

A Systematic Review of CLIL Research in Kazakhstan: An Underrepresented Context

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Abstract

Kazakhstan is a country that has lofty aspirations for educational reforms. Though not formally and officially, CLIL as a primary action plan of the trilingual education is one of such ambitious initiatives. This report includes a systematic review of relevant and current literature on the implementation of the CLIL in the context of Kazakhstan. It solely looks at the state of CLIL research in Kazakhstan in order to identify gaps and make recommendations for future studies. A total of 20 studies were identified and selected for further analysis. The criteria for selection were derived from earlier research and include the following categories: relevant methodology, studies within the Kazakhstani setting exclusively, publications in three languages Kazakh, Russian and English, and peer-reviewed and conference publications. The coding scheme for the data analysis was also influenced by previous research, as mentioned clearly in the paper's methodology section. The review's findings indicate a tendency towards examining teachers' perceptions of CLIL using a qualitative approach and interviews as the primary data collection instrument. As a result of this systematic review, the paper suggests further research areas on the CLIL approach in underrepresented Kazakhstani context.

Keywords: CLIL, Multilingual Education, Trilingual Education, Systematic Review

INTRODUCTION

Multilingual education is one of the wider-spread educational models in current days, and Kazakhstan on its turn is "hungry" enough to reform its educational system with trendy approaches, even though it might be "politically not feasible" (Katsu, 2014) or just be "symbols over substances" (Fullan & Miles, 1992). Trilingual education is a topic of discussion in the sphere of education, with CLIL serving as the key approach to executing this change in Kazakhstan. The primary goal of this reform was to develop multilingual speakers fluent in Kazakh, Russian, and English. Despite the fact that the CLIL method is not explicitly and officially announced as a strategy to achieve the goal of trilingual education reform, it serves this role unconditionally and unconsciously. As a response, it is critical to assess how CLIL is being implemented in Kazakhstan. The primary objective of this study is to investigate the current state of CLIL research in Kazakhstan, identify gaps, and make recommendations for future research in order to enhance the CLIL implementation process at various educational levels. One of the primary issues with the CLIL approach is that it began in schools with significant financial assistance and then spread to public schools with inferior funding in compared to the prior schools (Karabassova, 2019). Furthermore, among the key issues impeding implementation are the teaching faculty, linguistic level, material and tech basis of the school buildings, lack of research and piloting.

Considering all of the foregoing, it is possible to infer that CLIL will be maintained as a technique of developing multilingual speakers and acting as a trilingual education strategy; hence, it requires examination from several perspectives. As a result, further research areas must be discovered in order to make improvements when and if necessary. This paper employs systematic review analysis to evaluate the current state of CLIL research in Kazakhstan. It investigates the methodology, setting, participants, and location of various research publications in order to discover gaps and make further recommendations.

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LITERATURE REVIEW

Trilingual Education

The implementation of trilingual education is widespread, and several examples are given to highlight the variety of its practices. First, trilingual education in Luxemburg involves Luxembourgish, German, and French languages which are introduced at primary level as languages in education (Juffermans, 2013). Second, trilingual education in Finland uses both the Finnish and Swedish languages for instruction, with German and/or English serving as the mandatory foreign languages (Björklund, 2005). Third, Basque Country's trilingual education attempts to develop communicative proficiency in the three languages that are used as the mediums of instruction from primary level - Basque, Spanish, and English (Cenoz, 2009). Fourth, trilingual education in Hong Kong has three languages of instruction from primary level: Cantonese, the local language; Putonghua serves as a lingua franca; and English is used as a medium of instruction to satisfy the demands of the international education standards (Wang & Kirkpatrick, 2013). Generally speaking, trilingual education ranges from teaching in three languages to teaching in two languages plus a third foreign language. It is essential to understand the range of trilingual education practices from across the globe since doing so gives Kazakhstani policymakers the chance to modify more effective trilingual education policies to fit our setting (Agaidarova, 2019).

