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The CLIL method in international eTwinning Project

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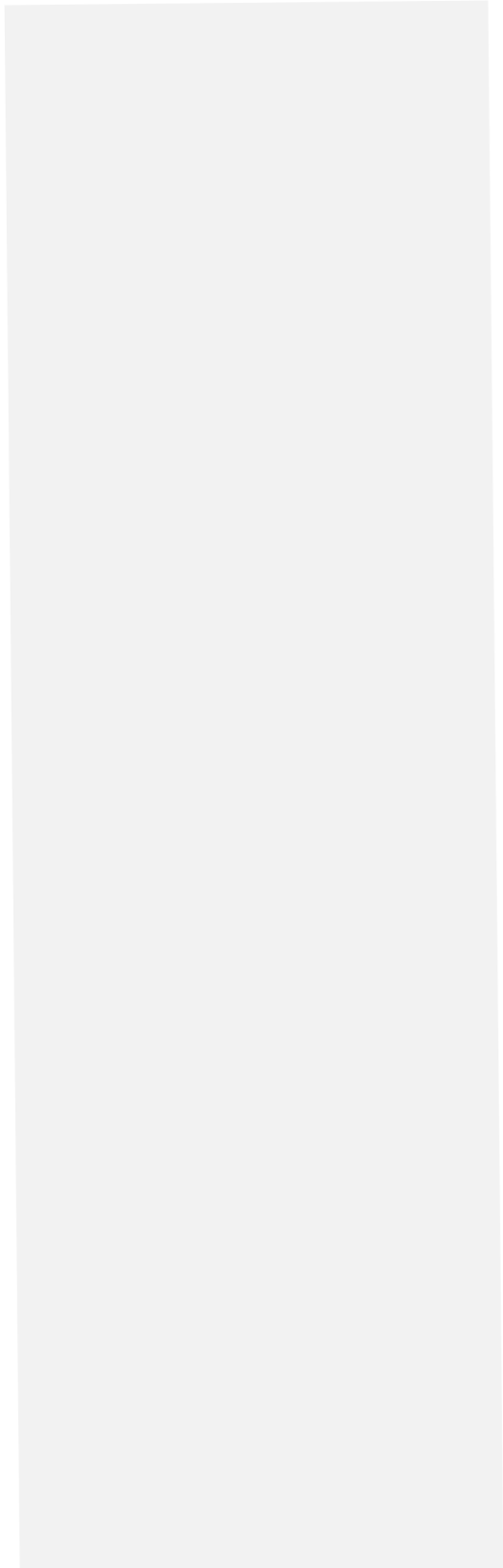
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Abstract

This Diploma thesis explores the usage of CLIL in eTwinning projects and the development of key competences during such projects. It consists of two parts: theoretical and practical. The theoretical part focuses on the definition CLIL method, international projects and eTwinning including their advantages and disadvantages. The analysis includes the development of key competences during eTwinning projects. The research was conducted using qualitative and quantitative methods such as questionnaires for teachers and pupils and a didactic test. The primary aim of this thesis is to determine whether key competences are developed during eTwinning projects. Additionally, the secondary aims are to examine the teachers perception relating to CLIL and eTwinning as well as the of pupils perception on the subject. Lastly, it investigates whether learning through eTwinning projects enhances children's' vocabulary.

Key words: CLIL, eTwinning, project education, basic school, method, key competences, pupils, teachers

Introduction

Upon starting a career as a basic schoolteacher, part of my professional development included research into CLIL. Over the course of five years, I built a solid foundation of skills and experience. Afterwards, I felt ready to become an active member of the CLIL community. Then eTwinning was established as a new method of connecting schools worldwide. Incorporating CLIL into international projects gained recognition as an excellent way to connect real-life experiences and demonstrate to the pupils the benefits of multilingualism. As new methods and technologies are introduced it becomes vital to ensure teaching methods are adapted and developed to maximise student outcomes. Pupils should be encouraged to be creative, utilize new digital technologies and programs in order to be prepared for life after school. When planned correctly and carefully, project-based education can provide these key competences.

While exploring the broad range of projects created and implemented by teachers from across the world on the official eTwinning platform, it became apparent that the education system is undergoing changes globally and the teaching community is focused on integration of content and language through meaningful projects. ZS Jiraskova, where I conducted my research has received numerous awards for its eTwinning projects working diligently to broaden pupils' horizons and adopting an innovative approach in education. The reason I chose this topic for my Diploma Thesis is to further my interest and promote projects like eTwinning. Showcasing the options available to every school when considering international involvement.

This Diploma thesis consists of two parts: theoretical and practical. In the theoretical part, attention is focused on the CLIL method, including its benefits and potential difficulties. General international projects are introduced to provide insights into the concept, and finally the eTwinning method is presented as one of the faces of CLIL.

The aim of the practical part of the thesis is to investigate the effectiveness of these methods, the children's perception of them, and whether they would prefer more traditional methods of English teaching. Furthermore, the impact of the eTwinning projects on learners' attitudes towards communicating with native English speakers is investigated.

Another aspect of my diploma thesis focuses on the effectiveness of eTwinning projects. Specifically, it examines which key competences are developed and whether the pupils and teachers perceive this development while working on eTwinning projects. In order to conduct

this research, I have chosen the method of a didactic test and questionnaires completed by pupils.

Lastly, I investigate the perception of this method among the teachers from schools participating in eTwinning projects. Particular emphasis is placed on its time-consuming nature and whether teachers believe it is worthwhile. Questionnaires and interviews have been selected as data gathering methods for this research.

One of the key challenges I encountered was gathering sufficient information from various participants. Young learners do not always take questionnaires seriously and may not invest enough time to complete them accurately. Therefore, the validity of information gathered may not always be truthful or valuable for my research which may alter the results. To address this, it is important to support it with combination of more methods such as didactic test and observation.

