

# Effect of language learning strategies on vocabulary development in CLIL

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**ABSTRACT:** This study focuses on language learning strategy use examined in the context of Content and Language Integrated Learning (CLIL) with a specific focus on productive vocabulary development in a school year time frame.

The research took place in the Czech Republic, a sample comprised of 286 pupils ranging from 11 to 14 years of age, a total of 12 classes spread over three schools. Half of the experimental group had one year of CLIL experience prior to the study. The content subjects in the experimental classes were History and Civics; the language of instruction was English. The study aimed at finding out what is the connection between language learning strategies and vocabulary acquisition in CLIL classes.

Standardized Laufer and Nation's vocabulary levels tests and Oxford's Strategy Inventory for Language Learning served as data collection instruments. Variables taken into consideration were CLIL experience, gender, content subject and teacher. The previous year of CLIL and the teacher turned out to be significant. Concerning the questionnaires, five strategies showed a positive influence on the growth of productive vocabulary. Surprisingly enough, five strategies negatively impacted vocabulary. Strategies using a task-based methodology proved superior to purely vocabulary-based strategies.

**Keywords:** language learning strategy, CLIL, vocabulary acquisition, English, lower-secondary pupils

## **Glgew'f g'leu'gum cvgi lcude aprendizaje de lenguas en el desarrollo del vocabulario en AICLE**

**RESUMEN:** Este estudio investiga el uso de estrategias de aprendizaje de lenguas dentro del contexto del Aprendizaje Integrado de Contenidos y Lenguas Extranjeras (AICLE) para la producción de vocabulario durante un año.

La investigación se realizó en la República Checa en 12 clases con una muestra de 286 participantes (11 y 14 años). La mitad del grupo tenía un año de experiencia en AICLE antes del estudio. Las materias de contenido analizadas fueron Historia y Educación Cívica y la lengua de instrucción el inglés. El objetivo del estudio es averiguar cuál es la conexión entre las estrategias de aprendizaje de lenguas y la adquisición de vocabulario en las clases AICLE.

Las pruebas de niveles de vocabulario de Laufer y Nation y el Inventario de estrategias para el aprendizaje de idiomas de Oxford sirvieron como instrumento. Las variables fueron: experiencia en AICLE, género, materia de contenido y docente. El año previo de AICLE y el docente resultaron ser datos significativos. En los cuestionarios, cinco estrategias mostraron una influencia positiva en el incremento del vocabulario productivo. Sorprendentemente, otras cinco estrategias impactaron negativamente en la producción de vocabulario. Las estrategias basadas en tareas demostraron ser superiores a las estrategias basadas en la adquisición de vocabulario.

**Palabras clave:** estrategias de aprendizaje de lenguas; AICLE; adquisición de vocabulario; alumnos de inglés de 1º y 2º de Secundaria

## 1. INTRODUCTION AND THEORETICAL FRAMEWORK

Learning a second language is a challenging task which requires support, for instance, in the form of language learning strategies (Jaikrishnan & Ismail, 2021). Language learning strategies have preoccupied researchers for over 50 years (Adan & Hashim, 2021; Vimalakshan & Aziz, 2021). Generally speaking, such strategies significantly support language learning (Adan & Hashim, 2021) and develop literacy skills (Min et al., 2021). When investigated closer, different studies report the positive impact of different learning strategies in relation to the Strategy Inventory for Language Learning (SILL) questionnaire, one of the most used classification of strategies designed by Oxford (1990). Oxford herself (2003) states that employing appropriate strategies helps learners improve their proficiency, self-confidence, perception, reception, storage, retention and retrieval of the language learned. We should take into consideration differences among individual learners and investigate their needs. By doing so, learners would become more independent and they might then be able to learn in a more organized and goal-oriented way. The student-centred approach influences strategy use in classroom and the development of learners' thinking processes (Adan & Hashim, 2021; Min et al., 2021).

CLIL methodology focuses on the learner by mixing methods and approaches including the use of an increased number of strategies to support understanding, among others, the use of visuals (pictures, charts, diagrams), a focus on key vocabulary presented in an understandable way with respect to the age of pupils and their level of L2, and a variety of classwork organizations. Repetition is also one of the key aspects of successful CLIL with correct usage of L2 (Deller & Price, 2007). Furthermore, Marsh (2013) stresses the importance of authentic materials, such as real-life situations in the classes to increase motivation when learning a language.

One of the cornerstones of learning a language is vocabulary (Alonso, García & de la Rioja, 2014; Schmitt, 2000). Thornbury (2002) emphasizes a quotation from the linguist David Wilkins: "Without grammar very little can be conveyed, without vocabulary nothing can be conveyed" (Thornbury, 2002, p. 13). A solid foundation of vocabulary knowledge is crucial at every stage of a learner's L2 development, regardless of the level of the learner's competency in grammar and pronunciation. One cannot communicate effectively without sufficient vocabulary (Alqahtani, 2015; Min, 2013), and L2 learners often face difficulties in this area with when having a conversation (Bae, 2007). Vocabulary acquisition leads to better linguistic competence and a higher level of overall language proficiency (Alonso, García & de la Rioja, 2014). Furthermore, developing vocabulary skills enhances language skills, i.e., facilitates richer listening, speaking, reading and writing skills (Chang, 2007; Srimongkontip & Wiriyaakun, 2014). Thus, it is clear that vocabulary acquisition is an integral part of learning a language.

