



Language Learning Strategies (LLSs) in Computer Assisted Language Learning Context

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ABSTRACT

Computer-assisted language learning (CALL) is still in the early stages of integrating technology into educational institutions in Pakistan but, in Pakistani classrooms, using technology in language instruction is growing as a popular trend. Thus, the current study's goal is to investigate the language learning strategies in CALL contexts should be modified/improved and can they bring some positive results or not. In doing so, a mixed-mode pre-test post-test research methodology, using one identical test (pre-test and post-test) before and after studying in a CALL setup was used. Moreover, semi-structured interviews were also used to explore the opinions of learners (n=6). As a result, one group (experimental) of male college students (n=55) was chosen for the investigation (experimental group). The findings of the study revealed positive results in both analyses (QUAL+QUAN). The study presents future recommendations also.

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1. Introduction

Technology integration in language education has become a popular technique among Pakistani educators. The internet, social media, and technology-mediated devices have become a trend among the younger generation, who are known as tech-savvy (Subaidi bin Abdul Samat & Aziz, 2020; Yunus, Yaacob, & Suliman, 2020). Learners in the twenty-first century aspire to be self-directed and creative in their learning, which necessitates changing learning approaches (Coffman & Klinger, 2007). To learn, the learner must change learning strategies by making independent judgments, as strategies open doors to academic learning and important parts of human communication, allowing the learner to guide his learning (Oxford, 2016). To meet the objective of alteration, a new instruction is required. Therefore, everyone is attempting to improve the educational system by computer-assisted language learning (CALL).

Although, in Pakistan CALL is still in the early stages of integrating technology into educational institutions but, in Pakistani classrooms, using technology in language instruction has become a popular trend. The internet, social media, and technology-mediated gadgets have become popular among the younger generation, who are noted for their technological prowess (Subaidi bin Abdul Samat & Aziz, 2020; Yunus et al., 2020). Furthermore, it is necessary at this moment to assist learners in becoming acquainted with current global education trends (Aziz & Hamzah, 2020). Moreover, the English course designers and educators must stay up with the times. Educators and policymakers must be aware of the state of technological assistance in the educational environment in order to establish learning

strategies that meet the demands of students (Karthigesu & Mohamad, 2020; Rafiq & Hashim, 2018).

The development of computer technology signaled a paradigmatic shift in ELT, and instructors and program designers have begun to use these annotations in conjunction with vocal lectures to develop language courses for ESL settings (Karthigesu & Mohamad, 2020). Since, coordinated display of computer-integrated materials such as pictures, audio, videos, graphics, and animation on a single platform already alter the teaching and learning approach of teachers and learners (Berk, 2009). Moreover, the learners' cognitive learning process is facilitated by this CALL synchronic platform (Karthigesu & Mohamad, 2020). As a result, English language instructors in ESL classrooms should employ technology integration with new teaching approaches (Nasaruddin & Kamalludeen, 2020).

Despite the introduction of technology into Pakistan's educational system, there is little research or study of technology-mediated programs or technology-integrated classrooms in Pakistan's ESL environment. However, technology-integrated ESL programs are still in the early phases of development and implementation (Alsofyani, 2019). As a result, the purpose of this study is to see how the CALL setting affects college students' ESL learning approaches. The research looked into the following questions:

- Does the CALL context have an impact on students' language learning practices in ESL class?
- What are the opinions of students concerning the CALL context for learning English?

2. Related Literature

2.1 Computer Assisted Language learning (CALL)

Despite the use of acronyms such as CAI (computer-aided instruction), CAL (computer-assisted learning), CELL (computer-enhanced language learning), and TELL (technology-enhanced language learning) in the past, CALL is now widely regarded as the standard acronym for studies involving second language and computer technology (Gruba & Chau Nguyen, 2019). "The quest for and study of computer applications in language teaching and learning," according to CALL (Levy, 1997). CALL tendencies are similar to those in other applied linguistics domains. After beginning with structural and behaviourist ideas that manifested in audio-lingual approaches to language learning, CALL educators explored elements of communicative techniques of language acquisition (Gruba & Chau Nguyen, 2019).