THEORETICAL PART

1. CLIL METHOD

This chapter focuses on introducing the CLIL method as a fundamental pillar for international project work. It discusses its global and Czech history, as well as its utilisation within the Czech schooling system, and the advantages and disadvantages that may arise during its implementation in school lessons.

1.1 Definition of CLIL

CLIL: “Content and Language Integrated Learning “CLIL” is an approach in which a foreign language is used as a tool in the learning of a non-language subjects in which both language and the subject have a joint role” (TKT CLIL 2019, p.2).

This can be challenging for the teacher of non-language subjects as they need to ensure the students learn information that they lack in foreign language and therefore help them fully understand the topic. On the other hand, language teachers teach content education within language lessons to support the students understanding of given problematics in content subjects. However, there is third aspect to CLIL, that is a development of learning skills and strategies (Mehisto et. al 2008, p11). CLIL develops critical thinking of the reader, motivates them to work and awakens their creativity, motivates teachers to develop new teaching strategies etc. (Pokrivcakova 2001, p31)

CLIL works with students interest to understand and use the content and therefore motivates him to understand the language. It is more likely that the students will learn more if they are using the language to achieve some goals, to learn in some content not just for the sake of learning a language itself. (Mehisto et al 2008, p. 11)

Picture 1. Pyramid showing the elements necessary for successful implementation of CLIL



Source: (Mehisto, Marsh, Frigols, 2008, p.12)

1.2 The history of Clil:

According to CLIL in foreign English Education (Pokrivčáková, 2015,p.8) the word CLIL only started to exist in 1994, however it is not a new concept. The origins of CLIL can be traced as far as 5,000 years ago to the Akkadians. Multilingual education is nothing new and only a newly named concept with certain rules had been invented during the recent years.

In the end of the 19th century there were two possibilities for rich people how to learn foreign language. One of them was to send children to the target country to learn the language and the other one was to hire a tutor (for boys) or governess (for girls) to teach them. This education was not done by only repetition of the grammar but also learning the vocabulary through daily existence among the native speakers. (Hanesova, 2015). Being bilingual has a long tradition within the countries with more than one official language. E.g., In Luxembourg children in primary school learned German and in secondary school French long before the law about setting the standards of bilingualism was issued in 1843 (Horner, Weber, 2015). The idea of learning a foreign language in real context was already stressed out by two teachers, J.A. Comenius (1592-1670) who emphasised effective language teaching. The second being Matthias Bel (1684-1749) (Shraiber, Ovinova, 2017).

Matthias Bel was a secondary teacher and a headmaster at two grammar schools. Because Slovakia was part of the German-Hungarian-Slovak-Czech region it was important for children to learn more languages rather than just their native one. Bel's credo was: "*Teach the*

words by getting to know the reality- the world around us.”- this helped the students to connect the words with images in their heads. Bel tried to teach children all the languages they could hear around them (German, Hungarian and Czech). The focus was put on learning the language of everyday life, such as landlord’s instructions for maid, for dressing up, preparing and serving of the meals or taking care of the economic issues of households, inviting and welcoming guests, small talk, walks hunting etc (Hanesova, 2015).

Various demographic, geographic and economic issues impacted the learning of a new language. Language skills were seen as most valuable mainly near national borders or in big cities. The primary aim was to teach children new language as soon as possible (Hanesova, 2014). First programmes of started around 1965, when English- speaking parents living in French territory of Quebec needed an educational kindergarten programme for their children so that they would quickly become competent in speaking, reading and writing in French. The solution came in the form of programme which would immerse students in the language that was other than their mother tongue. The English-speaking children learned school subjects in French (Maths, Geography) together with French-speaking children. The term “immersion” was used as a synonym for bilingual education in the 1970s and 1980s. Later programmes designed to teach new content in a non-native language spread all over the world. (Mehisto et.al., 2008). The approach that developed in Canada was a typical one way system where the language was taught to a group of students who did not understand the other native language. However, a two-way immersion programme existed Los Angeles in Korea-English school. These children were studying with both Korean and English-speaking children in one class. (Pokrivcakova, 2001)

Another movement called LAC was developed in London in 1966. A group of teachers was considering the importance of discussion in English lessons and discovered that it is impossible to confine it only to English lessons, as there are many aspects of a language and that is how English across the curriculum came to an existence. (Vollmer,1975) For the children to embrace a new language fully, they needed to use the language throughout school day. The LAC movement started with a lot of action research and theory building. This idea quickly spread through England, Australia and Canada. (Hanesova, 2015)

Europeans interested in various programmes for integrating a language into a content soon found out about the success of the aforementioned. European Commission published a proposal that was “*encouraging teaching in schools through medium of more than one language*” (Marsh,2002, p.51) In 1983 The European Parliament wanted from European

Commission “to forward a new programme to improve foreign language teaching” (Marsh,2002, p.52). More suitable for state schools which would start to teach various subjects in a target language.

Different approaches to language teaching were developed in order to address factors such as sociological, historical or educational for each region, inclusive of CLIL (Pokrivčáková 2011, p.28).

Full immersion programmes like the ones in Canada were not suitable CLIL model for some European countries such as Slovakia, where non-native language forms an addition to the curriculum. Therefore, the CLIL model for Europe is really a milder form and English in the lessons is used maximally 50% of the lesson time. In the last twenty years CLIL was mainly used in primary and secondary schools. However, nowadays universities are also offering courses taught in English (Zelenkova,2014)

The acronym CLIL was created by David Marsh a person that was part of the team that dealt with multilingualism and bilingual education at Finnish University (Kovacs 2014, p.48; Marsh & Hartiala 2001, Pokrivčáková 2015, p.10) CLIL was inspired by the Canadian immersion model and the British LAC models According to Marsh (Marsh 2012, p.1) “*the European launch of CLIL during the 19994 was both political and educational.*” The vision of EU was that because people would be more mobile within the EU a bigger language competence was required. The aim of this movement was to provide students with higher level of competence in foreign languages.

