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SCOPING REVIEW OF DISCIPLINARY LITERACY DEVELOPMENT IN CONTENT AND LANGUAGE INTEGRATED LEARNING

Disciplinary literacy development is an emerging issue in multilingual education, where Content and Language Integrated Learning is a contributing tool. Numerous studies have investigated disciplinary literacy in CLIL from different perspectives, locations, and backgrounds. This scoping review aims to synthesize and identify the research gap to understand the central phenomenon. As evidenced from the results, included studies employed diverse methodologies such as exploratory studies, design-based research, longitudinal case studies, and cross-sectional studies. Moreover, research instruments included oral and written tasks, video-recorded lessons, competency-based tasks and practical activities, reflective journals, and portfolios. The selected studies utilized Cognitive Discourse Functions, Uptake, Systemic Functional Linguistics, Genre-based pedagogy, and Pluraliteracies as primary theoretical constructs. The novelty is that this is the first paper to conduct a systematic review of disciplinary literacy in CLIL, where recommendations for further contextual research are provided. A novel contribution of this systematic review is the integration of quantitative and qualitative data analysis when presenting the synthesis of the selected articles. This paper tabulates the selected articles' key characteristics, forming a groundwork for further research. Correspondingly, the study concludes with the limitations and scholars' assumptions.

Keywords: disciplinary literacy, CLIL, multilingual education, systematic review, cognitive discourse functions, language across curriculum, subject-specific vocabulary, content education.

Introduction

Content and Language Integrated Learning (CLIL) is a successful teaching approach used worldwide [1, p. 12]. CLIL is an umbrella term that simultaneously teaches content in an additional language. Within the context of CLIL, English is the predominant language of instruction, according to Dalton-Puffer [2, p. 190]. It aims to develop various skills necessary to compete in a dynamic workforce, including intercultural communicative competence, global citizenship, content knowledge, higher-order thinking skills, and Cognitive Academic Language Proficiency (CALP) [1]. To a certain degree, these skills capture key aspects of disciplinary literacy. According to Shanahan and Shanahan, disciplinary literacy is communicating, analyzing, and thinking critically within a specific academic domain through employing discipline-specific language, vocabulary, and conventions [3, p. 45]. Disciplinary literacy is expert-like engaging with discipline-specific content to construct knowledge [3, p. 45].

Generally speaking, disciplinary literacy development in CLIL settings is a highly researched academic phenomenon [4, p. 640]. Several recent studies explored disciplinary literacy from different perspectives. For instance, Coyle and Roca de Larios explored the development of disciplinary literacy through multiple semiotic resources [4, p. 640]. Filming, images, sounds, and movements were used in developing students' disciplinary literacy in the CLIL science class. It was revealed that employing multiple semiotic tools helped develop students' practical communicative tools for knowledge discussion. The scholars employed corpus-based data analysis to scrutinize students' essays to identify the relationship between mastery of disciplinary literacy and high grades. It was found that students with higher academic performance showed advanced grammar and vocabulary usage in their writing, impacting the development of English language disciplinary literacy. However, scholars recommend integrating courses such as English for Academic Purposes within CLIL settings to scaffold students' disciplinary literacy.

On the other hand, Zhang and Chan and Nikula et al. conceptualized and operationalized disciplinary literacy in CLIL [5, p. 140]. Disciplinary literacy is a broad and multidimensional concept that incorporates subject-specific vocabulary, CALP, multi-semiotic, multilingual, critical, and functional aspects of language, and the ability to produce, interpret, and evaluate written and oral utterances that align with social and cultural norms. Therefore, the role of CLIL and the development of disciplinary literacy through CLIL is significant in education provision.

Although the literature review illustrated numerous studies concerning disciplinary literacy in CLIL worldwide, no research has been conducted in Kazakhstan with this focus. The latest studies explored science teachers' implementation of CLIL, language teaching methodology in CLIL classes, and language deficit views in Kazakhstani CLIL [6, p. 125]. Within the Kazakhstani context, it is widely accepted that CLIL is teaching science in the English language, and language is used only as a symbolic tool in delivering the content, which contradicts Nikula et al.'s conceptualization of disciplinary literacy [6, p. 125].