### 1.1. Definition of language learning strategies influencing factors

What are language learning strategies? According to Adan and Hashim (2021), who compared definitions of strategies provided by various scholars, they are operations that help learners to learn, techniques and steps in the learning process fostering learning or

learners' mental activities used on the way to acquire a language. Jaikrishnan and Ismail (2021) summarize the definition of such strategies simply as the ways in which learners manage the information they receive; these, in turn, lead to different actions which affect language learning. Oxford (1990) divides language learning strategies into two categories: direct and indirect, and each has three subcategories. Direct strategies comprise of memory strategies, cognitive strategies and comprehension strategies. Indirect strategies have the following subcategories: metacognitive, affective and social strategies. Oxford's classification is considered "one of the most dominant classifications in the literature" (Psaltou-Joycey & Gavriilidou, 2015 cited in Jaikrishnan & Ismail, 2021, p.300).

If we look at language learning strategies from the point of view of vocabulary learning, Jaikrishnan and Ismail (2021) emphasize intentional versus incidental vocabulary learning. By "intentional" they mean conscious learning whereas incidental stands for subconscious learning via meaningful context. When comparing different studies, we find that a combination of both intentional and incidental learning seems to be ideal. Nevertheless, Jaikrishnan and Ismail (2021) see these two approaches to learning vocabulary highly controversial and call for further research in this area. What, then, are the factors affecting choice of strategy?

There are various factors which influence the choice of a language learning strategy. Adan & Hashim (2021) point to studies that mention factors such as age, gender, motivation, aptitude, attitude, language proficiency, introversion/extroversion, individual differences and cultural differences. Habók and Magyar (2018) confirm the importance of factors of age, motivation, attitude towards language learning and language proficiency. Vimalakshan and Aziz (2021) add factors of belief and learning style.

With different learning needs and situations, learners' select strategies in different ways. Individual learners have their preferences and thus it is recommended to ascertain those preferences and include them in the learning process (Adan & Hashim, 2021; Habók & Magyar 2018). Good language learners in general have a tendency to be more independent and use more indirect strategies. In other words, they value control of their own learning. They seem less afraid of making mistakes and they perceive mistakes as opportunities on the way of language learning (Jaikrishnan & Ismail, 2021). In contrast, Jaikrishnan and Ismail (2021) point to a study from 2016 that states that more successful learners favoured direct strategies. Nevertheless, it is worth mentioning that the research was carried out in a university, and a primary or secondary school might bring different results. When talking about primary school context, Min et al. (2021) report that low achieving learners hardly ever use language learning strategies.

## **1.2. Outcomes of studies on language learning strategies**

In a review analysing previous studies on language learning strategies, it was found that students' vocabulary is significantly enhanced by the use of these strategies (Jaikrishnan & Ismail, 2021). All studies mentioned here are based on investigations using the SILL questionnaire, thus we can get a unified insight into strategy use in recent years. Oxford's language learning classification using the "SILL questionnaire is one of the most detailed systems to date. This inventory has been extensively used to collect data for numerous studies around the world" (Chang & Liu, 2013 in Vimalakshan & Aziz, 2021, p. 42).

Habók and Magyar's study (2018) shows the influence of metacognitive, social and memory strategies used by lower-secondary students in Hungary on school achievement. All these three groups of strategies were favoured by students in year 5. In year 8 metacognitive strategies prevailed, followed by social and cognitive strategies, whereas the effect of memory strategies appeared to be low. The same preferences of strategies are mentioned by Mehrabian and Salehi (2019) in the university context. Students did not like to use affective strategies probably because of physical anxiety.

The outcomes of Habók and Magyar's study are supported by Adan and Hashim's study (2021) which highlights metacognitive strategies, followed by social strategies as strategies most employed by students. The least preferred strategies were compensation strategies. Habók and Magyar (2018) conclude by stating that the most commonly used strategies are metacognitive, compensation and cognitive strategies. On the other hand they also mention that studies aimed at younger learners indicate that the preferred strategies are social, affective and compensation strategies and that the use of memory strategies is rather low. As for memory strategy, on the contrary, in a study by Min et al. (2021) aimed at year 5 primary pupils, memory strategy is most often employed. Affective strategy has the same position as in Habók and Magyar's study (2018), i.e., infrequent use.

Jaikrishnan and Ismail (2021) remark that university students prefer metacognitive strategies, followed by compensation, cognitive, social and memory strategies (the least favourite are affective strategies). Vimalakshan and Aziz's (2021) study aimed at secondary school students unequivocally favours metacognitive strategies.

If we look at different countries, students from China and Singapore use more social strategies and less affective strategies in comparison with European students (Habók & Magyar 2018). Speaking about variable of different countries, Vimalakshan and Aziz (2021) emphasize the need to consider learners' cultural background, beliefs, socioeconomic status, motivations and interests, when including language learning strategies in one's classes.