Marsh suggested in 2005 that CLIL is the “general umbrella” for different methodologies for dual focused education. In 2006 it was reported by Eurydice that CLIL was available in most of the European Union member countries. Publication ‘Windows on CLIL’ (Maljers et al., 2007) presented how CLIL worked in 20 European countries in 2007. (Hanesova,2015). The approaches that were disserted in ‘Windows on CLIL’ had been put in place in secondary schools, however only a small amount of countries had early education programmes. These countries were Austria, Finland, Hungary and Spain. (Kovács 2014, p.51).

CLIL at schools

1.2.1 Principles of CLIL education

Picture 2. Basic pillars for implementation of the CLIL method into educating process



Source: (Montalto, Walters 2021, p.32)

The basic pillars for implementation of the CLIL method are the five C's:

- **Content**

The lesson is planned on the content knowledge that the pupils already have (Montalto, Walters 2021, p32). The Czech Republic has following types of teachers who can teach content in a foreign language: teachers who are competent to teach a second language, teachers who come from abroad and speak a foreign language and Czech teachers who have qualifications in both content subject and foreign languages.

In order to learn content in foreign language, CLIL utilizes foreign textbooks and other teaching materials. All CLIL programmes must fulfil the aims and objectives stated in the Czech educational curriculum. (Maljers et al.,2007, p41-45)

- **Communication**

It is essential to encourage the pupils to work actively, study together, cooperate in teams, communicate with each other and the teacher, and use as much language as possible. The teacher should plan the lessons with questions in mind such as “*How will the students*

communicate? What language is suitable for communication? What key content is necessary? What support can I provide?" (Montalto & Walters 2021, p.33) Desk layout, posters in classroom and other available aids all support communication amongst the children and the teacher (Mehisto, et al. 2008,p 31).

- **Competences**

In most CLIL publications only 4c's are mentioned, however development of competences plays a big part in education and is described in detail in the eTwinning chapter. Teachers should take into consideration what new skills and knowledge want the pupils to have as an outcome of the lesson- "*Can-do*" (Montalto & Walters 2021, p.33)

- **Community**

CLIL and various methods which fall under CLIL, with this project's emphasis on international project method, have a common goal which is the relevance of newly gathered information for life, be it within domestic or other cultures (Montalto & Walters, 2021, p.33). Pupils should gain skills to actively take part during group work and in local community (Mehisto et. al., 2008, p31).

- **Cognition**

CLIL endeavours to develop cognitive skills such as creative thinking, evaluating and reasoning (Spratt, et. al., 2005, p7) Cognitive skills are categorised in Bloom's taxonomy as Lower Order Thinking Skills (henceforth LOTS). The taxonomy states that pupils applying LOTS into practise by responding to questions: "where?", "which?", "how many?" and "who?", learn to remember and comprehend information, as well as explain it. Additionally, they acquire the ability to apply new information in different contexts (Montalto, Walters 2021, p.33-34).

1.3 CLIL models used during lessons

CLIL is an umbrella term which encompasses various approaches for its implementation in practical teaching. Education where at least 25% is taught in foreign language is considered CLIL. The content and language should gradually become balanced during lessons. The education has two main objectives, one related to content and one related to the foreign language. Currently, CLIL education coexists alongside traditional foreign language education. The intention is not to replace foreign language education, but rather to enhance it. However, it is possible that this dynamic may evolve in the future. Research has confirmed the positive

impact of CLIL on pupil's attitudes, motivation and language learning abilities, as well as their acquisition of content knowledge (Hofmannová, Novotná, undated).

Different models are used in practise which vary in foreign language implementation. Frequency of implementation during the lessons within school year varies greatly depending also on the teacher. Summary of which is given below (Smidova, et. al.,2012 ,p14):

- **Language shows- short foreign language activities** Pupils can be using their mother tongue and teacher can implement short language activities in English. E.g. What colour is the penguin? It's black and white. What black and white things can you see in the classroom? Etc. It can be used to practise vocabulary for the current subjects (Mehisto et.al., 2008, p13).
- **Visual aids** –Pictures and other materials used during the lesson are in English. Rest of the lesson can be in mother tongue. Gestures and eye contact also belong to this category. (Pokrivčáková 2013, p190)
- **Instructions in foreign language-** The teacher uses mother tongue during the lessons, only instructions are given in English (Smidova, et.al.,2012,p21).
- **CLIL homeworks-** Teacher uses foreign language materials when giving the pupils homework (Smidova at. al.,2012,p21).
- **Implementation of content into foreign language education-** Teacher cooperates with teachers of content language and works with materials that are the pupils taught in relevant subject (Vojtkova & Hanusova 2011, p.18)
- **Content subject realia taught in foreign language-** Teacher cooperates with a teacher of foreign language and incorporates foreign subject into teaching realia e.g. in Geography or History (Smidova, et. al, 2012, p21).
- **Project education-** Pupils can prepare international project in content subject lessons e.g., eTwinning. Another option are project days, where a full day is taught through a project e.g., Environmental education (Vojtkova & Hanusova 2011,p19).
- **Integrated education-** Teacher teaches an integrated curriculum which connects different areas of study, it has aims from both vocational subject and from foreign language (et.al., 2012, p21).

