

The Effectiveness of Integrating Computer Assisted Language Learning (CALL) into the Textbook-based Syllabus of English Language: Teachers' and Learners' Perspectives

Memoona Ashraf

Abstract

The study aimed to address the disparity between the status accorded to English language in Pakistan and the noticeably trivial outcomes from the traditional teaching practices. It intended to explore and present ways to improve teaching and enhance learning of English language, with a specific focus on writing skills. It ventured a pedagogical initiative, at a public sector university, by integrating Computer Assisted Language Learning (CALL) into English Language Teaching (ELT). A self-designed CALL integrated ELT program was executed which incorporated two tools, Edmodo and Hot Potatoes. Interesting text based online quizzes and activities were created through free website of Hot Potatoes. The study also made use of a self-created blog at Edmodo.com, an online journal which was regularly updated by its members including the teacher and the learners. The program was evaluated for its effectiveness from the teacher's and learners' perspectives. Methodological triangulation has made the study holistic by integrating the findings from qualitative and quantitative sources of data. Positive attitudes of the actual users of CALL tools, their collaborative learning experience resulting from teacher's modified authority, and evidences of their enhanced performance are the substantial outcomes from the study which have confirmed CALL as a potential pedagogical resource. Contribution of the study lies in presenting a workable solution for encountering the existing logistic barriers for CALL integration in the chosen context by reshaping program design and pedagogical practices. The study recommends teachers as well as learners to equip themselves with technological skills and further explore the invaluable CALL resources following the prototype.

Keywords: CAL, ELT, Edmodo.com, hot potatoes, pedagogical practices

CALL was agreed upon as an acronym for Computer Assisted Language Learning at the TESOL convention of 1983. It is a language teaching and learning approach which incorporates computer technology as an aid to present, reinforce and assess the material to be learned. It is broadly defined as “the search for and study of applications of the computer in language teaching and learning” (Levy, 1997, p. 1). The field of CALL offers a wide range of computer applications specifically targeted for English language teaching and learning. Also the growing number of computer and the Internet users calls for the need of integrating CALL into traditional teaching and learning of English as a second language (ESL). It doesn’t mean any disregard to the textbooks since the learners are not to be asked to use computers and the Internet to substitute textbooks. Instead, while learning English language, they should incorporate the use of computers to facilitate and enhance their learning.

CALL is meant to devise ways in which computers can be used for language teaching and learning. CALL adds a new dimension of technology to the domain of ESL, which is already multifaceted. Hubbard (2009), in his introductory chapter, describes CALL as “both exciting and frustrating...because it is complex, dynamic and quickly changing” (p. 1). Beatty’s (2003) rather broad definition also supports the ever changing nature of CALL that it is “any process in which a learner uses a computer, and, as a result, improves his or her language” (p. 7).

Teaching language through solely relying on traditional media is not sufficient for teachers of today. Cuban (2001) supplied evidence regarding under use of computers in classrooms and considered it as affecting learners’ autonomy and hampering their

development of critical thinking skills. He found computers to be generally used by teachers as typewriters for preparing their teaching materials and word processing. He believed that technology was accessible to teachers but they were unable to use it for pedagogical purposes because of sheer lack of adequate training. In their expanded view of ELT, Chapelle and Jamieson (2008) considered technology as essential as the other three elements including the learner, the teacher, and the English language itself. They believed CALL to have such potential as would complement teaching strategies used so far.

The present day underlying philosophy of CALL lays emphasis on its effective exploitation by the language teachers on the pattern being followed in the developed countries for creating highly interactive language learning environment. Multimedia applications allow audio-video and textual incorporation in the content to be taught. A learner becomes capable of interacting with the program and with other learners at the same time (Felix, 1998). Through computers the teacher is helped and relieved of traditional teacher-centered role and learners also find greatly assisted. Instead of controlling the learning environment, the teacher assumes a less threatening role of a facilitator. According to Drent (2005), innovative use of technology can actually facilitate learner-centered learning. Levy and Stockwell (2006), and Bax (2003) considered it imperative for teachers to integrate CALL into ELT. Their opinions may vary regarding how to integrate, but they unanimously agreed upon using CALL for language teaching. The present study has attempted to blend a combination of CALL along with face-to-face teaching. Such blended learning, according to Pegrum (2009), enhances learning potential and is tried more frequently than pure CALL.