Next to investigation into strategies based on SILL questionnaire, Mehrabian and Salehi (2019) researched learning strategies which are specifically related to vocabulary acquisition, not necessarily strategies included in SILL questionnaire, but vocabulary strategies as such. They discovered that learning strategies connected with cooperation have a good effect on vocabulary acquisition. Nevertheless, this contradicts the fact that learners feel more anxious when they have to communicate with each other as part of cooperative learning. In general, anxiety might be reduced by a friendly class atmosphere (Oxford, 1990 cited in Mehrabian & Salehi, 2019). Further, self-regulation strategies help language proficiency (Mehrabian & Salehi, 2019). This supports the previously mentioned importance of catering for students' independence when learning a language and brings us back to the fact that more proficient learners employ more language learning strategies in comparison with less proficient learners. Also, more proficient learners also use a wider variety of strategies. Hence, it is recommended to integrate language strategies into the learning process (Habók & Magyar, 2018; Jaikrishnan & Ismail, 2021; Min et al., 2021).

Language learning strategies improve vocabulary acquisition and knowledge of language learning strategies helps learners to choose which strategy or strategies are the most valuable for them (Mehrabian & Salehi, 2019). On the other hand, this should not be taken for granted. Mizuno and Takeuchi (2009) in Mehrabian and Salehi (2019) claim that learners'

strategy preferences did not change significantly before and after the strategy training. Thus, direct strategy teaching does not seem necessary. Although there is no single optimal strategy for each and every language learner, support in using strategies in general in order to foster vocabulary learning is recommended; the teachers' role could be to guide through different strategies so that they can learn more efficiently (Mehrabian & Salehi, 2019). Language learning strategies can help create a learning environment similar to mother tongue learning, which is natural and thus desirable (Adan & Hashim, 2021).

Given the positive effects of language learning strategies, both students and teachers should take them into consideration. Researchers who have already investigated these strategies call for more studies in this area to help understand students' preferences and support more effective language learning (Adan & Hashim, 2021). Moreover, there is a call for more research in lower-secondary level since most studies deal with language learning strategies in upper-secondary and university contexts (Habók & Magyar, 2018).

### 1.3. CLIL

Mehisto, Marsh and Frigols (2008) discuss the uniqueness of CLIL in educational practice. They view CLIL as integral to education. They point out that CLIL teachers do not have to, indeed should not, change strategies and activities that work for them. On the contrary, they should build on what works for them. What is advisable is a modification of lesson planning towards the two main aims of a CLIL class (content and language objectives) and cooperation with other CLIL practitioners, which could help to overcome difficulties (e.g., design of CLIL materials), especially in the case of new CLIL teachers.

Focusing specifically on the background of CLIL, we might mention educational theories and concepts which form the frame of the CLIL methodology. According to Dale, van der Es and Tanner (2011), one of these is constructivism. A constructivist theory applies to the personal involvement of every pupil. Pupils sort out their existing knowledge in order to link it with the new. The constructivist approach puts learners at the centre of knowledge acquisition with opportunities to analyse their needs and build on their previous knowledge. Learning should make sense to learners themselves. An essential part of constructivism with regard to CLIL is social constructivism. Theories of social constructivism draw attention to interaction and cooperation among learners. This stance is supported by Coyle (2011), who stresses the importance of the active engagement of learners and their sense of themselves as a way to enhance motivation. Furthermore, she emphasizes the importance of teachers and pupils co-constructing a learning environment together. With reference to constructivist theory, the learning focus should take into account the outcomes and the learning processes as equally important.

### 1.4. Outcomes of studies on CLIL

Even though the positive outcomes of CLIL methodology predominate, the results of various studies differ. Those in favour of CLIL are undoubtedly outcomes related to confident use of L2 (Várkuti, 2010), gradual decrease of code-switching (De Zarobe, 2010), increased interest in learning foreign languages (Lasagabaster & Sierra, 2009), enhanced resistance to stress (van de Craen, 2007) and higher persistence in learning in general (Vollmer, 2006).

In contrast, Seikulla-Leino (2007) presents CLIL pupils as rather less proficient regarding L2 knowledge than pupils of the control groups, based on pupils' self-evaluation. Nevertheless, pupils themselves report that feeling unsuccessful in L2 can be a challenge which can be overcome through various CLIL activities which they find enjoyable.

Dalton-Puffer and Smit (2013) enumerated areas that may be investigated further: goals of specific CLIL programmes, beliefs about the perceived advantages and disadvantages of CLIL, views on CLIL programmes in different languages, language skills acquired in CLIL versus FL classes, academic language functions (defining, predicting, etc.) in CLIL versus non-CLIL classes, and design of CLIL versus non-CLIL classes in general as well as in particular, e.g. comparing different age groups or investigating explicit language teaching and its impact on CLIL classes. These areas might be researched within individual institutions. The existing studies may provide insight into CLIL, as well as serve as a springboard for future studies.

