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THE APPLICATION OF NEW TECHNOLOGIES IN CLIL LESSONS

Abstract

Children fall for creative tasks, especially self-initiated ones, and their inherent curiosity makes them enthusiastic learners. They ask numerous questions within a short period of time, surpassing our own contemplations. They express themselves using various tools like crayons, blocks, and toys while dancing and simple songs help them learn through imitation and physical expression. In our study, we combine the CLIL technique, mixed with a creative learning/teaching approach with selected new technology tools so, as to enhance the students' learning and exploration. This approach is believed to help motivate young language learners in their FL early childhood education. Our aim is to involve every child in the learning process by integrating new technologies and showcasing the advantages of CLIL. We advocate for the use of technology in education and believe that a good learning method combined with fun is essential.

Key words: CLIL, CALL, new technologies, motivation, early school learners, creativity

Introduction

Our study emphasizes digital plays and encourages the development of digital literacy from an early stage. In it we selectively review the theory of CLIL (Content and Language Integrated Learning) and CALL (Computer Assisted Language Learning) tools and share the research from different countries. These studies have inspired us to explore the topic further within our own educational context. Through our work, we hope to inspire other FL teachers and promote investment in technology for effective language learning.

The research project we propose is based upon two hypotheses: /1/ teaching English with the aid of CLIL and New Technologies improves the quality of instruction, enabling students to acquire and comprehend new context-based vocabulary more rapidly than when using CLIL alone; and /2/ employing selected technology tools to teach a foreign language facilitates vocabulary pronunciation and the utilization of acquired words to describe events. By integrating CLIL and New Technology, we seek to improve teaching quality, vocabulary acquisition, and pronunciation skills.

Content and Language Integrated Learning (CLIL) is a method where students learn a foreign language while studying various subjects. It emphasizes group work, selected exercises tailored for different learning styles, and the use of appropriate materials. CLIL combines foreign and native languages in FL teaching and encourages practical application of knowledge. At the same time, Computer Assisted Language Learning (CALL) refers to using technology like computers, phones, and language learning apps to learn languages. CALL includes authentic materials, social media, language learning apps, and educational games. It can enhance traditional teaching or enable innovative teaching methods. Combining CLIL with appropriately tailored digital competence involves incorporating four principles: culture, cognition, communication, and content. CLIL mixed with digitization, helps develop language skills, content knowledge, cultural understanding, and critical thinking. Multimedia, such as videos and visual organizers, can be used in CLIL lessons to engage students and improve comprehension. Digital technology provides communication opportunities and facilitates cultural exploration. It enhances cognitive processes and offers a variety of learning resources.

However CLIL, combined with new technologies, complements traditional learning and requires effective teacher guidance. In kindergarten, CLIL classes should be fun and interactive, incorporating games, songs, and stories to introduce children to new vocabulary and grammar structures. They are believed to motivate children, build confidence, and foster language use from an early age.

1. Literature review

Nowadays, children spend a significant amount of time using social media, messaging apps, and browsing the internet. The internet serves as a tool for social communication, which is a key motivational need according to Maslow (1954). The current generation, known as generation X or millennials, engages in various online activities like gaming, streaming music and movies, and staying updated with trends. The Internet provides access to abundant information in the form of images, photos, and videos, aiding better information assimilation. Students can conveniently access information on their phones, which enhances the learning process. Traditional learning approaches are becoming insufficient in an education system that prioritizes student-centered learning (Warschauer, 2004). Digitization and digital technology assist teachers in engaging and motivating students. Students can create science projects, games, and stories based on processed materials, while younger students can play digital games to learn new words in context. However, when teaching curriculum content in a foreign language, students face the challenge of acquiring new information and assimilating it in a non-native language (Ryder & Graves, 1997).