Students' roles evolve in parallel with advances in learning theory, technological capabilities, and instructional procedures. Students in structural CALL were reliant on instruction systems that effectively supplied grammar and vocabulary content. As students moved via interactive work with apps, communicative CALL practices aimed to establish them in independent connections with the computer. Students are expected to work cooperatively and use the computer as a "toolbox" for group project work in integrated CALL. As students become more comfortable with computers, CALL instructors are being challenged to focus their use on language acquisition (Chapelle, 2001). CALL scholars have investigated learner tactics, evaluated learner status, and began to describe the abilities and behaviors necessary to operate effectively in computer settings to better understand students' relationships with computers (Gruba & Chau Nguyen, 2019).

A multitude of studies have been conducted on the use of technology in the ESL setting, and they have all verified the positive effects for ESL students (Bani-Hamad & Abdullah, 2019). According to these studies, the exciting multimedia elements given by technology-mediated programs provide substantial help to learners in visualizing information through visualization, which increases learners' confidence in learning the language (Santa Dedo & Hashim, 2019; Subaidi bin Abdul Samat & Aziz, 2020; Wang & Li, 2019). Baytak, Tarman, and Ayas (2011) also looked into the effects of technology on learning. According to the findings of this study, learners improved their learning by incorporating technology into their classes. Furthermore, according to Parvin and Salam (2015), learners can use technology to improve their exposure to language in a relevant environment and generate their own knowledge. Learners should be able to practice real-world skills through social interactions. This is accomplished by students' engagement in real-life events.

2.2 Language Learning strategies (LLSs)

LLSs (Language Learning Strategies) are essential and beneficial in learning English as a second language (ESL) (Misbah, Mohamad, Yunus, & Ya'acob, 2017). The use of language learning strategies by learners allows them to tailor their learning to their preferences, and learning becomes faster, more pleasurable, self-directed, effective, and adaptable to new situations (Oxford, Parry, & Stansfield, 1990). Language learning techniques, according to Oxford, enable learners to confidently approve their learning by assisting themselves, and they can enhance their learning (Oxford et al., 1990) established a taxonomy based on direct and indirect language acquisition techniques is divided into six groups.

To learn a new language, a good language learner must exhibit unique qualities. He employs a variety of learning techniques, including cognitive and meta-cognitive techniques (Oxford & Nyikos, 1989). According to Oxford et al. (1990) to grasp and generate the target language, cognitive strategies are employed, which include the processes of practicing, receiving, and transmitting messages, as well as analyzing and developing frameworks for input and output. Memory techniques assist in remembering and retrieving new knowledge. Affective, meta-cognitive, and social techniques all aid learning in a subtle but significant way. Learning strategies are meta-cognitive undertakings that involve actions like planning, organizing, assessing, and monitoring those learners employ to acquire language with cognitive assistance (Oxford, 2016). By correctly organizing, planning, concentrating, and analyzing learners' own language acquisition, meta-cognitive techniques aid in the management of the learning process. Learners can use affective techniques to manage and control emotions such as worry, inspiration, and negativity (Oxford et al., 1990).

Language learning strategies refer to techniques that L2 learners have employed in the past or are presently using to acquire pragmatic information in a second language (Cohen, 2019). Learners can engage in self-directed learning by utilizing suitable foundations (e.g., material, rhetorical characteristics, and norms) and employing appropriate learning strategies (Bai & Wang, 2020). Furthermore, Cohen (2019) claims that pragmatics techniques are part of the larger category of communication strategies. Nonetheless, although communication strategies attempt to assist interlocutors in communicating their views clearly and transparently, pragmatic tactics "may argue for avoiding openness".

Even though the subject of language learner strategies (LLS) has been gaining traction in the academic literature for over four decades (Cohen & Wang, 2018; Oxford, 2016), the literature on this topic is restricted in both breadth and scope. The study was conducted with the purpose to determine the LLSs utilized by ESL students in a rural primary school in Malaysia. Questionnaires were used to collect data in a survey study design. The data obtained revealed that the majority, if not all, of the respondents, employed the listening methods specified in the survey. Meanwhile, respondents in this study utilized only a few different speaking techniques. The findings of this study appear to be a helpful reference for language instructors in elementary schools in terms of being conscious of their teaching techniques and ensuring that their approaches suit learners' LLSs (Misbah et al., 2017).

