195	2.967	3.753
Others' Attitude	2.292	.096	2.099	2.485
Facilities	3.645	.136	3.372	3.918

This comparison is further illuminated in Figure 1.

Although the F-observed value indicate significant differences between the seven sources of discouragement, the post-hoc Scheffe's tests should be run to locate the exact places of differences between the means. The results of the post-hoc Scheffe's tests are displayed in Table 4.

Sources of discouragement

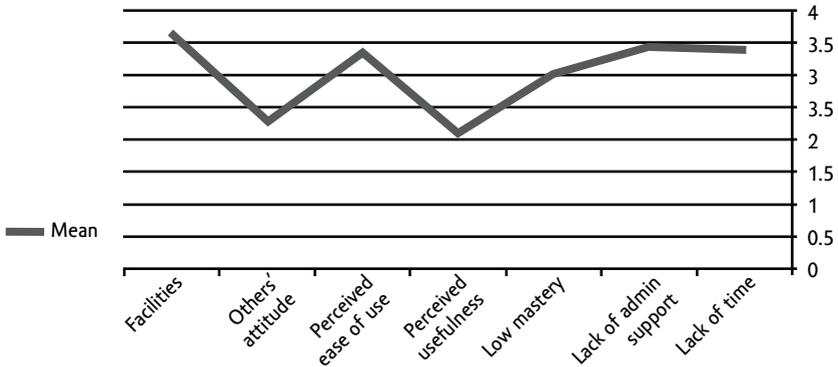


Figure 1. Sources of discouragement

Table 4: Post-hoc Scheffe's tests sources of discouragement

(I) Factors	(J) Factors	Mean difference (I-J)	Std. error	Sig. ^a	95% Confidence interval for difference ^a	
					Lower bound	Upper bound
Lack of time	Lack of admin support	-.060	.198	1.000	-.695	.575
	Low mastery	.360	.172	.881	-.192	.912
	Perceived usefulness	1.274*	.182	.000	.691	1.857
	Perceived ease of use	.020	.266	1.000	-.831	.871
	Others' attitude	1.088*	.194	.000	.466	1.710
	Facilities	-.265	.192	1.000	-.881	.351
Lack of admin support	Low mastery	.420*	.128	.041	.008	.832
	Perceived usefulness	1.334*	.166	.000	.801	1.867
	Perceived ease of use	.080	.223	1.000	-.636	.796
	Others' attitude	1.148*	.157	.000	.646	1.650
	Facilities	-.205	.139	1.000	-.651	.241
Low mastery	Perceived usefulness	.914*	.142	.000	.458	1.370
	Perceived ease of use	-.340	.206	1.000	-1.000	.320
	Others' attitude	.728*	.141	.000	.275	1.181
	Facilities	-.625*	.147	.002	-1.098	-.152
Perceived usefulness	Perceived ease of use	-1.254*	.203	.000	-1.904	-.605
	Others' attitude	-.186	.100	1.000	-.507	.135
	Facilities	-1.539*	.159	.000	-2.049	-1.030
Perceived ease of use	Others' attitude	1.068*	.192	.000	.452	1.684
	Facilities	-.285	.218	1.000	-.984	.414
Others' attitude	Facilities	-1.353*	.145	.000	-1.817	-.889

All of the mean differences receiving an asterisk are significant at 0.05 level of significance. Based on these results for question number 2, the following claims can be presented:

1. Lack of time is more discouraging than perceived usefulness and others' attitude (means = 3.38, 2.10, 2.29 respectively). "What really prevents teachers from following an interest in **CALL** is a lack of time, since they tend to be sufficiently burdened already by their conventional administrative and classroom duties" (Jones, 2001, p. 365)

The amount of time available to plan for implementing computers as instructional resources is scarce. Teachers see the time to plan as being the time to learn to become comfortable with computers; to take courses or training as necessary; to learn what software is available; to develop lesson plans and to implement lessons employing this new knowledge and technology (Akins, 1992, as cited in Lee, 2000).

It is natural and not unexpected to see a **CALL**-based course fail if no enough time for teacher training and preparation is allotted. Teachers need to be taught the necessary computer skills and expertise that are essential for a teacher if he/she is to survive the technical problems that may be caused by a malfunctioning system.

In this regard, school administrators and programmers are suggested to provide teachers with enough time before each class session to prepare themselves and the materials that are to be delivered by computer.