To demonstrate the interaction between Content and Language Integrated Learning (CLIL) and new technologies, several possible applications are presented. Key strategies in CLIL include understanding one's own reflection on a topic, experiential learning, systematizing knowledge, and developing higher-order thinking skills. Video is considered advantageous over graphic and textual media as it can represent dynamic concepts, dramatized events, and sequential processes (Papaja, 2015). By engaging with videos and assignments, students enhance critical thinking, attention to detail, comprehension, and problem-solving skills. Incorporating videos into lessons can help introduce and explain new vocabulary, reinforce previous learning, and improve listening and pronunciation skills. New technologies offer abundant communication opportunities, which are vital for CLIL to encourage students to use a foreign language as their daily communication tool. Films, in particular, are effective for language learning as they bring authentic language to life with colloquialisms, idioms, and accents. They can convey information when combined with body language, facilitating understanding.

CLIL also promotes learning about cultural diversity, self-awareness, and multiple perspectives. Language, according to the Sapir-Whorf hypothesis, shapes perception, making CLIL instrumental in learning about new cultures and understanding different reasoning. New technology facilitates access to materials from around the world, enabling students to explore and appreciate various cultures. Films and recordings play a significant role in conveying cultural values, attitudes, and habits, aiding children in recognizing similarities and differences among different ethnic groups. CLIL lessons

stimulate cognitive processes and encourage students to think critically, regardless of their age. Videos, recordings, and educational games support understanding of history, memorization of important figures and locations, and analysis of moral lessons (Brzosko-Barrat, 2024).

CLIL and digital materials complement each other, making lessons more engaging compared to traditional methods. The variety of videos, recordings, and games offer diverse learning opportunities. Visual content supports language learning and enhances long-term memory retention. However, while new technology tools are powerful educational resources that motivate students and provide exposure to different cultures, they should not replace real-world experiences involving touch, smell, and taste. Therefore, combining CLIL with new technologies serves as a valuable addition to children's education, with teachers playing a crucial role in selecting appropriate web materials, helping students understand audiovisual content, and planning lessons (Bentley, 2018).

The advancement of technology has provided numerous digital tools that can assist in language learning. To diversify CLIL and support students' learning, various aids can be utilized, including videos, recordings, graphics, animated images, and educational games (Villabona & Cenoz, 2021). These tools can be adapted and used according to the materials being taught and the age of the children. De Graaff et al. (2007) suggest that teachers can inspire and engage children in acquiring knowledge by using tools that capture their interest. When children watch videos or listen to recordings, their attention is easily captivated.

Audiovisual stories and recordings offer several benefits when introduced in classes. They allow for the combination of information and knowledge while showcasing the customs and culture of other people. While these tools themselves do not guarantee language learning, when used effectively by experienced educators (Bentley, 2018), they can be excellent aids. Through audiovisual stories, children can learn about the world and language in an interesting way, as well as develop appropriate pronunciation of words in context. The accompanying visuals help children understand the words they hear. One possibility of using such stories is to stimulate children's imagination, allowing them to finish or invent the next part of the story. Additionally, children can be assigned tasks while watching fairy tales, such as identifying the name of an animal they will see in the story (Szulc-Kurpaska & Szpotowicz, 2012). While listening to the story, comprehension of everything is not necessary, but children get exposed to the language spoken by their favorite characters, sparking their desire to understand what they are talking about.

According to Lopez-Perez (2015), educational games, including online games, can be used to reinforce and revise materials in foreign language classes. It has been proven that games have a positive impact on visual memory and the memorization

of materials. When students play games, they are not passive listeners but actively involved in the task, determining the course of action. Games engage children by providing them with decision-making opportunities.

Following the findings presented in the *Digital Education Review* (2015), a study conducted in Spain involving 244 primary school students found that video games can promote teamwork and facilitate the development of curriculum content. These games also helped children discover new facts and establish connections between them. Video games were shown to enhance children's logical thinking and top-down analysis. The research authors claimed that the concept of gamification helped apply game mechanics to various areas, increasing engagement and involvement. By earning points or other rewards, students became more invested in the game, progressing to higher levels and acquiring more knowledge. As observed by Traxler and Kukulska-Hulme (2015), such games could be adjusted to suit the child's level by assigning appropriate difficulty levels.