Furthermore, Aljuf University performed research into the language learning techniques (LLS) used by Saudi EFL students. The purpose of the study was to find out more about the relationship between LLS use and gender and length of English language study. According to the findings, the most common method was used in the low to medium range. Memory and emotional methods were found to be the least frequently employed, whereas cognitive, meta-cognitive, and compensating strategies were the most generally used. Although female students used LLS more than male students, the difference was not statistically significant. Although there was no substantial difference in terms of English study duration, students who had studied English for a long period said they used LLS the most. Although there was no significant difference in terms of English study duration, students who had studied English for a long time reported using LLS the most (Alhaysony, 2017).

Moreover, the study with the purpose to see what language learning strategies were commonly used by English as a foreign language undergraduate at a public university in Bangkok, Thailand, and whether there were any significant differences in language learning strategies use based on individual differences, such as gender and self-rated English

proficiency. A quantitative technique was used to research with 392 Thai students. The findings indicated that research participants used language learning strategies in a low-to-moderate way. Learners utilized compensatory methods the most, while cognitive strategies were employed the least. Female participants utilized all six approach categories more than their male colleagues, regardless of gender (Charoento, 2017).

The study was conducted to find out which sort of direct language learning techniques Engineering Technology students prefer. The three forms of direct methods are memory, cognition, and compensation. A questionnaire was used to gather data for this study, and the questionnaire was developed from the Strategy Inventory of Language Learning (SILL). These findings show that Engineering Technology students like to exercise their minds by pondering how to improve their language acquisition. Nonetheless, the respondents continue to use memory learning techniques since certain components, such as grammatical rules, need them to memorize. Compensation learning techniques were the least chosen language learning strategy (Nordin, Razak, & Kassim, 2020).

2.3 Language Learning strategies (LLSs) in CALL context

Gender, age, personality, motivation, self-concept, life experience, learning style, enthusiasm, and anxiety are all factors to consider, and technology may all have an impact on language learning (Zhou & Wei, 2018). The twenty-first century is the age of learner-centred or more likely, learning-centred methods to meet current needs and ESL diversity. Language learners are naturally motivated to learn the target language in the most efficient way possible. They are constantly exposed to fresh information and hard activities in the classroom by their professors. Linguistic learners employ learning methods, either consciously or subconsciously, when processing new information and completing language tasks (Yanju, 2016).

In terms of knowledge availability, autonomous learning, more learner-centred learning, and language practice, the revolution of technology such as computers, cell phones, and internet apps has facilitated the process of language acquisition (A. A. F. Alzubi & Singh, 2017). Students may now study more simply and rapidly thanks to the advancement of technology. It has offered learners greater responsibility and autonomy in their language learning, allowing them to work on their language skills in nearly instructor-free learning environments, independent of time or location (Aziz & Hamzah, 2020; Bin-Hady, Al-Kadi, Alzubi, & Mahdi, 2020). Researchers and instructors of second languages are now attempting to examine new trends and pedagogies in I instruction, language such as computer-assisted language acquisition (CALL). These recently progressed approaches are becoming increasingly popular among second language learners (Farhat & Dzakiria, 2017). Besides, language acquisition techniques have been the focus of research to better understand how people acquire languages (Nordin et al., 2020). Zhou and Wei (2018) emphasized the importance of language learners developing techniques for learning a new language with the use of information and communication technologies (ICT). Such methods must be taught to pupils by teachers.

Since language learners must process a large quantity of information in language classrooms, they employ a variety of language learning techniques when executing language activities and processing new data in virtual spaces. To absorb, comprehend, recall, and analyze language acquisition input, they tend to use cognitive, meta-cognitive, and socio-affective methods.

