

History and Evolution of CALL (Computer-Assisted Language Learning)

- Discussion of the different stages of CALL (behaviorist, communicative, and integrative).

Main References:

- Dudeney, G., & Hockly, N. (2022). *Digital literacies in language education*. Cambridge University Press.
- Beatty, K. (2010). *Teaching & Researching: Computer-Assisted Language Learning*. Routledge.

Introduction

Computer-Assisted Language Learning (CALL) refers to the use of computers and technology in language education. The evolution of CALL reflects broader trends in education, technology, and linguistics. Over the decades, CALL has gone through distinct phases: behaviorist CALL, communicative CALL, and integrative CALL. Each phase corresponds to dominant theories of language learning and shifts in technological advancements. In this session, we will discuss each of these phases, how they shaped language learning practices, and how digital literacies play a crucial role in contemporary CALL.

Behaviorist CALL (1960s–1970s)

The earliest form of CALL emerged in the 1960s and was grounded in the behaviorist learning theory. Behaviorism, championed by scholars like B.F. Skinner, viewed language learning as a process of habit formation through stimulus-response and reinforcement mechanisms. The goal was to condition learners to respond correctly through repetitive drills and practice.

Characteristics of Behaviorist CALL

- **Drill and Practice Programs:** Early CALL programs were essentially computerized versions of language exercises. They provided language learners with repeated exercises, like gap-filling, multiple-choice questions, and pattern drills, which were intended to reinforce grammatical structures and vocabulary.
- **Immediate Feedback:** One key feature was the immediate feedback given by the computer. Learners were corrected instantly, encouraging them to continue practicing until they got the answers right.
- **Autonomy in Learning:** The ability to work independently was a key feature of this phase, though learner interaction with the content was limited to what the system allowed.

Example Programs

- **PLATO:** One of the first systems for CALL was the PLATO system, developed in the 1960s at the University of Illinois. It provided language learners with multiple-choice questions, short answers, and grammar exercises. However, its focus on rote memorization and drill practice limited the development of communicative competence.

The behaviorist approach was limited by its inability to help learners use language in context. The focus on form and grammar over meaning led to criticism that this method ignored the social and interactive nature of language use.

Communicative CALL (1970s–1980s)

The communicative approach to language learning emerged in reaction to the limitations of behaviorist CALL. Influenced by developments in applied linguistics

and second language acquisition theory, communicative CALL prioritized the idea that language learning is about meaningful communication rather than rote memorization of grammar rules.

Characteristics of Communicative CALL

- **Focus on Communication:** Instead of focusing on drilling specific grammar points, communicative CALL aimed to give learners opportunities to use language in meaningful ways, promoting skills like speaking, listening, and writing in context.
- **Simulations and Role-Playing:** Programs in this phase offered interactive simulations and role-playing activities. These activities allowed learners to practice language in more realistic settings and encouraged problem-solving and negotiation of meaning.
- **Authentic Materials:** Communicative CALL often incorporated authentic materials such as articles, interviews, or media to make the language learning experience more realistic and connected to everyday language use.
- **Learner-Centered Approach:** The communicative approach was less structured than behaviorist CALL, giving learners greater autonomy to choose how and what they wanted to study. The computer acted as a facilitator rather than a tutor.

Example Programs

- **ELIZA:** One of the earliest examples of communicative CALL was the ELIZA program, a rudimentary chatbot developed in the 1960s. ELIZA allowed learners to engage in simulated conversations, providing an early model for natural language processing and conversational practice.

- **GRAMMONT:** This program provided learners with linguistic structures and asked them to engage in conversations, simulating real-world interactions to encourage practical language use.

While communicative CALL offered improvements in contextual language use, it was still limited by the available technology. The interaction remained largely between the learner and the computer, with little opportunity for real-time communication with other learners or native speakers.

Integrative CALL (1990s–Present)

With the development of multimedia technology and the internet, CALL entered a new phase in the 1990s, referred to as integrative CALL. This phase is characterized by the integration of various technologies—such as text, audio, video, and the internet—into the language learning experience. Integrative CALL reflects the movement toward more holistic and immersive learning environments, where language is acquired through interaction with multiple modalities and authentic communication.