During CLIL lessons with young children, classes should be interesting and concise, allowing children to learn a foreign language in an enjoyable manner. Szulc-Kurpaska and Szpotowicz (2012) strongly indicate that what always remains important in preschool education, are the ways of motivation useful enough to help students explore the world around them comfortably. Listening is a fundamental skill that accompanies almost every CLIL class. Research indicates that learners taught through CLIL demonstrate a high ability to listen, speak, write, and present information in a foreign language (Liubinienė, 2008). New technology tools, when used appropriately, not only support learning but can also be integrated with CLIL, benefiting both students and teachers.

While there are fewer studies confirming the positive impact of CALL (Computer-Assisted Language Learning) on language learning in children compared to studies on CLIL, information suggests that CALL tools can accelerate language acquisition and enhance certain competencies during language learning. Knoerr (2005) states that there are no significant differences in learning outcomes. However, evidence for the positive impact of CALL remains limited (Golonka et al., 2014). Possible reasons for this include inadequate research descriptions, lack of systematicity in the field, and/or not always sufficient data.

One more important issue never to be neglected in the process of FL education is the use of LOTS and HOTS as learning skills to develop thinking abilities in language learning (Anderson and Kratwohl, 2001). We will specifically focus on their application in the context of CLIL and the use of New Technologies. It is important to note that the skills discussed here are applicable to preschool children.

To understand LOTS and HOTS, it is necessary to grasp the concept of cognitive skills. According to Bentley (2010, p. 20), cognitive skills '(…) *refer to the mental process-*

es that occur during learning, particularly when delving deeper into a topic and addressing questions' with the use of such interrogative pronouns, as *what*, *who*, and/or *where*. HOTS, on the other hand, involve more abstract and thought-provoking questions that shape our opinions. To provide a foundation for these concepts, we will introduce Bloom's taxonomy (Bloom, 1956-1964, p. 10), which '(…) *categorizes thinking skills into three sets: cognitive, psychomotor, and affective*.' Our focus will primarily be on the cognitive skills, as they are the most common in education. This category is further divided into six levels that can serve as a framework for lesson planning, allowing for the inclusion of both LOTS and HOTS. LOTS encompass skills such as remembering, understanding, and applying, while HOTS '(…) *include skills like analyzing, evaluating, and creating*' (Bentley, 2010, p. 22). These skills can be effectively utilized when designing lessons.

For the successful implementation of CLIL and CALL in schools, several conditions must be met. First and foremost, teachers require continuous professional development, coupled with a willingness to engage in projects that promote and shape CLIL competences (VanGrundy, 1988). Adequate funding is also crucial for schools aiming to develop in this direction. Finally, it is the desire and motivation of teachers that drive and transform educational approaches, as evidenced by our research (Szalbot, 2021).

Numerous studies conducted in the European Union and elsewhere have confirmed that CLIL enhances language competences among students at all levels of education, from kindergarten to primary and secondary school (Ladousse, 1995; VanMerts, 1999; Szulc-Kurpaska & Szpotowicz, 2012). One of the key benefits of CLIL is its contribution to cognitive development, fostering cultural awareness, and motivating language learning while enabling the acquisition of content in subjects beyond the scope of language learning. This not only saves time but also makes language learning more meaningful as students immediately apply their language skills in daily life. An additional advantage of CLIL is the abundance of engaging resources, which significantly increases students' interest in learning and improves their outcomes (Bentley, 2010; Wright, 2015).

