

How does Content and Language Integrated Learning (CLIL) Influence University Students' English Acquisition? A Systematic Literature Review

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Abstract

This study aims to provide a comprehensive and detailed view of how Content and Language Integrated Learning (CLIL) impact university students' English learning outcomes in non-English as native-speaking countries. The study attempts to use a systematic literature review method to look through various peer review journal articles about the implementation of CLIL and its influence on learners' English acquisition in higher education from three perspectives: general English proficiency, productive and receptive language skills outcomes, and students' attitude. Findings show that English ability has developed after CLIL—based lessons while the difference between the CLIL group and non-CLIL group is not significant, and different linguistic skills unevenly developed. Meanwhile, students gain motivation and interest to learn English in CLIL, while some claim they feel challenged in learning English by the new teaching approach. Based on these findings, the study offers recommendations and teaching strategies implications for introducing CLIL in universities, especially in China's tertiary educational settings.

Keywords: content and language integrated learning, university students, English acquisition, systematic review, motivation

1. Introduction

This study mainly aims to explain the influence of Content and Language Integrated Learning (CLIL) in higher education on English acquisition by using the systematic literature review method. CLIL was invented and applied in Europe and was widely implemented in Europe's educational system in the 1990s based on their multilingual education policy (Otwinska & Forys, 2017). Due to English has become a lingua franca in contemporary society, the CLIL approach has been used as a medium of classes outside of Europe in many other countries (Graddol, 2006). An increasing number of non-English speaking countries such as Japan, China, and Spain have incorporated CLIL into their curriculum (Graddol, 2006). As a result of that, English teaching pedagogy has changed internationally, alternating from teaching English as a foreign language to using English as a medium tool to make instruction in class (Dearden, 2015). However, CLIL was applied in K-12 Contexts (e.g., primary school and secondary school) while rarely taken up in higher education (Smit & Dafouz, 2012; Creese, 2010). Meanwhile, though CLIL has a positive influence on English ability generally or content knowledge, how CLIL influences students' language learning attitudes, and the specific form of linguistic skills is lack of explanation (Lorenzo & et al., 2009; Jarvinen, 2009). Therefore, this study wants to add more detail and a comprehensive dimension to understand CLIL in higher education.

The research question of this study is: How do Content and Language Integrated Learning (CLIL) influence university students' English acquisition? CLIL is a dual approach that addresses both content and language in tandem (Coyle & et al., 2010). Despite the integrated nature of CLIL with a focus on language and content

knowledge, this research's main focus will be on English language attainment. Meanwhile, a CLIL lesson refers to a course in which the main language is neither the student's first language (L1) nor the dominant medium of instruction in their local education system (Dalton-Puffer & et al., 2014). Hence, the concept of university students in this study refers to those students whose L1 is not English and who study in contexts where English is not the main language of instructing class activities. Language acquisition outcome is strongly influenced by students' achievement, attitudes, and motivation (Dallinger & et al., 2016). It required researchers to focus both on linguistic aspects such as vocabulary, reading skills, and grammar as well as the non-linguistic aspects such as students' feelings and attitudes toward language acquisition. Thus, the concept of English acquisition in this research will be discussed in two aspects: 1) how does CLIL influence students' different linguistic abilities? 2) how does CLIL impact students' attitudes toward English learning?