1.4 Advantages and Disadvantages of CLIL method

1.4.1 Advantages:

- **CLIL is more interesting for the learners**

Using CLIL in lessons does not follow typical conventions, pupils are encouraged to use different language to learn new knowledge. It is different from classical English lessons and yet they can learn new vocabulary, grammar through more motivating and entertaining process (Coyle, 2009). Researchers shows that pupils who are challenged to solve practical problems are more engaged especially if it is in different language (Hromadka, 2019). Another opinion that supports this advantage is that it is more effective to use language for real communication. If, for example, pupils are learning about global warming from language textbook it is perhaps to learn the second conditional. However, if they are learning it through CLIL it gives it practical application. They are learning it to help the world. (Kleckova 2011, p.8).

- **CLIL is time saving**

Curriculum specifies subject teaching individually and CLIL joins more subjects together, therefore the teacher can save time by teaching the pupils more skills in one lesson. However, it requires careful planning on teacher's part (Coyle,2009).

- **Better concentration**

Pupils must be more vigilant when learning new information in foreign language. Active participation is one of the basic pillars of CLIL, pupils must cooperate, research and communicate in the subject and by learning through experience they concentrate better (Coyle, 2009). Researchers show that there is a positive influence of CLIL on development of cognitive competences. Research shows that pupils who are engaged in CLIL programmes work more persistently and do not get discouraged by initial struggle. (Kleckova 2011, p12).

- **CLIL prepares learners for potential life abroad**

Pupils taught through CLIL have broader vocabulary and are less afraid to use language and therefore are more confident when traveling (Coyle, 2009). It helps pupils to understand intercultural relationships. Children used to solving problems in foreign language are more likely to find studying and living abroad less stressful than those not used to using language in various situations (Kleckova, 2011).

1.4.2 **Disadvantages:**

- **Teachers can be discouraged by big changes**

Whilst when already established CLIL can be timesaving at the beginning it is challenging for the teachers to change already established rules and fully reschedule their lessons (Coyle,2009). The school may not own sufficient materials and other aids needed to establish a good CLIL practise at school. (Pokrivcakova, 2013)

- **Not all teachers have appropriate level of English**

Teaching in CLIL requires a certain level of language skills which the teacher should have. Not all teachers know topic-specific language which may be addressed by tandem education, I.e. two teachers teaching one lesson. However, this poses additional challenges such as timetabling and staffing, solving of those may require investment in further language education of the teachers (Coyle, 2009). Teachers can also lack experience and confidence to teach in foreign language and at last, but not least there is a risk of teaching the pupils incorrect pronunciation or incorrect grammar. (Pokrivcakova, 2013).

- **Pupils struggling in English lessons can be discouraged**

Children that have problems in English lessons can lack motivation for learning different subject in language which they might not like. CLIL is for everyone, but it is important for the teacher to motivate these students and change their opinion (Coyle, 2009).

- **Time consuming for preparation**

Some teachers can have their well-established system of creating lessons which does not take them extensive periods of time, however by implementing CLIL lesson becomes more challenging for preparation which needs to be well thought of (Hromadka, 2019).

1.5 Summary

Multilingual education has been practised for an extended period of time and in various countries worldwide. CLIL has emerged as a unifying integrating various methods and concepts for teachers to adopt. There are numerous options for incorporating CLIL into lessons and every teacher should be able to implement it, potentially with cooperation of foreign language teachers. While this method is generally considered beneficial, there are potential risks associated with it. Therefore, it is important to acknowledge and address these risks and carefully plan lessons accounting these risks.

2. PROJECT WORK

This chapter provides a general overview of project work, describing its characteristics and features. It then focuses on international projects and its benefits and limitations. There can be certain risks that the teacher must consider when implementing project-based education.

2.1 Definition of project work

Picture 3. Showing important parts of project-based learning



(Source: Project based learning, undated)

Project based learning (PBL) endeavours to connect knowledge from different fields with what the pupils can experience in real life. It can serve as an intelligible bridge between real world and knowledge learned at school. Schooling system is often criticised for not preparing an individual for real life and these types of projects can change that (Magnifylearningin, 2023). The term project is understood as a complex task which is being worked on by pupils themselves. PBL is characteristic for this aim. There is a problem to solve or a product to be made. Project based learning is done across the curriculum and combines variety of subjects within one project. (Zormanova, 2012)

2.1.1 Basic features of a project:

- **Project is based on needs and interests of a pupil**

Project is authentic- based on situations that are not only confined to the school.

Each project is unique and new ideas are created during its realization.

- **Project is interdisciplinary and include various partners**

Skills across the curriculum are learned during the duration of a project and pupils have variety of partners to cooperate which while the project is ongoing.

- **It is mainly conducted by the pupil**

Teachers are facilitators during projects and are present to provide structure and knowledge to the task. The students are free to apply their newly gained knowledge, ideas and perspectives.

- **There is a publicly presented product**

Something which can be viewed and evaluated. Projects are broken into smaller aims which can be assessed. Projects have a clearly stated aim and there should always have visible results.

- **Project is usually realised as a group collaboration**

- **Thanks to the project the school can integrate into the community**

- **It is realistic to accomplish project**

Financial, human resources and other requirements must be considered.