Kress (2003), in an attempt to redefine literacy resulting from ICT advancement, points out two points of departure from its traditional model: one as image dominating the writing, and the other as screen dominating the print in the form of page or book. ICTs allow multimodality and rely heavily on the still and moving images in addition to audio-video files. Therefore, these two shifts in the modes; one from writing to image and the other from print as a medium to screen, influence current literacy practices. It is important, hence, to develop skills for handling various modes simultaneously. This re-conceptualizing of literacy practices asks for rethinking of writing skill as a social practice.

Blackstone, Spiri and Naganuma (2007) attempted to discover pedagogical uses of blogs which have also been considered effective by the present study. Blackstone et al found blogs as interactive home pages used for online exchanges where learners' overriding concerns seemed to present their ideas while paying attention to the content, organization and error correction, instead of just finishing their assignments. In addition to expressing their own ideas, the learners were found to be motivated enough to learn about their peers' ideas and respond appropriately by commenting upon them (Blackstone et al., 2007). Pinkman (2005) viewed blogging as interactive and observed participants performing a variety of roles in the process of writing: becoming writers while writing the posts, readers or viewers while responding to others' posts, and writer-readers while reacting to criticism on their own posts. Considering the prior studies on blogs, this study deems blogging as a motivating CALL activity, having the potential to develop learners' writing skills. In ESL contexts like Pakistan, the learners get exposure to English language mostly through textbooks which they are restrictively taught in

their classrooms. This missing exposure to authentic learning contexts can be supplied to our learners through CALL to practice real-world discourses.

Despite the fact that CALL has been explored for its potential for ELT in most parts of the world, pedagogical implications of CALL have neither been explored properly, nor made public to the teachers in Pakistan. Only a few researches as somewhat isolated, individual ventures have been tried out. Irshad and Ghani (2011) investigated the pedagogical benefits of CALL for developing reading comprehension of learners in Pakistani ESL perspective at The Islamia University, Bahawalpur through a quasi-experimental study. They presented their positive outcomes at 3rd International Conference of Teaching and Learning (ICTL) INTI International University of Malaysia. Hassan and Sajid (2013) investigated barriers to ICTs integration at secondary school level in Punjab and recorded positive perceptions of the participants, including teachers and learners. The British Council launched a volume of research papers including a paper by Bashir (2014) who explored students' and teacher's perspectives on the use of technology and reported lack of enthusiasm for technology integration on the part of students.

The Higher Education Commission (HEC) of Pakistan has established a CALL subcommittee in 2005 to work in collaboration with English Language Teaching Reforms (ELTR) committee to promote CALL and help English language teachers to use it. In this regard, CALL Report 2005-2007 has recommended ensuring the evolution and development of CALL over the next two decades. The report suggests an evaluation of language teaching and learning related websites to see what can work for higher education

institutions in Pakistan. In synchronization with the recommendation of the HEC report, CALL based teaching program for the present study has been designed after making adaptations of the available CALL materials to support the textbook-based syllabus.

The dramatic widespread of computers in higher education institutions in Pakistan asks for the effective exploitation of CALL. The present day Pakistani ESL learners are not only equipped with technology but are also tuned to use it. Majority of the students at public sector colleges and universities of the Punjab (Pakistan) possess their own laptops owing to the Youth Initiative Program launched by the provincial government. This study intended to benefit from the investment of the government in order to improvise current teaching practices of English language at a public sector university by incorporating CALL to produce better learning outcomes. The grant of personal laptops to the students and the availability of the Internet in the Wi-Fi zones at the designated university assisted in exploring new possibilities for teaching and learning.

The related literature provides sufficient evidence which testifies the value of CALL as a potential resource for ESL teaching and learning. CALL provides real-life environment with opportunities for learners to practice language skills for real reasons. It lets them develop their writing skills while writing for real audience. It provides authentic texts and an exposure to the native culture. It provides ready access to hands-on activities free of any cost. A teacher, however, needs to be able to use this resource effectively by careful planning and designing of the CALL integrated teaching program based on the contents of the syllabus. Computers and the Internet have been, and are still being, extensively exploited for ELT in the developed world. CALL is not a recent

phenomenon globally but it can be regarded a pedagogical innovation in Pakistani scenario, especially in our public sector institutions. Now when majority of the public sector university students have been granted their own laptops, the need remains in modeling the behavior of both the teachers and the students of English language, which is a compulsory subject in Pakistan for all the undergraduates.

