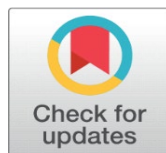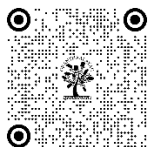# THE DYNAMICS OF COGNITION IN CLIL: INTEGRATING CONTENT AND LANGUAGE IN THE CLASSROOM

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ABSTRACT

Cognition is a critical factor in the effectiveness of Content and Language Integrated Learning (CLIL). In classrooms where subject content drives communication, cognitive development is enhanced through the integration of language and meaningful content. This reciprocal relationship between content and language not only supports language acquisition but also deepens subject understanding. This paper explores the key elements that contribute to successful cognitive development in CLIL classrooms, with a focus on strategies and practices that enhance both content learning and language proficiency

Keywords: Content and Language Integrated Learning (CLIL), Meta-cognitive skills, Higher Order Thinking Skills, Learner-centred activities, Dialogic teaching, Teacher-led instruction, Comprehensible Input, Comprehensible Output, Participatory learning, Scaffolding, Mediated learning, Personalized learning, Constructivism, Legitimate Peripheral Participation and Situated Learning Theory

1. INTRODUCTION

Content and Language Integrated Learning (CLIL) methodology has transformed the traditional view of language learning and academic content as separate endeavours into a holistic model that enhances subject understanding (Cognition). The convergence of language and content within CLIL creates a synergistic effect, addressing many of the shortcomings of conventional educational systems, particularly as the field has shifted towards a learner-centred approach. A dynamic environment is created in CLIL classrooms where content and language learning occur naturally. Many factors contribute to a dynamic environment that amalgamates language learning and subject learning, directly linked to the process of convergence, which unifies previously fragmented elements within the curriculum (Coyle et al. 4).

2. LEARNING HAPPENING IN CLIL/ COGNITION

The cognitive aspects of CLIL are crucial in understanding how this approach facilitates deeper learning and the development of Higher Order Thinking Skills (HOTS). Coyle et al. emphasize that CLIL impacts cognition by influencing how learners conceptualize ideas. This method not only enriches the understanding of concepts, but also broadens the sources for conceptual mapping (10, 11). In a CLIL environment, students have the opportunity to receive instruction

while simultaneously experiencing real-life situations, allowing them to acquire language in a more naturalistic way (Coyle et al. 11). This dual focus on content and language challenges learners cognitively, encouraging them to think critically and articulate their learning (Coyle et al. 29). Furthermore, Coyle et al. highlight the development of metacognitive skills, such as "learning to learn," alongside HOTS like problem-solving (Coyle et al. 29). These skills are essential for students to navigate complex tasks that require the integration of new knowledge with existing concepts.

Met discusses how the cognitive demands in CLIL compel students to communicate with their teachers, peers, or texts to access or apply content. This interaction requires students to draw upon their existing knowledge, concepts, skills, and strategies. By doing so, they strengthen the connections between concepts and knowledge, enhancing both learning and retention (Met 38).

In CLIL, knowledge is often reconstructed, and learning becomes personalized. Smith and Paterson note that by involving students in intellectually demanding work, teachers create a genuine need for learners to acquire the appropriate language (1). This aligns with Bruner's (1961) learning theory, which posits that learning is the construction of new ideas and concepts based on an individual's prior knowledge. Christiane Dalton-Puffer expands on this by describing how cognitive structures, such as schemata and mental models, help learners organize new experiences in relation to their previous ones. These structures imbue immediate experiences with meaning, allowing learners to integrate new information into their existing knowledge system in a coherent and organized manner (Dalton-Puffer 7, 8). This cognitive interplay in CLIL leads to more meaningful learning experiences where language and content are deeply intertwined, resulting in a robust learning process.

3. LEARNER-CENTRED ACTIVITIES AND INTERACTION

Communication plays a vital role in CLIL, aligning closely with modern learner-centred learning theories. In CLIL, language development is significantly fostered through dialogue, with effective talk being a key element for learning. Mercer highlights that this dialogic approach is crucial for language development within CLIL settings (102).

For institutions, in local contexts, the shift towards CLIL requires more than mere imitation of models from other regions. Instead, a tailored approach that suits the local context, incorporating the fundamental aspects of CLIL, should be designed. This approach must prioritize the active involvement of learners, who are central to the educational process. In CLIL, learner-learner talk is instrumental in enhancing the learning process, making it more dynamic and interactive.