2. Lack of administrative support is more discouraging than low mastery, perceived usefulness and others' attitude (means = 3.44, 3.02, 2.29 respectively). Many teachers refrain from using computers simply because they receive scant administrative support (Robertson et al, 1996). According to the results, little administrative support is a more influential factor than low mastery and other attitudes in discouraging **CALL** application in teachers. Scant administrative back up can have various reasons and is in part triggered by poor financial situation (see Froke, 1994; Herschbach, 1994; Lee, 2000; Lewis, Agarwal, & Sambamurthy, 2003). Cost of software, hard ware, systems' maintenance, and staff training might not be affordable for all educational institutions.

On the other hand, fear of the technology crashing, freezing or being slow or generally 'going wrong' and the absence of an on-call help has significantly degenerated **CALL** applications in educational contexts. Many academic institutions don't have an on-call administrative support unit and most of the troubleshooting is expected to be carried out by the teacher herself or the students. Many teachers, as will be discussed in the 'low mastery' section don't have the required know-how to overcome the probable technological failures and this in turn triggers teachers' reluctance and a sort of phobia in technology administration. Training technical staff or even training teachers themselves can obviate this problem to a great extent.

3. Low mastery is more discouraging than perceived usefulness and others' attitude but it is less discouraging than lack of facilities (means = 3.02, 2.10, 2.29, 3.64 respectively). In the present study, low mastery is referred to the lack of the required knowledge and skill to cope with computers. Many teachers lack the experience of independently working with computers in their teaching career and thus feel uneasy to apply technology in their classrooms. In case of younger teachers, the situation is much more favorable since young generation has merged with technology and computers. Prensky (2001) has termed younger technophile generation "digital natives" in contrast with "digital immigrants" which refers

to old generation with much less contact with technology. However, even in case of digital natives, they are not trained in a systematic way to deal with the instructional functions and capabilities or limitations of technology in classrooms. All or the major part of what they have experienced about technology is non-instructional or unfocused.

Even the mastery level of the students also has a direct effect on the teacher's willingness to use computers in class. In case when students know more than teacher – and they often do – the teacher may fear to lose face (Chambers & Bax, 2006) and therefore is discouraged. The other end of the scale, when students know little about computers, teacher may lose interest in applying CALL in class, fearing the reluctance and boredom on the part of the students that he might face during instruction.

4. Perceived usefulness is less discouraging than perceived ease of use and lack of facilities (means = 2.10, 3.36, 3.64 respectively). Davis, Bagozzi, & Warshaw (1989) defined **PU** as the degree to which a person believes that using a particular technology will enhance his or her job performance. According to the results, teachers in this study considered **PU** as weak inhibitor to computer use. It is interesting to note that among the means of sources of discouragement **PU** has the lowest mean. This shows that teachers under study have no negative perception about the usefulness of computers and technology in class. They have no doubt about the educational merits of students who use computers, no doubts about the usefulness of technology in the future of the students, in fulfillment of curriculum goals, and in students' quality of learning in all language proficiency levels without underestimating the role and presence of the teacher.

5. Perceived ease of use is more discouraging than others' attitude (means = 3.36, 2.29 respectively). This refers to the degree to which a person believes that using a particular technology will be free of effort (Davis *et al.*, 1989). It is possible that while users may believe that computers are functional tools, at the same time they might have a feeling that they are hard to use too and this may outweigh the performance benefits by the efforts of using the application (Davis, 1989). **PE** explains the user's perception of the amount of effort required to utilize the system or the extent to which a user believes that using a particular technology will be effortless (Davis *et al.*, 1989). As such, it is possible that educational technology with a high level of perceived usefulness (**PU**) – the degree to which a person believes that using a particular technology will enhance his or her job performance – is more likely to induce positive attitudes. Furthermore, the relation between **PU** and **PE** is that **PU** mediates the effect of **PE** on attitude (Moon & Kim, 2001). That is to say, while **PU** has direct impacts on attitude, **PE** influences attitude indirectly through **PU**.

In the context of the present study, **PE** is the fourth discouraging factor in using computers. That is to say, teachers may have a dubious look towards the ease of computer applications in class. Of course, this view might be mainly derived from the other sources of discouragement like lack of administrative support, lack of enough training or even their attitude towards CALL application. Sime and Priestley (2005) found that teachers' attitudes towards the use of computers is heavily influenced by how easy it is to use the tool and that teachers are reluctant to use the tools that seemed difficult to use. As Bax (2000) referred to in his article, lack of experience and technology use in classrooms gives rise to lack of **PE**. This is a fallacy that has emerged and fueled by teachers' fear of technology as a hard-to-get-along-with phenomenon.