The study has been driven by prevailing concerns about ELT practices in general, and particularly, in relation to the compulsory English language teaching course for semester IV at the designated university. The course comprises a collection of literary texts for academic reading and writing, to be exploited through text book reading, relevant explanation, and text based writing assignments. The whole practice revolves around the dominating and leading role played by the teacher whereas learners remain passive. In this context, the study aspired to contribute to the improvement of traditional pedagogical practices by reducing the dominance of teacher's talk and control. Resultantly, it intended to provide recency, variety and choice to the otherwise very traditional, limited and teacher-dominated classroom with textbooks and a board.

Despite the existing and still persisting constraints in the Pakistani context, there is a need to evaluate and consider the feasibility of integration of CALL into traditional ELT methodology. So far, it has been an under explored area in Pakistan and in rest of the developing world. The present study intended to contribute in bridging this research gap. It hoped to enrich the research and practice in the field. It set out to exploit the potential of CALL to develop English literacy of Pakistani learners by providing them an exposure to actual context, authentic materials and purposeful learning tasks.

Research Questions

The study aimed to explore the following questions:

- How effectively can CALL tools be exploited to develop learners' English language skills with a specific focus on developing their writing skills?
- What are the ESL learners' responses towards using computers and the Internet for language learning?
- What are the teacher's perceptions and observations related to the integration of CALL into ELT?

Review

The present study has exploited neo-Vygotskian Sociocultural theory in general, and its three main concepts including *scaffolding*, the ZPD and *contingency* in particular. Sociocultural theory revolves around the view that children learn through their interaction with other people, rather than in isolation. The theory thus views the process of learning and cognitive development in human beings as a communicative process which is mediated socially as well as culturally. Vygotsky relates learning with child's internalization of external activities into cognitive or mental activities by using language which ultimately develops cognitive functions.

Vygotsky (1978) has put forward the notion termed as the *zone of proximal development* (ZPD) to encompass how learning is related to development and defines it as "...the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (p. 86). He

further elaborates the concept that the existing ZPD would soon become the actual level of development. This means that the existing level of child's achievement with assistance would soon mature into child's capability for independent achievement. The notion distinguishes between the actual level of development pertaining to the mental ability of a child for independent performance of certain tasks, and that of the potential level pertaining to those tasks for which the child requires assistance of others (Lantolf & Appel, 1994). Usually, the learner gets assisted and accomplishes challenging task through collaboration and social interaction by those who are more knowledgeable.

The study has taken into consideration two important factors of ZPD as indicated by Mercer (1994). Firstly, he argues that a teacher can understand the developmental level of a learner and then can estimate the learner's potential in order to decide appropriate level of encouragement to be extended to him. The teacher can do that only after having observed and assisted the learner during some particular activity. However, the quality of teacher's diagnosis and subsequent interventions cannot be ignored. So a variation in ZPD can result for a variety of tasks, as well as for different teachers. Secondly, Mercer (1994) strongly recommends the teachers to create challenging tasks for learners and says, "A task which is designed so that children are able to accomplish it without any assistance whatsoever is unlikely to stretch their intellectual capabilities" (p. 103).

Scaffolding as a term has been coined by Bruner and Sherwood (1975), which is supportive intervention by teacher extended to the learner engrossed in accomplishing a task within his ZPD. Mercer (1994) defines scaffolding as "an effective conceptual metaphor for the quality of teacher intervention in learning" (p. 96). He views that

teacher and learners participate actively and share their knowledge to construct new concepts. Mercer elaborates that teachers can plan scaffolding in advance, can set goals and then design such tasks through which learners can achieve their specified goals.

According to Hammond and Gibbons (2001), scaffolding refers to that guidance and help planned for learners to assist them work independently to the extent that they become capable of applying new learning and skills to upcoming new contexts. So if ZPD is a continuum, a teacher's job is to let the learners develop themselves potentially on its one end by providing them required assistance. This can ultimately, equip them for actual development aiming towards its other end. A teacher's initial assistance extended to the learners has the potential of enabling them to become independent and autonomous learners who can proceed later, without relying on any assistance. Furthermore, contingency requires a teacher's capacity to judge the quantity and quality of scaffolded support. It also requires how and when to provide that support to the learners individually in order to suit each learner's learning style, ability and pace.