Similar to CLIL, continuous teacher development is essential in the field of CALL due to the numerous possibilities it offers. However, it is crucial to strike a balance between CLIL and the use of CALL tools when integrating them into the curriculum. Implementing CALL in schools also requires significant changes and funding. Nevertheless, at the kindergarten level, which is the focus of our work, the financial commitment is not as extensive, as interactive boards can be introduced to facilitate teacher-student collaboration. Cooperation with parents is important, and at the early education stage, enabling children to access computers at home allows them to review the material covered in class, which should not be a significant challenge in today's digital era. CALL can be a fantastic tool to enhance children's learning motivation and confidence they receive through their individual practice on the computer (McDonough & Shaw, 2012).

With technological advancements prevalent worldwide, the field of education included, the ability to communicate quickly has become increasingly important, with language proficiency, particularly in English, and communication tools like social media playing significant roles (Wright, 2015). Consequently, these studies explore the potential of the CLIL approach in utilizing new technologies to facilitate the transmission of knowledge in school subjects and enable efficient communication. The research conducted by Ally (2009) aims to determine whether the integration of new technologies in schools enhances student motivation and facilitates learning. Additionally, the research includes insights from teachers who are either currently utilizing new technologies or exploring their potential. The summarized findings from the study indicate that students in the 21st century have easy access to various technological tools like computers, tablets, and phones, which they use not only for communication but also for obtaining information, playing games, and watching movies. Consequently, incorporating these technologies into CLIL lessons has been observed to have a positive effect on language competences and increases student motivation. The combination of CLIL and CALL allows for the exploration of intercultural content, and while research on CALL is ongoing, its positive impact on learners has already been noticed. Teachers who have experimented with educational Internet platforms have also expressed positive feedback, noting improvements in their work and the ability to prepare authentic and engaging materials for lessons (McDonough & Shaw, 2012).

Specific studies highlighted above show that the use of technological tools during CLIL lessons and online communication brings satisfaction to both students and teachers. Gamification and the use of games in lessons enhance students' retention of previously learned material, and teachers find it easier to prepare interesting online exercises. The study, whose author is C. Aldrich (2005), presents FL students (CLIL learners included) excelling in preparing and presenting information, as well as developing their ICT skills. They are believed to be more proficient at finding information online, particularly in English, which is reinforced through authentic situations and conversations in CLIL lessons.

The introduction of new technologies (ICT tools) in education has also been observed to transform the role of teachers, who become trainers guiding students on where to find information (Ladousse**,** 1995; West-Burnham, 2005). Technology allows for flexibility in learning, not confining it to specific places or times. While new technologies familiarize and teach children for the future, they do not replace the importance of human interaction and guidance.

The use of new technologies in CLIL has been found to be highly motivating for teachers, providing access to a wider range of free knowledge and facilitating communication among educators (VanGrundy, 1995). Internet platforms and MOOCs (Massive Open Online Courses) have proven to make lessons more interesting, enhancing

student motivation and creating an ideal environment for creative thinking and action (Carey, 2014). Furthermore, online tools aid in the development of reading, writing, speaking, and listening skills.

2. Methodology

This paper presents a study that examines the impact of combining the CLIL method with New Technologies on early childhood education students. Following the observations concerning the teaching procedures commonly applied when teaching a target language to early school and preschool learners (Szulc-Kurpaska and Szpotowicz, 2012) the procedures commonly used in classical target language presenting processes were attempted to be modified so as to meet the CLIL-like conditions. The key ideas of the article authors were to discover whether the educational conditions based on the possibilities of the mechanical memory commonly recognized in early school learners could be applied to /1/ teach them with the help of CLIL regulations, and to /2/ find out whether (and if yes, how) it could be possible to keep such learners active and involved in the lesson particulars totally new to them. The study aimed to compare and describe the results of both groups based on the tests conducted by the researchers. To meet the ethical necessities, the students' parents were notified about the research and we obtained their agreement. They were also informed about the final results of the study.

The study involved two groups of 7-year-old students, each consisting of 8 children (4 girls and 4 boys). All participants had previous exposure to the English language in the same kindergarten. The research aimed to explore the introduction of New Technologies at an early age. The students attended a 35-minute class twice a week for a period of 5 months, from October 1, 2022, to February 28, 2023. A post-test was conducted at the end of the course to compare the learning outcomes of both groups. The results of the pre- and post-tests, along with a language fluency assessment, were analyzed to evaluate the impact of New Technologies on the students' skills.

