



Computer-assisted English language learning technology for undergraduate university students

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ABSTRACT

The study purposes at examining the computer-assisted English language learning technology for undergraduate university students. Computer-Assisted English Language Learning (CAELL) is an emerging trend that has highly impacted traditional theories of learning and teaching foreign languages. This new trend has introduced innovative techniques and the latest pedagogies for teachers and students of all levels. This is an attempt to look at teaching and learning practices through CAELL. The study is conducted in the mixed method in which sequential exploratory design is employed. A random sampling technique is used to select the population for this research. Data is collected from both teachers and students. 10 English language teachers are requested for semi-structured interviews to explore the CAELL teaching practices. Furthermore, a questionnaire is adapted for 146 undergraduate students of Shaheed Benazir Bhutto University (SBBU) Shaheed Benazirabad and its campuses. Qualitative data is thematically analyzed and Statistical Package for Social Sciences software (SPSS) 20th version is used to analyzed quantitative data. The findings indicate that there is a positive effect of CAELL technology among university students and teachers. Among four skills of language, students effectively improve their listening skills by using CAELL. This new trend increases students' motivation and eases them to learn English without pen and paper. Students prefer to use CAELL but most of the participants are unaware of using CAELL because of lack of facilities. Teachers are of the view that effective English language teaching demands CAELL knowledge. Last but not least limitations and delimitations are identified and areas for further studies are recommended.

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INTRODUCTION

Computer-Assisted Language Learning is an emerging trend that has highly impacted traditional theories of learning foreign languages. This new trend has introduced innovative techniques and the latest pedagogies for teachers and students of all levels. However, the researcher has decided to research university teachers and students because they are much capable to operate new electric technology (E-technology) while teaching and learning. According to Bush (2008), the use of computers facilitates the process of learning targeted language because teachers and students can use such technology whenever and wherever they want and they will not be bound to only classroom learning. The use of new technologies such as multimedia, computers, and the internet is promoting and introducing new techniques of learning and teaching. Technologies provide students not only related material but also increase their understanding by easing the process of learning with the help of audio, video facilities. Learning through CAELL technology changes from teacher-centered learning to self-centered learning. Students can increase their interest in second language learning with the help of visual and animated programs.

The term CAELL is used to refer to computer applications used in the acquisition of a foreign or second language. Levy (1997), defines CAELL as the study or search for applications of the computer in language learning and teaching. CAELL provides various advantages for the language learning process (Chapelle, 2001). Using a hypermedia system that permits access to video and audio media under the control of computer programs has permits CAELL to be highly interactive (Coughlin, 1990). With the use of this technology, learners become autonomous in studies and the place as well where and when they wish (Raschio, 1990). CAELL allows teachers to monitor the progress of their students with its advanced tracing and recording capability (Bland et al. 1990). Long (1985) claims that active negotiation of meaning and communicative activities that involved students' interaction is universally accepted as a significant teaching value. From this statement, it can be assumed that computers have usually assigned the role of stimulus for communication. Mohan (1992) points out in the theory of Kreshan's second language acquisition that background communication in computers provides students actual language tasks. Thus, offering comprehensive results and negotiated communication is crucial for language development.

According to Underwood (1984), the biggest benefit of using CAELL applications is the side effect that happens when the dialogues show on the screen rather than on the individual. With the same line of thought, Mohan (1992) claimed that stimulus communication over computers is a natural interaction process that occurs as a part of communication and it is worthwhile due to its aim despite than classroom tasks that are forced to perform. He further stated that computers offer actual support of the context of the communication between its user and dialogues. In communication between the computer and its user, the user performs tasks that have some specific purpose, and the users discuss and admit that actions. According to Smith and Hunson (1999), computers play a great role in education for many years. Nowadays, the internet and computers permit the combination of various online resources through numerous features, online searches, and hyperlinks. Technology-based environment and CAELL are appropriate methods for modern foreign language processes. It is widely accepted that computers have the following main roles in language learning in the classrooms: Tool- the computer plays the role of tool as it is used to help students to perform certain tasks. Teacher – the computer plays the role of the teacher as it is used to teach students of all levels. It is also used to teach new languages to students. Communication facilitator- the computer plays the role of communication facilitator as it creates interaction between user and computer in the shape of exchange of dialogues. Computers also allow students to communicate with others all across the world. Tester- the computer plays the role of the tester as it checks the performance of students and points out their mistakes. It also tests students' performance in learning the new language and the language that is already learned by the students. Data source- the computer plays the role of data source because it provides information to students when they need to do a specific task. It also helps students to store their data and get desired results.