2. Literature Review

From a broad overview, Marsh (2002) defined the CLIL as a bilingual educational approach that teaches students linguistic forms indirectly through non-linguistic content. CLIL emphasizes using foreign languages, especially English as a medium tool to teach students about particular subject content. CLIL offers an ideal balance between incorporating real situations and the content materials while it also focusing on developing linguistic aspects (Coyle, 2005; Dalton-Puffer, 2008; Llinares, 2015). CLIL's characteristic is supported by a theoretical framework named the 4C model (Coyle & et al., 2010). The 4C model emphasizes the integration of content, communication, cognition, and culture in class (Coyle & et al., 2010). Based on this framework, some studies summarize that an effective CLIL approach should enhance learners' linguistic ability, cognitive thinking, cultural awareness and communicative skills (Lorenzo & et al., 2009; Sudhoff, 2010). Lorenzo et al. (2009) mentioned that CLIL has an obvious benefit: learners usually can gain higher linguistic competence since they are more exposed to English in CLIL lessons. It means that students can have more opportunities to practice their English skills in CLIL class. Meanwhile, since CLIL applies authentic materials with language which encourages students to use the new language in a real-life liked situation that can enhance their sense of reality and achievement, it finally increases their interaction and motivation in using English during class time (Goris, 2009). Jarvinen (2009) also stated that CLIL could improve learners' motivation in learning the language since it provides students with a context with authenticity and they can interact with the content of learning through dynamic dialogue, widespread reading and listening. Meanwhile, Sudhoff (2010) mentioned similar things in his study that the CLIL cultivates students' communicative skills by putting students into a cross-cultural liked environment, which can strengthen their learning motivation in both language and content knowledge. Particularly, previous research has proven the positive influence of CLIL on linguistic development (Ruiz de Zarobe, 2007; Admiraal & de Bot, 2007; Pessoa & et al., 2014). Ruiz de Zarobe (2008) compared the CLIL and non-CLIL learners' linguistic abilities including vocabulary, pronunciation, grammar, and fluency, and found that CLIL learners tend to perform better than non-CLIL learners. Meanwhile, CLIL learners can obtain positive development in vocabulary, morphosyntax, oral, and writing skills (Heras & Lasagabaster, 2015; Lorenzo & et al., 2010; Pessoa & et al., 2014; Admiraal & de Bot, 2007). Thus, these studies above provide an overall view of how CLIL positively influences both learners' language skills and learning motivation. However, these outcomes are broad, and they do not focus on a specific education stage such as higher education.

Additionally, some language skills may perform better than others in CLIL lessons. Experimental studies have verified that learners' productive skills (e.g., speaking) tend to improve less than their comprehension abilities or receptive skills such as reading (Aguilar & Rodriguez, 2012; Dalton-Puffer, 2007). Coonan (2007) pointed out that the uneven improvement between receptive skills and productive skills in CLIL lessons is mainly because reading and vocabularies are more frequently practiced than speaking or listening skills. Krashen (1985) also assumed that CLIL students' receptive English skills should particularly benefit from CLIL due to the high exposure to language input through reading various texts. Though students' language output is encouraged in CLIL courses, it is not forced in class, their productive skills might not be able entirely gained from CLIL (Krashen & Terrell, 2000). Therefore, the development of different linguistic skills is imbalanced in the CLIL program, which needs more comprehensive research in higher education.

Though CLIL offers educational gains in both content and language areas, it is true that in many ways, CLIL brings many challenges and difficulties to students. Lightbown and Spada (2013) introduced two potential shortcomings of the CLIL approach. They argue that students in CLIL lessons focus more on outputting their ideas and understanding the content knowledge while they ignore to output correct the language form or sentence structures (Lightbown & Spada, 2013). Secondly, Lightbown and Spada (2013) think that communication and interaction in CLIL will bring students confidence and motivation in learning the new language, they lose the opportunity to make any corrections from teachers or peers. Students may not be able to fully develop their grammar and speaking skills in the CLIL lessons. Nevertheless, Lightbown and Spada's hypothesis based on the features of CLIL needs more studies to verify. Meanwhile, CLIL has also been found to provide non-linguistic negative impacts on students' attitudes toward English acquisition. Several studies show

that students will feel struggling and low-motivated after accessing CLIL class because the workload can demand a large amount of time and students feel hard to understand the content in English and feel anxiety and pressure about falling behind the teacher's pace (Pinner, 2013; Yang & Gosling, 2013). In addition, the improvement of language skills between the CLIL group and non-CLIL group is not significant. Manzano-Vázquez (2014) found there was no significant difference in vocabulary development between CLIL and non-CLIL experimental groups. Similar findings also found that only very few significant differences in complexity, accuracy, and fluency between CLIL group students and non-CLIL group students (Basterrechea & del Pilar García Mayo, 2014; Gené-Gil & et al., 2015). Agustín (2017) speculates that those results seem to result from the lower English levels of CLIL students. He (2017) thinks that many CLIL studies usually focus on younger and lower-proficiency students while ignoring put the same extent studies on highly English-proficient L2 speakers. At the same time, the interview from Tsagkari's research (2019) displayed that some English teachers reckon applying CLIL in undergraduate and postgraduate or high English level of proficiency would be more effective and useful. Therefore, my study will respond to this gap in the literature by focusing on putting the CLIL program in universities.