CALL integrated pedagogical experiment carried out by the present study has drawn upon the pedagogical approaches springing from neo-Vygotskian sociocultural theory which do not approve of learning process taking place on individualistic level but rather through learners' social interaction. The learners can perform best in their ZPDs while accomplishing challenging tasks when they are assisted by their teachers or more capable peers and become capable of constructing new concepts and understandings.

Methodology

Research Design

The guiding theoretical framework that shaped this case study was interpretivist paradigm. Keeping in line with the paradigm, the study relied mostly on qualitative data collection methods including interviews and participant researcher's observation. It also utilized quantitative data in the form of attitudinal statement sheets which ultimately supported the qualitative data and added depth to the description to let the transferability of findings to other similar contexts. Hence, a mixed methods approach was deemed suitable for the study to become holistic and in-depth in approach.

Sample

This case study focused a group of 44 learners of one class treated as a case. Participants selected for the study were students of BS honors semester IV, having Economics as their major subject. The reason behind the selection of this sample was the fact that majority of them having received laptops given by the government of Punjab were expected to be more proficient as far as the use of the Internet was concerned.

Tools of Data Collection

Data collection for the study was carried out in two different stages out of which Stage One was just preliminary, required to inform and shape Stage Two which was the main stage. Various sources used for gathering data included preliminary questionnaires, transcriptions of group interviews, video clips of the lessons, record of posts on Edmodo blog, learners' attitudinal statement sheets, and my own field notes as a participant observer.

Procedure

CALL-integrated self-designed teaching program remained central to the design of the study. The program was carried out for eight weeks of the final term of semester IV during April-May 2014. Contents of the prescribed syllabus were incorporated with CALL tools including Hot *Potatoes* and *Edmodo.com*. Quizzes related to the various themes, characters and speeches of G.B. Shaw's play *Pygmalion* were created for the study with their auto scoring mechanism along with their hidden correct answers to be unfolded after wards. Quizzes and writing tasks related to the text of *Pygmalion* were posted on Edmodo blog along with twenty relevant clips from the movie *My Fair Lady*. The learners accessed these tasks on the blog and replied with their posts. While working in groups of five, they also exploited online resources for their power point presentations which were supplemented by images, songs, movie clips and role plays.

Major learning tasks of the program included:

- Joining the blog specified for the class.
- Watching clips of the movie *My Fair Lady* based on the text of G.B. Shaw's play *Pygmalion*.
- Discussing and sharing ideas and opinions while working in pairs and also negotiating related questions.
- Writing answers to the questions related to the movie clips and posting them on the blog.
- Reviewing and commenting on each other's posts on the blog.

- Attempting and evaluating the quiz posted on the blog.
- Collaboratively planning, searching the information and writing group assignments related to themes and characters of the play.
- Participating actively in power point group presentations.

Foreseeing impending frustrations resulting from the issues concerning the Internet accessibility as reported by the learners in Stage One, an alternative plan was also devised to troubleshoot and minimize the impact of the University Wi-Fi failure. Accordingly, such tasks were designed which allowed flexibility to learners to access the Internet anywhere outside. In addition, the University Internet site in a computer lab was reserved for specific days and timings of the class. Also, copies of the Internet texts were saved to be resorted to in the class in case of University Wi-Fi failure. Lastly, a personal Wi-Fi device was also arranged by me that could provide the Internet access, though quite limited. It was anticipated that such backing-up plan could alleviate the discouraging situation resulting from the anticipated problems.

CALL-integrated program design was negotiated with the Head of English Department because the program had to be designed while remaining within the constraints of the departmental syllabus approved by the Board of Studies. The learners were told about the procedures, purpose and nature of the study through a detailed presentation during which their queries were also answered. All of them happily volunteered themselves for the study. After getting their consent, the learners were observed overtly, in a non-threatening manner. Recorded video clips of the observations supplemented the data with factual picture of the context while providing visual details

of learners' facial expressions and behaviors during these interactive sessions. The interviews were conducted with the learners in groups of five to elicit their notions about CALL-based teaching. With their consent, the interviews were audio-taped and then transcribed.