With the advent of multimedia CAELL, the language centers on multimedia began to use this approach in educational institutions. Similarly, multimedia accessibilities provide several different ways for

learning the language with the assimilation of images, videos, texts, and sounds, which these facilities usually did not completely utilize. According to Davies (2010), another major function of Computer-Assisted English Language Learning (CAELL) is the capability to particularize individual learning but in the 1960s and 1970s with the arrival of language learning labs that were established into educational institutions, the use of multimedia facilities has been evolved into the queue of students that all performing the same drills. Therefore, there is a danger that is going on the same way that multimedia and language labs creating. In the 1970s, the arrival of the boom period declined the language labs. Davies (1997) says that the major cause of the failure of language learning labs is the lack of teachers' training to use language learning labs both in the account of developing new teaching methods and operations. Meanwhile, some other factors are also responsible such as lack of material, lack of good ideas, and poor reliability.

Teaching language and learning language are the two ways process of communication. Traditional learning and teaching a second language require a large amount of time and proper places. Traditional learning and teaching a second language is teacher-centered, students do not have their autonomy and flexibility. In traditional learning and teaching a large number of learners are overloaded in a classroom with black and whiteboards makes teachers and students busy. However, overhead projector or multimedia makes learning and teaching more interesting and better. The audio-lingual method is the better option for learning and teaching speaking and listening skills. But for writing and reading cognitive language and communicative codes are crucial. It is obvious when developing the CAELL system is more efficient. CAELL is not a simple traditional approach neither an open-ended approach but it should be flexible to students. CAELL approach should be a mixture of both open and close tactics because CAELL has no boundary of classroom and the students are from different backgrounds. CAELL currently involves highly communicative and interactive facilities for reading, speaking, writing, and listening, it also involves the access use of Internet and multimedia. AlaaEldin Ali Elmahdi (2011) conducted a study on the effects of using computers on increasing writing skills in EFL classrooms. The questionnaire was selected for the study based on two parts: the first part consisted of the general attitude towards using the computer which carried twelve items and the second part included attitudes towards using the computer in the writing process which carried twelve items. The findings showed that most of the students get benefited from the use of the computer as a source to improve their writing in EFL classrooms. The findings of the study clearly showed improvement in grammar, paragraphing, punctuation, and spelling of student's computer-based writing. ElmuntasirBillah (2014) researched EFL teacher's attitudes towards using Computer-Assisted English Language Learning (CAELL) in classrooms. He (2014) used a quantitative paradigm and a questionnaire was used as a tool to collect data further the data were analyzed through SPSS software. The results of the research indicated that the teachers have a positive attitude towards using computers in English language teaching classrooms. EFL classrooms should be equipped with computers because having technical knowledge is essential for language teachers. ChanNim (2009) aimed to find out the factors affecting teacher's using computers in their English as a foreign language (EFL) classrooms and to investigate the teacher's perceptions of Computer-Assisted English Language Learning (CAELL) in (EFL) classrooms. For that, the questionnaire was used and interviews were conducted to collect data. The findings of his study explored that the teachers have a favorable attitude towards using computers. Teachers consider the technology of computers as an effective tool for teaching that can improve the methods of teaching by providing pupils various language inputs and enhancing pupils learning experiences authentically and efficiently.

The main reason to research Shaheed Benazir Bhutto University, Shaheed Benazirabad, and its campus (SBBU, SBA) is the massive use of technology and computers in the university. The main focus of this study is to know the effects of Computer-Assisted English Language Learning (CAELL) for improving the English language of university students. The university intends to provide students the latest and up-to-date education system based on modern technology. The classes are equipped with multimedia, internet, and computers for this purpose. Students are being taught through multimedia and other forms of technological equipment. The significance of the current study can be determined by many factors: one of the reasons to conduct a study on the effects of Computer-Assisted English Language Learning (CAELL) is the need of

today's technological era. Moreover, the study is significant in its method of collecting data because the literature review has come into the knowledge that there are fewer studies on Computer-Assisted English Language Learning (CAELL) which had been conducted on mixed method. The study takes into consideration both stakeholders i.e. students and teachers because it is important for learners to understand the effects of technology on their performance of learning a second language and teachers should get to know about teaching practices through CAELL technology and help students to improve their learning performance as teachers play a founding role in students' academic and professional life.