3. Methodology

Social constructivism will be my worldview and social constructive theory will be the fundamental theory to support my study and research design. The social constructivist theory states that people's ideas coincide with their experiences (Davis & et al., 2017). Vygotsky developed Piaget and Perry's assumption that learning should not be separated from its social context (Davis & et al., 2017). He argues that all cognitive functions originate from social interaction and learning contains both accommodations of knowledge by learners and learners' integration into a knowledge community (Davis & et al., 2017). It emphasizes the role of an individual's experience, feelings and opinions in understanding social phenomena or issues (Creswell, 2017). In other words, people construct knowledge rather than passively take information, while people understand the world actively and integrate it with their experience and knowledge. This study aims to answer the question about the effect of CLIL on university students' English acquisition from both language skills development and alternation of learners' English learning attitudes. It aims to collect information to understand how university students build language knowledge through implementing CLIL in their class and how their experience of CLIL forms their own thoughts of English learning, which accord with the main characteristics of social constructivism. Therefore, social constructive theory anchors my study and will be used to explain my findings.

This study wants to explain and analyze individuals' language learning outcomes and experiences in universities' CLIL classes, systematic literature review and qualitative methods will be the main methods to select and analyze my data. The systematic literature review method aims to produce varied and reliable results through explicit and systematic findings as much relevant research of a particular research topic (Webster & Watson, 2002). There are three principal reasons to undertake a systematic literature review approach. Firstly, a systematic literature review needs the researcher to design a clear and explicit structure, document methods and the search process to clarify considerations of search range and terminologies (Booth & et al., 2012). The search outcome would be clear and explicit, and topic related. Secondly, it can guarantee effective resources to keep the validity of research since a systematic literature review can define the search scope and literature's publish years, and thirdly its auditability that the review is accountable, replicable, and up-dateable (Booth & et al., 2012). For a deeper and wider understanding of existing research about how CLIL affects English acquisition and students' perspective of English in universities, this study aims to conclude the influence of CLIL in higher education by reviewing multiple studies' data. Thus, the systematic literature review method will be the main way to collect data resources in this study.

Qualitative method will be the main method of this study to explain the findings. Qualitative methods can capture the contents of people's experiences and opinions by gathering and analyzing non-numerical data such as text and audio (Bhandari, 2022). It can be used to collect deeper insights into a problem or generate new ideas for research (Creswell, 2013). Social constructivism believes that knowledge and truth are constructed and created through individuals' interaction in society (Creswell, 2013). It stresses the role of the individual in understanding a social issue or social phenomenon. Hence, the finding of this research will be explained by observing recurring points of opinion about CLIL, patterns and trends of students' English learning outcomes and particular significant pieces of individual responses from each article that selected from the systematic literature review, which accords with qualitative method. The study is coherent because it ensures congruence between the research question and the components of the method. Hence, the research question focuses on CLIL's influence on individuals' English acquisition which stresses the individual's experience the CLIL in a different background not simply collecting numerical data. The systematic literature review approach can help the researcher to code common themes in the articles of the same topic to explain the common information about how CLIL influences students' English learning in higher education, which shows that the data and the analytic procedures are matched.

This research data was mainly collected from electronic databases EBSCO and ProQuest. This study's main type of journal article is written in English. The PICO framework would be the main strategy to determine search terms that originate from evidence-based medicine while later widely be used in educational research (Sharma & et al., 2015). 'P' refers to the target people, group or subject, 'I' means of intervention, 'C' stands for a comparison intervention or group and 'O' for the final results or outcomes (Zawacki-Richter, 2020). Comparison groups are not always used in educational research so studies without comparison intervention may also be helpful and need to be included (Zawacki-Richter, 2020). Therefore, in order to capture useful numbers of papers this study sufficiently specific search terms. The first-string focus on the means of intervention, and the following three strings focus on the target group and subject; the study adds the fifth string to ensure the captured studies only focus on higher educational settings. Thus, papers were searched using the following: (CLIL or Content and language integrated learning) and (University Student or college student) and (English* or English skills or English acquisition) and (Attitude* or Motiv*) and (higher education or university*). The search was conducted from September 2013 through September 2022, and the initial search yielded 207 results, and 7 were excluded as duplicates. By reading the abstract and full text of each article, my study excluded articles related to primary school and secondary schools. At the same time, articles related to the teachers and parents were also excluded due to my research focus on university students' learning outcomes and performance. In addition, articles that apply other languages as the medium of the class will also be excluded from the range of search since my study only focuses on English as the medium tool to teach students language and knowledge. This is not a new area of research so unpublished literature won't involve in the research. English native-speaking countries will be excluded from the research because the main purpose is to find out how CLIL can impact students' English skills in non-English speaking countries. Articles that use qualitative, quantitative, or mix-method approaches will be involved in my database to get various data results and ensure the reliability of the final data. Consequently, the total number of articles I selected for this study remains 15 peer review journal articles (see Appendix). 15 articles are coded according to the PICO categories and additional variables, including (a) Authors and years; (b) Country/City; (c) vol(issue)page # (d) participants; (e) Study design and methods; (f) Main subjects (g) Outcomes of the research. During the review, three separate themes emerged: overall language proficiency, Receptive and productive language skills outcome and students' attitudes. These three themes will be explained separately and together in the following sections.