Results

Stage One findings from analysis of preliminary questionnaires extracted information regarding the Internet practices and perceptions of the learners so that CALL based teaching program could be improvised and planned accordingly. A kind of digital divide was detected amongst the learners studying in the same class but falling in three categories of light, medium and heavier users of the Internet. This inequity was further reflected in their perceptions and attitudes towards incorporating CALL into their traditional learning ways. The learners, who reported a limited use of the Internet and resultantly lacked the expertise related to technological skills, were found to be restricted by the limited Internet access at their disposal. Even those who reported having used the Internet for some academic purposes, were found using it as an additional tool instead of making it an integral part of their studies. Overall, this stage of the study supported findings of the earlier studies conducted by Cuban (2001), and Hassan and Sajid (2013), indicating clearly of the want of systematic integration of CALL into ELT practices. The findings, however, confirmed an overall readiness of learners to exploit CALL as a rich resource to help them learn English language. This served as a starting point to take up the pedagogical initiative in Stage Two.

A dual perspective, of both teacher and learners, was taken into consideration for

evaluation of the program.

Teacher's Perspective of Program Evaluation

The teacher's perspective involved assessment of learners' accomplished tasks, as one of the indicators of the program assessment. These tasks included the learners' posts sent on the blog in response to the tasks assigned; their performance on the online quiz, their group power point presentations at the end of the program. In addition to these, the record of regular observations of CALL integrated activities served as an ongoing source of assessment.

The movie clips, being authentic, and not simplified, were found challenging for the learners but were also found advantageous for them in many ways. Firstly, they gained practice which would prepare them to handle such language encounters in real world independently. Secondly, they got the opportunity to learn language in a real context. Thirdly, authentic texts created ZPD for learners which required them to interact with teacher as well as peers in order to deal with materials that they found difficult to handle on their own. Lastly, these materials provided learners such a variety that they found interesting as well as useful, instead of merely relying upon the textbooks which they were forced to study for practicing language skills.

Analysis of the learners' performance on the blog indicated problematic beginning for many of them who were assisted by pairing each one of them with a peer having good skills of computer and the Internet use. This arrangement worked to a prompt and positive outcome, enabling all the learners to participate actively in the program. While watching the movie clips, quite a few of them were found struggling to understand the speeches of

the characters in their native accent and had to watch the same clip once or even twice again to understand it. Since there were no subtitles, they were helped by locating the same speeches in their textbooks of the play *Pygmalion* to which they could easily relate as they had read the text already. This problem subsided very soon as they got acclimatized with the authentic texts, which they could handle by themselves while working in pairs. They were also found toiling with the challenging task of composing their writing in response to the questions posted to them. Initially, they appeared unable to write satisfactory answers and had to be encouraged and helped by explicit teaching before posting their responses on the blog. The start was somewhat reluctant but they managed to improve considerably in the first few attempts. They were observed pondering and negotiating with each other to develop clarity of their concepts. This was visible in their writing of blog posts, not only in imparting their own input but also in reviewing and commenting on that of their peers. This assessment of their performance being enhanced through collaboration and social interaction is in agreement with Vygotsky's (1978) views and is further endorsed by Lantolf and Appel (1994).

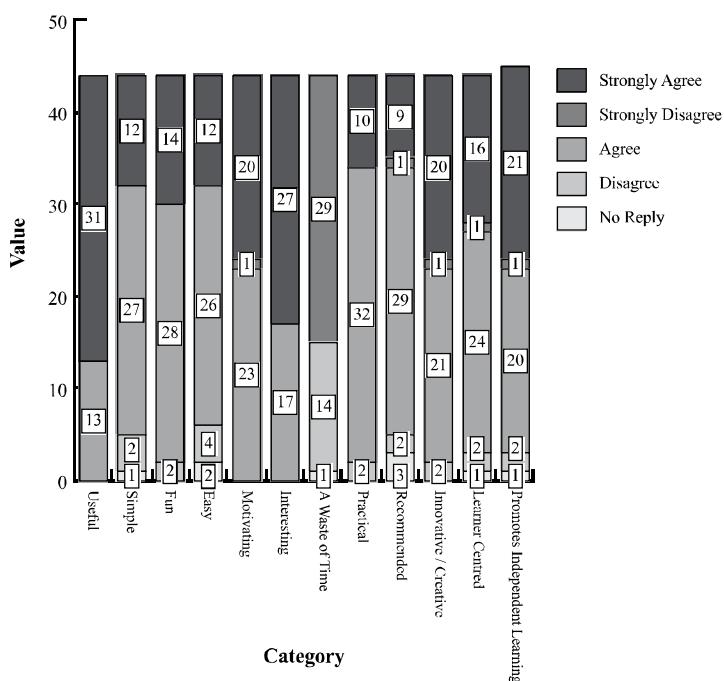
They were also assessed for their overall understanding of the text through online quizzes and power point group presentations. Their presentations were assessed on three points: for the content researched and contributed by each member, collaborative planning and layout of the work, and final presentation by the group members taking turns. It was made clear beforehand that they would receive credit for pictures, animations and role play. This focus upon integration of skills, displayed through real life performances of the learners precisely reflected the integrated skills pattern of everyday life. Such