A book chapter was written, which is a summary of descriptive research that looked at how different LLSs were used in a technology-enhanced linguistic environment. Language context (Oxford et al., 1990) and learner gender are two major factors that might influence language learning techniques. More specifically, the study sought to determine if there were differences in the use of learning strategies between Yemeni and Saudi EFL students, as well as whether variations in the use of LLSs between the two groups were related to disparities in access to ICT resources. In comparison to the other LLSs, meta-cognitive and cognitive techniques were utilized more frequently in this research. Furthermore, the results of the t-test revealed a significant difference in the usage of LLSs there was no significant difference in the choice of LLSs ascribed to nationality in favor of Saudi learners and no significant difference in

the choice of LLSs attributed to nationality in favor of Saudi learners to the gender (Bin-Hady et al., 2020).

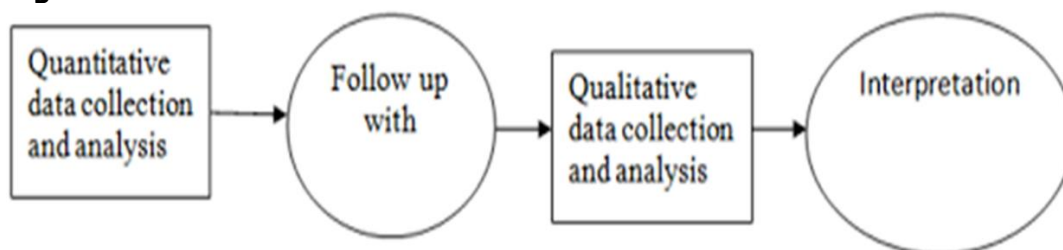
Besides, Bekleyen and Hayta (2015) studied the usage of LLSs by Turkish EFL students using mobile technologies. The data revealed that students used a variety of LLSs to improve their English. The study found that students' use of LLSs via mobile technology did not outperform their use of PC technology for the same reason.

In a similar vein, (Nurhaeni & Purnawarman, 2018) investigated the relationship between learners' autonomy and their use of cell phones in English development. The study found that students' usage of LLSs is influenced by their use of cell phones. The most developed strategies were cognitive and social/affective, whereas meta-cognitive strategies were the least developed.

3. Methodology

The study used a mixed-mode pre-test post-test research methodology, in which students' (one group) learning approaches were assessed a mixed-mode pre-test post-test research methodology, using one identical test (pre-test and post-test) before and after studying in a CALL setup was used. Moreover, semi-structured interviews were also used to explore the opinions of learners (n=6) who are selected by following the purposive sampling for the study from the group who took sessions in the CALL context. As a result, one group (experimental) of male college students (n=55) was chosen at random for the investigation (experimental group). A pre-test was given before the CALL sessions for learning English, and a post-test was given after the sessions. The experimental group was taught English in a CALL environment. Following the experiment, a post-test was done to see if they had changed their learning approaches or not.

Figure 1



3.1 Sample

The group's (experimental) background was that they were second-year students (grade 12) at a public institution in Hyderabad, Pakistan. They were required to take the subject English, which is divided into many sections (prose, poetry, drama, and language). The current study concentrated on the linguistic components of teaching students English in a CALL environment, with participants ranging in age from 16 to 17 years old. The representation of the group is shown in Table 1 below.

Table 1: Participants' demographics are represented

Group	Number	Age	Gender
Control Group	55	16-17	Male

3.2 Study Tool

Before and after performing sessions in a CALL environment, this study conducted a pre-test and a post-test. Before and after the sessions, an identical test was used. The tool was also piloted to ensure its reliability, thus Cronbach's formula for reliability measurement was used to assess the test's reliability, which was 0.73.

4. Quantitative Analysis and Findings

Table 1 shows the results of the paired samples t-test; the P-value indicates a statistically significant difference in students' mean scores of pre-test and post-test of college students in learning English in CALL context since it is less than 0.5, indicating that the null hypothesis is rejected. Furthermore, there is statistical significance in the relationship between

the independent and dependent variables. As a result, it can be stated that the CALL context altered the learning approaches of college students.