4. Research Findings

4.1 Overall Language Proficiency

A total of 6 articles shows that CLIL positively influences students' English competence. Akbarov et al. (2018) studies collected data from 125 students from a Kazakh university through a questionnaire and they found that 44 of the participants (35.2% of the total sample) said that their English competencies had been improved due to CLIL-based classes. Meanwhile, Karimi et al. (2019) from Iran university found that the CLIL method significantly enhanced the English abilities of Iranian pilots. Furthermore, in a Chinese university, the data from the questionnaire showed that 72.9% of students agreed that they gain the improvement in the English language (Liu, 2019). In addition, over half percent of students in the university agree that the CLIL approach increases linguistic competence (Fitriani, 2016). Finally, Godzhaeva et al. (2019)'s pre-and post-experimental surveys proved that students who attended CLIL classes improved their English language skills more than students who did not access CLIL-based lessons. However, 2 studies from these 15 articles mentioned that although some progress can be seen in linguistic skills, the difference between CLIL and non-CLIL students is insignificant in the universities. Vega et al. (2019) found that there were no statistically significant changes in the English proficiency levels between the CLIL group and non-CLIL group when they compared the test scores between the pre-test and post-test. Meanwhile, Yang (2016) invited 53 CLIL-based lesson students to complete a self-designed questionnaire survey in Taiwan, his studies displayed that most of the participants generally did not experience an improvement in linguistic skills under the CLIL approach.

4.2 Receptive and Productive Language Skills Outcome

Data from 9 articles show different degrees of improvement in receptive (reading, listening) and productive (speaking, writing) language skills as well as in vocabulary and grammar. Godzhaeva et al. (2019) study demonstrated that participants saw improvement in reading skills (56.7%), vocabulary (86.6%) of respondents of the post-experimental survey) and communicative skills (43.3%) in the Russian university. Moreover, Chansri and Wasanasomsithi (2016) gathered data from 27 students at the university of Thailand by means of analyzing quasi-experimental research. The post-test score of writing in Task 1 was higher than the pre-test score with statistical significance (Chansri & Wasanasomsithi, 2016). Similarly, Rong and Nair's (2021) findings also showed that using the CLIL method in teaching Business English writing can enhance their writing ability in the Chinese university. Additionally, Liu (2019) applied the questionnaire and a focus group interview in the research and concluded that students in a Chinese university said they gained improvement in the English

language, especially in the academic vocabulary of the subject. Crossman (2018) used classroom-based mixed methods to analyze students' vocabulary and academic outcomes in the CLIL-based lesson. These ten participants' ability of academic vocabulary is improved by comparing their pre- and post-scores (58.2% and 70.7% separately).

Interestingly, 4 articles show less or no significant development of grammar form and speaking skills among CLIL learners. Vega et al. (2019)'s research outcome showed that students reported that their oral production, vocabulary, reading and listening comprehension improved in the CLIL classroom. However, Grammar was the slightest mentioned skill in their responses (Vega & et al., 2019). Similar results occurred in Fitriani's study. Fitriani (2016) collected data from 22 students in Malang by using questionnaires and interviews and discovered that though all participants mentioned that English skills (listening, speaking, reading, writing) vocabulary, pronunciation, and grammar all have developed, whilst grammar improvement is less than other skills (Fitriani, 2016). In Colombia, Salamanca and Montoya (2018) selected 66 students in the university, 33 students took CLIL lessons, and 30 students are taken as a comparison control group who did not receive classes with the CLIL approach. The quasi-experimental design found that students worked more on developing writing and reading skills, followed by listening and final one is oral speaking skills (Salamanca & Montoya, 2018). Yufrizal (2021) in Indonesia used the quasi-experimental principle to see whether CLIL significantly affects 88 university students' oral capability. The data showed a significant difference between the pre-test and the post-test on vocabulary and pronunciation (Yufrizal, 2021). Nevertheless, the aspects of grammar, fluency, and comprehensive skills did not show any notable differences between the pre-test and the post-test score (Yufrizal, 2021). Only 26.5% of them claimed they could understand the whole knowledge from a lecture in English (Juanita & et al., 2018). Meanwhile, participants found they faced the most challenges with speaking English, followed by listening (Argudo & et al., 2018). They are more willing to write and read English in CLIL class (Argudo & et al., 2018).