pattern is consistent with the fourth principle of Brinton et al. (1998).

All these modes of assessment provided sufficient evidence that the learners had substantially benefitted from CALL-integrated program by improving their Internet skills as well as their English language skills.

Learners' Perspective of Program Evaluation

Learners' overall responses towards the program were deduced from their attitudinal statement sheets and their group interviews. Immediate responses were taken on five point Likert scale attitudinal statement sheets, right after the program. The graphical representation of these responses generated through SPSS is given below:



The Learners' responses in Attitudinal Statement Sheets

The graph stating the learners' attitudes depicts twelve categories on X axis to inquire learners' attitudinal response towards the program, whereas the values on Y axis depict the number of respondents.

During their group interviews, majority of the learners regarded the program as a motivating and powerful learning experience. Such positive attitudes of learners towards ICT incorporation for language learning were observed by earlier researchers including Greenfield (2003), Hoshi (2002), and Sakar (2001). The learners expressed that they had improved their language skills, specifically writing skills and also their computer skills. They deemed this learning valuable to serve them on long-term basis which could help them in becoming life-long learners. They acknowledged gaining exposure to culture of the native speakers.

The learners shared a very positive response towards the modified pedagogical practices throughout the program. They appreciated the friendly learning environment which allowed them to cope up with quite challenging tasks. In conformity with Drent (2005), the learners acknowledged having enjoyed their active participation in the learning process. They expressed that the interactive home pages of the blog kept them engaged in meaningful written communication with teacher and peers during online exchanges, followed by peer reviewing, and this is congruent with the findings of Blackstone et al. (2007). They felt motivated to write with the awareness that their piece of writing would be posted and viewed by their teacher and peers on the blog. They enjoyed the interactional nature of writing comments on each other's posts. They realized and cherished the real life social interaction through their blog writing

experiences and the same has been pointed out by Dodge et al. (2003).

Despite the fact that some of the challenges were still being faced by a few of the learners, a significant development of their technological skills proved to be an additional gain of their participation in the program. Majority of them valued the use of web for language learning. They expressed their delight at the incorporation of audio-video files and images, both still and moving. They recognized the worth of multimodality while using screen as a medium. Students' appreciation for ESL websites was reported earlier by Kavaliauskiene (2003), and Kung and Choo (2002) whereas the advantages of using multimodality were explored by Kress (2003).

The learners' perspective of evaluation of the CALL integrated teaching program remained positive and it duly supported the teacher's perspective of the program evaluation.

They, however, expressed that the Internet access had been a problem during the lessons. Even when they could gain the access, the speed of the connection remained slow as it was accessed by so many people at the same time. They stated that although the university was quite well resourced with computer labs and the Wi-Fi zones yet it could not sufficiently meet the demand for uninterrupted implementation of the program. Some of them revealed that they had to struggle with their handicap of technical skills which they tried to overcome at every stage of the program. All of them could ultimately manage to join the blog on Edmodo, send their written drafts, search on the web for required information, and present on the power point. They, however, expressed delight at having accomplished the required level of expertise to complete their tasks. They

showed their enthusiasm to continue exploring the Internet resources for enhancing their language skills since they deemed their digital literacy a tool to facilitate their English language literacy. Their evaluation of the program indicated their satisfaction at the improvement of their computer skills as well as an overall development of their language skills.

