

HOW TO TEACH BILINGUAL PROGRAM? : AN APPLICATION OF CONTENT AND LANGUAGE INTEGRATED LEARNING ON PRIMARY SCHOOL

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Abstract

In the last decade, education systems around the world have prioritized increasing students' literacy and numeracy skills. The increasing need for language literacy has resulted in the emergence of a trend bilingual program in primary schools. This research was motivated by the learning problems that occurred in the first year bilingual program. The study aims to see the effectiveness of the Content and Language Integrated Learning (CLIL) approach on the competence of science curriculum content and students' language skills. The research method used was Classroom Action Research (CAR) with the research subject being the first year students of the bilingual program who were stand on grade 4th primary school (n = 21). Data analysis not only focuses on increasing scores in each cycle, but also obtains new findings about the stability between science content abilities (non-language) and second language skills (english). Initial data explains that only 25% of students meet the learning completeness aspect. Along with the end of the third cycle, the study found that 85% of students could complete learning completeness. The study concluded that the CLIL was able to stably improve content and language skills with certain improvement criteria. The findings from the improvement of this cycle can be used as a reference for developing CLIL research in primary schools especially on bilingual programs.

Keywords: CLIL, Sains, Primary School, Bilingual Program, Literacy

Abstrak

Dalam satu dekade terakhir, sistem pendidikan seluruh dunia sangat memprioritaskan peningkatan keterampilan literasi dan numerasi yang terjadi pada peserta didik. Meningkatnya kebutuhan literasi berbahasa mengakibatkan munculnya trend program bilingual di sekolah dasar. Penelitian ini dilatarbelakangi oleh adanya problematika pembelajaran yang terjadi dalam program bilingual tahun pertama. Studi bertujuan untuk melihat keefektifan pendekatan Content and Language Integrated Learning (CLIL) terhadap kompetensi konten kurikulum dan keterampilan berbahasa siswa. Metode penelitian yang dilakukan adalah Classroom Action Research (CAR) dengan subjek penelitian siswa kelas 4 bilingual tahun pertama (n = 21). Analisis data tidak hanya berfokus pada peningkatan nilai disetiap siklusnya, tetapi juga pemerolehan temuan baru tentang stabilitas antara kemampuan konten sains (non-bahasa) dan keterampilan bahasa kedua (english). Data awal menjelaskan bahwa hanya 25% siswa memenuhi aspek ketuntasan belajar. Seiring dengan berakhirnya siklus ketiga, studi memperoleh temuan dimana 85% siswa dapat memenuhi ketuntasan belajar. Studi menyimpulkan bahwa pendekatan CLIL mampu meningkatkan kemampuan konten dan bahasa secara stabil dengan beberapa kriteria perbaikan tertentu. Temuan dari perbaikan siklus ini dapat menjadi salahsatu acuan dari pengembangan penelitian CLIL di sekolah dasar.

Kata Kunci: CLIL, IPA, Sekolah Dasar, Program Bilingual, Literasi

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INTRODUCTION

The 21st century, known as the knowledge age, has an impact on the resolution of education. In this knowledge era, education has four pillars as the main foundation in determining the direction of development towards learning for sustainability, namely learning to know, learning to do, learning to be, and learning to

live together. (Combes, 2005; Delors, 2013). One result of this pillar of education is an increase in literacy and numeracy, which are priorities in education systems around the world. Priorities for literacy and numeracy will certainly have an impact on the marginalization of other subjects whose time allocation is taken because of the need for the existence of these priorities. (Ní Chróinín et al., 2016).

The other side of the literacy priority has resulted in the emergence of new trends in the primary school education system, including in Indonesia, which is marked by the existence of bilingual programs. This is certainly not a solution if we return to discussing the marginalization of subjects affected by the priority effect. There needs to be a special review in initiating a bilingual program that is carried out especially in primary schools as a place to instill the character and initial knowledge of students. The Canadian immersion program, which is an example of the success of the bilingual education program, needs to be studied because it is an example and spreads throughout the world (Cenoz, 2015). The core features of the bilingual program are the use of a second language as a teaching medium, the curriculum is the same as the first language, open support exists for the first language, aims at additive bilingualism, exposure to second language especially in class, students enter with the same language skills, bilingual teachers, and class culture is the culture of the first language (Swain & Johnson, 1997).