4.3 Students' Attitudes

There are 8 studies show that university students generally show a positive attitude toward English learning in CLIL lessons (Godzhaeva & et al., 2019; Karimi & et al., 2019; Martyn, 2018; Chansri & Wasanasomsithi, 2016; Yufrizal, 2021). Akbarov et al. (2018)'s study also reported that 40% of students liked to learn English knowledge after CLIL lessons. Mede and Çınar (2018)'s research data demonstrated that when introducing CLIL-based lessons at a private university in Istanbul, Turkey to see CLIL's effect on learner's attitudes and motivation toward English acquisition, the motivation level of the final test group was found to be higher than that of the pre-test group. Students highly agreed that CLIL could stimulate their motivation and help them improve their English effectively (Mede & Çınar, 2018).

Nevertheless, Yang's (2016) data displayed some negative voices that most students admitted having difficulties understanding the knowledge delivered in English in CLIL classes. Chinese students in Liu's study also showed that they did not get used to the method of learning the English language and content knowledge simultaneously, they relied on teachers-oriented and teacher-led environment (Liu, 2019). Martyn (2018) also concluded that Chinese students admitted that their English skills have enhanced whilst in the interview, while they still prefer to use Chinese to interact with teachers in class. 73.6% of students interact in English in class and only 27.7% of students are willing to use English after class (Martyn, 2018).

5. Discussion of Result

5.1 Overall Language Proficiency

Overall, this study synthesis 15 journal articles to provide a comprehensive conclusion about the influence of the CLIL in non-English as native-speaking countries in higher education. It answered the research question about how CLIL influences university students' English learning from a broad view. The results of this study verify some literature's ideas. This study proved that CLIL lessons could improve learners' language skills. The findings confirmed previous studies that CLIL has positive effects on learners' linguistic outcomes (Aguilar & Muñoz, 2014; Lo & Murphy, 2010). However, there are also some different results. This study found that there were no significant differences in the proficiency levels of the CLIL group in universities. In addition, the CLIL group did not show any benefits over the non-CLIL group, which is consistent with past studies comparing the language development within CLIL lessons between control and experimental groups (Arribas, 2016; Graham & et al., 2018). The result challenged Agustin's (2017) assumption that the insignificant difference between CLIL group and non-CLIL group occurred both in low-level English proficiency students and high English-level proficiency students. On the one hand, though CLIL is a bilingual approach that was widespread appreciation, students' English proficiency stayed at a low level before and after implementing CLIL, which consistent with Paran (2013)'s opinions that the language level of learners is one of the critical elements that influence the outcome of the CLIL. Both groups' students may have an elementary level of language proficiency, they usually use simple terms of expression and speaking to participate in class activities that their English level cannot truly

develop. Alternatively, the participants' overall English proficiency was already high, while the design of CLIL courses fail to consider their language levels. Thus, it was difficult for them to perceive any significant change because they still stayed in their conform zone of language learning. On the other hand, it is likely that teaching linguistic elements is not as important as instructing content knowledge in some educational settings. University participants pay more attention to acquiring their professional knowledge, ignoring the improvements in their English language skills. CLIL positively and negatively influences university students' English ability due to students' different English proficiency levels and educational backgrounds. It conforms to the social constructive theory that emphasis the role of individuals in participating in the creation of their knowledge (Schreiber & Valle, 2013). Learning outcomes are influenced by both social and cultural settings and individuals (Schreiber & Valle, 2013). Thus, the influence of CLIL on university students' English learning outcomes varies due to their different educational settings, the English level of proficiency and previous learning experience.