Unlike traditional teacher-led instruction, which often limits interaction to one-way communication, CLIL emphasizes the importance of learners actively engaging with and constructing language, particularly when it is an L2, such as English. Additionally, Brown et al. argue that cognitive apprenticeship, where learners develop skills through collaborative social interaction, is essential for learning (40).

Hanneda and Wells identify three critical aspects for fostering active student dialogic talk in CLIL: comprehensible input (Krashen), comprehensible output (Swain, 2005), and the production of appropriate social and communicative strategies while learning different perspectives (118-119). These aspects of communication within CLIL not only reinforce content knowledge, but also significantly enhance language acquisition, making the learning process more holistic and effective.

4. INTERACTION IN CLASSROOMS: EFFECT ON COGNITION AND ACQUISITION OF LANGUAGE SKILLS

In CLIL, the simultaneous development of the four essential language skills—Listening, Speaking, Reading, and Writing (LSRW)—is emphasized, which is crucial for achieving balanced language acquisition. However, in contexts of traditional methods of learning, an imbalance has been observed, particularly in the development of speaking skills. This imbalance arises because learners often lack opportunities to use speaking as a tool in the learning process, leading to gaps in their overall language proficiency.

CLIL provides a robust framework for addressing these gaps, particularly in speaking. The design of CLIL emphasizes meaningful interaction, student-centred learning, rich input, and purposeful learning, all of which create a conducive environment for learners to enhance their speaking abilities. In this setting, the entire scope of language learning in the classroom is utilized, allowing learners to develop comprehensive communication skills.

Active discourse and interaction are integral to learning in CLIL classrooms, and the success of this approach is largely due to its learner-centred focus. Coyle et al. highlight that learners in CLIL are encouraged to develop their powers of perception, communication, and reasoning within peer group settings (6). This is further supported by Alexander's concept of dialogic teaching, where the power of dialogue is central to the learning process (2008). In CLIL, meaning is constructed through participatory learning, which is at the heart of the approach.

Cummins also stresses the importance of placing student experience at the centre of learning, advocating for active student engagement rather than passive reception of knowledge (108). CLIL integrates teachers into this process through scaffolded learning, where support from someone more experienced—often the teacher—enhances the learner's ability to acquire knowledge (Coyle et al. 29). This scaffolding is a key component of the learner-centred approach in CLIL.

The methodologies followed in CLIL classrooms, such as rich input, authentic interaction, and mediated learning, are designed to maximize the effectiveness of discourse as a learning tool. Alexander points out the significance of discourse in the learning process (108), and Haneda and Wells explain the success of dialogue-centred approaches within socio-cultural theories (114-136). Through this integrated approach, CLIL effectively supports the development of all four language skills, with a particular focus on improving speaking, thereby addressing the imbalances observed in traditional language learning contexts.

5. ATTACHING KNOWLEDGE TO THE EXISTING ONE

The inherent human method of learning, which involves arranging and connecting new knowledge to existing knowledge, is a fundamental aspect of cognitive development. In CLIL, this process is enriched by the multimodal experiences provided in the classroom. CLIL allows learners to engage with content in a way that integrates their prior knowledge and personal experiences, making learning more meaningful and lasting.

CLIL supports the enhancement of cognitive structures by enabling students to relate new information to what they already know. This approach not only deepens their understanding but also makes learning more personal and permanent. The ability to connect new concepts with existing knowledge allows learners to internalize information in a way that is both relevant and applicable to their own lives, fostering a more profound and individualized learning experience.

In CLIL, the integration of multiple modes of learning—such as visual, auditory, and kinaesthetic—further strengthens these cognitive connections. This multimodal approach ensures that learners can engage with content in diverse ways, catering to different learning styles and preferences. As a result, the learning process becomes more dynamic and effective, allowing students to construct knowledge in a manner that resonates with their personal experiences and cognitive frameworks.

6. SPECIFIC NEEDS IN LEARNING/PERSONALISING LEARNING

In CLIL, the integration of content and language is tailored to meet the specific needs and demands of the learning system, ensuring that both language and content are effectively taught in a context-sensitive manner. This approach aligns with Krashen's view that language learning is most effective when it occurs within meaningful contexts (1985: 2). As Coyle et al. highlight, CLIL is deeply embedded in the broader educational context, and for it to be successfully implemented, it must consider various contextual variables, including the locale, socio-cultural factors, and the cognitive and linguistic levels of the learners (42).

Understanding these contextual variables at a grassroots level is essential for effectively implementing CLIL. Recognizing the socio-cultural background, cognitive development, and linguistic proficiency of the learners allows educators to design activities that are both relevant and accessible. This context-driven approach also plays a crucial role in personalizing knowledge, making learning more meaningful and applicable to the learners' lives.