Dalton-Puffer and Smit (2013) further stress that future CLIL research ought to be action-oriented, providing insight into real CLIL classes and at the same time enriching the classroom practice with academic knowledge about CLIL methods. Another recommendation is to look at whether the learning outcomes of CLIL remain constant over time.

## 2. METHODOLOGY

When thinking research into language learning strategies that fit the current trends of education, Content and Language Integrated Learning (CLIL) and vocabulary acquisition specifications could enrich the existing body of second language research.

The research question and its sub-questions were thus formulated as follows:

*What is the connection between language learning strategies and vocabulary acquisition in CLIL classes?*

- Is there any difference between the classes with a previous year of CLIL and those without?
- Does the role of the teacher matter?

### 2.1. Context and participants

The goal of the study was to investigate the influence of CLIL instruction on vocabulary acquisition with respect to language learning strategies. In particular, the study looked at the relations between CLIL instruction, the level of knowledge of general productive vocabulary and language learning strategies pupils used. My intention was to find out whether there is any pattern in the strategies that pupils in the experimental and control groups opted for, and how these are connected with the development of vocabulary in CLIL and non-CLIL classes. The timeframe of the study is one school year.

The research sample consisted of a total of 286 lower-secondary pupils spread over 3 grades (grade 6, 7 and 8, ages ranging from 11 to 14 years, a total of 12 classes altogether) in 3 Czech schools (2 schools serving as experimental groups and 1 school as the control group). In experimental school number 1, CLIL pupils studied History in English in the 7th grade (12-13-year-olds) and Civics in English in the 8th grade (13-14-year-olds). In experi-

mental school number 2, CLIL-pupils studied Civics in English in the 6th (11-12-year-olds) and 7th grade. In the control school, the sample consisted of 7th grade and 8th grade pupils with no CLIL experience. The Czech national curriculum is standardized, as certain topics are covered in particular grades, which enabled me to compare the same grades of different schools. Table 1 illustrates the variables taken into consideration.

**Table 1.** *Distribution of participants*

SCHOOL/GRADE	TEACHER	COUNT OF			CLIL SUBJECT	CLIL EXPERIENCE
		PUPILS	CLASSES	BOYS/GIRLS		
<i>Experimental group</i>						
A7	Teacher 1	54	2	27 / 27	History	1 year
A8	Teacher 1	43	2	24 / 19	Civics	None
B6	Teacher 2	68	3	37 / 31	Civics	None
B7	Teacher 2	73	3	41 / 32	Civics	1 year
<i>Control group</i>						
C7	Teacher 3	26	1	14 / 12	-	None
C8	Teacher 3	22	1	15 / 7	-	None

Note: A, B, C = different schools; 6, 7, 8 = grades

All of the participants were native speakers of Czech. Every pupil involved in the research had attended classes of English as a foreign language from the age of 8-9. They all had a class of English three times a week (3 x 45 min.)

At the time of my experiment, Teacher 1 had 13 years of teaching practice, including one year of CLIL experience. Teacher 2 had 17 years of teaching practice, including one year of CLIL experience. Teacher 3 had 15 years of teaching practice and no CLIL experience.

**2.2. Data collection instruments and process**

The concrete data collection instruments to uncover patterns of pupils’ knowledge of vocabulary and preferences for language learning strategies were vocabulary level tests to measure vocabulary acquisition and language learning strategy questionnaires to map the learning strategies pupils used.

Concerning the use of language learning strategies, the Strategy Inventory for Language Learning (SILL) designed by Oxford (1990) served as the data collection instrument. The version fitting the context of this study was the version of SILL for speakers of other languages learning English (version 7.0 (ESL/EFL)). The questionnaire comprised of fifty statements organized into the following categories: (1) remembering more effectively, (2) using all your mental processes, (3) compensating for missing knowledge, (4) organizing and evaluating one’s learning, (5) managing your emotions and (6) learning with others. In the case of this study, when completing the questionnaire, learners did not work with the scale, but marked whether they agreed with the statement or not. The reason for this



simplification came from the teachers who mentioned that pupils would spend too much time deciding on the points of the scale and a simple yes-no distinction was something pupils were used to when being questioned. Each section of the questionnaire was further enriched by adding a few more questions related to CLIL. Thus, the whole questionnaire finally comprised eighty-eight statements.

To connect the data collected from SILL with vocabulary acquisition the vocabulary level tests were used. The number of items in each part of the tests arose from other standardised tests pupils were used to. I also took into consideration the time frame needed to fit the testing into the regular classes and the familiarity of the test format for pupils. Had the format and length of the test differed too much from what the pupils were used to, the testing would not have been natural and reflective of the real situation. Choosing the vocabulary was done with the help of Lextutor (<http://www.lexutor.ca/tests/>).

For both the initial test and the initial questionnaire, the first data collection took place at the beginning of the school year. Each pupil worked on the test individually when sitting in the classroom with the others, no dictionary support was allowed. The length of the test was controlled to fit the test conditions pupils were used to, so that the attention span would remain constant during the test. The same process was repeated at the end of the school year. For data collection on language learning strategies, I used the SILL questionnaire. Like the tests, it was first distributed at the beginning of the school year. The same questionnaire was distributed at the end of the school year.