OBJECTIVES OF THE STUDY

1. To what extent does the use of CAELL technology affect university students' learning English as a second language? (Quantitative).
2. How do teachers use CAELL technology for improving university students' learning English as a second language? (Qualitative)

Hypothesis

H1. CAELL improves university students' learning English as a second language.

Ho. CAELL does not improve university students' learning English as a second language.

METHODS

The current research was conducted in a mixed-method because the nature of the topic demands both qualitative and quantitative methods. Mixed-method research has many benefits because it can allow the researcher to study in-depth qualitatively as well as generalize the data quantitatively (Creswell, 2007). Moreover, the literature review has come to the knowledge that there are fewer studies on Computer-Assisted English Language Learning (CAELL) which had been conducted on mixed method. Data collection is an organized way of getting responses from the participants. Many different tools can be used to collect the data and explore the phenomena. The questionnaire (close-ended) and interviews (open-ended) were adapted to collect data for the research. The nature of the topic demands a mixed method. Among several types of interviews, the study used semi-structured interviews as an instrument to collect data because it gives freedom to respondents to share their own experiences. Interviews were organized accordingly and participants were provided with interview protocol. A random sampling technique was used to select participants for this research. A questionnaire was adapted for 146 students of Shaheed Benazir Bhutto University, Shaheed Benazirabad and its campuses. Furthermore, 10 English as a Second Language (ESL) teachers were requested for semi-structured interviews to explore the teaching practices of using CAELL technology for improving university students' learning English as a second language by university teachers. The questionnaire was descriptively analyzed by the 20th version of SPSS Software and conducted interviews with 10 teachers were transcribed and analyzed thematically.

RESULTS AND DISCUSSION

Based on the constructed research questions and hypotheses, data were gathered according to the prescribed method and in this session, it is future analyzed respectively. Table 1 indicates the effectiveness of CAELL technology for university students statistically whereas the rest of the other two research questions are qualitatively analyzed. Furthermore, the discussion session briefly explains findings with references.

Table: 1. Descriptive Statistics

	N	Mini	Maxi	Mean
I prefer learning through computer.	146	1.00	52.00	4.3750
Students using computer perform better than student's not using computer.	146	1.00	43.00	4.2812
Technology facilitate the process of learning	146	1.00	5.00	4.2187
The use of CAELL applications increases student's language proficiency.	146	2.00	5.00	4.1719
Using CAELL technology for learning English takes less time and energy of students.	146	1.00	44.00	4.1250
Using CAELL technology you can improve your listening, speaking, reading and writing skills.	146	1.00	5.00	3.9844
CAELL technology provides more practical work to students.	146	2.00	5.00	3.8594
CAELL provides students with ease and understandable language.	146	1.00	5.00	3.7656
Using CAELL is very effective to improve student's performance.	146	1.00	5.00	3.7188
Students have positive attitude about learning through computer.	146	1.00	5.00	3.6094
Valid N (list wise)	146			

The above descriptive statistic table has been done to know the mean score from top to bottom which clearly explains the effects of Computer-Assisted English Language Learning (CAELL) for improving university students learning English as a second language. The descriptive analysis is further summarized below. Participants of the study strongly agreed that the students prefer learning through the computer. The participants gave it the highest mean i.e. 4.3750. However, 13 out of 146 participants were not agreed. Secondly, participants believe that students perform better than students not using the computer ($M=4.2812$). Moreover, they ($M=4.2187$) believe that technology facilitates learning processes. The current study determines that the use of CAELL applications increase students' listening skill. The participants gave it a 4.1719 mean. They also accept that the use of CAELL technology for learning English takes less time and energy for students. This statement has got 4.1250 mean scores. English as a second requires competence over its skills and the respondents are of the view that Using CAELL technology they can improve their listening, speaking, reading, and writing skills. It has got 3.9844 means. CAELL technology provides students more practical work ($M=3.8594$), it helps students to understand language effectively (3.7656), and lastly, students have a positive attitude about learning English through computers. After conducting

semi-structured interviews with teachers, thematic analysis was done to explore the teaching practices of using CAELL technology for improving university students' learning English as a second language by university teachers. The following results were formed thematically:

CAELL Technology has Changed Pedagogy

Teachers were of the view that CAELL technology has changed pedagogy. Some teachers gave their opinion during interviews that technology is increasing day by day and the need to use technology in learning and teaching is also increasing. Teachers believed that CAELL technology has altered the traditional ways of learning and teaching. In traditional teaching students do not take more interest because of the same teaching methods but CAELL technology increases students' interest with its audio, visual, and animated functions. Teachers believed that it is the demand of universities that teachers should teach with the help of multimedia and computers so that they can compete with the race of modern technological education. Some of the teachers were of the belief that CAELL technology has replaced the old tradition of teaching through chalk and board. Now teachers are teaching without pen and chalk but with the help of the internet, computers, and multimedia.