Moreover, earlier studies also investigated the implementation of CLIL within local contexts, focusing on stakeholders' beliefs and perceptions and translanguaging practices through mixed-method approaches. Furthermore, some studies conducted systematic reviews of CLIL research concentrating on regional inquiries [7, p. 5]; [8, p. 4]. The purpose of these comprehensive reviews is to systematically analyze existing research on CLIL from the Kazakhstani context, determine its impact, provide recommendations, and identify gaps for further research. For instance, Agaidarova et al. focused on the state of CLIL research in Kazakhstan and the implications of the selected research findings, categorizing the implications into beliefs, policy, practice, research, and CLIL theory [7, p. 5]. On the other hand, Satayev et al. organized their findings according to several themes related to CLIL implementation, including stakeholders' perceptions, positive outcomes, challenges, CLIL methodology, and implementation at different levels [8, p. 4].

The literature review showed a lack of studies on disciplinary literacy conducted within the Kazakhstani context. Therefore, to conduct further research on disciplinary literacy in the local context, the systematic review would help identify the research gap. Thus, this study aims to systematically review disciplinary literacy development research worldwide within the CLIL context to guide further research in the local context. It offers important insights contributing to a better understanding of the central phenomenon. Thus, this inquiry has two objectives. First, this systematic literature review explores the current trends of empirical research on developing disciplinary literacy in the CLIL context. Second, it presents significant recommendations and implications for improving current CLIL practices.

Literature Review

Developing students' disciplinary literacy is essential in CLIL; it enables engagement with academic texts and discourse while employing critical thinking skills [3, p. 45]. Within the CLIL domain, disciplinary literacy involves mastering subject-specific knowledge, vocabulary, linguistic structures, and functional language necessary for communicating higher-order cognitive functions.

However, the question is how to develop disciplinary literacy within the CLIL, as no universally accepted agreement exists [9, p. 260]. Some scholars claim that CLIL fosters communicative language competencies, while others argue that CLIL enhances content-specific vocabulary. Nonetheless, the development of disciplinary literacy within the CLIL approach is multidimensional. To comprehend its multidimensionality, below, I will further explore the theoretical foundations and development of disciplinary literacy in education, which is significant to CLIL.

Theoretical approaches

Disciplinary literacy is an evolving approach to literacy instruction that merges the development of literacy skills within the content areas of mathematics, science, and social studies [3, p. 45]. The concept of disciplinary literacy arose from the understanding that content teachers in these subjects interpret content-specific texts differently from language teachers, providing unique reading strategies to their students [3, p. 45]. Shanahan and Shanahan assert that the development of disciplinary literacy is timely [3, p. 45]. They present a framework for disciplinary literacy as a pyramid model. This model begins with establishing basic literacy skills, which entail decoding written texts and comprehending high-frequency words. The second, intermediate stage focuses on advancing reading skills, including decoding multisyllabic words, understanding unusual punctuation, and expanding content vocabulary. Students also enhance skills such as analyzing and synthesizing information. Finally, the top third stage of the pyramid model involves the development of disciplinary literacy, which pertains specifically to content areas like social science, mathematics, and science, which require expert-like reading and thinking. Here, students acquire more specialized skills that are less transferable and harder to master. According to Shanahan and Shanahan, students often face challenges in mastering such advanced content skills due to a lack of support in developing them, which motivated their research on advancing disciplinary literacy [3, p. 45].

Furthermore, continuing the theoretical framework section, the foundational theories and frameworks that form the basis of the development of disciplinary literacy will be discussed below. Different paradigms established the groundwork for the theoretical conceptualization of disciplinary literacy. However, for this systematic review, we will focus on only the Sociocultural Theory of Cognitive Development by Vygotsky, the conceptualization of Literacy by Gee, and Systemic Functional Linguistics (SFL) by Halliday [10, p. 28]; [11, p. 20]. We acknowledge that the theoretical ground is more profound and comprehensive, but currently, we do not have the luxury of employing other philosophical approaches due to word limits.

To begin with, the first theoretical perspective of this scoping review is grounded in Vygotsky's Sociocultural Theory [10, p. 28]. Vygotsky's Sociocultural Theory, including components such as Zone of Proximal Development (ZPD), scaffolding, and language as a tool, best explains disciplinary literacy [10, p. 28]. Additionally, considering Kazakhstan was a part of the former Soviet Union, Vygotsky's Sociocultural Theory is particularly applicable to contextualize this systematic review in future inquiries, given its emphasis on social, cultural, historical, and educational environment interaction [10, p. 28].