The first president N. Nazarbayev's initiative in early 2000th sparked the growth of trilingual education in Kazakhstan. Launched in 2007, the "Trinity of Languages" project sought to increase the use of Kazakh as the country's official language, Russian as an interethnic language, and English as a means of engaging with the global community (MoES, 2010). A number of policy documents, including the Nation's Plan "100 Concrete Steps" (2015), the State Program for Education Development for 2011-2020 (MoES, 2010), the State Program for Development and Functioning of Languages for 2011-2020 (MoES, 2010), "Strategy Kazakhstan-2050: New Political Course of the Established State" (Nazarbayev, 2012), and the Road Map for Trilingual Education for 2015-2020, supported the project "Trinity of languages" (MoES, 2015). These policy documents highlight the value of trilingual education and its benefits for increasing global economic competitiveness (Nazarbayev, 2012).

In contrast to what was stated in international studies, trilingual education is different in the Kazakhstani context. It involves three languages Kazakh, Russian and English as languages in education from the primary level. Starting in the seventh grade, these three languages are also employed as mediums of instruction (Road Map, 2015). Namely, from the 2018–2019 academic year, all schools in Kazakhstan are required to teach "World History" in Russian and "History of Kazakhstan" in Kazakh, respectively. Moreover, secondary schools are required to offer two of these subjects—"Informatics," "Chemistry," "Biology," and "Physics"—in English, depending on the school's preference (Road Map, 2015). As a result, trilingual education in Kazakhstan refers to the use of three languages, namely Kazakh, Russian, and English, as the mediums of instruction for the aforementioned disciplines from the seventh grade, as well as languages in education from the first grade. Trilingual education is already being implemented, with the CLIL approach serving as the its major teaching methodology.

Kazakhstani CLIL

The implementation of the CLIL approach was referred to as trilingual education in the Kazakhstani education system. Despite the fact that Kazakhstani policy papers emphasize the need of becoming trilingual speakers, only English is employed as the primary language for teaching the science subjects. As previously stated, subjects such as "World History" and "Kazakhstani History" should be taught in Russian and Kazakh, respectively, whereas "Informatics", "Chemistry," "Biology," and "Physics" should be taught in English (Road Map, 2015). However, the focus of in-service teacher education is on the development of English language fluency among teachers, which raises various problems about the implementation of CLIL. Furthermore, Karabassova (2018) said that, despite being one of the fundamental pedagogies of trilingual education, CLIL does not appear in significant Ministry of Education and Science policy papers. CLIL dissemination began with NIS (Nazarbayev Intellectual Schools) schools, once it was proclaimed as their primary pedagogical tool. These

schools have independent financing, resources, and well-equipped buildings, and they can afford to selected faculty and students. CLIL training for teachers and CLIL guidelines have been prepared by the NIS Central Office. According to the guidelines, CLIL necessitates a shift from the traditional teacher-centered approach to inquiry-based student-centered learning (Karabassova, 2019).

Systematic Review of CLIL Research

Numerous systematic literature reviews have been done in the field of CLIL within the last years in different contexts and with different purposes (Dack et al., 2020; Goris et al., 2019; Graham et al., 2018; Li et al., 2020; Porcedda & Gonzalez-Martinez, 2020). Porcedda and Gonzalez-Martinez (2020) investigated previous studies related to CLIL teacher training aiming at highlighting the lacks and providing suggestions to improve. Their analysis has shown “precise lacks” of pre-service CLIL teacher training programs in European contexts (p. 64). The systematic review done by Graham et al. (2018) investigated language teachers’ shift to CLIL with the focus to students’ learning outcomes. Overall, they have analysed twenty-five empirical articles that matched their selecting criteria. The review analysis was categorized according to the language skills and content learning outcomes. The methodological features of CLIL in university classrooms was the focus of the systematic review done by Dack et al. (2020). The scholars concluded that there is a tendency to examine the development of pragmatic competence of the CLIL learners and tendency to research CLIL in a European context. The review of the literature revealed that no systematic reviews of the CLIL approach at any educational level had been conducted in the Kazakhstani context. This systematic review thus becomes a matter of great importance for the research field within the Kazakhstani context.