Teaching English through CAELL is more Effective than not Using such Technology

The findings of the teacher's interview show that teachers were in the favour of CAELL technology. They were of the view that teaching English through CAELL is more effective than not using such technology. They believed that students learning performance increase when teachers taught them through technological equipment. Teachers were satisfied with the use of technology because they can observe the impact of technology on students' performance. Teachers believed that teaching through CAELL technology saves their time and energy and they can prepare lectures with the help of the internet without reading books and making notes. Some of the teachers were of the perception that they can easily catch the attention of students by showing them videos and pictures of the lectures and can easily clarify their concepts.

Teachers are unaware of CAELL applications

The findings of semi-structured interviews from university teachers revealed that some of the teachers are unaware of CAELL applications. Teachers believed that the teachers from rural backgrounds do not understand the basic use of CAELL technology in teaching practices. Teachers believed that the application of such technology is changing according to the demand of the students and curriculum and they cannot get full awareness about their use. Some of the teachers show negative attitudes about the use of CAELL technology because of a lack of awareness of CAELL applications and their use in teaching the English language. Dela Fuente and Biñas (2020) are of the view that the ICT competence of teachers in different skill-set is at the intermediate level. Which, simply implied that teachers' do not fully master.

Students take more Interest while Learning through CAELL

The results of the thematic analysis of the interview show that teachers were happy while using CAELL technology. They were of the view that teachers want to teach effectively and they wish to get desired results from students. Thus, the teachers observed that students take more interest while learning through CAELL. Students enjoy learning through CAELL because of its various applications. Teachers gave their views that CAELL helps students in learning English and they can improve their language competency. Teachers can assign students different tasks that they can do easily at home with the help of computers, the internet, and different software. Teachers believed that students take more interest in learning English because CAELL technology facilitates their learning process and reduces stress and anxiety.

To use CAELL Effectively, Training and Basic Computer Knowledge are required which is the need of the Hour

The finding shows that CAELL is effective for teaching and learning but there is a need to give basic knowledge to teachers as well as students to get more benefit from CAELL. Teachers were satisfied with the use of CAELL technology but the teachers who are unaware of CAELL applications show the desire to get basic knowledge of the computers. Some of the teachers gave suggestions that there should be awareness programs in universities and institutions about the use of CAELL technology in learning and teaching practices. Teachers were also suggested

that training sessions should be organized for teachers to train them and give them basic knowledge of the CAELL applications which is a need of the hour.

Teacher's Opinion before and after using CAELL for Teaching Practices

Teachers were of the opinions before and after using CAELL applications for teaching English as a second language were varied. Some teachers were in the favour of CAELL applications for teaching practices because they believed that CAELL applications facilitate their process of teaching and provide facilities to students as well. Some teachers had a negative perception about the use CAELL applications because of the lack of awareness and basic knowledge of CAELL applications. They suggested that universities should provide teachers with basic knowledge and train their teachers for teaching through CAELL technology. The teachers who were in the favour of CAELL technology were of the view that CAELL applications save their time and energy and help them to clarify the concepts to students by using different audio and video applications of CAELL.

Computer-Assisted English Language Learning (CAELL) research has been going on for many decades to investigate the use of CAELL in various contexts and different languages all across the world. The use of CAELL applications in learning and its potential in the field of learning and teaching English as a second language has been documented and discussed by several researchers. Some of them are: Robert (2000), Ayres (2002), Schwienhorst (2002), and Cushion & Dominique (2002), (Jung 2002), Fenfang (2003). For many years second language teachers had used computers to offer supplemental exercises but currently because of the development in technology teachers began to acquire the use of computers as an integral part of second language learning and teaching on daily basis. The findings of the studies conducted by the above-mentioned researchers had shown that computer-based instruction/teaching often produces positive effects on second language teaching and learning practices. Their studies covered students of all levels from primary to university level students. The results of this study resembled their findings and revealed the following discussed results: After the analysis of collected data from teachers and students of university level, the researcher comes to the results that CAELL technology has a positive effect on students learning English as a second language.