The chaotic sociopolitical landscape of postrevolutionary Russia brought both obstacles and inspiration for Vygotsky. According to the sociocultural theory of development, social interaction is a crucial component of cognition and higher-order thinking development throughout an individual's life [10, p. 28]. Moreover, Vygotsky recognizes culture, society, and historical context as important influences in individual development through mediated social interaction [10, p. 28]. According to Moje et al., social interaction is fundamental to learning and comprehending disciplinary literacy, which takes place through inquiry-based learning, participation in discourse community practices, engagement with multiple contexts, and support for cultural and emotional experiences [9, p. 260]. Another aspect of Vygotsky's theory is the Zone of Proximal Development (ZPD), which distinguishes between what a learner can do alone and with a more knowledgeable other [10, p. 28]. The learners cannot reach their full potential unless a more knowledgeable person assists them to overcome the gap zone [10, p. 28]. Scaffolding is a concept that must be discussed in the context of Vygotsky's theory. It refers to the structured strategies that more knowledgeable others use to assist learners in progressing to the next level. Those concepts play a crucial role in developing students' literacy abilities, as they support their engagement with disciplinary literacy by assisting them in study challenges. However, scaffolding frequently focuses on basic literacy skills; there is less emphasis on scaffolding for higher-order thinking and the specific demands of disciplinary literacy. Another feature of Vygotsky's Sociocultural Theory (1978) is recognizing language as a tool for expressing knowledge. Language is a tool for facilitating thinking and comprehension; it allows for mediated interaction among individuals and the exchange of cultural and cognitive practices. Vygotsky (1978) underlined that language is essential for growth since it shapes ideas, operates behaviors, and "reflects the external world" [10, p. 28]. Similarly, Shanahan and Shanahan emphasize the importance of language as a tool for cognitive development and communication [3, p. 45]. The scholars argue that mastering disciplinary language increases students' expertise in the content domain, allowing them to participate more fruitfully in discourses and cognitive practices.

Another theory that explains disciplinary literacy is Systemic Functional Linguistics by Halliday [12, p. 8]. The theory proposes that language is used as a tool and has three metafunctions: ideational, interpersonal, and textual [12, p. 8]. According to Gebhard and Accurso, ideational metafunction refers to how a language is used to convey meaning, ideas, and experiences within the context and to interpret them [13, p. 1032]. The interpersonal metafunction of language focuses on the role of language as a facilitator for social interaction in the form of questioning, requesting, and commanding. Textual metafunction is how texts are systematically arranged to provide the coherent and cohesive meaning of the information [13, p. 1032]. Systemic Functional Linguistics is a significant framework for analyzing language and literacy across disciplines. According to Shanahan and Shanahan, disciplinary literacy is an advanced set of skills required in social studies, history, and science settings [3, p. 45]. These disciplines use language differently regarding register, genre, and discourse.

Literacy is a conceptual construct that requires reassessment as a fundamental aspect of disciplinary literacy. Before defining literacy, Gee conceptualizes discourse, distinguishing between its two types, primary discourse and secondary discourse, and differentiates learning from acquisition [11, p. 20]. According to Gee, discourse is a set of socially and culturally accepted norms of language use, belief systems, and actions that shape individuals' identities and practices within a community [11, p. 20]. Primary discourse refers to the primary socialization of an individual within their families and the close environment through oral communication using language, thoughts, and actions [11, p. 20]. Secondary discourse is more formal and requires language and social engagement within secondary institutions like schools, workplaces, offices, and other formal contexts. In terms of differentiating learning from acquisition, learning is the process that is gained through teaching, explanation, analysis, and application of meta-knowledge in this learning process. At the same time, acquisition is a natural and unconscious process of exposing oneself to meaningful learning through trial and error without formal teaching. Turning to the primary definition, literacy is the ability to use and function in languages in secondary discourse in socially and culturally accepted ways [11, p. 20]. Moreover, Perry employed sociocultural perspectives to define literacy [14, p. 58]. Firstly, literacy is beyond reading and writing; social and cultural norms influence our life skills. Secondly, literacy is multimodal, where one creates and interprets meaning from semiotic resources such as language, images, and gestures. Thirdly, literacy has a critical perspective, encouraging individuals to question social, political, and cultural contexts to raise awareness of power dynamics and better change [14, p. 58]. To conclude, this section presents

key conceptualizations of literacy from different perspectives, and all scholars disclose that literacy is beyond just reading and writing [11, p. 20].