To overcome the problems of teaching second language literacy, previous studies have promoted an integrated approach in primary schools that plays a role in balancing the demands of the curriculum with the allocation of learning time. (Ní Chróinín et al., 2016). In other words, the increasing need for language literacy results in the need for an integrated approach while maintaining the balance of curriculum content in primary schools. In addition, with a change in the mindset and culture of a more dynamic society, the core features of the bilingual program need to be adapted again with an additional focus on CLIL learning as a remedial solution. (Cenoz, 2015).

CLIL is an acronym for Content and Language Integrated Learning as a learning approach that has two main focuses of learning on a curriculum content, namely learning academic content (non-linguistic) and a second language (the target language students want to master) as a medium for the academic content. (Coral et al., 2018; Dalton-Puffer & Nikula, 2014; Hughes & Madrid, 2020; Ní Chróinín et al., 2016). As with ordinary learning, the CLIL approach even though it uses a foreign language which is usually English is taught by subject specialist teachers who are usually not language teachers where classes are carried out based on the curriculum of subject content (Dalton-Puffer & Nikula, 2014). Through this research, we try to explore what kind of CLIL approach application has a strong significance in improving the problems of understanding content and also children's language skills. Integration is carried out in the aspects of science content and learning English in grade 4 primary schools. Thus, CLIL here is not an immersion or bilingual program but acts as an approach that uses foreign languages and shares many features with bilingual programs. (Dalton-Puffer & Nikula, 2014).

The research originated from a problem in the classroom scope of the first-year bilingual program that was challenged by the implementation of distance learning due to COVID-19. Accelerating digital transformation through the adoption of online learning is a challenge from COVID-19 (Rospigliosi, 2020) forcing learning in primary schools to adapt. Therefore, this complexity needs to be addressed through CAR with a research question, whether the application of the CLIL approach can improve students' understanding of content and language skills? Investigating the experiences of teachers and students is used as empirical evidence in answering the success of literacy and numeracy priorities that are trends in the current education system. In addition, several findings in the study can be used as evaluation material for improving CLIL approach learning in bilingual classroom programs at the primary school level. This is because the connecting elements between research claims and the reality of the implementation of classroom learning need to be considered in CLIL research at the primary school level (Pladevall-Ballester, 2015).

METHOD

Research Methods

This research was conducted using the Classroom Action Research (CAR) research design from Kurt Lewin's model (McTaggart & Kemmis, 1988). The research is designed in several actions in the form of a

spiral cycle which in one cycle contains four moments including planning, action, observation, and reflecting (Altrichter et al., 2002). This design can be represented in Figure 1 below.

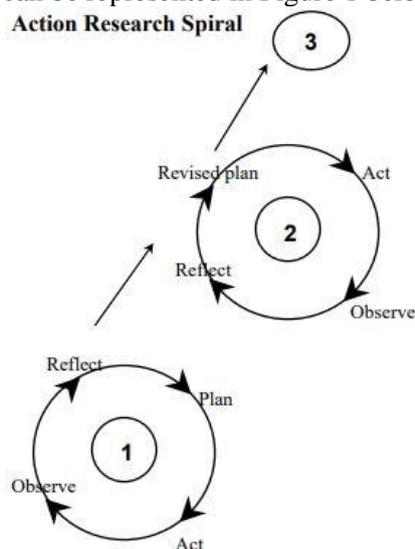


Figure 1. The Model of Action Research Spiral (Zuber-Skerritt, 2001)

Intervention

The discussion group forum was carried out in the preparatory stage of the research through a professional development workshop attended by 2 elementary school teachers, 2 junior high school teachers, 2 high school teachers and 8 english tutors. The FGD focuses on teacher preparation in integrating language learning with related learning, namely science and mathematics as the main focus of the bilingual program. Series of language understanding, language use, and instructional language learning are developed in an integrated learning based on themes (Ní Chróinín et al., 2016). The results of the workshop are then applied in a distance learning and trying to solve the problems and obstacles that occur through the cycle model. Thus, in this research greeting, teachers are encouraged to analyze the output of learning based on learning content and language learning that is inserted in each activity.