METHODOLOGY

This systematic review aims at investigating the state of empirical research in the field of CLIL in the Kazakhstani context to better understand the general situation, to highlight the lacks and provide suggestions for further research. As Denyer and Tranfield (2009) state, systematic review finds “existing studies, selects and evaluates contributions, analyses and synthesizes data” (p. 671). The evidence is reported in a way that enables reasonable conclusions to be drawn about current knowledge and unknowns. Identifying, selecting, describing, and characterizing the studies are critical to the development of the research synthesis, according to Norris and Ortega (2006). Thus, the following criteria were used to define the parameters for searching studies in accordance with the systematic review definition above. Firstly, the studies must be empirical in nature, using qualitative, quantitative, or mixed-method approaches to CLIL. Since CLIL approach is the central phenomenon of the study, studies focusing on English-medium instruction (EMI) will not be considered. Secondly, the studies had to be carried out within the Kazakhstani context. This study will not include research from other contexts because the purpose of the study is to review literature specifically related to CLIL in Kazakhstan. Thirdly, studies had to be published in international peer-reviewed journals or books in English. Because of the scarcity of empirical research done in the Kazakhstani context, conference publications and local publications in Kazakh and Russian are accepted. Fourthly, studies done at different levels, such as primary, secondary and tertiary education, are accepted.

Table 1: Criteria for the selection of studies

Inclusion criteria
Empirical studies on CLIL CLIL studies from Kazakhstani context only Published, peer-reviewed, international, local, and conference publications CLIL studies published in English, Kazakh, and Russian languages CLIL research at different educational levels

Several academic databases were searched for the data, including Scopus, ERIC, Taylor and Francis Online, Springer, and Google Scholar. Abstracts were searched using the key words “CLIL in Kazakhstan” “Kazakhstani language reform” and “Content and language integrated learning in Kazakhstan”. In addition, a review of the reference lists of the included studies was conducted in order to identify further published studies meeting the selection criteria.

To better understand the general situation, highlight the gaps, and provide further research suggestions, this systematic review examines the state of empirical research in the field of CLIL in the Kazakhstani context. Accordingly, researchers are interested in answering the following research questions:

What is the state of CLIL research in Kazakhstan?

What are the implications of the selected research findings?

Data Analysis

To make sense of collected data, systematic steps must be applied in data analysis. Based on Creswell (2012), data coding involves segmenting and classifying text to form meaningful explanations and comprehensive themes. Consequently, a coding scheme was developed in order to illustrate the substantive features of the 20 studies included in the synthesis. Developing a coding scheme consisted of two phases. First, the researchers applied literature review map as mentioned by Creswell (2012). Literature review map is used to organize the literature related to the specific study. It is a visual “summary of the research that conducted by others” related to the one’s work (Creswell, 2012, p. 36). The first literature review map was in the form of the table as below and based on Creswell (2012).

Table 2: Literature review map

Reference	Research purpose & Question	Theoretical framework	Methods, participants, context	Main findings	Implication Limitation Other notes
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Second, the researchers analysed other systematic reviews related to CLIL to get the general purpose of this research method and see other examples (Dack et al., 2020; Graham et al., 2018; Graham et al., 2020; Porcedda & Gonzalez-Martinez, 2020). Finally, the used data coding scheme was adapted from the study by Dack et al. (2020) that also reviewed empirical studies related to CLIL in other contexts. The adapted version of the coding scheme is as follows:

Table 3: Adapted version of coding scheme

Reference	Research method	Main focus	Location	Participants	Institution type	Data Collection instruments	Relevant information
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RESULTS

A review of primary studies on CLIL in the Kazakhstani context at different educational levels, including primary, secondary and higher education, is the purpose of the study. Identifying research gaps that can be filled by future empirical studies will allow us to understand the general state of knowledge in the field of Kazakhstani CLIL. Thus, six major results emerged from the systematic review, which are listed below:

Main focus of the empirical studies;

Research methodology used in empirical studies;

Location of the empirical studies;