Table: 2 English Learning strategies in CALL context

English in CALL context	Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (2-tailed)
Pre-test and Post-test scores	-4.640	.950	.190	-23.872	17	.000

4.1 Qualitative Analysis and Findings

After conducting semi-structured interviews and converted them into transcripts those were analyzed by following thematic analysis. When the interviewees were asked regarding CALL context and their learning experience in that setting their views gave clear insights that they learnt and appreciated learning in CALL settings. From the data, themes emerged such as helping to improve, time-saving, autonomous, interactive, collaborative, exciting. The themes and students' narratives are presented below in Table 3:

Table: 3 Themes

Themes	Narratives
Helping to improve learning skills	<i>"I feel the method I am being taught at college is really good since I was not proficient with computers before, but as I have learned more in CALL class, my computer abilities, as well as my English language learning skills, have increased. This kind of study, I feel, will undoubtedly assist me in improving in the future."</i>
Time-saving	<i>"I believe that studying using computers saves time because it allows us to manage our learning according to our needs. It is also very flexible since we can accomplish our work at any time."</i>
Autonomous	<i>"College study is very different from schooling that I have experienced because of the methodology here that I am being taught, which is an active learning environment where self-access is valued over spoon-feeding to make us more confident, and this learning is boosting me more and more to learn through technology."</i>
Interactive	<i>"Madam, in my previous schooling, we were not taught by computers, but I was anxious to learn by computers because it is the necessity of the current day. I've seen that I've become a more active interactor and participant in English CALL."</i>
Collaborative	<i>"Ma'am, I'd want to learn more about communicating with instructors and friends in a technology setting since we have more opportunities to collaborate than we have in traditional courses." Collaboration has increased in a technology-based class."</i>
Exciting	<i>"I feel like I'm constantly looking forward to the next session because it's so exciting and fun to learn. I feel like I've improved my English language skills as well as how to study English."</i>

The above-mentioned quantitative and qualitative findings are demonstrating CALL is in demand of college students because they have improved their English language learning approaches in the CALL settings. Moreover, these students have enhanced their positive experiences and they enjoyed and learnt English in CALL settings.

5. Conclusion

Throughout the language learning process, learners are in the custody of instructors, and their learning is moulded and polished according to the teachers' concerns, beliefs, skills, and attitudes. Thus, teachers can alter the language learning environment, and then students would change their learning strategies to improve English language learning. According to the findings of this study, the average usage of LLSs in the CALL learning environment outnumbers the use of LLSs among college students in Sindh, Pakistan. The current study's findings demonstrate that a CALL context has made English learning easier for learners to apply learning strategies. Learners learnt how to notice and replicate knowledge on their own, as well as retain and retrieve novel information. They knew how to work around linguistic barriers and do their tasks.

The current study findings revealed that college students improved language learning skills in the CALL context besides, their views regarding their experiences in the CALL context also demonstrated substantial positive comments. All these findings are in line with the findings and claims of (Bin-Hady et al., 2020; Nurhaeni & Purnawarman, 2018). Whereas the studies are in contrast also show the CALL context did not much effect on learning strategies of students such as (Bekleyen & Hayta, 2015). These findings are revealing that learning using computer technology offers learners several possibilities to use LLSs in ways that differ from traditional learning techniques. This implies that multiple technology-based solutions for improved language input and output are required. Although technology has become a lifeline for many, it is not widely used in various learning environments throughout the world as in Pakistan it is at its early development stage. Furthermore, providing learners with gadgets may be viewed as both a means and a goal, rather than a means to an end. The availability of technology does not guarantee improved learning results always until it is used tactfully. As a result, technology must be influenced by pedagogy. Classroom teachers should join efforts to reorient English learning by implementing techniques for technology-enhanced learning paradigms, particularly in situations where exposure to the target language occurs primarily in virtual spaces rather than traditional classrooms.

6. Recommendation

While the study presents important data, it is important to note that the current study's tool and sample have inherent limitations. The researchers think that it would have been preferable if the sample had been chosen from any university would have given a clear picture of the LLSs since university students are much proficient than college students, thus, future researchers can conduct such studies. Moreover, the current study used one group as a sample which is the limitation of the current study, thus more studies are recommended with two groups quasi-experimental research designs. The study is done in boys' college more research studies are recommended to be conducted in girl's college and co- colleges as well in order to get the differences in learning the language with the employment of LLSs in CALL context.

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