### 2.3. Data analysis

Drawing on the literature and previous research findings, different variables came into play when examining the sample. These variables emerged from the character of the participants of the study. The main division of participants was defined by CLIL experience: groups of pupils with no CLIL experience (control group), and groups of pupils with CLIL experience (experimental group). Within the experimental group, another distinction arose: the amount of CLIL experience (either one year or two years taken at the end of the study).

Another variable which applied to all the groups was gender. These pupil-based variables were further complemented by the variable of the teacher, which was important for determining the learning conditions, CLIL instruction and overall class environment. All these are independent variables. The collected data was analysed in the SPSS program. The character of my data led to the analyses employed: the analysis of variance (ANOVA) and analysis of covariance (ANCOVA). Their particular simplicity furnishes easily comprehended statistical calculations and provides a good basis for comparisons.

I first looked at the answers to the SILL questionnaire in connection with the vocabulary tests. I used the residual scores of the tests and the scores of the final questionnaire, i.e., the data collected at the end of the school year. I compared the means of these variables with the help of ANOVA. My intention was to find out which strategies are significant in relation to productive vocabulary acquisition and whether there is any pattern according to which I could group the strategies. Then I enquired into frequencies of individual answers to the statements of the questionnaire to see how many pupils used each of the significant strategies and how much they changed in the type of the strategy they used during a year's time.



The final analysis examined strategy use, similarities and differences of answers between the CLIL experienced and inexperienced groups, gender, CLIL subject, the factor of the teacher and CLIL experience in interaction with the teacher. The analysis was carried out with ANCOVA.

### 3. RESULTS

After having investigated all the strategies in relation with test results, I ended up with 10 out of 88 strategies of the whole questionnaire that turned out to be significant in relation to productive vocabulary acquisition.

I found that 5 of these significant strategies positively influenced vocabulary acquisition and the other 5 influenced it negatively. The positive influence was evident in cases where pupils did not use the strategy before the treatment and improved their vocabulary as they started to use it. On the contrary, the negative influence reflected cases where pupils used the strategy before the treatment and once they stopped using it, their vocabulary improved.

I then took all the strategies which were significant from the complete list of strategies and put them into two categories: STRATPOS and STRATMIN. The STRATPOS category comprised the strategies pupils did not use at the beginning of the school year and started to use by the end of the school year. The category STRATMIN covered the strategies which pupils used at the beginning and dropped during the year. In both cases, this was beneficial for vocabulary development. If pupils learnt to use STRATPOS strategies, they improved their vocabulary learning. If they decided not to use STRATMIN strategy, it may have contributed to learning vocabulary.

The significant STRATPOS categories are represented by the following questions/statements: Q3s6,  $p=0.015$ ; Q1s18,  $p=0.027$ ; Q1s19,  $p=0.043$ ; Q2s16,  $p=0.048$  and Q3s5,  $p=0.048$  (Q stands for questionnaire part, s stands for a particular statement/question in the questionnaire).

The significant STRATMIN categories are represented by the following questions/statements: Q4s7,  $p=0.001$ ; Q4s3,  $p=0.021$ ; Q2s21,  $p=0.030$ ; Q1s5,  $p=0.045$  and Q1s6,  $p=0.049$ .

When the categories were set, I checked the wording of the particular significant statements and the category of the SILL questionnaire they belong to. This is stated in Tables 2 and 3 – Description of significant STRATPOS/STRATMIN strategies.

**Table 2.** *Description of significant STRATPOS strategies*

QUESTION	WORDING	PART OF SILL
Q3s6	I notice my English mistakes and use that information to help me do better.	Organizing and evaluating one's learning
Q1s18	I start conversations in English.	Mental processes
Q1s19	I watch English language TV shows spoken in English or go to movies spoken in English.	Mental processes
Q2s16	I read English without looking up every new word.	Compensation for missing knowledge
Q3s5	I try to find as many ways as I can to use my English.	Organizing and evaluating one's learning

**Table 3.** *Description of significant STRATMIN strategies*

QUESTION	WORDING	PART OF SILL
Q4s7	Tasks in both English and Czech are more enjoyable.	Emotions
Q4s3	I am more tense to use English in English history/civics classes than in my English lessons.	Emotions
Q2s21	I often switch between Czech and English in my English classes.	Compensation
Q1s5	I use rhymes to remember new English words.	Memory
Q1s6	I use flashcards to remember new English words.	Memory

Additionally, the following two tables (Table 4 and Table 5) that show numbers of answers to these significant strategies provide deeper insight into the data. The answer “Agree” corresponds to the cases when a student agreed with the statement in the questionnaire. The answer “Disagree” signifies that a student did not agree with the statement. And the “No” answer means that a student did not give an answer either to the initial or the final question. The total number of students covers all the students, i.e., also those whose answers were substituted.