Development of Disciplinary Literacy

Zhang and Chan state that the concept of disciplinary literacy emerged in the 2000s and has been used interchangeably with academic literacy by researchers and practitioners in the fields of ESP (English for Specific Purposes), EMI (English Medium Instruction), CLIL, literacy education, and applied linguistics [5, p. 140]. According to Zhang and Chan, disciplinary literacy represents expertise within specific academic fields [5, p. 140]. Each discipline has its language structure, subject-specific vocabulary, and grammar usage that differ among those disciplines. Multimodality, which means using different input modes, also differs across disciplines. For instance, diagrams are mostly used in Maths to help scaffold students' comprehension, whereas in History, oral communication and body language play an important role [5, p. 140]. The cognitive process also differs in disciplinary literacy. For instance, historians assess the content based on the sources and the author's viewpoints, while chemists focus on the content itself when reading [3, p. 640]. Additionally, each discipline employs specific genres, such as lab reports in Chemistry and essays in History [5, p. 140]. The development of disciplinary literacy is a timely process. As students progress in their learning, they become more aware of discipline-specific literacy practices, which enhances professional identity. As seen in the previous paragraph, the development of students' disciplinary literacy is timely and influenced by numerous factors. In the following chapters, I will discuss the methodological aspects of this systematic review and focus on the empirical studies that have focused on disciplinary literacy in CLIL.

Methodology

A systematic literature review determines what is already known about the central phenomena for a better understanding. This scoping review was conducted on 15 articles. It aims to critically synthesize the data to address the research question and identify the research gap for further research in a transparent and reproducible manner in a local context. Systematic literature review seeks to enhance transparency by minimizing bias throughout the review process. It is accomplished by using specific inclusion criteria, evaluating the quality of the included research, and providing an objective summary of the findings.

Several scoping reviews have been conducted in the CLIL domain over the past decade for various objectives [15, p. 53]. For instance, Porcedda and Gonzalez-Martinez focused on CLIL teacher training and its subsequent recommendations [15, p. 53]. Graham et al. examined twenty-five empirical articles that met their selection criteria to investigate the transformative teaching

practices of language instructors in CLIL. This systematic review aims to assess the current state of empirical research on the development of disciplinary literacy in CLIL, identifying gaps and providing recommendations for more localized studies. Thus, this scoping review serves two purposes. First, it investigates current trends in enhancing disciplinary literacy within the CLIL context. Second, it offers significant recommendations and implications for improving existing CLIL practices related to disciplinary literacy at the local level.

A systematic review, as defined by Denyer and Tranfield, identifies «existing studies, selects and evaluates contributions, analyses and synthesizes data» [16, p. 671]. Therefore, based on the previously stated definition of a systematic review, the criteria listed below were used to set the parameters for the research studies. The inquiries should be theoretical and empirical, employing qualitative, quantitative, or mixed-method approaches to disciplinary literacy development in CLIL. It should also be published in peer-reviewed journals worldwide, and various educational levels, such as primary, secondary, and tertiary education, should be accepted. A collection of databases, such as Google Scholar, Web of Science, Scopus, and ERIC, was used to search for articles. The keywords included disciplinary literacy, CLIL, content-specific vocabulary, multilingual literacy, Content-based language teaching, subject-specific literacy, language skills in content areas, and cognitive academic language proficiency.

The quantitative characteristics of the selected study are presented in Table 1, which details frequency counts and the percentage of inquiries by focus, location, method, participants, and instruments. The patterns identified in the selected works were described using thematic analysis. Specific steps, such as developing initial coding, open coding, and classifying codes into broader categories, were undertaken in the thematic analysis. Subsequently, I examined the themes and named them Conceptualization of Disciplinary Literacy, Disciplinary Literacy in Practice, Assessing Literacy within Disciplines, and Disciplinary Literacy Pedagogy. The section below presents the quantitative and qualitative data.

Results and Discussion

The selected 15 inquiries were conducted in the European context, the USA, and China, respectively. Table 1 illustrates the quantitative characteristics of the selected papers. The inquiries employed a variety of methodologies: design-based research (20 %), followed by exploratory studies, practical application papers, qualitative approaches, quantitative approaches (13 % each), as well as mixed methods, cross-sectional studies, case studies, and longitudinal case studies, each accounting for 6 % of the total. The data collection instruments included a mix of written tasks, essays, diaries, portfolios, written competency-based tasks, CLIL materials, video-recorded lessons, observations, and surveys (see Table 1). Most

of the studies occurred in the secondary education section (n=14, 93 %), and only one case in a higher education context. Students and teachers were the primary research population. Theoretical concepts such as Cognitive Discourse Functions (CDF), BICS (Basic Interpersonal Communicative Skills), CALP (Cognitive Academic Language Proficiency, CALS (Cognitive Academic Language Skills), SFL (Systemic Functional Linguistics), Genre-based pedagogy, Uptake, and Pluraliteracies were the key constructs employed in the selected investigations.