- **Project have given time and space in which they are to be accomplished**

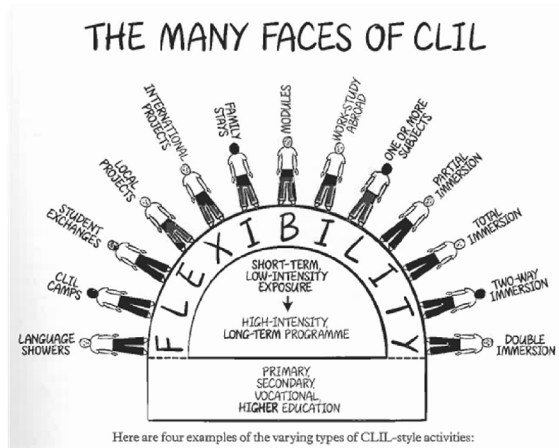
It is clearly stated at the beginning of each project when it will end and through which platform are the schools to cooperate

- **Each project consists of smaller stages.**

(Coufalova, 2006, p11, Scridon et al. 2014, p.11)

2.2 International project work

Picture 4. Showing different options for CLIL education



(Source: Mehisto, et. al 2008, p. 13)

Schools from various countries are involved in international projects. Usually, these schools establish partnership with schools and can feature an exchange of pupils which consists of children visiting each other in their countries and schools. Thanks to this the teachers have opportunities to exchange experiences and ideas. This can help with a creation of new curriculum, sharing of teaching ideas and various materials, shadowing of other teachers, learning about different culture and customs etc. One possibility is to join projects which are already in existence and other option is to create a new project. (Mehisto, et. al. 2008, p. 16).

The main aim of the International Project is to provide pupils with new learning experience. Pupils must cooperate with pupils from different country to learn various subjects such as history, geography, science etc. The language used for communication is usually English. During pandemic situation this was one of the greatest opportunities how to engage students in something interesting while being isolated from schoolmates. Usually, the most efficient partnerships are with schools that have similar visions and goals (Tes, 2023).

2.3 Benefits of international project work

- **Development of language** - Pupils are exposed to, for example, English more intensely than in traditional and CLIL lessons, as they must cooperate with other pupils using only English. They also see the importance of learning foreign language in real-life applications.
- **Content learning** - Projects help children envisaging content in real-life situations. Pupils must use critical thinking. They are often taken out of their comfort zone and must use critical thinking to solve possible problems discovered in this situation.
- **Intercultural competence** - Cooperation is important part of international projects and through cooperations pupils become aware of different cultures and their customs. It promotes appreciation for multi-culturalism and tolerance. It plays important part in reducing racism across the world.
- **Motivation and engagement** - Learning through projects is increasing pupils' participation and motivation, The education is more interactive. (Scridon et al. 2014, p11)
- **Global awareness**- By cooperating with other countries, pupils begin to think globally, can see issues in the world. (Tickle, 2012)
- **Development of social skills** -Pupils can create life-long friendships through projects and also have potential partners for their future professional life. (Tes, 2023) Empathy plays another important role during international cooperation, as pupils learn that we are not all the same and they must develop an understanding for different ways of thinking and problem solving which also leads to their own self-management (Scridon et al.2014, p. 11).
- **Exchange of ideas** -During the cooperation of two or more countries sharing the same challenges, different solutions may be identified due to individual experiences as well as the cultural background, different history etc. This develops “learning partnership” between the countries. Where all partners discuss different views and share them with others (Scridon et al. 2014, p.11) in order to meet the common goal.
- **Development of teachers and school culture** - International projects are a great opportunity not only for the pupils, but also for the teachers to deepen their project managing skills, ability to cooperate, learn new methods for teaching, practise and develop their language skills and also intercultural competences.

The school gains more attractivity for potential pupils, innovation- they can implement new approaches observed during the partnership, cooperation with local institutions etc. Projects can also bring more involvement from parents and public.

- **Entertainment** - Projects do not have only educational function, but also entertaining one. Pupils who participate in such projects gain lifetime experience.

(DZS, 2021)

2.4 Potential problems with international project work

- **It is time consuming** - Teachers may struggle to cover the necessary subject material and also project goals, within provided timescale. Another point of view is the requirement for extensive time given to project planning. Not all teachers are willing to do that or have the time available to them (Zormanova, 2012)
- **Difficult to find agreement with all involved parties** - When planning a project all parties should have clearly defined what is who's responsibility and how the project will be proceeding (Scridon et al. 2014, p. 36)
- **It is challenging for some teachers** - Not all teachers are keen on new innovative methods of teaching and therefore it is important to communicate with them, introduce the idea and give them support should they need it (Lojdova, 2012, p. 16).
- **It can be hard to establish the right level of difficulty** - Some tasks may prove to be too difficult for the pupils. The teacher should always have an alternative plan in case this happens. Teacher should also observe struggling children and guide them how to research information and where (Mehisto, et.al. 2008, p. 121).
- **Some teachers may not want to participate/ Parents can have issues with this type of education** - Project education requires participation of colleagues and parents and the teacher should be aware of that and research suitable partners before the beginning of a project (Lojdova 2012, p. 16).
- **Not all pupils participate equally** - There is a big risk that not all pupils will work equally during group work, and it is teacher's task to ensure that this does not happen. One of the possibilities is to give each pupil a role within the group and have an expected output presented by each role. It is vital to change these roles as not all roles have the same amount of work on each task (Sindelar, 2019).

- **Not all pupils like English and are proficient** - It is necessary to effectively motivate children. Especially pupils that are struggling with language will need to be motivated with the content of the project (Lojdova, 2012, p. 16).
- **Making projects correspondent with curriculum** -There had been criticism in the past of project learning not having the same effect as traditional education as pupils more concentrate on entertaining part of education and not on long term educational aims. Teacher must be careful not to lose the long-term aim of the project and ensure that all individual goals are beneficial for the pupil (Lojdova 2012, p. 16).
- **Limits in resources** (finances, materials, skilled teachers)- Most schools have financial issues and limited resources; therefore, teachers should plan very carefully the budget of international projects and search for compromises (Scridon et al., 2014).
- **Challenging to comply with the timeline and fulfil all tasks** -Careful planning is required in order to have a successful international project.
- **Intercultural conflicts** -Conflicts can arise due to different views on various topics, religious, political etc. Preparation in this aspect is necessary as pupils should know that some topics are sensitive. Children can learn through games and discussions what is not acceptable. (Scridon et al., 2014)

2.5 Summary:

International project work can present challenges for teachers in terms of planning and require proficient English skills. However, it offers an opportunity for education that develops multiple key competences and keeps pupils engaged during lessons. To facilitate this, certain changes in Czech schooling system would be necessary, such as allocating sufficient time for project completion and ensuring alignment with the Czech curriculum.