Research Subject

This research involved 21 fourth grade students of the UPI Pilot Laboratory Elementary School who participated in the first year bilingual learning program. The research subjects involved were students who were heterogeneous in terms of both basic knowledge and initial language skills. The research was carried out during the COVID-19 pandemic, so that learning was carried out using a distance learning method that focused on the involvement of students independently through online media that contributed to documenting insights and knowledge during the pandemic. (Berry & Kitchen, 2020; Zhao et al., 2014).

Instruments and Data Collection

Data were collected to record individual student experiences and participation in learning both in cognitive and social interaction aspects. Assessment in CLIL is motivated by a dual focus between content and language that considers goals and objectives including knowledge, competence, attitudes and skills (Massler et al., 2014), So that the instruments used in this study include a test instrument in the form of questions that measure the learning outcomes of students with the aim of assessing the content knowledge and language skills of students. In addition, the observation sheet instruments and field notes were used in the study as secondary data collectors for student interactions in digital learning.

Data analysis involves a qualitative approach and a quantitative approach. The improvement of learning outcomes as quantitative data is seen based on the acquisition of student scores in the aspects of content knowledge and language skills. Other secondary data were obtained through qualitative analysis. Triangulation and data saturation techniques are carried out through several actions aimed at maintaining objectivity, validity, and reliability of data through 1) using varied methods of data collection, 2) deepening

the study of the same data from different sources, 3) checking again the data collected, 4) Carry out reprocessing and data analysis, 5) consider the theory related to the study conducted and the opinions of experts involved in the research (Hanifah, 2014). The last thing to note is that the interpretation of the data is interpreted according to theory in the creation of conducive learning as a reference for implementing further learning.

RESULTS AND DISCUSSION

The study of the Content and Language Integrated Learning (CLIL) application in the bilingual program for the first 4 years of class obtained results that were considered adequate with various findings. Investigating the understanding of the content that science taught with the theme of energy and language skills of students is targeted in measuring the effectiveness of CLIL. Starting with 75% of students who experience learning incompleteness, the CLIL application is able to encourage learning completeness until it reaches 85% of students who graduate. The results of the study that was pursued through these three cycles can be seen in Table 1 below.

Table 1. Results of Students Performance

Cycle	Average Value	Students' Completeness		Learning Goals	
		Completed (%)	Not Completed (%)	Content Ability (%)	Language Ability (%)
I	53,2	25 %	75 %	61,67 %	40,5 %
II	70,1	45 %	55 %	78,33 %	56,5 %
III	82,4	85 %	15 %	85,33 %	78 %

Based on the results obtained, the application of the CLIL approach in primary schools provides significant benefits in second language learning and curriculum content being taught. Thus, this could become a gap in the use of CLIL as a learning medicine for bilingual class programs. On the other hand, the study found that it was difficult to equitably stabilize language learning and curriculum content. This indicates that as an approach, CLIL has a risk of failure where the integration is not balanced, one of which is proven by the knowledge of students' content which can be said to be the same or worse than regular classroom learning or the use of the first language (Dalton-Puffer, 2008; Sylvén, 2013).

Another study explains that CLIL has an impact on children's intuition as opposed to content learning resulting in less effective deposition of content knowledge in children, so that the minimum deposit of content learned through CLIL is a drawback (Mehisto et al., 2008). But in this study, these deficiencies can at least be well anticipated where it is evident in the final score of content and language achievement that the range is not too large. This indicates the need for a fair concentration of assessments to cover the limitations that often occur in CLIL, namely the often misfocused assessments that only focus on foreign language assessments (Cenoz, 2015). There are three dimensional models of CLIL learning assessment, including the assessment of integrating themes in the learning domain of the curriculum content, skills and competencies of non-language subjects, and communicative competence in the target language (Massler et al., 2014).

