General Review of CALL in Saudi Arabian Classroom

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Abstract:

This is a brief literature review paper looking into the role played by computer assisted language learning (CALL) in the Saudi Arabian educational context. It examines the advantages of implementing such techniques as well as potential challenges. It also looks at the ways CALL has impacted the Saudi educational system. The paper starts with a brief background of CALL followed by a discussion of its uses as well as advantages and disadvantages. It also investigates the roles of Saudi teachers and learners in the process.

Keywords: CALL, Pedagogy, ESL, Technology in Education

1. Introduction

Computer Assisted Language Learning (henceforth CALL) is one of the most dynamic and interesting areas of applied linguistics. It is not surprising that since the emergence of the IT revolution, many experts in the field have spotted the potential of technology in language learning.

This article examines CALL from a theoretical perspective. It will be a literature review of CALL in which we look at the development of the concept, the advantages and disadvantages of applying CALL in the classroom, and the status of CALL in the Saudi Arabian context.
CALL is a well-researched area of applied linguistics throughout the world, most specifically in North America (Warschauer & Healey, 1998). This pool of knowledge means that researchers interested in this subject are not deprived of similar studies that can be replicated or considered in their respective contexts, which gives them a huge advantage.

The article will conclude with recommendations for better integration of CALL in the Saudi context and an evaluation of the available resources that may need to be devoted to achieve this goal.

1.1 Rationale of the Study

CALL is a compelling area of study with significant potential in language learning. It also has the potential to encourage certain learning strategies and skills including autonomous learning and authentic communicative learning. Despite all the benefits that CALL brings to the classroom, we would argue that the application of CALL in the Saudi educational context is problematic at the moment.

There is no official guideline as to how and what teachers are expected to integrate into the classroom as far as CALL is concerned, which leaves the door open for individual effort rather than an institutional, governed approach that we would like to see in these classes.

2. History of CALL

The use of technology in education was first introduced in the 1950s as computer-assisted instruction (CAI). It was primarily used in subjects like mathematics and physics. The application of computers in language learning, later known as CALL, began to emerge in the 1960s and 1970s.

According to Atkinson (1972), as cited in Tafazoli and Golshan (2014), one of the earliest notable efforts was at Stanford University in the U.S., where Richard Atkinson and Patrick Suppes, in collaboration with IBM, developed the CALL project based on Atkinson's mathematical learning theory. Their work led to the establishment of the Computer Curriculum Corporation in 1967, which later provided instruction in English as a Second Language (Saettler, 1990, as cited in Chapelle, 2001, as cited in Tafazoli & Golshan, 2014). Additionally, Collett applied a university's mainframe system to support French language instruction (Collett, 1980, as cited in Tafazoli & Golshan, 2014). Around the same time, Boyle, Smith, and Eckert developed a diagnostic French test using computer technology in 1976 (Tafazoli & Golshan, 2014).

According to Tafazoli and Golshan (2014), at the start of the 1980s, several computer assisted language programs were launched, like the Computer-Assisted Learning Exercises for French (CLEF) project, a collaboration between three universities and the Programmed Logic for Automatic Teaching Operations (PLATO) and Time-Shared, Interactive, Computer-Controlled Information Television (TICCIT). These programs were used to teach different languages, and some had specific features.

In the early 1990s, the Saudi Ministry of Education first introduced technology to education by providing computer literacy as a compulsory subject in the secondary stage curriculum. (Alshumaimeri, 2008). Initially, the computers were just for administrative uses like processing and storing teachers' and students' data. After some time, students started using technology in their assignments and homework (Alshumaimeri, 2008). In 2005, the Saudi Ministry of Education launched a ten-year educational reform project that aimed to reform educational policies known as 'Tatweer'. The project aimed to amend outdated educational policies and to integrate technology into teaching by equipping schools with technological tools such as projectors, laptops, and smartboards. It also sought to train teachers in the usage of technology in the classroom and develop curricula (Aljameel, 2022). In addition, the Ministry

of Education in Saudi Arabia supported English language learning by initiating the development of supplementary e-learning materials designed for students and teachers.

These resources included interactive exercises, digital textbooks, and audio-visual aids to enhance language acquisition (Alshumaimeri & Alhassan, 2010). The English language, as a core educational subject, played a central role in the 'Tatweer' reform project, and went through curriculum development by international publishers and technology integration in teaching.)Almalki, 2014(. The project was named the English Language Development Project (ELDP). The international publishers worked on producing custom learning materials that fit the Saudi cultural context.

3. CALL in the Saudi Classroom

Computer-Assisted Language Learning (CALL) in Saudi Arabia has become an essential component of English as a Foreign Language (EFL) instruction, with the Saudi government prioritizing digital education under Vision 2030 (Aljameel, 2022). CALL was introduced in the early 2000s but initially faced slow adoption due to limited infrastructure. Over time, its integration expanded as schools and universities gained access to advanced technology (Alresheed, 2017). While CALL implementation was largely led by academic researchers, educators now play an increasing role in shaping its practical applications. Success depends on strong infrastructure and teacher training, both of which remain key factors in effective adoption. In higher education, Saudi universities have been at the forefront of CALL integration, utilizing AI-assisted tutoring, interactive e-learning platforms, and adaptive multimedia resources. Systems such as Blackboard and Moodle provide personalized learning experiences, while AI-powered speech recognition technology helps enhance pronunciation and fluency.