This result implies that when implementing CLIL in local universities, educators need to consider learners' level of proficiency to design appropriate CLIL lessons. Teachers should follow the idea of social constructivist Vygotsky's Zone of Proximal Development (ZPD). The social constructive theory defines ZPD as students who can achieve potential developments through problem-solving under adult guidance or collaborating with peers (Vygotsky, 1978). Teachers should provide scaffolding to support students get out of their comfort zone of both content knowledge learning and language acquisition (Gibbons, 2002). Meanwhile, they should avoid the imbalance in the teaching of the content and language areas to ensure learners can equally achieve the dual focuses of CLIL. The teacher should integrate language in their instruction by mentioning key words, asking for new words, and explaining a phrase in class. They also need to provide corrective feedback on language, as this paper mentioned in the literature review section that one of the drawbacks of CLIL is that teachers usually ignore giving students effective language feedback to help them fix their grammar and pronunciation mistakes (Linares & et al, 2012). Moreover, encouraging students to create a word list at the beginning of the class is also useful so that students will overcome their vocabulary obstacles. Finally, asking students to summarize the lesson in one sentence, which can help students to use the new language to describe their own ideas and reflect on themselves can also develop their communicative and cognitive skills. Finally, in this research, study results imply that students pay more attention to content knowledge mainly because they want to respond to the demands of education syllabus and examinations. Thus, the form of assessing students' learning outcomes also needs to be changed like the score cannot be the only measurement of students learning outcomes, we should consider how to assess them from both the content aspect and language aspect.

5.2 Receptive and Productive Language Skills Outcome

This study shows that the improvement of each linguistic skill is imbalanced among university students. It answered the research question specifically that CLIL influences university students' English skills acquisition. CLIL positively influences students' English abilities, while not all linguistic skills can have equal development. Most students in the study agree that their receptive skills, i.e., reading skills, writing skills and vocabulary have largely improved thanks to the CLIL lesson, as evidenced in the literature (Aguilar & Rodríguez, 2012; Dalton-Puffer, 2008). The findings were also supported by Moore and Lorenzo (2007), Léon-Henri (2015) and Van de Craen et al. (2007) who emphasized that the CLIL method is helpful in promoting students' writing skills because they accumulate many academic expressions that would be more confident to use these vocabularies in their writing. Authentic English language textbooks require students to do a lot of reading before or after class; therefore, learners reading efficiency and vocabulary accumulation are expanded.

Nonetheless, the development of grammar and communicative skills (speaking) are rarely mentioned by those participants in the study. Some students feel difficulty speaking and writing correct grammar form in CLIL lessons. This finding corroborates partly with pre-research that CLIL learners usually perform better on receptive skills than productive skills (Aguilar & Rodriguez, 2012; Dalton-Puffer, 2007). Though writing ability belongs to productive skills, CLIL learners also mentioned that they had developed their writing skills because students have a chance to read many different genres. This study also exposes some limitations of the CLIL approach in higher education that accord with the idea from Lightbown and Spada (2013) that CLIL is not good at enhancing learners' oral interaction since the whole teaching activity focuses more on content knowledge acquisition. The social constructive theory implies that successful teaching and learning depend on class interaction and discussion (Prawat, 1992). It means that CLIL teachers need to pay more attention to interaction in class to enhance students' grammar and oral skills. The teacher can introduce and explain the language knowledge and grammar points through dialogue in the classroom. CLIL teachers can use explicit, corrective, and metalinguistic feedback to give corrective feedback and guide students to understand the grammar form (Linares & et al., 2012). Meanwhile, teachers can use many class activities to help students better understand grammar and participate in oral practice. Activities such as fill-in-the-blank and information gaps can encourage students to read texts and deepen their impression of grammar form. Group discussion and pair work during these activities. Students need to use different ways to communicate with peers rather than be faced with the authoritative role of the teacher,

which will allow them to develop their communicative skills in a more real situation.

5.3 Students' Attitudes

On the one hand, the results of this study indicated that students had a greater interest in English, more positive attitudes towards learning English, and a higher willingness to communicate in English after attending CLIL class. It also answers the research question that CLIL can both cultivate and hinder students' motivation in English learning. The different effects of CLIL can be explained by the social constructive theory. Piaget and Perry see the construction of knowledge mainly comes from learners in response to interactions with environmental stimulation. The external learning knowledge community and its internal drive construct the motivation and attitudes toward learning (Schreiber & Valle, 2013). CLIL connects authentic setting with knowledge and language, students gain a sense of achievement and reality, which lead students to become more willing to learn English. The result was confirmed in similar studies that students' English abilities have improved in CLIL classes that promote them form confidence in using L2 in class (extrinsic motivation) and students take responsibility for their own learning due to English became an important medium for them to acquire professional knowledge (intrinsic motivation) (Pistorio, 2010; Lasagabaster, 2011; Lasagabaster & Beloqui, 2015; Navarro-Pablo & Jiménez, 2018).