26 However, one might say that the perceived ease of use might be highly correlated with

the age of the computer user and may claim that the higher the age of the applicant is, the higher the perceived ease of use would be. Among countless justifications for this fact, one can refer to the concept of “digital immigrants” which argued that older ages tend to be more unwilling to apply computers as they see it as an uneasy and fearsome tool (Prensky, 2001) or to the significant and negative correlation of subjective norms with the computer application of older users (Morris & Venkatesh, 2000). Although, this might seem a plausible argument as some studies have suggested (For example, Birren, Woods, & Williams, 1980; Czaja & Sharit, 1993; Myers & Conner, 1992; Sharit & Czaja, 1994), this study found an insignificant correlation between the age of the participants and their perceived ease of use ($R = -.046$; $P = .75 > .05$)

Table 5: Pearson correlation age with perceived ease of use

		PE
Age	Pearson Correlation	-.046
	Sig. (2-tailed)	.750
N		50

This finding might be justified by acknowledging the fact that in the context of the present study, Iran, lack of facilities with a mean of 3.64 which has the highest mean among the sources of CALL use discouragement buys a large proportion of the blame. Lack of facilities – as the primary culprit – seems to have affected other factors as well. PE and PU although might have been generally believed to be much highly favored by younger teachers as they are relatively more *digital native*; this view has been adversely affected by the lack of facilities. No matter how a given task of CALL seems easy and useful, no willingness of CALL application on the part of users will arise if the necessary conditions are not met.

6. Others’ attitude (subjective norms) is less discouraging than lack of facilities (means= 2.29, 3.64 respectively). Teo et al. (2008) define subjective norms as “as a person’s perception that most people who are important to that person think whether the behavior in question should or should not be performed by the person” (p. 131). Previous studies found a positive and significant relationship between subjective norms and the uptake of technology (for example, Guha, 2003; Stefl-Mabry, 1999; Taylor, 1996).

In an organizational setting, it is possible to trace back the concept of ‘important people’ to the supervisor and the referent group. In other words, subjective norm is the degree to which a person perceives the demands of others on that individual to complete a task or, as in the case of this study, to use the computer. In the area of technology acceptance, this argument was implicitly assumed by Venkatesh and Davis (2000) who argued that when a co-worker thought that the system was useful, a person tended to have the same idea.

It should be noted that subjective norms can go beyond the academic environment and can be extended to the societal and even parental level. A teacher might contemplate the expectations of the society in the future; about the positive effects that can the employment of technology have on the students. What are students’ parents’ expectations of teacher in using CALL in class? How can he answer these expectations?

These questions and many others can induce anxiety in teachers (Russell & Bradley, 1997) which in return will discourage them to use CALL.

Lack of facilities however topped the means among the discouragement factors and needless to say, is far more discouraging than subjective norms. The number of the available computers in schools, the physical arrangement of computers, the availability of software, the timing and scheduling of the computer facilities in schools are among the many factors that discourage teachers to implement technology in their classes. Groves and Zemel (2000) rated facility availability as very important factors which influence the use of instructional technologies in teaching. In a similar vein, Farquhar and Surray (1994) proposed the importance of physical environment under the heading of organizational factors. They believe that the physical facilities available to the teachers play a key role in encouraging teachers to use computers.

Therefore, a key issue against the process of **CALL** normalization particularly in the context of this study is the lack and inadequacy of technological facilities. In order to reverse this anti-normalization process, many factors and serious measures should come into play. Schools, institutions, and university administrators should allocate decent financial budgets to buy and maintain enough numbers of facilities. Although Chambers and Bax (2006) argued against the mere dependence on hardware technologies and instead advanced a more ecological (rather than technological) perspective, it must be noted that a minimum and adequate number of facilities and provisions are necessary before any further step can be taken.

Based on the findings of the questionnaire, many teachers have complained that although there might be an available computer in each class, there are in most cases serious problems either with the hardware or with the software. They report that the majority of systems are infected with virus or so old, battered, and slow that a great portion of the class time is always wasted getting these problems fixed. Unsurprisingly, this will discourage many teachers to use computers in class and gets them to stick to more traditional means of information delivery.