In CLIL, L2 learning occurs naturally within an authentic atmosphere. Llinares et al. note that unlike traditional language classrooms, CLIL classrooms provide a more "natural" environment for language learning, where students can engage with the language as it is used in everyday life (8). This naturalistic setting helps learners acquire language more effectively, as they are exposed to it in real-world contexts that are directly linked to the content they are studying.

Materials used in CLIL should be carefully prepared to align with the learners' age, linguistic competence, subject-specific needs, and curriculum requirements (Grosser 1999). This ensures that the content is accessible and engaging for learners, facilitating both language acquisition and content mastery. By integrating content and language in a way that

is sensitive to the specific context, CLIL creates a rich, immersive learning environment where language learning becomes a natural byproduct of engaging with meaningful content.

7. CONSTRUCTING KNOWLEDGE AND CONSTRUCTIVISM

In most of the learning contexts in the world, the concept of learners constructing their own knowledge and language is a relatively new idea, contrasting with more traditional pedagogies. However, constructivist theories provide a strong foundation for the shift towards a learner-centred approach in education. According to these theories, learners are active participants in their own learning, continuously building upon their prior knowledge, including their first language (L1). This process allows them to transfer personal meanings from one language to another, as Dale and Tanner observe (12).

J. Bruner's constructivist approach emphasizes that knowledge is not simply acquired but actively constructed by the learner (1990). This perspective aligns with the principles of Legitimate Peripheral Participation and Situated Learning Theory, as outlined by Lave and Wenger. These theories highlight the importance of social interaction in the construction of knowledge, suggesting that learning is most effective when it occurs within a social context (21).

In a CLIL classroom, the integration of content and language, contextual learning, social interaction, and the construction of meaning are all fundamental elements. These aspects work together to create an environment where real, meaningful learning takes place. Social constructivism, as emphasized by Cummins, stresses the importance of foregrounding the learning process on the students' experiences and encouraging active engagement rather than passive reception of information (2005: 108).

Mohan and van Naerssen further underline the significance of discourse in the learning process, asserting that "discourse creates meaning" (1997: 2). In a CLIL classroom, this means that through active participation in discussions and interactions, learners not only acquire content knowledge, but also develop their language skills in a way that is deeply connected to the meaning they are constructing.

Overall, the shift towards a constructivist, learner-centred approach in Kerala's education system, particularly within the framework of CLIL, has the potential to transform the learning experience. By allowing students to actively construct their own knowledge and language through social interaction and contextual learning, CLIL fosters a deeper, more meaningful engagement with both content and language.

8. MULTISENSORY LEARNING AND MULTIMODAL EXPERIENCES

Content and Language Integrated Learning is particularly effective in accommodating Howard Gardner's theory of Multiple Intelligences by incorporating diverse learning processes that cater to various types of intelligence. CLIL promotes multi-sensory learning, which is crucial for effective human learning. Unlike traditional methodologies, CLIL encourages the use of a wide range of instructional tools, including pictures, audio-visual aids, graphic representations, and role plays. These tools engage different senses and learning styles, making learning more comprehensive and accessible to all students.

The integration of these multi-sensory techniques aligns with the principles of Communicative Language Teaching (CLT), which is often utilized in CLIL settings. CLT emphasizes interaction and communication as central to the learning process, and CLIL extends this by embedding language learning within content subjects. This approach not only supports language acquisition, but also fosters deeper understanding of content through the engagement of multiple intelligences.

By leveraging multi-sensory learning and incorporating a variety of CLT techniques, CLIL creates a dynamic and inclusive learning environment. This environment is particularly effective for addressing the diverse needs of learners, enabling them to engage with content and language in ways that resonate with their individual strengths and preferences. As a result, CLIL not only enhances language proficiency but also promotes a richer, more personalized learning experience that accommodates the different ways in which students learn.

9. CONCLUSION

CLIL classrooms exemplify the principles of student-centred learning, enhancing cognitive structures by connecting new knowledge to existing frameworks. By addressing the specific needs of individual learners, CLIL fosters personalized learning experiences that boost motivation and confidence. In these environments, students actively construct knowledge, leading to more enduring understanding. The collaborative interactions among students further contribute

to this knowledge construction. Additionally, the multisensory approach in CLIL supports knowledge acquisition on a personal level, significantly enhancing cognitive development in the classroom.

CONFLICT OF INTERESTS
None

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