Characteristics of Integrative CALL

- **Multimedia Integration:** Integrative CALL allows for the use of multiple media formats (text, video, audio, graphics, and animations) to create rich and immersive learning environments. This provides learners with the opportunity to experience language in more authentic contexts, such as listening to native speakers or watching real-life videos.
- **Hypertext and Hypermedia:** Learners can navigate through non-linear texts and media, following their interests and learning paths. This flexibility supports more personalized and self-directed learning.

- **Computer-Mediated Communication (CMC):** The rise of the internet has enabled real-time communication with other learners, teachers, and native speakers via platforms like email, chatrooms, and discussion forums. This supports collaborative learning and enables meaningful language exchanges.
- **Task-Based Learning:** Many integrative CALL programs use task-based learning to engage learners in real-world tasks that require language use, such as collaborative projects, writing assignments, or simulations of professional contexts.

Digital Literacies in Integrative CALL

In this era, digital literacy plays a crucial role. Digital literacies refer to the skills required to effectively navigate digital environments, critically evaluate information, and communicate across various online platforms. Dudeney and Hockly (2022) emphasize that in today's language classrooms, educators must foster digital literacies in their students. This includes developing critical thinking skills to evaluate online content, understanding online privacy and security, and effectively communicating through digital media.

Example Programs

- **Moodle:** An open-source learning platform, Moodle allows for blended learning, where online and face-to-face learning are combined. Students can access course materials, participate in discussions, and submit assignments online, creating a more integrated and flexible learning experience.
- **Duolingo:** A modern example of integrative CALL, Duolingo combines multimedia elements (text, images, audio) with gamified learning experiences. It also includes real-world tasks like translating articles, making the learning experience highly interactive and engaging.

The Role of Teachers in CALL

As CALL has evolved, so too has the role of teachers. While early CALL positioned the computer as the "teacher," in integrative CALL, the teacher's role has shifted to that of a facilitator or guide. Teachers now focus on designing meaningful learning experiences that incorporate technology and support learners in using digital tools effectively.

Teachers also play an important role in fostering digital literacies, ensuring that students are not only learning language skills but also becoming proficient in the digital tools they will need for communication in the 21st century. This aligns with the view that digital literacy is an essential component of modern language education (Dudeney & Hockly, 2022).

Challenges and Future Directions in CALL

Despite the advantages of CALL, challenges remain. Access to technology, digital literacy gaps, and the need for teacher training in the use of CALL are ongoing concerns. Additionally, there is a need to strike a balance between technology and human interaction in language learning. While CALL can enhance the language learning experience, it cannot fully replace the role of teachers or the value of human communication.

The future of CALL will likely see further integration of artificial intelligence, virtual reality, and augmented reality into language learning. These technologies promise to create even more immersive and interactive environments for language learners.

Conclusion

The evolution of CALL from behaviorist to communicative to integrative approaches reflects broader changes in educational philosophy, technology, and language learning theory. Each phase has built on the previous one, leading to increasingly sophisticated ways of integrating technology into language learning. The current integrative phase, with its emphasis on multimedia, real-world communication, and digital literacies, offers exciting possibilities for language education. However, the success of CALL depends on how effectively educators and learners can use technology to enhance, rather than replace, meaningful language interaction.

References

- Dudeney, G., & Hockly, N. (2022). *Digital literacies in language education*. Cambridge University Press.
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Questions for Discussion

1. What were the main characteristics of behaviorist CALL, and why was it limited in promoting communicative competence?
2. How did the communicative approach to language learning differ from the behaviorist approach in CALL?
3. What are some examples of early communicative CALL programs, and how did they attempt to simulate real-world communication?
4. Describe how multimedia elements are integrated into language learning in the integrative CALL phase.

5. What role does computer-mediated communication play in integrative CALL?
6. How has the role of teachers evolved from the early days of CALL to the present day?
7. Define digital literacies and explain their importance in modern language education according to Dudeney and Hockly (2022).
8. How does task-based learning fit into the integrative CALL model?
9. What are some of the challenges educators face when integrating CALL into their language classrooms?
10. How might future technologies like virtual reality or artificial intelligence further impact the evolution of CALL?