The results of the observation show that students enjoy learning science content in English where they reveal that learning is increasingly challenging. This finding is supported by the fact that other studies show that in fact CLIL shows a higher level of motivation and creates a classroom culture that is more conducive to success and increases interest in foreign languages (Hughes & Madrid, 2020; Pladevall-Ballester, 2015). In science subjects, the majority of students like learning because of their preference for English and their awareness of learning concepts through new things. This, of course, is the result of improved learning in each cycle where the pressure point content is emphasized through reading text activities, which is one of the language skills. In this study CLIL is implemented through 4 main activity components, namely:

1. Warming up : Games (Building knowledge of field) with guessing the topic of lesson.
2. Detailed reading : Matching words with clue (reading and speaking ability).
3. Notemaking : Completing diagram (basic writing ability).
4. Independent construction : Completing the table (advanced writing ability).

Text and literacy activities are the main learning resources in this CLIL application study. Students not only read texts that have science curriculum content but also really study each technical language term from the text. Through the interaction of classroom language instruction, students are then guided to do note making (completing diagrams) in groups before answering independent construction (completing the table). Based on these activities, this study finds things that are in line with previous studies where CLIL has a positive effect on learning output, for example vocabulary mastery (Catalán & De Zarobe, 2009), language production and interaction of spoken language, reading (Cañado, 2016), and writing (Lahuerta Martínez, 2017). Thus the habit of teachers who often only focus on language development rather than scientific literacy (Hughes & Madrid, 2020), inevitable although the implementation requires very good class management.

When compared with the learning outcomes of regular students, the study obtained the same findings as Hughes' study, namely at the primary school level the comparison between students learning science through the first language and students learning science through the second language did not experience a significant difference. (Hughes & Madrid, 2020). Thus, it shows that the application of CLIL, especially in science learning in elementary schools, has a low negative effect.

The connection with the bilingual CLIL program has a very significant role, the fact is that the bilingual classroom program with the CLIL approach has the potential for the development of crucial intercultural attitudes, the development of critical cultural awareness and taking action as a result of multiple assessments. (Méndez García, 2012). However, this requires further review, which in this study does not really focus on this cultural awareness. However, with the findings in the scope of this class, the success of the bilingual classroom program can be determined by two factors, namely the distribution of CLIL into classrooms in schools that provide bilingual programs and the factor of increasing the progressivity of the second language teaching time which in this study is the fact that students have additional language learning time English through habituation hours. In addition, the involvement of parents also has a crucial role in CLIL learning in elementary schools which is shown through their interest and support for the program as well as in developing the language profiles of students. However, this needs to be realigned so that parents unrealistically think that CLIL is the only solution to improve children's low language skills which ultimately threatens their first language and content knowledge (Pladevall-Ballester, 2015).

CONCLUSION

The academic performance of bilingual education programs reviewed in initial investigations over time will not be detrimental to student academic outcomes. Some anxiety occurs early in learning when children begin to adapt to new learning experiences but over time the child will become more naturally prepared and spontaneous. CLIL as a learning approach that has a dual focus, namely integrating learning curriculum content (non-linguistic) with target language learning in one time allocation has a very important role in a bilingual program.

In a review of literacy aspects that are a priority trend for education around the world, the CLIL application in elementary schools is increasingly proven to improve language skills, which is marked by enrichment of vocabulary, both technical and everyday language, and can further improve oral interaction skills, reading skills and write. However, it should also be noted that besides the perfect target, the challenges that will occur in a bilingual class in the form of CLIL are the need for an extraordinary methodology and classroom management in responding to the cognitive limitations of children and their linguistic capacities. The difficulty that often occurs in the field is the imbalance between content and language where teachers usually focus more on mastering language than curriculum content. Thus, the implementation of CLIL in elementary schools requires collaborative cooperation from each party, not only students and teachers but also involving the principal and parents who can influence students' feelings and motivation when learning.

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