The finding of the first research question shows that students positively improve students' learning of English as a second language. Students prefer to use computers for improving their language proficiency. They believed that computers and other technological equipment facilitate the process of their learning and save time and energy. Students were of the view that technology provides them learning with entertainment because of its different functions and applications. Students take more interest while learning through CAELL applications because of its audio-video and animated functions. By using different applications of CAELL such as listening applications, students can enhance their listening and speaking skills. After the analysis of the second research question, the researcher came to the results that teachers are in the favour of CAELL technology for teaching and learning practices. According to Dela Fuente (2021) teachers can take Facebook Messenger as an English language learning tool to enhance students' motivation for learning English. Teachers said that CAELL technology has changed the pedagogy. They were satisfied with the results of students who are using such technology. Teachers were of the view that CAELL has altered the traditional teaching and provide up-to-date and latest ways of teaching which the need of the hour is. Teachers believed that teaching through CAELL is effective if the basic training and awareness of CAELL applications are given to teachers as well as students. They gave the suggestions that teachers should be given basic knowledge of CAELL applications so that they can get more benefits in improving students' performance in learning English as a second language.

CONCLUSION AND RECOMMENDATION

The present study aims at exploring the effects of Computer-Assisted English Language Learning (CAELL) by university students and teachers for improving English as a second language in Nawabshah. This study explains its purpose, importance, aim and objectives, research questions, and hypothesis. Initially, the researcher has reviewed more than fifteen works of literature on CAELL. This research describes the process of conducting research and within it has stated the tools for data collecting and technique to analyze data. Technology is one of the efficient tools of linguistic and social change. It has earned much significance in teaching and learning English as a second

language. The researcher explains the core aim of the research i.e. to explore the effects of using technology or computer for improving university students' learning English as a second language. The mixed-method paradigm in which semi-structured interviews were conducted by fifteen English language teachers and a questionnaire was divided among 146 University students. After collecting and analyzing data the findings of the studies revealed that students have a positive attitude towards the use of computers and technology. The results also revealed that the more students using computers, the more they are increasing their language proficiency. Thus, to get more benefits from the use of CAELL, students should be encouraged to increase their competency and teachers should be given training on how to use CAELL technology for improving students' learning performance. Teachers were of the perception that effective English language teaching demands CAELL knowledge. The results of this study opened the paths for new researchers and are beneficial for policymakers to know the demand of the current century and bring reformations in learning and teaching practices. Last but not least, it can be said that computers are a worthwhile instrument and CAELL is a motivating method to be used in learning and improving foreign or second language learning.

In the present modern world, the field of Computer-Assisted English Language Learning (CAELL) is in its permanent evolution that will reach the limits of intelligence and technology with recent innovations (Decloque, 2000). Therefore, the government of Pakistan should take the necessary steps to implement the potential of the computer to improve ESL literacy. The education ministry and higher education commission (HEC) Pakistan should continue to facilitate and support the implementation of computers for ESL teachers and students. Students should be provided with computer facilities and their knowledge. There should be awareness workshops and training for teachers to give them basic knowledge of technology in teaching practices. The researcher suggested that there are several institutions and universities in Pakistan that are using CAELL technology for increasing student's performance but are unaware of its basic knowledge. Therefore, there is a need to have further studies on the basic knowledge of using CAELL technology. More researches are required to elaborate on which approach is suitable for using CAELL technology in literacy development. Future research is needed to study the impact of using CAELL by considering gender. This sort of study will shed light on the difference between male and female learning performance and understanding of their attitudes towards the use of CAELL technology. Further studies could be conducted on the use of CAELL by comparing individual use versus classroom use. This type of study will be helpful to understand the impact of CAELL technology from specific to general. The researcher recommended for upcoming researchers that there is a need to study the field of CAELL in its other aspects such as the impact of CAELL technology on the learning performance of rural students to get benefit from the emerging field of CAELL in the development of literacy rate in Pakistan. The researcher further suggested that future researches should be done involving three main objects, teachers, students, and curriculum. This sort of study will be helpful for students to improve their learning performance, teachers can improve their teaching strategies by using CAELL technology and curriculum designers can better understand the requirements of students to design an effective curriculum.

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