While designing the research two theses were formatted: /1/ Teaching English with the help of CLIL and with the use of ICT tools improves the quality of teaching and helps students achieve the goal of learning new words and understanding words in the context faster than when teaching by using CLIL issues without the additional help of ICT. And /2/ Teaching a foreign language using ICT tools helps learners pronounce the vocabulary they have learned and select the vocabulary to describe the out-of-language events.

The two theses ought to help us find the answers to the following research questions:

1. Do New Technologies help and encourage student communication? The hypothesis suggests that through the Internet and videos featuring songs and stories, learners gain confidence in communicating in a foreign language. They are

motivated by their desire to imitate their favorite characters and identify with the language, which is not limited to adults but accessible to everyone. However, it is important to note that this form of communication should supplement, not replace, traditional classroom conversations.

2. Do New Technologies positively affect students' focus and memory retention? It is hypothesized that using technology in language classes motivates students to participate and holds their attention due to its novelty and familiarity. Multimedia boards and interactive games are believed to increase student engagement (Scrivener, 2011). Additionally, teachers can easily monitor the progress of students using New Technologies.
3. Does incorporating New Technologies in CLIL lessons aid vocabulary learning and pronunciation? The hypothesis suggests that technology helps even the youngest learners acquire new words more quickly. Access to a rich visual database allows children to associate words with their corresponding visuals. Watching online content, such as fairy tales, enables them to understand and use simple sentences in different contexts (Heathfield, 2014).
4. Can ICT-aided CLIL lessons improve students' accuracy in using a foreign language? It is claimed that ICT tools enhance vocabulary comprehension, enabling students to create complete sentences. Exposing students exclusively to English through videos helps reduce reliance on their native language. Additionally, students are expected to answer questions more easily in full sentences (Wright & Pedersen, 2002).
5. How do New Technologies enhance the quality of student learning? The hypothesis proposes that technology aids in enjoyable and accessible material revision. It speeds up the learning process, especially in memorizing new words. Preschoolers benefit from technological tools like YouTube and language-focused songs, as they engage with the content and develop pronunciation skills (Heathfield, 2014).
6. Can one easily establish a balance between CLIL and New Technologies when designing language lessons for preschoolers? The aim is to actively involve students rather than passively watching or listening to videos. Creating activities based on online content encourages integration and cooperative work. Maintaining a balance between the virtual and real worlds, such as using muting techniques, is essential. Providing moments of peace through music or imitating sounds of nature can be beneficial for children (Szulc-Kurpaska & Szpotowicz, 2012).

To test the proposed theses, the quantitative method was selected for comparison reasons. Following this plan to assess the two activities objectively, a pre-test and post-test were chosen. Both groups will receive CLIL English classes based on the text-

book *Teddy Eddie and His Socks* by D. Kubica, M. Duchnik, and A. Komada. Group B will also have access to New Technologies through an application called "playground", including online songs, recordings, videos, and games. The tests will consist of four tasks of varying difficulty. The pre and post-tests will be anonymous and conducted with parental consent. Each child will be individually assessed using the Communicative Competence Assessment Chart (Pillar, 2011) to measure vocabulary knowledge, pronunciation, communication skills, and creative use of language.

3. Research findings

Having designed the study particulars a pre-test was given to the preschool participants. The teaching period followed when the test results were known, and the earlier established teaching procedures were applied. After one semester (the period from beginning of October to end of February) a post-test was designed and all the study participants took part in it. The results of bot pre-test and post-test can be found in Table 1 below. The table summarizes the findings from the mean, median, and deviation calculations. The close proximity of the median to the mean indicates that the test results of both groups were similar, and the low deviation score suggests that both groups were homogeneous. This implies that the students in both groups had similar language levels at the beginning of the language classes, which is important considering the various factors that can affect learning outcomes. The T-test conducted also confirmed that there was no significant difference between the control and experimental groups in terms of their English levels before the course.