Table 1 – Study characteristics

	Characteristics	Number of Studies	Percentage (%)
Focus	Secondary education	14	93 %
	Higher education	1	6 %
Location	Spain	6	40 %
	USA	3	20 %
	Austria	2	13 %
	New Zealand	1	6 %
	China	1	6 %
	Finland	1	6 %
Methodology	Theoretical approach	2	13 %
	Empirical approach	13	86 %
Methods	Qualitative inquiry	2	13 %
	Quantitative inquiry	2	13 %
	Mixed method	1	6 %
	Case study	1	6 %
	Exploratory study	2	13 %
	Practical application paper	2	13 %
	Cross sectional study	1	6 %
	Design-based research	3	20 %
	Longitudinal case study	1	6 %

Intruments	Video-recorded lessons	3	20 %
	Audio-recorded lessons	1	6 %
	Corpus of written tasks	8	53 %
	Oral tasks	2	13 %
	Reflective journals	1	6 %
	Semi-structured interviews	3	20 %
	Surveys	3	20 %
	Portfolios	1	6 %
	Focus groups	1	6 %
	Tests	2	13 %
	Practical activity tasks	2	13 %
	Competency-based tasks	2	13 %
	Observations	1	6 %
Theoretical constructs	Pluraliteracies	1	6 %
	CDF	7	46 %
	Uptake	1	6 %
	BICS and CALP	2	13 %
	CALS	1	6 %
	Genre-based pedagogy	1	6 %
Subjects	SFL	1	6 %
	History	8	53 %
	Science	5	33 %
	Social science	2	13 %
	Reading	1	6 %
	Physics	1	6 %

Findings

The initial step in data analysis for this systematic review involved coding the data, identifying subthemes, and developing overarching themes (citation). Four major themes emerged: Conceptualization of Disciplinary Literacy, Disciplinary Literacy in Practice, Assessment of Literacy within Disciplines, and Disciplinary Literacy Pedagogy. The following section synthesizes the findings from the selected inquiries, identifying gaps for further research.

Conceptualization of Disciplinary Literacy

The first central theme relates to the conceptualization of Disciplinary Literacy in the context of CLIL, which supports students' learning, distinguishes the cognitive demands of specific disciplines, improves pedagogy, advances research, and promotes interdisciplinary practice. The inquiries conducted by Shanahan and Shanahan and Spire et al. are among those articles [3, p. 45]; [17, p. 1420]. Shanahan

and Shanahan critique the current notion of literacy, stating that early literacy does not lead to the development of disciplinary literacy in secondary and higher education [3, p. 45]. Students need scaffolding and a discipline-specific literacy curriculum to support it. They provide a triangle model of literacy progression, with the foundation being basic literacy, the middle being intermediate literacy, and the top being disciplinary literacy. Similarly, Spires et al. critique the current state of students' knowledge despite the complexity of learning materials [17, p. 1420]. Moreover, Spires et al. problematize the linear and hierarchical view of disciplinary literacy development among stakeholders [17, p. 1420].

Disciplinary Literacy in Practice

The studies of Kaanta and Kasper and Evnitskaya and Dalton-Puffer vividly illustrate disciplinary literacy in educational practice [18, p. 34]. Kaanta and Kasper investigated how students utilize multimodal resources such as language, body language, depictive gestures, and materials to learn and explain science vocabulary in CLIL [18, p. 34]. As the study's outcomes indicate, disciplinary literacy goes beyond verbal literacy. It also includes nonverbal, embodied, situated, and multimodal practices. It employed cognitive discourse functions and systemic functional linguistics approaches to evaluate students' written works. The results indicate that students develop disciplinary literacy through practice, where more complex and sophisticated academic and discipline-specific language should be used. It suggests that literacy and cognitive development progress concurrently. Both studies enhance our understanding of disciplinary literacy development in CLIL contexts by using multiple resources, including depictive gestures and linguistic elements, while addressing cognitive demands.