Discussion and Conclusion

Keeping in view the modest outcomes of traditional ELT practices in Pakistan, the study has offered a pedagogical prototype by integrating CALL tools, activities, and movie clips into the textbook based syllabus which has effected an overall transformation in the nature of the teaching and learning processes. The new teaching program has rendered the learners an exposure to the native culture and authentic language through multi-modal texts. It has provided them real-life, learner-centered and interactive learning situations to work more actively and productively in collaborative learning environment. Hence, the study has set a precedent for modeling behaviors on the part of both the teacher and the learners for effective teaching and productive learning of English language. Despite the varying extent and purposes of learners' internet use, their overall responses endorsed their faith in the value of CALL integration for ESL learning.

The study claims to have capitalized on the investment of the government in the Youth Initiative Program which has technologically empowered the learners with personal laptops. CALL based program has exploited that potential resource for the benefit of ELT. The study has extended its contribution by providing a workable

solution to alleviate the deplorable output of teaching English as a compulsory subject to the undergraduates in public sector colleges and universities. In this way it has also addressed the concerns of both the HEC and the Ministry of Education of the country regarding ELT reforms. Hence the study has attempted to address the vital concerns about the existing gap between the declared status of English language and the actual reality of ESL learning outcomes in Pakistan.

Synthesis of empirical findings of the study has presented answers to the queries regarding the effectiveness of integrating CALL into ELT in public sector universities in Pakistan. CALL integration simply maximizes the support extended to the learners for helping them develop English language. The study highlights complete rethinking of pedagogical approaches and practices currently being followed in our country. The approach developed and adopted by the study can be followed and even adapted by the local teachers in our context as it is in conformity with our own values and practices, rather than those of the West.

The outcomes of the study are consistent with the existing research in asking for the integration of technology into ESL classrooms. This re-conceptualized pedagogical model and the theoretical principles underpinning this model have the potential to influence the design as well as implementation of English language courses to be taught in future. The study has presented a practical model in Pakistani context carrying incentives for teachers to follow the globally tried practices within their public sector institutions. It has offered a prototype for other teachers to venture further initiatives by incorporating CALL as an invaluable resource for creating a variety of teaching

materials, and even modifying a lot of prepared activities available for free. The scope of the study can be extended to other similar ESL contexts in the developing countries in order to motivate teachers to exploit the pedagogical resource of CALL to the benefit of their learners. A mere broader and consistent reconsideration of conventionally practiced ELT approaches, on the lines suggested by the study can be furthered by future studies.

The study is acknowledged to be limited in certain aspects. An obvious limitation is its restricted sample population, for having been conducted with one class of 44 learners in one university. Another limitation lies in its time scale, which should have been in-depth in correspondence with the ethnographic nature of the first stage but actually had to be squeezed because of the time constraints of semester duration. This limitation was, however, neutralized owing to my teaching experience of thirteen years in the university. Such a long experience has lent me the required understanding of the learners and the context of learning. Limited Internet access, its poor connectivity and speed remained a problem throughout the program, yet the learners' keenness for learning through CALL remained alive and encouraging. The practical constraints encountered during the study have suggested the nature of difficulties that might come up against the implementation of any such program. This contribution of the study can be relevant and helpful to other teachers working in similar contexts, even in other countries, where similar norms of the pedagogical culture are observed.

In order to extend CALL as more than an extra content or an additional and occasional activity added to the otherwise traditional programs, fundamental changes at grass root level need to be effected. It can be done by following or adapting the

already tried and tested models of planning and implementation of language programs. CALL tasks and activities should be integrated in such a way that they do not remain added on content but rather they should be made useful learning resource through clever adaptations of the readily available and prepared activities according to the needs of the learners. In order to effect the implementation of the program suggested by the study, the administration is required to have a proper vision and an execution plan ensuring to extend support in terms of funds and logistics.

The outcomes of the study have yielded insights rather than evidence which could be pertinent and applicable to other similar ESL contexts. Its limitations have also been acknowledged to pay heed while generalizing its outcomes or visualizing its implications. Findings of the study, being integrated from multiple data sources using methodological triangulation, can be extended to other similar ESL contexts. It is expected that the study will prove useful not only for the teachers and educators but also for the policy makers of the HEC of Pakistan. The HEC is working on ELTR project to introduce educational reforms and promote CALL for teaching and learning English language in ways that have been rarely tried before in Pakistan. The study can serve as a pedestal for further studies aiming to explore future directions in the field so that the huge potential of CALL can be used effectively for the benefit of ESL teaching and learning in our context.

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