After the 5-month language course, a written and oral post-test was administered. The results showed that experimental group B had a higher post-test score compared to the control group, indicating greater progress in the experimental group. This suggests that the use of CALL tools (Computer-Assisted Language Learning) improved the quality of teaching and positively impacted the students' performance. The T-test conducted for the post-test results confirmed the statistical significance of this difference.

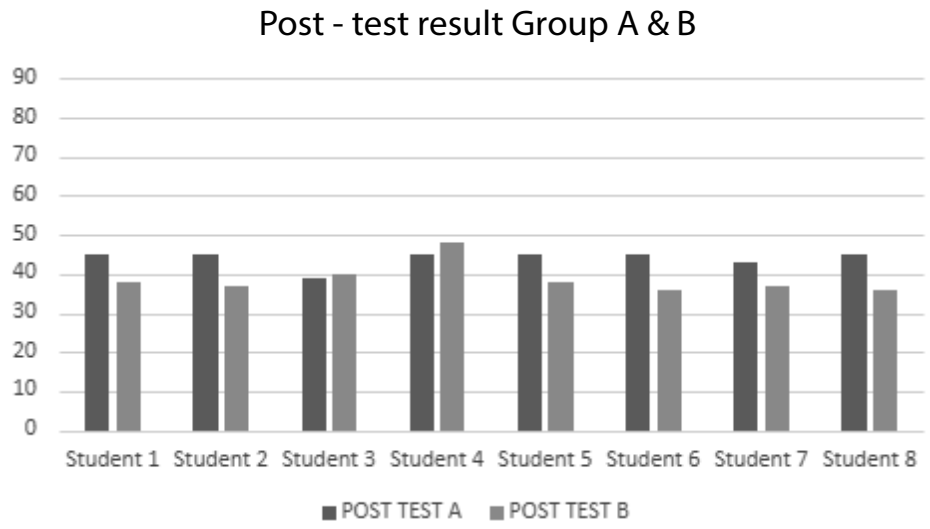
Tab. 1 Statistical results from the pre-test and post-test of groups A and B, own research

Groups	Pre-test results			Post-test results		
	Mean	Std.Er M.	Std. Dev	Mean	Std. Er M.	Std. Dev.
Group A	40,87	40,5	2,78	44	45	2,13
Group-B	38,75	37,5	3,95	66	65	6,8

Source: Own elaboration based on study results

Furthermore, individual research questions were addressed by analyzing the results of the written and oral tests. The tests were divided into different parts, such as vocabulary acquisition, use of vocabulary in context, fluency and coherence in speaking, accuracy in language use, and pronunciation. The results showed that incorporating New Technologies in CLIL lessons had a positive effect on students' communication skills, accuracy in using the foreign language, vocabulary learning, and pronunciation. The use of technology supported students' understanding, memorization, and correct pronunciation of words and sentences. Additionally, it helped students focus on tasks and remember more words and structures from the classes.

To sum up, the analysis of the pre-test and post-test results and the value of the *t*-test indicates that the students' knowledge at the beginning of the course was very limited, which is why they did not cope with many tasks on the pre-test (Graph 1). However, after completing 5 months of language classes, both groups made progress. This shows that teaching the language with the help of CLIL had a positive effect on students and helped them achieve their goals. In addition, we also found that New Technologies definitely contributed to the positive and better results of the students in the experimental group (Group A). However, we could conclude that the leading tool was CLIL because it seems to be a good backbone of the lesson and a base that should not be replaced, but can be enriched with other tools such as CALL.



Graph 1. Group A and B post - test results, own research

Overall, the findings indicate that teaching English using CLIL and incorporating New Technologies improved the quality of teaching and helped students achieve their learning goals. While both CLIL and New Technologies played a role, CLIL was identified as the main driving force behind the lesson, while New Technologies provided valuable enhancements.