3. ETWINNING

The following chapter presents the eTwinning method as a form of project work that relies on CLIL, as it necessitates pupils to communicate content in a common language. Subsequently, focus is directed towards the investigation of key competence development during eTwinning projects, which serves as the research subject of this thesis. Additionally, this chapter introduces the specific terminology and tools employed in eTwinning.

3.1 Introduction to eTwinning

The eTwinning project was established in 2005. It is part of European Commission's eLearning Project. It belongs to CLIL category of international project and student exchanges and is a community of schools in Europe, where different schools from different countries cooperate. The cooperation can happen on many levels be it between teachers, headmasters, pupils, or the whole classes (Grecnerova, 2015). This experience is very important for strengthening of European and not only European extent in education and for the awareness of young people about the variety of multilingual and multicultural society and their skills to educate, live and work anywhere in the world (Pychova, 2007)

There is not a subsidy type of educational project which can be found within European Union. This is unlike usual international projects in sense that it does not have a given criterion of participation or deadlines for the start and finish of the projects. It is a service which creates a certain frame for international cooperation of schools, which can then establish partnerships and realize an activity which they themselves consider useful. They decide on the beginning and end of a cooperation with partnership schools. eTwinning is opened to all types of nurseries, basic and high schools. The only condition is that the school is registered in the registry of schools under MSMT (eTwinning, 2004-2018)

3.2 Important terms connected with eTwinning

3.2.1 TwinSpace

All eTwinning projects gain its own website called TwinSpace which can be accessed from the eTwinning portal. There are various tools available to teachers and students from the cooperating schools. There is an email inbox, forums, calendars, archives and folders where the participants of the project can save materials, private chat which can be used 24/7 and is safe

Okomentoval(a): [AP1]:

for the pupils to use even after school to communicate with pupils from partnership school, etc. (eTwinning, 2004-2018)

3.2.2 eTwinning Plus

Originally eTwinning concentrated on European Union countries, but since 2013 through eTwinning Plus it is possible to cooperate with countries in the proximity such as Azerbaijan, Armenia, Georgia, Moldavia, Tunis and Ukraine (Grecnerova, 2015).

3.2.3 eTwinning portal

The eTwinning portal serves as a gateway to the eTwinning world. It serves as an entry point exclusively for registered teachers who must obtain approval from their schools to gain complete access. Upon approval, they are granted entry to eTwinning Live (The fundamentals of eTwinning, 2021)

3.2.4 eTwinning Live

The eTwinning Live offers an immersive experience within the eTwinning community. It enables teachers to discover potential partners among fellow registered eTwinners and schools. Facilitating collaborations, connections, and an exploration of ongoing activities. Teachers gain access to all the content generated by eTwinners, as well as the ability to contribute their own. This platform provides teachers with a unique opportunity to their own projects and engage in fruitful collaborations with other educators and their students. (The fundamentals of eTwinning, 2021)

3.2.5 Central Support Service

The Central Support Service (henceforward CSS) oversees the network of national support organisations including the European Commission, the European Education and Culture Executive Agency. CSS assumes responsibility for the management of the multilingual eTwinning website, which provides a range of tools and services accessible to schools staff. It serves as a platform where educators can register, find potential partners and collaborate. In addition, CSS offers pedagogical and technical helpdesk services, as well as specialised training sessions. Its central offices are situated in Brussels (The European School Education Platform, 2022).

3.2.6 Erasmus +

It is an educational program of the European Union, aimed at promoting cooperation and mobility in all areas of education, vocational training, sports and youth. Through the Erasmus+ program organisations can seek support for international mobility and establish partnerships with foreign partners. Projects within Erasmus+ enable schools and organisations to carry out student exchanges, staff exchanges for educational institutions and mobility for learners, teachers, and trainers to different countries. Within the partnership for cooperation programme, institutions can establish international partnerships and undertake international projects (Erasmus+, 2018).

3.2.7 Quality Label

Quality Labels within eTwinning are awarded to teachers for the implementation of outstanding eTwinning projects. They certify that the project has achieved a certain level of quality at both national and European levels (eTwinning, 2018).

3.3 Development of key competences thanks to eTwinning

European Union states identified which key competences will be needed in the future by their population. However, this is not enough to determine which key skills are necessary. The most important step is to establish how and where these competences will be taught and, in order to avoid any discrimination, how to ensure that all citizens can access this education. The desired result is for all citizens to be able to participate actively in society. Therefore, attributes which are needed in order to play an active part in political, economic, social and cultural activities are being actively sought after (Eurydice 2002, p11). Most countries have done reforms on a national scale lately. In the Czech Republic a publication referred to as the White Paper also acknowledges that it is important to take into account the changing conditions for future workers and make the education multidimensional (Kotasek 2001,p14). However, a fully interconnected approach where education of teachers, evaluation of pupils, educational recourses and organization of school are solved are quite rare. The implementation of key competences into education is not just in their definition in curricular documents, but also in the development of a suitable structure for education and teaching methods. If we take into consideration cross-sectional character of the competences, it is necessary to use inter-subject relationships and adjust the education accordingly, which requires extensive planning of the school.

eTwinning acknowledges variety of national Curriculums which follow the key competences as stated by the European Union. The European concept has the following eight key competences which are considered necessary for the personal development, active citizenship, social incorporation and for work life of everyone. (Gilleran, 2014). The key competences are: Communication in mother tongue, communication in foreign language, mathematical literacy and competences in natural science and technology, competence in information and communication technologies, the ability to learn, Interpersonal, social and citizenship competences, business skills, cultural prospect. (Belecky, 2007) All these competences are interconnected, and stress is put on critical thinking, creativity, initiative, problem solving, evaluation of risks, decision making and constructive management of feelings (Gilleran,2014).