**Table 4.** *Numbers of answers to the significant strategies - STRATPOS*

Strategy	INITIAL PHASE ANSWERS			FINAL PHASE ANSWERS			Total number of students
	Agree	Disagree	No	Agree	Disagree	No	
Q1s18	133	126	27	108	103	75	286
Q1s19	141	119	26	124	87	75	286
Q2s16	153	103	30	118	92	76	286
Q3s5	120	140	26	151	56	79	286
Q3s6	198	63	25	151	56	79	286

**Table 5.** *Numbers of answers to the significant strategies - STRATMIN*

Strategy	INITIAL PHASE ANSWERS			FINAL PHASE ANSWERS			Total number of students
	Agree	Disagree	No	Agree	Disagree	No	
Q1s5	33	227	26	27	183	76	286
Q1s6	54	206	26	45	165	76	286
Q2s21	137	120	29	96	113	77	286
Q4s3	91	168	27	72	134	80	286
Q4s7	119	138	29	78	128	80	286

Subsequently, I looked at whether pupils changed how they used these significant strategies during the year, by comparing the answers from the initial and final questionnaires in the STRATPOS and STRATMIN categories. This way I could see the range of strategy use and the number of pupils who started to use or dropped the strategies investigated. As

we can see in Table 6 and Table 7, there was a diversity of use of strategies within the STRATPOS and STRATMIN categories. The values in the first column provide information on strategy use. If the value in the column “Strategy use” is negative, it means that pupils stopped using strategies from the STRATPOS or STRATMIN category. If the value is positive, it means that pupils started to use strategies from the STRATPOS or STRATMIN category.

The second column, “Frequency”, shows the number of pupils corresponding to the strategy usage from the first column. It means that, for example, concerning the first line of Table 6, there were 3 pupils who used 3 of the 5 STRATPOS strategies before the treatment, but none of those strategies after the treatment. The purpose of these tables is simply to show how the distribution of strategies changed during the period of the study.

**Table 6. Frequency Table - STRATPOS**

STRATEGY USE	FREQUENCY
- 3	3
- 2	21
- 1	39
0	80
1	33
2	14
3	7
<i>Valid total</i>	197
<i>Missing values</i>	89
<i>Total</i>	286

**Table 7. Frequency Table - STRATMIN**

STRATEGY USE	FREQUENCY
- 4	1
- 3	3
- 2	24
- 1	47
0	67
1	39
2	12
3	2
4	1
<i>Valid total</i>	196
<i>Missing values</i>	90
<i>Total</i>	286

Once the categories were set, I looked at the relationships among the strategy use, the factor of the teacher and the factor of the amount of CLIL experience. In order to obtain one variable to represent the strategy use, I subtracted STRATMIN from STRATPOS. I named this variable STRATPOSMIN and used it as one of the independent variables for the next analyses.

As we can see in Table 8, when analysing the data in multivariate ANOVA, four variables served as independent ones (STRATPOSMIN, CLIL experience, teacher and CLIL experience in interaction with the teacher). I observed that, except for the interaction of CLIL experience and the teacher, the variables turned out to be significant. I obtained the following results: For the strategy use  $F(1,144) = 9.96$ ;  $p=0.002$ ; for CLIL experience  $F(1,144) = 23.60$ ;  $p<0.001$ ; for the teacher  $F(1,144) = 19.21$ ;  $p<0.001$ .

**Table 8.** ANCOVA with an unstandardized residual variable and stratposmin, CLIL experience and the teacher

SOURCE	DF	MEAN SQUARE	F	SIG.
Corrected Model	5	181.85	9.69	.000
Intercept	1	46.93	2.50	.116
stratposmin	1	186.84	9.96	.002
CLILexp	1	442.73	23.60	.000
teacher	1	360.41	19.21	.000
CLILexp * teacher	1	24.93	1.33	.251
Error	144	18.76		
<i>Total</i>	150			
<i>Corrected Total</i>	149			

Note: \* = interaction

Concerning the interaction of language learning strategies and vocabulary development with gender, no significant effect was found. The same applied to CLIL subject.

When we refer back to the significant strategies, we can see that along with the 10 strategies which had a significant effect on vocabulary acquisition, there were 78 strategies which made no significant difference in this respect. This does not mean that they are not important, but in the scope of this study they neither support nor hinder productive vocabulary acquisition.

#### 4. DISCUSSION

When we look at the strategies which turned out to be significant in relation to vocabulary acquisition, we can clearly see that the significant statements group in two areas. The first group of strategies (STRATMIN category) seems to be based more on learning words, whereas the second group (STRATPOS category) is more about task-based learning. The first group covers statements about memory aids to remember English words, switching between English and Czech, and feeling tension and unease in a CLIL class (where usual-

ly less focus is put on the direct learning of English vocabulary). In contrast, the second group of strategies is based on practicing English through conversations, watching movies in English, practicing reading without the intention to understand every single word, but only to grasp the general message, searching for possibilities to use English and learning from one's mistakes.