CALL is also being introduced in primary and secondary schools, but adoption varies due to infrastructure limitations and teacher training gaps (Alresheed, 2017). Some classrooms implement gamified language learning apps, digital textbooks, and interactive whiteboards, while emerging technologies like virtual reality (VR) and augmented reality (AR) are offering more immersive learning experiences (Aljameel, 2022). However, cultural resistance and engagement challenges persist in some educational settings.

The National Digital Transformation Strategy aims to expand teacher training programs and improve infrastructure to ensure wider CALL adoption. Beyond academia, CALL is becoming increasingly relevant in workforce development, particularly in industries such as business, healthcare, and technology. Professionals use CALL to strengthen industry-specific English skills, with the National eLearning Center offering AI-driven courses for remote learning.

Despite significant advancements, CALL in Saudi Arabia still faces technical limitations, cultural considerations, and teacher preparedness issues. Institutional support and structured policies are crucial for long-term success (Alresheed, 2017). Looking ahead, CALL is expected to expand with AI-driven tutoring, gamification, and immersive AR learning (Aljameel, 2022). AI tutors will personalize instruction, while immersive AR applications will enhance student engagement. Saudi Arabia's

continued investment in digital education positions it as a leader in technology-driven language learning, shaping the future of CALL adoption across different sectors.

4. Advantages and Disadvantages of CALL

Nowadays, technology has become an integral part of our everyday lives, even in education. Computer-assisted language learning (CALL) offers transformative opportunities for both learners and educators to enhance the learning experience. However, it can also form some hurdles that affect this experience as well. In this section, we examine the main advantages and disadvantages of integrating CALL to have a comprehensive look at how it operates within the education system.

4.1 Positives of CALL

CALL, as a language learning approach, is widely appreciated for its ability to adapt to learners' individual needs, thus reducing pressure and ensuring emotional comfort. One of its most important advantages is the flexibility it brings to the language learning process, as it allows learners to access their learning materials freely without time or place restrictions (Dina et al., 2013; Park et al., 2022; Smith et al., 2021). This is especially important for non-traditional learners with busy schedules, like professionals, parents, or travelling students (Smith et al., 2021). This flexibility also comes with the ability for repeatable viewing of the contents, which is often necessary for mastering a new language (Dina et al., 2013; Park et al., 2022; Smith et al., 2021).

Another advantage of CALL is that it enables self-paced learning, where students can progress at their own speed, without being dependent on others to progress (Dina et al., 2013; Smith et al., 2021; Warschauer et al., 1998). Also, with the recent developments of technology, CALL has become less restrictive than traditional teaching methods, with artificial intelligence tools that can create tailored activities for each student's needs and skills (Alotaibi et al., 2023; LeGeros et al., 2022; Meletiou-Mavrotheris et al., 2022). In addition, AI tools and computer use in education in general allow for automated, non-judgmental feedback, which lessens learners' overall anxieties and encourages hesitant students who might otherwise hold back (Ballard et al., 2011; Dina et al., 2013; Park et al., 2022; Smith et al., 2021; Warschauer et al., 1998).

CALL also introduces richer, more varied content and interactive features that make the learning experience feel less like a chore and more like an engaging activity. It offers game-like tasks and interactive quizzes that hold the learners' attention, and it gives them access to digital media in the target language, like news articles, movie reviews, and videos that expose them to authentic language use (Dina et al., 2013; Smith et al., 2021). In addition, CALL encourages and eases collaboration between learners, where they can share their work with peers, find communities, and learn more about the topics that interest them together (Alotaibi et al., 2023; Dina et al., 2013; Smith et al., 2021). Furthermore, it creates opportunities for intercultural communication by connecting learners with native speakers online, thus helping them develop their linguistic skills and cultural knowledge (Dina et al., 2013; Smith et al., 2021).

4.2 Negatives of CALL

Despite its many strengths, CALL is still burdened with real and practical limitations that are associated with its implementation. One of the biggest concerns is the issue of access, where many institutions are not yet financially equipped to obtain and run the necessary hardware, software, and internet connection resources required for these tools (Alotaibi et al., 2023; Warschauer et al., 1998). High-quality equipment is often expensive, and running it can lead to many unexpected issues that can be costly to repair and maintain over time (Alotaibi et al., 2023; Meletiou-Mavrotheris et al., 2022). This problem is even more evident in rural areas where students may face difficulty accessing digital learning tools, which risks a digital divide between learners and access inequality (Warschauer et al., 1998). Additionally, even when the tools and funds for them are available, some schools' policies prohibit their use, thus limiting the implementation of CALL from the start; an example of this is the restrictions many schools place on the use of mobile devices in classrooms (LeGeros et al., 2022).