Participants of the studies;

Research site of the studies;

Data collection instrument of the empirical studies;

Main Focus

Based on the data analysis, 20 studies were identified as matching the systematic review’s inclusion criteria. The *table 4* above shows that eleven studies dealt with stakeholders’ perceptions and attitudes towards CLIL approach at a variety of educational levels, seven studies explored stakeholders’ practices and experiences with CLIL, three studies touched on CLIL policy, curriculum, and teacher development, and two studies incorporated CLIL with online learning. As a result, there is such a discrepancy between the numbers shown

on the table 4 since the studies on perceptions and practices overlapped. For instance, Bekenova (2016), Kakenov (2017) and Karabassova and San Isidro (2020) explored secondary school teachers’ perceptions and practices of CLIL approach at NIS schools located in different regions of Kazakhstan. According to the results of Bekenova (2016) and Kakenov’s (2017) studies, the answers from participants were in agreement with the existing literature on CLIL perceptions and practices. Despite highlighting CLIL benefits, including the development of target languages and increased autonomy of students, teachers encountered a number of challenges when implementing this approach. Materials lack, low target language proficiency among both teachers and students, and prioritizing content goals are all major challenges. Moreover, Kakenov (2017) indicated that some teachers had to do extra work with individual students whose language proficiency was lower than their peers, which would require them to differentiate tasks accordingly and even ask students with higher language proficiency to assist students with lower proficiency. A study conducted by Karabassova and San Isidro (2020) scrutinized teachers' perceptions and practices associated with translanguaging approach in secondary education. It was found that participants, teachers and students, had to contend with the non-promotion of translanguaging policy, perceiving it as a faulty practice that demonstrates low proficiency in the target language.

Based on the data analysis, the majority of empirical studies conducted within the Kazakhstani context focused on stakeholders' perceptions rather than practices. Curriculum development, CLIL teacher development, and other fields have been studied only to a limited extent.

Table 4: Main focus of the empirical studies

References	Purpose	N
Bekenova (2016); Huertas-Abril & Shashken (2021); Kakenov (2017); Karabassova (2018); Karabassova & Isidro (2020); Konysova et al., (2022); Kydyrbayeva et al., (2021); Omarbekova (2020); Satayev et al., (2022); Vitchenko (2017); Yesmuratova & Shayakhmetova (2021)	Stakeholders’ perceptions and attitudes	11
Bekenova (2016); Kakenov (2017); Karabassova (2019); Karabassova (2020); Karabassova & Isidro (2020); Shegenova (2016); Zhetpisbayeva et al., (2018) Ayapova et al., (2019); Dontsov & Burdina (2018); Karabassova (2021)	Stakeholders’ practices and experiences	7
	CLIL policy, curriculum, Teacher developmental courses	3
Kuzembayeva et al., (2022); Zhetpisbayeva at al., (2021)	CLIL and Online learning	2
Total		

Research Methodology

Kazakhstani CLIL is a relatively new research field that requires intensive exploration and observation. Upon analysis of the gathered data, it appeared that researchers primarily employed qualitative approaches to determine stakeholder knowledge of CLIL and to obtain insights into how different stakeholder groups understand CLIL. Based on the data in the *table 5*, 61% of the studies analysed are qualitative, 23% quantitative, and 16% mixed-method. 11 studies examined the central phenomenon of their study using qualitative methods, as shown in the *table 5* above. Among the major topics being considered are stakeholders' perceptions and practices of CLIL at different educational levels within aforementioned context. For instance, Karabassova (2018) conducted qualitative research on the basis of in-depth interviews and observations to identify teachers’ “understanding and conceptions of the notion of integration, language and pedagogical intentions behind CLIL” (p. 2). Based on the study's findings, CLIL is generally understood by participants to mean teaching in another language without focusing on pedagogical intentions. Study results were consistent with previous studies, which revealed content and language learning to be separate phenomena (Herescu, 2012).