The educational orientation is changing the aim is to teach children how to know- how to use information and communication technologies, how to decide about what is a priority to learn and avoid being taught trivial information, how to think critically and how to develop other key competences. (Kotasek2001, p.40). The main recommendation concerning the education of key competences is to provide interactive surrounding, which lets the pupils do practical tasks and apply their research approach. Especially suitable method for an acquirement of key competences is project education, because its intrasubject character lets pupils develop few of the key competences at once. That is the reason why eTwinning projects can successfully help with the development of pupils' key competences. Project education suggests that the pupils approach education actively and responsibly, the role of the teacher is here more for support and for stirring the pupils in the right direction by giving clear instructions. One of the most important skills to support pupils in, is the ability to learn. Schools should respect the importance of social and emotional dimension in education and let pupils to have bigger impact on the process of education. (Gilleran, 2014)

3.3.1 Communication in mother tongue

One of the key competences is the communication in mother tongue, which would seem irrelevant for the topic of this diploma thesis, however the importance of expressing ourselves is important also in English and of course in order to have broader vocabulary in English it is necessary to know the words in mother tongue.

3.3.2 Communication in foreign language

Communication in foreign language requires the same basic skills as the communication in mother tongue. It comes from the ability to understand, express and translate ideas, thoughts, feelings, facts and opinions in oral and also written form. Gilleran (2014) lists these skills as listening, speech, reading and writing. Emphasis is placed on promotion of cultural diversity and growing interest and curiosity about languages and communication between various cultures. To be taught and learn different languages is preliminary in order to create the possibility for European citizens to move, work and learn all over Europe freely. Communication in foreign languages also requires knowledge of different cultures (School Education Gateway, 2017).

- The most important knowledge, skills and stance connected with this competence:

For the ability to efficiently communicate in foreign language is necessary to have the knowledge of vocabulary and functional grammar and awareness of the main types of verbal interaction and registry of the language. It is also important to know the socio-cultural background and the language variety. (Gilleran, 2014). The more advanced skills necessary for communication in foreign language are the ability to understand spoken word, start, lead, and finish conversations and read, understand and create texts corresponding with individual needs. The individual must be able to use tools and learn languages also informally during the lifetime process of learning (School Education Gateway, 2017).

3.3.3 Mathematical competence and basic competence in field of science and technologies

To possess mathematical competence means to have knowledge and understanding, the ability to exercise, apply mathematics and mathematical activity in various context where maths is involved or possibly could be involved (Niss et al., 2016). It is the ability to develop and use mathematical thinking to solve problems in various everyday situations. It comes from thorough mastering of basic mathematical tasks where the importance is put not only on the procedure and practise, but also on knowledge. Mathematical competence includes the ability and willingness to use mathematical ways of thinking (logic and space imagination) and expressions (formulas, models, constructions, graphs and diagrams) on various levels. (Gilleran, 2014)

In order to understand maths, it is important to know numbers and units of measure and structure, basic operations and mathematical expression, understand maths concepts and awareness of questions to which maths can gives us an answer. The set of skills should include:

using basic mathematical principles and approaches in everyday situations at home and at work and the ability to track and evaluate a sequence of arguments. The individual should be able to think mathematically, understand mathematical proof, communicate in the language of maths and use suitable equipment. (Gilleran & Kearney, 2014) These skills become a powerful tool which is used in personal life too. Mathematical knowledge lets the pupils evaluate the credibility of public information in forms of various graphs, tables etc. and avoid being cheated by false advertisement. (Sibova, Krckova, 2007)

In the field of science and technology the most important knowledge is: of main nature laws, basic scientific concepts, principles and methods, technologies and technical products and the process of achieving it. It is also necessary to understand what influence have natural science and technology on nature. These competences should allow individuals to better understand a development, limitations and risks of scientific theories and application of technology in society in general in connection with decision making, values of each individual, moral questions, culture (Gilleran,2014).

Each mathematical exercise is a problem which needs to be solved by pupils. Pupils are taught to use previous experience, to get to the core of the problem and to divide each problem into individual steps. Maths teaches pupils critical thinking, but that is not the only competence. In order to solve mathematical problems, pupils must understand the problem and interpret it, therefore another competence is developed – communicative competence (Sibova, Krckova, 2007).

3.3.4 Digital competence

Digital competence can be understood as a cross-sectional competence. Without this competence other competences cannot be fully developed. Basic characteristic is the usage of digital technologies during various activities and whilst solving various problems. The importance of this competence is changing as the usage of technologies are changing. New technologies are being developed and they are being used more extensively. This ability is based on basic information and communication technology skills: with the use of computer to research, gather, evaluate, store, create, present and change information, communicate and cooperate via internet (RVP pro obor informatika a ICT).

The key is understanding the basic computer applications such as text editors, table processors, database, systems for saving and information management. It should also include understanding of potential risks associated with internet and communication through electronic.

The individual should also understand how technological information system- (TIS) support creativity and invention. However, they must also realise problems connected with validity and credibility of some of the available information and know law and ethical codex which needs to be uphold whilst interactively using TIS. (Gilleran, 2014).

The required skills when using digital technologies are to evaluate their importance and differentiation between real and virtual world and to understand its interconnection. The individual should be able to use tools for creation, presentation and understanding of complex information and should be able to gather, research and use services which internet offers. When using TIS one should appraise the researched information critically and use interactive media responsibly. This competence can be developed also by taking part in group work, communities and networks be it from cultural, social or professional reasons. (Jerabek 2018, p2).