Another major drawback lies in people's relationship with technology, especially teachers. For CALL to be implemented efficiently, both teachers and students must be well-trained in using these new tools and techniques (Alotaibi et al., 2023; Dina et al., 2013). In this case, teachers are usually required to learn new systems, adapt their materials, manage these new tools and still achieve their teaching goals. Not every teacher has the time, interest, or technical capacity to do this flawlessly (Dina et al., 2013; Park et al., 2022; Smith et al., 2021).

The reluctance some of them hold against using these technologies may stem from the generational divide between educators, where those who are older and less familiar with newer technologies might feel uncomfortable using them now (Prensky, 2001; Smith et al., 2021). There's also the added pressure from it evolving to a point where it can threaten their professions as teachers (Alotaibi et al., 2023; Dina et al., 2013; Elgibreen et al., 2014). Also, monitoring students' engagement and genuine motivation is more difficult while using technology as opposed to the traditional face-to-face setting (Meletiou-Mavrotheris et al., 2022).

5. Roles of Teachers and Learners in CALL

By rethinking the responsibilities of both teachers and students, computer-assisted language learning, or CALL, is changing the face of language education. Traditional methods of teaching languages are changing to become more flexible, interactive, and learner-cantered as digital tools and technology are used more frequently in classrooms.

Learners are no longer seen as passive recipients of information, and teachers are no longer seen as the exclusive source of knowledge. As an alternative, both sides must adjust to new duties that encourage participation and digital literacy. Studies by Lee (2000) and Aljameel (2022) indicate that this change brings with it both significant obstacles and promising prospects. Although CALL has the potential to establish more efficient and inspiring language learning environments, its effectiveness is mostly dependent on having sufficient infrastructure, training, and support systems.

5.1 Roles of Teachers in CALL

Teachers' roles in CALL settings are evolving from imparting knowledge to serving as mentors and facilitators. Teachers are now required to oversee virtual classrooms, provide relevant learning experiences that integrate digital tools, and assist students in efficiently using technology. But this change isn't always simple. As Lee (2000) in his publication 'English Teachers' Barriers to the Use of Computer-assisted Language Learning' notes, a lack of training, a lack of technical support, or discomfort with digital technologies are some of the reasons why many teachers find it difficult to adjust to these changes. Teachers may feel unprepared or overburdened by the demands of incorporating CALL into their lesson plans.

Lee (2000) also in his paper 'English Teachers' Barriers to the Use of Computer-assisted Language Learning' indicated that in CALL contexts, teachers' responsibilities are changing from teaching to mentoring and facilitation. These days, educators must manage online classrooms, offer pertinent lessons that use digital resources, and help students use technology effectively. However, this shift isn't always easy. As Lee (2000) points out, many teachers struggle to adapt to these changes for a variety of reasons, including a lack of technical support, a lack of training, or uneasiness with digital technology. The difficulties of integrating CALL into lesson preparations can leave teachers feeling overwhelmed or unprepared.

5.2 Roles of Learners in CALL

Additionally, CALL calls for a change in the role of students. It is anticipated that students will become more self-reliant, driven, and proficient with technology, as well as assume greater responsibility for their own education. Learners can practice language skills at their own speed, access interactive information, and get rapid feedback with CALL. According to Lee (2000), this greater autonomy might boost students' enthusiasm and facilitate language learning. But not every kid is prepared to assume this degree of accountability. Time management, self-discipline, and digital literacy are necessary for success in CALL situations.

Aljameel (2022) in his paper 'Computer-Assisted Language Learning in Saudi Arabia: Past, Present, and Future' noted that students in Saudi Arabia are progressively incorporating technology into their everyday study routines. Many people supplement their language learning using online resources, multimedia tools, and smartphone apps.

Even while learning is now easier to obtain and more interesting, there are still difficulties. According to the research by Aljameel (2022) Some pupils don't have access to dependable internet, or their teachers don't help them much. They could find it difficult to get the most out of CALL without the right direction. However, by encouraging independence and digital competency, CALL can significantly improve students' language learning experiences when they have the proper resources and assistance.

6. Conclusion

Computer-Assisted Language Learning (CALL) has shown itself to be a promising field with clear advantages for both language learners and educators. Through this review, we have seen how CALL has developed over time and how it continues to influence language education around the world. In the Saudi context, CALL has made noticeable progress, especially with national initiatives and increasing interest in digital tools. However, there are still important challenges that limit its full potential.

Among these challenges are the lack of clear guidelines for implementation, inconsistent access to technology, and the need for more structured teacher training. While some institutions are leading the way, others continue to rely on individual effort without broader institutional support. This creates gaps in how CALL is applied across different classrooms and levels of education.

Despite these issues, the potential benefits of CALL remain significant. With proper investment in infrastructure, teacher development, and clearer educational policies, CALL can play a larger role in shaping the future of English language learning in Saudi Arabia. If these areas are addressed, CALL will not only support language instruction but also help promote more autonomous and engaging learning environments for students.

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