Interestingly enough, it turned out that the strategies which support vocabulary acquisition (STRATPOS strategies) were not based on direct teaching and learning vocabulary, but were related to different tasks. One may find this outcome slightly controversial, having realized that strategies connected with tasks which were not directly linked to learning vocabulary worked in fact better for vocabulary acquisition. This finding corresponds well with task-based learning and teaching (TBLT), which stresses the importance of holistic, functional and communicative tasks (Van den Branden, 2006). TBLT is based on learner-centred education, communicative tasks, real-life interactions and reflecting on one's own learning (Ellis, 2003; Van den Branden, Bygate & Norris, 2009).

Task-based language teaching (TBLT) or task-based language learning (TBLL) shows certain similarities with CLIL methodology as an educational approach. These are the following: emphasis on communication, interaction in the target language among students, real-world activities. Nonetheless, it needs to be stated that TBLT and CLIL differ in the focus of the language used in the aforementioned communication, interaction, and real-world activities. In the case of TBLT, language is focused towards general situations such as ordering food, visiting a doctor, buying tickets, etc. Whereas in CLIL, the language is targeted at the content of specific non-language subjects such as History, Civics, Mathematics, etc. (Abid, 2019). Furthermore, in CLIL, it is expedient to consider the learners' first language as a study aid. The relationship between TBLT and CLIL is thus on a more general level, which was reflected in the outcomes of the questionnaire results. It is above all meaningful language use which motivates language learning, and this motivation can be enhanced by the role of the teacher.

Since the role of the teacher turned out to be a significant factor in the relationship between vocabulary acquisition and language learning strategies, by linking it with the other significant variables (CLIL experience and the strategy use itself), we can see that all these three variables are interconnected. Although the direct interaction between CLIL experience and the teacher was not significant in the analyses, it is a matter of fact that CLIL experience happens through the teacher who instructs pupils in CLIL. The teacher is also an important element in supporting pupils' strategy use. It is usually the teacher who introduces different learning strategies to pupils and promotes using them through different assignments and tasks.

As regards both vocabulary acquisition and language learning strategy use, pupils need time to get adjusted to CLIL and strategy use, but during this process of getting used to working under different conditions, I dare say they learn lots of other useful skills. These are, for instance, managing social interactions, solving different problems, searching for information in different sources and dealing with diverse contexts of language. Such skills are then applicable beyond the classroom. Surpassing the limits of the classroom in this way leads to the functional use of the language, that is, in real life.

## 5. CONCLUSION

This study examined language learning strategy use and its relation to productive vocabulary acquisition. Based on the findings from the questionnaires, ten language learning strategies appeared to be significant. Using five of these strategies revealed their positive influence on vocabulary development. In contrast, dropping the use of five of the strategies also showed a significant correlation with enhanced productive vocabulary development. Those strategies which helped vocabulary acquisition dealt with task-based activities. The significance of strategies connected with tasks which are not directly linked to vocabulary acquisition indicate the importance of implicit learning. It demonstrates that teachers should think about what they do with the language than explain the language. Learning by doing things, through meaningful activities, by using the language in practical circumstances, all serve to enhance language learning.

Although this study reflects upon the situation of CLIL and language learning strategies in the Czech Republic, it may also inspire scholars as well as teachers from other countries. Language learning strategies in CLIL might be further explored, for instance, through qualitative studies of either the teacher's role in strategy development with pupils in CLIL versus non-CLIL classes or the pupils' point of view. Furthermore, both the main areas of investigation – vocabulary acquisition and language learning strategies, in classes of different experience with CLIL – could be studied longitudinally. This might furnish additional information on vocabulary development and language learning strategy use over a longer period of time. Such an investigation could then strengthen the research on the mutual relation of CLIL experience and vocabulary acquisition and/or language learning strategies for several consecutive years. A longitudinal study could then enhance CLIL pedagogy, which would support Coyle's statement that "improved pedagogy is always the main way to improve both take up and pupil competence" (2011, p. 26).

The findings show that students should be exposed to a variety of strategies and that teachers should gradually guide students in the use of strategies. Teachers might support strategy use not only by drawing students' attention to strategies, but also by designing materials and activities which reflect different strategies. Such an approach seems to be crucial for successful language learning. This supports suggestions of Coyle (2011) as well as Min et al. (2021) and Vimalakshan and Aziz (2021). Given that research has shown that the teacher is crucial to CLIL education, this study raises an important question about the nature of good CLIL practice in connection with vocabulary acquisition. The answers to strategy use questionnaires lead us to conclude that focusing on meaningful tasks is makes a significant difference. Effective learning builds on tasks where language, an integral part of which is vocabulary, is a tool to learn, not the aim of the learning itself.