Table 5: Research methodology used in empirical studies

References	Research type	N	%
Bekenova (2016); Huertas-Abril & Shashken (2021); Kakenov (2017); Karabassova (2018); Karabassova (2019); Karabassova (2020); Karabassova & Isidro (2020); Karabassova (2021); Kadyrbayeva et al., (2021); Kuzembayeva et al., (2022). Yesmuratova & Shayakhmetova (2021)	Qualitative	11	55%
Ayapova et al., (2019); Dontsov & Burdina (2018); Satayev et al., (2022); Zhetpisbayeva et al., (2018); Zhetpisbayeva at al., (2021)	Quantitative	5	25%
Konysova et al., (2022); Omarbekova (2020); Shegenova (2016); Vitchenko (2017)	Mixed-methods	4	20%
Total		20	100 %

Location

Empirical studies took place in a variety of locations. CLIL research had been conducted in around 11 regions across the country, as shown in the *figure 1* above. There were multiple studies done in some places, while some areas were neglected, and some studies did not specify where they were conducted. Pavlodar, Karaganda, and Nur-Sultan, for instance, are areas where empirical studies have been conducted most often (Dontsov & Burdina, 2018; Huertas-Abril & Shashken, 2021; Vitchenko, 2017; Zhetpisbayeva at al., 2021). Based on the data, Dontsov and Burdina (2018) examined teachers' attitudes towards change after taking the CLIL course. The researchers employed a quantitative approach to survey 107 teachers studying for the MA degree at one Pavlodar university. The State-Trait Anxiety Inventory tool developed by Spielberger et al. (1983) was used to measure teachers' levels of anxiety, self-confidence, and motivation towards the use of CLIL approach after studying the CLIL course at the university. The study findings revealed that after CLIL course teachers were more confident in applying CLIL despite the fact that they felt discomfort and anxiety at the beginning of the course (Dontsov & Burdina, 2018).



Figure 1. This figure shows the regions where the studies had been conducted within Kazakhstan.

Study Participants

Above is a *table 6* showing the percentage of people who participated in the study. The data indicates a preference for studying teachers and students separately rather than jointly. Empirical studies that examined teachers' perspective represent 80% of the data. They include studies on pre-service teacher education (Kadyrbayeva et al., 2021), professional competence (Ayapova et al., 2019); CLIL in online learning (Zhetpisbayeva at al., 2021; Kuzembayeva et al., 2022); conceptualization of CLIL (Karabassova, 2018); and teachers' challenges in CLIL implementation (Bekenova, 2016). Only two studies have examined perceptions and practices of CLIL from learners' perspective (Satayev at al., 2022; Yesmuratova & Shayakhmetova, 2021). The research participants of the study done by Yesmuratova and Shayakhmetova (2021) were three students from two different CLIL-based schools. According to the study findings, students also positively perceived CLIL implementation, but faced major challenges in terms of target language competence, which is consistent with previous literature. Two studies (10%) have examined the interaction between stakeholders particularly

focusing on challenges and opportunities (Shegenova, 2016; Vitchenko, 2017). As an example, Vitchenko (2017) investigated student-teacher-administrator interactions in higher education. As a result of the study findings, teachers and students were highly aware of CLIL programs and eager to take part, whereas administrators considered insufficient teacher training to be a major obstacle to implementing CLIL.

Table 6: Participants of the studies

References	Participants	N	%
Satayev et al., (2022); Yesmuratova & Shayakhmetova (2021)	Students	2	10%
Ayapova et al., (2019); Bekenova (2016); Dontsov & Burdina (2018); Huertas-Abril & Shashken (2021); Kakenov (2017); Karabassova (2018); Karabassova (2019); Karabassova (2020); Karabassova & Isidro (2020); Karabassova (2021); Konyssova et al., (2022); Kuzembayeva et al., (2022); Kydyrbayeva et al., (2021); Omarbekova (2020); Zhetpisbayeva et al., (2018); Zhetpisbayeva et al., (2021)	Teachers	16	80%
Shegenova (2016); Vitchenko (2017);	Both	2	10%
Total		20	100%