Conclusion

In this study, authors aimed at investigating the sources of discouragement that act as an inhibitor to normalization of **CALL** in educational systems. These sources were identified and discussed and solutions were offered to overcome these inhibitors in an **EFL/ESL** setting.

Technology proliferation is inevitable and has become one of the challenges of the current century. The relation between the technology and teachers' acceptance of it has become a major issue in the modern world. As discussed in this paper this union is still not reached optimally and it will not unless the necessary infrastructures are established. Basically, teachers have not rightly understood the potential effectiveness of **CALL** in education. As it was discussed above, most technology immigrants fear the risk of losing face or they simply consider computer as a luxurious device that is only appropriate for the kind of engineering-type technical use. As some of the teachers discussed in the third section of the questionnaire, they seem to have a clear misconception about **CALL** application as they equated computer use in class as being as computer literate as a technician. However, what these teachers claim is not off the wall. The mere knowledge and experience of computers do not equip teachers with the required skills to fully operate computers. As Somekh and Davis (1997) remarked the effective adoption of computers in an educational context takes a good amount of time. Sandholtz (2001) argued that with an optimistic estimate, at least a year or so should be set aside on part of institutions and educational systems to train

their teachers by professional technicians and through collaborative work. As a key step to normalization, teachers should become more **CALL** friendly. To this end some measures should be taken:

First, institutional principals should attempt to encourage teachers to use **CALL** inside their classrooms (Veen, 1993) and also to provide them with **IT** courses in case it seems necessary. By meticulous programming, principals can raise funds in order to equip their institutions with **CALL** laboratories and essential hardware and software. This, in part, will give confidence to teachers to start using the facilities being provided with much trouble and inconvenience. However, any deficit in budgeting of the courses or implementational affairs should it be out of the affordance of the institution should be reflected to the governmental bodies for further action. Teachers should feel that their voice is heard and acted upon. This will make the process of teachers' **CALL** adoption way easier and faster.

Normalization is a state of educational change (Fullan, 2005) and adoption is the first step in the three-staged process of change implementation (Fullan, 1991). The other two are implementation and institutionalization. However, theories of educational change do not have equal impact on each of the three stages of innovation and each stage is influenced by some known and unknown factors. Teachers' own attitudes, subjective norms, perceived ease of use and usefulness, administrative support, time, financial budgeting and macro social factors are among the known. Further research is required to unveil the clandestine factors at work in the uptake of **CALL** by teachers. Following this, barriers to successful **CALL** adoption would be identified and an awareness of these impediments raised which in turn could provide us with some solutions which can be offered to pre-service teachers in training courses.

Next, teacher training courses play an undeniable role in giving the necessary leadership skills and techniques to pre-service and in-service teachers. It constitutes a great part of any teacher's challenges and dilemmas that may come up during their teaching career. Therefore, they should provide them with a suitable model of new pedagogies and technologies, aiming at advancing the borders of learning. Furthermore, these courses should have the duty of having teachers understand how new technologies can be perfectly employed in the economic and cultural status quo of a given context. Therefore, it seems that teachers' training in this regard is not an easy one and needs to be carried out by the experts of the field. This timely process is a collaborative one, begging for support from principals, administrators and governmental bodies.

Finally, it is of utmost importance to note that unless the necessary technological, ecological administrative resources and infrastructures are not established, all we do is paying lip service to the merits of **CALL** without practicing what we preach. As Ioannou-Georgiou (2006) pointed out, appropriate hardware and software, easy access to technology, top-down policy to use computers, technology-syllabus integration, teacher technology training, teachers' **CALL** implementation training, teachers' technical and pedagogical support are only among many of the known and on-the-surface factors that are essential to reach normalization. However, what is even more essential is much research and work to be undertaken to investigate other deeply rooted sources of **CALL** disuse if this new field of education is to survive and grow.

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Author biodata

Parviz Maftoon is associate professor of **TEFL** at Islamic Azad University, Science and Research Branch, Tehran, Iran. He received his PhD degree from New York University in 1978 in Teaching English to Speakers of Other Languages (**TESOL**). His primary research interests concern **EFL** writing, second language acquisition, **SL/FL** language teaching methodology, and language syllabus design. He has published and edited a number of research articles and books. He is currently on the editorial board of some language journals in Iran.

Amin Shahini is a faculty member at the University of Imam Sadiq. He is also a PhD candidate at Islamic Azad University, Science and Research Branch, Iran. His interests are **CALL**, and teacher education.