On the other hand, there is an interesting result in the study that some students from China education background will show skeptical and hesitant about the CLIL program at the university. Tsagkari's study (2019) with college students from China can prove the result of my study. Her (2019) study demonstrated that students might lose motivation to acquire the target language for many reasons. This result also responded to the theory of social constructivism that learning relies on the learner's internal motivation to understand and promote the learning process and external encouragement from educational settings (Schreiber & Valle, 2013). Firstly, content materials used in CLIL lessons are adaptations from authentic English sources and do not fit the linguistic levels and cultural backgrounds of Asian students. Students who cannot achieve their language learning goal in CLIL class will feel anxious and nervous when studying both content knowledge and English in class. They cannot truly understand the academic vocabularies and terminologies, reducing their enthusiasm and motivation in English. Second, the teachers do not have professional knowledge of the content and language of the lesson. They lack the necessary training and orientation about how to use the CLIL approach in their class. It implies that when implementing CLIL in a specific setting, teacher should consider how to promote both internal motivation and external support; thus, scaffolding, teacher-training and localized teaching resources should be designed in those educational settings.

6. Conclusion

In conclusion, this study analyzed the data from 15 journal articles that aim to provide a more detailed picture of the CLIL's influence on university students' English acquisition. The first results discussed in the paper demonstrate that CLIL approach bring different influence on students' overall English proficiency, respective skills outcome and productive skills outcome separately due to individual's English level of proficiency, educational background and cultural settings. In particular, CLIL shows more effective outcomes in reading, vocabulary, listening and writing while performing badly in grammar and speaking skills. It can bring future CLIL pedagogy design practical implications and suggestions. First, teachers should pay attention to students' level of English proficiency, using the ZPD and scaffolding to give high-level students more difficult learning tasks and encouraging them to use more complex linguistic expressions in class. Second, they should avoid the imbalance in the teaching of the content and language areas to ensure learners can equally achieve the dual focuses of CLIL. Third, it suggests teacher focus more on how to narrow the gap and make a balanced development of English skills. The second focus of this study is on how CLIL influences students' attitudes toward English learning in higher education. The results of this study proved that CLIL has positive influences on students' language learning motivation. However, this study also exposed that CLIL brings many limitations in different educational settings (e.g., China), damaging students' motivation and causing their negative attitudes toward learning English through the CLIL approach. It concludes with some main reasons, including the lack of trained-CLIL teachers, the conflict with traditional teaching forms, and the discord between teaching materials and local culture. Therefore, it recommends teachers to base on the local educational background adjust CLIL lesson plans to decrease students' anxiety and doubt about CLIL.

This part will identify some limitations of the study and provide valid future pathway. For one thing, the results and discussion may not include all possible conditions since the review was limited to a select few databases. For another, the selection approach only focuses on English-written articles while excluding other language forms. As a result of that, a few articles were excluded, and many other results may fail to be found due to the language. Meanwhile, the systematic literature review method collects data from many different countries that have different educational backgrounds, students learning experiences and performance could be different, which will also influence the accuracy of the result. Furthermore, this study mainly focuses on students'

perspective about how CLIL influence their English learning outcome, while we lack information and research about teachers' perspective such as whether they have any challenge and difficulties in implementing CLIL in their class; whether they think CLIL can help students to master content knowledge and language; whether CLIL can help them achieve their teaching target. The role of teacher in CLIL program also needs further research. Moreover, further study needs to focus on a specific country's educational background. For instance, when selecting and analysing the data, the study found that research in China usually focuses on higher education while less research applies CLIL in primary school, secondary school and high school. Though several studies mentioned China background, the data is insufficient. Thus, a hypothesis would come up that CLIL cannot match the needs of exams (e.g., Gaokao) in China because the exam emphasizes grammar form rather than other skills. Traditionally, the educational system in China usually isolate language learning from content knowledge. Consequently, CLIL is hard to accept by teachers and students in these contexts, which also needs more research in the future.

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