Assessing Literacy within Disciplines

Overall, six studies fell into this category of disciplinary literacy assessment. These inquiries explore how disciplines such as history, science, physics, and reading use different modes of assessment. Interestingly, most of the studies used Cognitive Discourse Functions as a measuring tool, providing clear categories and criteria where students' responses are compared.

Disciplinary Literacy Pedagogy

Another six investigations focused on the pedagogy of disciplinary literacy, which involves teaching, practicality, and material design [19, p. 130]. On the other hand, Feick and Rahn utilized the concept of uptake to analyze how the German language is taught through CLIL in New Zealand [19, p. 130]. Coteaching and content-specific material development were the key stages of this research.

This systematic review evaluated the current research on disciplinary literacy development in CLIL in diverse locations. The researchers conducted this scoping review to identify research gaps and provide recommendations for future inquiries

within the Kazakhstani context. CLIL is a widely used and effective teaching method in an additional language [1, p. 12]. Developing disciplinary literacy within a specific content is one of its aims. Disciplinary literacy involves academic, cognitive, and analytical skills [3, p. 45]. Spires et al. advocate that each discipline has its discourse, unique academic language, subject-specific vocabulary, and different grammar patterns [17, p. 1420]. Overall, it is clear from this systematic review that Cognitive Discourse Functions was the major theoretical and practical model to apply. Moreover, diverse research methods and instruments can be used when exploring disciplinary literacy in practice. It suggests that within the Kazakhstani context, such diverse methodology can be adapted to explore students' disciplinary literacy understanding and development in CLIL settings.

Notably, scholars have focused on material design, practical implementation, and teaching methods for developing disciplinary literacy in CLIL [19, p. 130], highlighting a lack of teacher training, appropriate skills, and relevant educational background necessary to teach disciplinary literacy effectively. Correspondingly, the responsibility often falls primarily on content teachers to make the learning process effective and meaningful. Such an initiative is closely linked to teacher agency, which refers to teachers' capacity, autonomy, willingness, and initiative to enhance the quality of their teaching and improve students' learning outcomes.

Multiple studies focus on assessing disciplinary literacy in CLIL classrooms in different subject areas. Cognitive Discourse Functions (CDFs) is primarily used as an assessment tool providing clear criteria for evaluating students' disciplinary literacy and conceptual understanding. This framework evaluates how students describe, define, argue, evaluate, and interpret discipline-specific discourse. Conducting research that focuses on the assessment of disciplinary literacy in CLIL is relevant to the Kazakhstani context because, under the tri-lingual education policy, some science subjects are being taught in English. Moreover, studies focusing on disciplinary literacy in CLIL are almost absent in the Kazakhstani context. We assume there is also limited teachers' awareness and knowledge of assessing English discipline-specific discourse and conceptualization. Conducting studies that use CDFs in CLIL in Kazakhstan can help bridge this gap. However, such an initiative requires professional development, curriculum adaptation, and training of local stakeholders.

Conclusion

This section provides the limitations of the selected studies and recommendations for further research. Overall, research in disciplinary literacy development through CLIL utilizes diverse research approaches and instruments as shown in Table 1. Notably, Cognitive Discourse Functions is the framework widely used in the context of disciplinary literacy for the assessment and evaluation. Furthermore, the results of the selected studies indicate the importance

of professional development for teachers focused on disciplinary literacy practices and pedagogy to scaffold learning outcomes [19, p. 130]. Interestingly, the research has shown that collaboration among teachers and researchers has a productive impact on its development.

In terms of limitations, the majority of the reviewed studies indicate methodological aspects such as sample size, sampling techniques, and research approach, as the major limits [17, p. 1420]. Moreover, this scoping review analysed only 15 articles and book chapters. Being able to include more studies would have likely given a more robust understanding and knowledge of the available literature on disciplinary literacy development through CLIL. To conclude, this systematic review pinpoints the critical aspects of developing disciplinary literacy through CLIL in achieving better learning outcomes. The literature review showed a lack of studies on this phenomenon contextually, so this systematic review is an important foundation for further empirical inquiries.