## 6. REFERENCES

- Abid, A. (2019). An overview of Approaches to English language teaching. *International Journal of Linguistics, Literature and Translation*, 2(7), 214-220.
- Adan, D. A., & Hashim, H. (2021). Language learning strategies used by art school ESL learners. *Creative Education*, 12, 653-665. <https://doi.org/10.4236/ce.2021.123045>

- Alonso, A. C., García, M. A., & de la Rioja, U. (2014). Productive vocabulary knowledge of Spanish EFL learners. *Revista Electrónica de Lingüística Aplicada*, 1, 39-56.
- Alqahtani, M. (2015). The importance of vocabulary in language learning and how to be taught. *International Journal of Teaching and Education*, 3(3), 21-34.
- Bae, C. (2007). The acquisition of vocabulary in content-based instruction: A case study of 13 EFL adult learners. *Sophia Linguistica: working papers in linguistics*, 55, 71-95.
- Chang, A. (2007). The impact of vocabulary preparation on L2 listening comprehension, confidence and strategy use. *System*, 35, 534-550.
- Coyle, D. (2011). *ITALIC research report – investigating students gains: Content and language integrated learning*. Aberdeen: University of Aberdeen.
- Dale, L., van der Es, W., & Tanner, R. (2011). *CLIL skills*. Leiden: Expertisecentrum mvt.
- Dalton-Puffer, C., & Smit U. (2013). Thinking allowed. Content and language integrated learning: A research agenda. *Language Teaching*, 46.4, 545-559. doi:10.1017/S0261444813000256
- Deller, S., & Price, Ch. (2007). *Teaching other subjects through English*. Oxford: Oxford University Press.
- De Zarobe, Y. R. (2010). First languages and age in CLIL and non-CLIL contexts. *International CLIL Research Journal*, 3(1), 61–66.
- Ellis, R. (2003). *Task-based language learning and teaching*. Oxford: Oxford University Press.
- Habók, A., & Magyar, A. (2018). The effect of language learning strategies on proficiency, attitudes and school achievement. *Frontiers in Psychology* 8, 1-8. doi: 10.3389/fpsyg.2017.02358
- Jaikrishnan, S., & Ismail, H. H. (2021). A review on vocabulary learning strategies used in learning English as a second language. *International Journal of Academic Research in Business and Social Sciences*, 11(9), 297–309.
- Lasagabaster, D., & Sierra, J. M. (2009). Language attitudes in CLIL and traditional EFL classes. *International CLIL Research Journal*, 2(1), 5-18.
- Marsh, D. (2013). *The CLIL trajectory: Educational innovation for the 21st century iGeneration*. Córdoba: Servicio de Publicaciones de la Universidad de Córdoba.
- Mehisto, P., Marsh, D., & Frigols, M.J. (2008). *Uncovering CLIL. Content and language integrated learning in bilingual and multilingual education*. Oxford: Macmillan.
- Mehrabian, N., & Salehi, H. (2019). The effects of using diverse vocabulary learning strategies on word mastery: a review paper. *Journal of Applied Studies in Language*, 3(1), 100-114.
- Min, T. S., Wei, C. X., Rohaizat, N., Mohamed, K., Nie, A. F., & Hashim, H. (2021). Language learning strategies in acquiring English language skills among year 5 pupils in rural areas in southern Malaysia. *International Journal of Academic Research in Business and Social Sciences*, 11(7), 1247–1256.
- Min, Y. K. (2013). Vocabulary acquisition: Practical strategies for ESL students. *Journal of International Students*, 3(1), 63-69.
- Oxford, R. L. (1990). *Language learning strategies: What every teacher should know*, Boston, USA: Heinle & Heinle Publishers.
- Oxford, R. L. (2003). Language learning styles and strategies: Concepts and relationships. *IRAL*, 41, 271-278. <https://doi.org/10.1515/iral.2003.012>
- Schmitt, N. (2000). *Vocabulary in language teaching*. USA: Cambridge University Press.
- Seikulla-Leino, J. (2007). CLIL learning: Achievement levels and affective factors. *Language and Education*, 21(4), 328–341.



- Srimongkontip, S., & Wiriyaakrun, P. (2014). Measuring vocabulary size and vocabulary depth of secondary education students in a Thai-English bilingual school. *Journal of Liberal Arts, English in Thailand and beyond*, 10(2), 181-209.
- Thornbury, S. (2002). *How to teach vocabulary*. Harlow: Longman.
- Van de Craen, P. (2007). An interdisciplinary research approach to CLIL learning in primary schools in Brussels. In C. Dalton-Puffer, & U. Smit (Eds.), *Empirical perspectives on CLIL classroom discourse* (pp. 253–274). Frankfurt: Peter Lang.
- Van den Branden, K. (Ed.) (2006). *Task-based language education: From theory to practice*. Cambridge: Cambridge University Press.
- Van den Branden, K., Bygate, M., & Norris, J. (Eds.) (2009). *Task-based language teaching: A reader*. Amsterdam: John Benjamins.
- Várkuti, A. (2010). Linguistics benefits of the CLIL approach. *International CLIL Research Journal*, 3(1), 68–79.
- Vimalakshan, S., & Aziz, A. A. (2021). Investigating language learning strategies used by ESL lower secondary learners from national and vernacular school background. *International Journal of New Technology and Research*, 7(1), 41-47. <https://doi.org/10.31871/IJNTR.7.1.13>
- Vollmer, H. J. (2006). Subject-specific competence and language use of CLIL learners: The case of geography in grade 10 of secondary schools in Germany. In C. Dalton-Puffer (Ed.), *CLIL: From practice to principles. Annual Review of Applied Linguistics*, 31(1), 182–204.