The study aimed to investigate the impact of CLIL and New Technologies on language learning for young children. The results showed that CLIL positively influenced language performance in both groups. However, the group that used New Technologies along with CLIL showed significantly better learning outcomes compared to the group that did not use technology. The study confirmed the importance of combining CLIL and technology tools for effective language learning. It also highlighted the positive effects of New Technologies on comprehension, accuracy, vocabulary retention, fluency, pronunciation, and communication. The research aligned with previous studies that emphasized the value of technology tools in language education (Wolff, 2007; Schütze, 2016).).. It also addressed the importance of maintaining a balance between teaching methods and technology use, especially for young children's development (Szulc-Kurpaska & Szpotowicz, 2012). The study supported the hypothesis that New Technologies motivate students and improve learning outcomes, as observed in teachers' online courses. Furthermore, the research showed that exposure to different dialects and accents through technology positively impacted pronunciation skills. The study also revealed that technology tools enhanced students' motivation and focus, leading to better vocabulary retention and usage. The combination of CLIL and New Technologies was found to develop creative thinking, cognitive skills, and high-order thinking skills in children. Overall, the study demonstrated the benefits of integrating New Technologies with CLIL in language learning, emphasizing the importance of communication, motivation, and balanced instructional approaches.

4. Conclusions

By combining CLIL and CALL, we gain multiple windows to the world, fostering openness and language learning through New Technologies. Our research focuses on the application of New Technologies in CLIL lessons, showcasing their value in language acquisition. We compared two groups of seven-year-olds, one using CLIL alone and the other incorporating CALL. CLIL is particularly relevant in today's bilingual community, while CALL enhances language skills. Our research confirmed that teaching with CLIL and CALL improves learning outcomes and pronunciation. We explored various research questions and compared our results with related studies, affirming the significance of our findings. As technology continues to evolve, it is crucial to help future generations utilize it wisely. While acknowledging the potential negative

effects of excessive technology use, we emphasize the balance provided by CLIL and meaningful interactions with peers and teachers.

In conclusion, the study found that combining CLIL and New Technologies in teaching foreign languages to children is valuable and effective. It was demonstrated that CLIL combined with CALL tools significantly enhanced language learning outcomes, including vocabulary retention and usage. The study also confirmed that this approach facilitated correct pronunciation and intonation skills. The results were obtained through pre- and post-tests, which assessed students' performance in various language skills. The findings supported the initial hypotheses and provided answers to the research questions. Overall, the study emphasized the positive impact of CLIL and New Technologies on language acquisition in young learners.

5. Pedagogical implications

The pedagogical implications of our study highlight the effectiveness of combining CLIL and CALL in language acquisition. CLIL allows for language integration across various subjects, fostering language expression and cultural understanding. It promotes motivation and effective learning. Meanwhile, CALL serves as a valuable tool, particularly during remote learning situations like the COVID-19 pandemic, enhancing student motivation and providing diverse learning opportunities. Implementing CLIL and CALL requires continuous professional development for teachers and support from educational institutions. School authorities should invest in training, encourage teachers to adopt these methods, and allocate funding accordingly. Promoting the use of CLIL and CALL in schools can benefit students across subjects and improve language skills.

6. Further research

Further research in the integration of CLIL and CALL in Polish kindergartens and preschools is recommended. Exploring the effectiveness and outcomes of this combination, especially in subjects beyond language learning, would be valuable. Additionally, investigating the long-term retention and practical application of language skills acquired through CLIL and CALL is worth exploring. Another area of interest is examining the possibility of teaching solely through CALL tools or solely through CLIL without online tools, comparing their effects on children's learning. Conducting studies with larger sample sizes and diverse backgrounds would provide more comprehensive insights. It is hoped that such research will generate greater interest among teachers in Polish kindergartens and schools.

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