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МАЗМҰН МЕН ТІЛДІ ЫҚПАЛДАСТЫРА ОҚЫТУ АЯСЫНДА ПӘНДІК САУАТТЫЛЫҚТЫ ДАМУ БОЙЫНША ШОЛУ ЗЕРТТЕУІ

Пәндік сауаттылықты дамыту – көптілді білім беру саласындағы жаңа бағыттардың бірі, ал мазмұн мен тілді ықпалдастыра оқыту (CLIL) бұл үдерістің маңызды құралы болып табылады. Пәндік сауаттылыққа қатысты зерттеулер CLIL әдіснамасы аясында әртүрлі көзқарастар, географиялық аймақтар мен білім беру контексттерінде жүргізілген. Бұл жүйелі шолу жұмысының мақсаты – осы орталық құбылысты тереңірек түсіну үшін қазіргі зерттеулерді біріктіру және ғылыми олқылықтарды анықтау. Нәтижелерге сүйенсек, талданған зерттеулерде әртүрлі әдіснамалар қолданылған: барлау зерттеулері, дизайнға негізделген зерттеулер, және ұзақмерзімді жағдайлық зерттеулер. Қолданылған зерттеу құралдарына ауызша және жазбаша тапсырмалар, бейнетаспаға жазылған сабақтар, құзыреттілікке бағытталған және практикалық тапсырмалар, рефлексивті күнделіктер мен портфолиолар жатады. Таңдалған зерттеулерде негізгі теориялық негіздер ретінде когнитивтік дискурстық функциялар, тілді меңгерудегі рефлексивтік жасаулар (uptake), жүйелік-функционалдық лингвистика, жанрға негізделген педагогика, және көпсауаттылық (pluraliteracies) пайдаланылған. Бұл жүйелі шолудың ерекшелігі мен жаңашылдығы – CLIL аясындағы пәндік сауаттылыққа арналған алғашқы кешенді шолу болуында. Сонымен қатар, бұл мақалада таңдалған зерттеулердің сапалық және сандық деректерін ықпалдастыра отырып талдау жасалынған. Жұмыста зерттелген мақалалардың негізгі сипаттамалары кесте түрінде беріліп, бұдан кейінгі эмпирикалық зерттеулерге негіз қаланды. Зерттеу соңында шолу жұмысының шектеулері мен ғалымдардың пайымдаулары келтірілген.

Кілтті сөздер: пәндік сауаттылық, CLIL, көптілді білім беру, жүйелі шолу, когнитивтік дискурстық функциялар, оқу үдерісіндегі тіл, пәнге бағытталған сөздік қоры, мазмұнға негізделген білім беру.

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ОБЗОРНОЕ ИССЛЕДОВАНИЕ ФОРМИРОВАНИЯ ДИСЦИПЛИНАРНОЙ ГРАМОТНОСТИ В ОБУЧЕНИИ, ИНТЕГРИРУЮЩЕМ СОДЕРЖАНИЕ И ЯЗЫК

Развитие дисциплинарной грамотности представляет собой одну из актуальных проблем в контексте многоязычного образования, где интегрированное обучение предмету и иностранному языку (CLIL) выступает в качестве эффективного инструмента. Многочисленные исследования рассматривали формирование предметной грамотности в рамках CLIL с различных теоретических и методологических позиций, в различных образовательных и культурных контекстах. Цель данного систематического обзора – синтезировать существующие научные данные и выявить исследовательские пробелы для более глубокого понимания рассматриваемого феномена. Анализ включённых исследований показывает разнообразие применяемых методологий, среди которых – разведывательные (эксплоративные) исследования, исследования, основанные на проектировании (design-based research), лонгитюдные кейс-стади и кросс-секционные исследования. В качестве исследовательских инструментов использовались устные и письменные задания, видеозаписи уроков, компетентностно-ориентированные и практико-ориентированные задания, рефлексивные дневники и портфолио. Теоретической базой отобранных исследований послужили когнитивные дискурсивные функции (Cognitive Discourse Functions), uptake-подход, системно-функциональная лингвистика, жанровая педагогика и подход pluraliteracies. Новизна данной работы заключается в том, что это первый систематический обзор, посвящённый формированию предметной грамотности в рамках CLIL, в котором также

представлены рекомендации для дальнейших исследований с учётом контекста. Важным научным вкладом обзора является интеграция качественного и количественного анализа данных при синтезе результатов рассмотренных исследований. В статье приведена таблица с ключевыми характеристиками включённых публикаций, что создаёт основу для последующих эмпирических исследований. Завершается работа анализом ограничений и научных допущений.

Ключевые слова: предметная грамотность, CLIL, многоязычное образование, систематический обзор, когнитивные дискурсивные функции, язык в содержательном обучении, предметная лексика, предметно-ориентированное обучение.

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