

Disciplinary literacy in CLIL

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DOI: <https://doi.org/10.53349/re-source.2025.is1.a1372>

Abstract

This paper reviews the current state of disciplinary literacy within CLIL (Content and Language Integrated Learning), by synthesizing findings from various studies and reports conducted across different European countries. CLIL has been positively embraced by educators at various educational levels and settings, fostering a dynamic and active research community. The aim of this article is to determine the status and progress of CLIL from linguistic to content research and to observe developments in different countries. The objective is to highlight the relevance and significance of disciplinary literacy in CLIL contexts. The first part of the article describes the general shift in CLIL from a focus on language towards content, based on relevant sources. The second part focuses on the characteristics of disciplinary literacy, while the third part summarizes the state of CLIL in various countries. The contribution of this article lies in understanding the current state of CLIL in our region and identifying what needs to be done to make progress, which we consider a necessity for further research.

Keywords: Disciplinary Literacy, CLIL, Bilingual Education

1 Introduction

Although CLIL was initially intended to emphasize integration, early studies predominantly treated it as a language teaching approach, focusing on outcomes in foreign language proficiency. Research consistently shows that CLIL students generally achieve higher levels of foreign language proficiency compared to their peers in traditional language programs (Pérez-Vidal & Roquet, 2015; Heras & Lasagabaster, 2015). However, this research has faced criticism for comparing (self-)selected CLIL students with mainstream students (Paran, 2013). A meta-analysis of CLIL research indicated that English language learning through CLIL saw only slight improvements in countries with already high levels of English proficiency, like the

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Netherlands, while countries with lower English proficiency, such as Spain, experienced significant gains (Goris et al., 2019).

More recent studies by Nikula et al. (2016) and Coyle (2018) have emphasized the necessity of clearly conceptualizing CLIL as an approach that integrates both language and content learning. This perspective places a clear focus on the use of language at the content and subject interface, emphasizing the learning of subject-specific elements of the foreign language (Llinares et al., 2012).

Within the expanding research on disciplinary literacies in CLIL, students consistently exhibit greater lexical improvements compared to their non-CLIL peers. Several studies piloted by Gablasova (2014) and Rieder-Bünemann et al. (2019) have shown that CLIL students use subject-specific vocabulary and phraseological expressions with more confidence. Research has also explored the development and utilization of typical discourse patterns in specific subjects such as history and science (Bieri, 2018; Evnitskaya & Morton, 2011; Lorenzo, 2017). These findings emphasize that different school subjects have unique bi/multilingual disciplinary literacies and would benefit from additional input from subject matter experts. Language learning research also points to the significant impact of out-of-school learning, particularly through digital media (Sundqvist & Sylvén, 2016), but this has been largely overlooked in the context of disciplinary literacies. Consequently, there has been no investigation into potential connections between CLIL teaching and Europe-wide initiatives aimed at enhancing digital competence, such as the EU DigComp Framework.

Additionally, leading Austrian CLIL researcher Christiane Dalton-Puffer has developed conceptual tools to investigate discourse patterns across various subjects and educational levels. One significant tool is the construct of Cognitive Discourse Functions, which describe the common linguistic patterns used in classrooms to articulate cognitive processes involved in learning subject content, such as defining or evaluating (Dalton-Puffer, 2013). Other researchers have created models to illustrate the developmental trajectory of subject-specific discourse patterns, clarifying the relationship between content learning and language learning. These include specific discursive patterns (Hüttner & Smit, 2018; Whittaker et al., 2011) and the Pluriliteracies Model, which provides a comprehensive framework (Coyle & Meyer, 2021). Overall, these findings suggest that CLIL enhances very specific aspects of integrated language and content learning, particularly the ability to use a foreign language to produce texts (both oral and written) suitable for specific subjects. This capability is referred to as bi/multilingual disciplinary literacies, highlighting their complementarity to existing or developing disciplinary literacies in the first language (L1) or the primary language of education.

Despite robust research and intriguing models, the study of bi/multilingual disciplinary literacies in CLIL remains fragmented, often focusing on isolated aspects. Additionally, CLIL research activity is unevenly distributed across Europe, with only a few geographical and educational contexts studied. As a result, there is limited empirical evidence validating existing models of bi/multilingual disciplinary literacies across diverse contexts. Therefore, current CLIL research on bi/multilingual disciplinary literacies requires more systematic data on: a) the patterns of use and learning trajectories in specific subjects in relation to learning disciplinary literacies in the first language (L1), and b) the application and critical evaluation of proposed models. Achieving this would enable the development of a framework for transforming these models into clear pedagogical guidance. This endeavor necessitates the integrated expertise of subject and language education specialists, as well as applied linguists.

2 CLIL in European countries

2.1 European context and policy support

The European Union has consistently promoted multilingualism and the use of CLIL to enhance language competencies across member states. The COST Action CLIL Network for Languages in Education (CLILNetLE) has been instrumental in this regard, aiming to develop a shared research agenda to optimize CLIL for bilingual and multilingual disciplinary literacies. This initiative seeks to coordinate research efforts and disseminate best practices across Europe (COST, 2022).

2.2 Research in various European countries

In Italy, research on CLIL has focused on its implementation in secondary education. Minardi (2020) explored the effectiveness of CLIL in promoting disciplinary literacy in physics classes. The study found that students in CLIL programs demonstrated better critical thinking skills, and a more profound understanding of physical concepts compared to those in non-CLIL programs. This research underscores the potential of CLIL to foster higher-order thinking skills and disciplinary understanding.

Belgium, being a multilingual country, has naturally integrated CLIL into its education system. Research by Goris et al. (2019) examined the impact of CLIL on students' language and content learning in both Flemish and French-speaking regions. The study found that CLIL students exhibited higher levels of motivation and engagement, as well as improved proficiency in both the target language and the subject matter.