Research Site

Different levels of education were considered in the selection process. As a result of the research synthesis, four different research sites were identified: public schools, gymnasiums for gifted children, NIS, and universities. We found a number of reasons to differentiate gymnasiums from NIS. As a first point, NIS are the schools that officially use CLIL in Kazakhstan, whereas gymnasiums do not require all subjects to be taught using CLIL (Karabassova, 2019). Further, NIS schools have separate funding that is greater than what is given to public schools and gymnasiums (Karabassova, 2021). It is salient from the *table 7* below that the majority of the research was conducted in the NIS setting, with eight studies conducted there (Bekenova, 2016; Kuzembayeva et al., 2022; Kakenov, 2017; Karabassova, 2018; Karabassova, 2019; Karabassova, 2021). Following that, there were six and five studies conducted in public schools and gymnasiums for gifted children, respectively, four of them focused on university level, and one did not specify. The disparity in the figures can be attributed to the fact that several studies employed two separate sites to carry out their research. For instance, Kuzembayeva et al. (2022) did her investigation at two locations in Aktobe, including NIS and a specialised gymnasium. The decision to use those two places was made since both organizations use CLIL to develop linguistic proficiency in target languages. The research sites of the chosen empirical studies are shown in this *table 7*. Since several studies carried out their research in two different sites, the overall number and percentage are not displayed.

Table 7: Research site of the empirical studies

References	Site	N
Huertas-Abril & Shashken (2021); Karabassova (2020); Karabassova (2021); Konyssova et al., (2022); Zhetpisbayeva et al., (2018); Yesmuratova & Shayakhmetova (2021)	Public schools	6
Huertas-Abril & Shashken (2021); Karabassova (2020); Kuzembayeva et al., (2022); Zhetpisbayeva et al., (2021); Yesmuratova & Shayakhmetova (2021)	Gymnasiums for gifted children	5
Bekenova (2016); Kakenov (2017); Karabassova (2018); Karabassova (2019); Karabassova (2021); Karabassova & Isidro (2020); Kuzembayeva et al., (2022); Shegenova (2016)	NIS	8
Dontsov & Burdina (2018); Kadyrbayeva et al., (2021); Omarbekova (2020); Satayev et al., (2022); Zhetpisbayeva et al., (2021); Vitchenko (2017)	University level	6
Ayapova et al., (2019)	Not specified	1
Total		

Data Collection Instruments

A number of data collection instrument are used depending on the research questions and theoretical framework applied within studies. Even though the studies under analysis employed a range of data collection techniques, it is important to note that interviews are the most common. More than half of the studies used interviews as their primary research instrument, according to the *table 8* above, while some studies also used other research instruments in addition to interviews (Bekenova, 2016; Konyssova et al., 2022; Shegenova, 2016; Vitchenko, 2017). To investigate teachers' perceptions and practices of CLIL at the secondary education level, Bekenova (2016) coupled semi-structured interviews with document analysis in her qualitative case study.

Moreover, Shegenova (2016) examined the benefits and drawbacks of teaching Kazakhstani history using a CLIL methodology in Kazakh by using more than three distinct data collection instruments including surveys, interviews, observation, and document analysis. The study conclusion shows that the majority of the research participants had a favourable opinion of studying Kazakhstani history through CLIL in a second language. However, low L2 language proficiency among students and misinterpretation of CLIL approach among teachers were the major challenges that were mentioned in the study. The researcher makes various recommendations, some of which include revising the assessment criteria, providing in-service teacher education on CLIL technique, and reducing the workload for students. The below table 8 shows the research instruments of the selected studies. Some studies used multiple research tools that is why total is not displayed.