The Netherlands has implemented CLIL primarily in secondary education. A study by De Graaff et al. (2007) explored the outcomes of CLIL in Dutch schools, revealing significant improvements in students' English language skills and academic achievement. The research highlighted the effectiveness of CLIL in promoting language acquisition alongside content learning.

In Spain, CLIL has been widely implemented in various educational contexts. Research by Llinares, Morton, and Whittaker (2012) has shown that CLIL programs significantly improve students' academic language proficiency and subject-specific knowledge. Their study indicates that students in CLIL settings develop a deeper understanding of subject content and are better equipped to use academic language effectively.

Finland has a long history of bilingual education and has integrated CLIL into its education system extensively. Nikula et al. (2016) conducted a study examining the impact of CLIL on students' disciplinary literacy in science education. The findings suggest that Finnish students in CLIL programs outperform their peers in traditional programs in both content knowledge and language skills. The study highlights the importance of integrating language and content learning to enhance overall academic performance.

3 Research in Slovakia

In Slovakia, the CLIL approach has been increasingly integrated into the educational system, reflecting both local and European trends towards bilingual education. According to Kopecká (2024), CLIL is utilized primarily to enhance foreign language proficiency while simultaneously delivering subject content, thereby promoting disciplinary literacy among students. This method is particularly evident in primary and secondary education, with a growing interest in its application at higher educational levels.

Several studies have focused on the implementation and outcomes of CLIL in Slovak schools. Hurajová et al. (2020) emphasize that the primary goal of CLIL is not the language itself, but the use of a foreign language as a tool for learning subject content. This approach aligns with the broader educational goals outlined by the European Commission, which supports multilingualism and the development of language competencies across member states (European Commission, 2012) as mentioned above.

A significant national study by Menzlová et al. (2020) involved an experimental CLIL program in 14 primary schools, focusing on English and German language. This research aimed to compare the language proficiency and motivation of students in CLIL and non-CLIL settings. The findings indicated that CLIL students achieved higher scores in vocabulary, listening, reading comprehension, and writing. Additionally, these students demonstrated increased motivation to learn foreign languages. It was a national project, although not focused on content. Nonetheless, it was likely the first of its kind to utilize a broad sample and achieve statistical significance in Slovakia. As Kováčiková (2020) describes, there are no specific surveys or studies available on implementing CLIL in tertiary education yet.

Despite positive outcomes, the empirical evidence validating CLIL models in Slovakia remains limited. Kopecká (2024) argues that more systematic data collection is needed to understand the patterns of use and learning trajectories in specific subjects. Additionally, there is a need to critically evaluate existing models of bilingual and multilingual disciplinary literacies to develop effective pedagogical guidance. A recent publication Overview of CLIL provision in Europe and country-specific insights by Gülle & Nikula (2024) uncovers difficulties while implementing and so researching CLIL context in various countries. For Slovakia, securing backing from national organizations and policymakers, along with offering effective incentives for CLIL teachers and obtaining essential funding, were regarded as highly challenging. Likewise, the challenges of sourcing and developing suitable materials, effectively assessing students' learning, and addressing the diverse needs of CLIL students are also seen as very challenging, indicating substantial pedagogical difficulties.

Current research on disciplinary literacies in CLIL lessons in higher education remains notably underdeveloped in Slovakia. While other European countries have well-established studies and frameworks exploring the integration of language and content instruction, Slovakia has yet to develop a significant body of research in this area. This represents a critical gap and an opportunity for Slovak scholars to pioneer research efforts that could enhance the integration

of language and content instruction, ultimately contributing to the broader academic discourse and improving educational outcomes in higher education.

Above mentioned European network – COST, and its sub-project CLILNetLE aims to do so. The CLILNetLE COST Action (CLIL Network for Languages in Education: Towards bi- and multilingual disciplinary literacies) aims to connect researchers across Europe to create a significant, shared research agenda and strategy focused on developing bi- and multilingual disciplinary literacies in CLIL. Since its inception, this collaborative network has brought together over 180 researchers from 37 countries, encompassing language education, non-language subject methodologies, and experts from digital media and multilingual schools. Authors of this paper, Elena Kováčiková is an official Management Committee member for Slovakia and a member of Working Group 1: “Conceptualising bi/multilingual disciplinary literacies,” and Dorothea Bagalová is a Working Group 2: “Learning and using bi-and multilingual disciplinary literacies in specific subjects” member, specifically active in the subgroup for Science. Through five dedicated Working Groups, the network is developing a unified conceptual framework and research roadmap to explore bilingual and multilingual disciplinary literacies within CLIL contexts (COST, 2024).

Progress towards further research in Slovakia can also be seen in the approval of project VEGA from the Scientific Grant Agency of the Ministry of Education, Science, Research and Sport of the Slovak Republic and the Slovak Academy of Sciences. as an internal grant system of the Ministry of Education and the Slovak Academy of Sciences awarded the grant to the project titled “Disciplinary Literacy and Critical Thinking in Bilingual Education” with Associate Professor Mgr. Elena Kováčiková, PhD. being the principal coordinator. This project aligns with the CLILnetLE directions and follows European trends in implementing CLIL in upper secondary education. It examines bilingual education not from a language competence perspective but by assessing its impact on acquiring disciplinary literacy in Mathematics, Biology, and History within the new Slovak educational curriculum reform. The project focuses on developing general-domain mental processes, especially critical thinking constructs. The research team aims to clarify these relationships, expecting the findings to significantly influence national didactic guidelines.

This paper is an output of the scientific project VEGA 1/0218/24 and UGA V/14/2024.

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