Table 8: Data collection instruments of the empirical studies

References	Instrument	N
Ayapova et al., (2019); Dontsov & Burdina (2018); Shegenova (2016); Vitchenko (2017); Zhetpisbayeva et al., (2018); Zhetpisbayeva at al., (2021)	Survey	6
Konysova et al., (2022); Omarbekova (2020); Satayev et al., (2022)	Questionnaire	3
Bekenova (2016); Huertas-Abril & Shashken (2021); Kakenov (2017); Karabassova (2018); Karabassova (2019); Karabassova (2020); Karabassova (2021); Karabassova & San Isidro (2020); Konysova et al., (2022); Kuzembayeva et al., (2022); Kydyrbayeva et al., (2021); Omarbekova (2020); Shegenova (2016); Vitchenko (2017); Yesmuratova & Shayakhmetova (2021)	Interviews	15
Karabassova (2018); Karabassova, (2019); Karabassova & San Isidro (2020); Kuzembayeva et al., (2022); Shegenova (2016)	Observation	5
Bekenova (2016); Karabassova, (2019); Shegenova (2016)	Document analysis	3
Total		

Overall, this paper synthesised 20 empirical studies on CLIL in Kazakhstan. The purpose of this systematic review is to pinpoint research gaps and get a better understanding of the state of CLIL research. The results show that the majority of studies used a qualitative method to examine participants' perceptions of CLIL implementation, with interviews being the most popular study tool. The analysis of the data reveals that school teachers, as opposed to school students, were the most favourable research participants. Moreover, compared to other educational institutions, NIS schools were the most often used research locations.

DISCUSSION

This systematic review's goals are to examine the current state of the CLIL research in Kazakhstan, evaluate gaps and issues, and make recommendations for future study to enhance the CLIL implementation process. The research synthesis revealed a lack of empirical data related to CLIL in Kazakhstan. Therefore, this systematic review is crucial for identifying such gaps and offering further research proposals. This discussion section will address the following research questions:

What is the state of CLIL research in Kazakhstan?

What are the implications of the selected research findings?

Research Question 1

The review found that there was limited research on CLIL in Kazakhstan, with only 20 studies meeting the criteria for inclusion. The research findings were organized according to these six themes:

Main focus of the empirical studies;

Research methodology used in empirical studies;

Location of the empirical studies;

Participants of the studies;

Research site of the studies;

Data collection instrument of the empirical studies;

The research outcomes make it evident that the qualitative approach, with interviews serving as the main research tool, is favourable to the researchers. Furthermore, among other phenomena, teachers' perceptions and attitudes have received the most research. The decision to investigate teachers' perceptions and attitudes may have been influenced by the researchers' goal of identifying the implementation process from the viewpoint of teachers and giving voice to those who are silenced throughout reform formation. The location of the studies' research is a further consideration. The figures above show that the bulk of the empirical research were conducted in NIS settings. The rationale for this choice might be that NIS was the first educational body to formally declare CLIL as their primary teaching technique in promoting trilingual education in Kazakhstan (Karabassova, 2018). However, caution is required when interpreting such results; the primary limitations include methodological difficulties, quality, design, or conclusion of the selected research. In conclusion, those findings amply demonstrated the limitations and offered more CLIL-related topics to research.

A few published papers were left out of this systematic review since they did not meet the criteria. For instance, Yeshengazina (2018)'s quantitative study focused on English for specific purposes. The study looked at whether teachers put more emphasis on teaching students content knowledge or communicative skills. It was discovered that almost 60% of participants had poor communication performance, indicating that teachers primarily concentrate on enhancing students' content knowledge (Yeshengazina, 2018). The methodology part of this systematic review states that the CLIL approach is the only emphasis of this research, that is why English for specific purposes was not considered. In a further study, Smagulova et al. (2019) investigated the use of CLIL to help students to overcome their language learning challenges. The study also failed to meet the research criteria because the purpose of this paper was to suggest some effective activities to employ in English lessons (Smagulova et al., 2019). Other studies were also excluded because Karimsakova et al. (2018), Kozhamzharova et al. (2019), Temirbekova and Toguzbayeva (2019), and Yegizbayeva et al. (2021) did CLIL-related literature reviews, and Khalmukhamedova and Gaipov (2019) did literature review with the aim of doing CLIL-related action research.

The study conducted by Aitjanov et al. (2024) investigated different methods of teaching Physics in English. The study aimed to provide valuable information for science teachers and policymakers on assessing academic performance in physics. Since the study examined methods other than CLIL, it does not fall within our selection criteria. Another study that does not meet our criteria is by Ratova et al. (2024), despite being conducted in a Kazakhstani setting. This study focused on investigating teachers' job satisfaction levels across various teaching subjects. It was identified that private school teachers are more satisfied with their jobs as they have the freedom to experiment with various teaching methods, whereas public school teachers lack autonomy in teaching methods. The studies by Balta et al. (2023), Japashov et al. (2024), and Maxutov et al. (2023) also do not meet our selection criteria. Balta's study focuses on female students' interest in STEM, although STEM is taught through the CLIL approach in Kazakhstan. The study did not specify CLIL as its main research phenomenon. It was found that factors such as type of school, end-term marks, and grade level significantly affect female students' interest in STEM disciplines.

The study by Japashov et al. (2024) also does not fit the selection criteria, as its aim was to investigate the concept of force, which was taught through the EMI approach. Maxutov's study investigated a research-based problem-solving template in physics courses conducted in the EMI context in Kazakhstan. The study aimed to determine whether these templates improve student performance on exams and to analyze student uptake and attitudes toward the templates.

Furthermore, this research may not have effectively searched for data, which might be another weakness of this systematic review.

Research Question 2

The implications of the selected studies may be classified into several categories, including beliefs, policy, practice, research, and CLIL theory. Concerning stakeholders' perceptions of CLIL, it was discovered that the majority of teachers saw CLIL as teaching English subject with minimal emphasis on CLIL pedagogy (Karabassova, 2018). Thus, Karabassova (2018) proposes organizing workshops to address teachers' attitudes about foreign language acquisition theory, acquire practical tactics, learn to develop content and language

learning objectives (Karabassova, 2019), and recognize translanguaging as a pedagogical instrument to policy-makers (Karabassova & Isidro, 2020). Kakenov (2017), on the other hand, advises that teachers collaborate with administrators to construct a complete CLIL curriculum that centers on strengthening students' vocabulary and content knowledge while including a translanguaging approach. A robust network of professional communities should be established, according to Kakenov (2017), where more experienced CLIL teachers might offer projects for those who are just starting out in the field.

In terms of CLIL research, Karabassova (2021) advises concentrating on the micro and macro levels in the trilingual education implementation process, as well as students' and parents' perspectives about language policy and planning. Whereas, Vitchenko (2017) advocates using the CLIL approach after conducting a pilot study on language teaching and learning in higher education. To sum up, numerous research should be undertaken in order to enhance Kazakhstan's CLIL implementation process. The primary goal of the CLIL approach is to prepare students who are comfortable using the target languages within specific contexts; therefore, a number of steps should be taken to achieve this goal, starting from changing beliefs, researching stakeholders' practices, piloting CLIL curriculum and organizing CLIL workshops and seminars and researching again. We would include developing a pre-service teacher education program for prospective CLIL teachers at higher education level, investigate their beliefs related to CLIL practices and possible challenges in order to address them and explore the effectiveness of current CLIL curriculum taught at higher education institutions using a longitudinal study. To summarize, these are only a few of the implications of the CLIL state in Kazakhstan's educational system that need to be addressed. This is a starting point for other scholars who intend to explore this issue.

CONCLUSION

Overall, the purpose of this systematic review was to explore the current state of CLIL research in Kazakhstan and its implications. The review of literature discovered more than twenty papers concerning CLIL in Kazakhstan, although not all publications were included. An inclusion criterion was based on the previous research of Porcedda and Gonzalez-Martinez (2020). The primary goal of this work is to highlight research gaps. The research accomplished its primary purpose, and the key CLIL research gaps relate to the research design, main focus, location and participants that answers the research question one. The major implications from the analysed studies are clearly and concisely stated above. It was identified that further empirical studies are required to be conducted in micro and macro levels from different stakeholders' perspectives. Though, the paper researched its aim, there might be some limitations. Those limitations might relate to the methodology, design, quality of the selected papers, and the researchers' ability to search and interpret the data.

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