3.3.5 Learning to learn

It is a vital skill in knowledge-based society. It empowers individuals, increasing their opportunities for adaptation and integration into the socio-professional environment. In an era expanding knowledge, where information becomes outdated rapidly, technology advances swiftly and social needs constantly evolve, people's adaptability relies on continuous learning and efficient learning strategies. The European Union document provides the following definition for this competence: *"Learning how to learn is the capacity to engage in the learning process, effectively manage one's own learning, including time and information management, individually and in groups. It involves recognizing personal learning needs, identifying opportunities, and overcoming obstacles to achieve successful outcomes"* (Drăghicescu, 2015, p. 2488).

Other skills included within this competence: Organisation of study materials, independent learning, seeking and utilising constructive feedback, maintaining good physical and mental health and leading a health-conscious life with a focus on the future. (Mylearningtolearn, 2021). Understanding the requirements for specific work positions or targets. Knowing one's preferred learning strategies, strengths, weaknesses, and available support is essential. Familiarity with basic skills like reading, writing, counting, and ICT is necessary for further study (Gilleran, 2014).

3.3.6 Social and civic competences

A child's social competence relies on factors such as their social skills, social awareness, and self-confidence. Social skills comprise of the child's knowledge and use of appropriate behaviours in different social situations, including the ability to avoid negative behaviours such as egocentric or destructive behaviours. Emotional intelligence refers to understanding emotions of others, perceiving social cues, and "read" complex social situations. Children who possess a wide range of social skills, along with social awareness and perceptiveness are more likely to be socially competent. (Encyclopaedia of children's health, 2004)

Social competences are closely linked to personal and social satisfaction. To achieve this satisfaction, it is crucial to comprehend how individuals can reach optimal physical and psychological well-being, which is undoubtedly influenced by both family and immediate surroundings. An important aspect of this is acquiring knowledge about a healthy lifestyle and its impact on one's physical and psychological state. Equally important is possessing knowledge of basic concepts related to individuals, groups, work organizations, gender equality, non-discriminatory approaches, as well as society and culture. It is essential to grasp the multicultural and socio-economic dimensions of European societies, as well as the reciprocal influence of European and national cultural identities on each other. (Gilleran, 2014)

Civic competence includes the essential learning outcomes needed for individuals to become active citizens. It encompasses knowledge, skills, attitudes, and values that enable successful engagement in civilised society, representative democracy, and daily life guided by democratic principles. According to the European Commission's Recommendation on key competences for lifelong learning, civic competence includes understanding concepts such as democracy, justice, equality, citizenship, and civil rights as expressed in the Charter of Fundamental Rights of the European Union and international declarations. It also involves awareness of current events, historical events, social and political movements, European integration, diversity, and cultural identities in Europe. Skills associated with civic competence involve effective collaboration with others in public settings, demonstrating solidarity, and showing interest in addressing community issues. This entails critical and creative thinking, active participation in community activities, and involvement in decision-making processes at local, national and European levels, including voting (Hoskins, Crick, 2008).

3.3.7 Sense for initiative and entrepreneurship

The sense of initiative and entrepreneurship refers to an individual's capacity to transform concepts into tangible outcomes. It encompasses creativity, originality, and a willingness to take risks, along with the aptitude to strategize and oversee project to accomplish goals. This competence benefits individuals not only in their personal lives and interactions within society but also in the professional realm by fostering awareness of their work environment and the ability to capitalize on opportunities. Moreover, it serves as a basis for developing specialized skills and knowledge essential for individuals involved in establishing or contributing to social or commercial activity. Awareness of ethical principles and promotion for good maintenance of public affairs. (Recommendations of the European Parliament 2006, L394/17).

Key knowledge, skills and attitudes associated with this competence include various aspects. In terms of knowledge, individuals should possess the ability to recognize available opportunities for personal, professional, or business endeavours. This includes having a comprehensible understanding of broader economic mechanisms and being aware of the opportunities and challenges faced by employers and organizations. Moreover, individuals should be aware of the ethical stance of enterprises and how they can contribute positively, such as through fair trade. Desired skills are connected with a proactive project management which includes abilities such as planning, organising, leading, delegating, analysing, communicating, debriefing, evaluating and documenting. Other important skills required are effective representation and negotiations skills, ability to work both independently and collaboratively in teams etc. Furthermore, individuals should be capable of assessing their strengths and weaknesses and taking calculated risks when appropriate. (Gilleran, 2014)

3.3.8 Cultural awareness and expression

Appreciating the significance of expressing ideas, experiences, and emotions through various mediums such as music, performing arts, literature, and visual art is important. Essential knowledge, skills and attitudes associated with this competence are following:

Cultural knowledge involves being aware of local, national, and European cultural heritage and their global significance. It includes a basic understanding of significant cultural works, including contemporary popular culture. Recognising and valuing cultural and linguistic diversity as well as appreciating the role of aesthetics in daily life are essential. Skills encompass both appreciation and expression: the ability to appreciate and enjoy artistic works

and performances, as well as self-expression through different mediums utilising one's inherent abilities (Recommendations of the European Parliament 2006, L394/10)

Skills also involve engaging with diverse perspectives, recognising social and economic opportunities in cultural activities and the transferability of creative skills to professional contexts. Developing a solid understanding of own's own culture and a sense of identity can form the foundation for an open-minded and respectful attitude toward cultural diversity. A positive attitude also includes embracing creativity and actively participating in artistic self-expression and cultural engagement to enhance aesthetic capacity. In summary this competence involves valuing and expressing ideas, experiences, and emotions through various art forms, while also possessing cultural knowledge, skills for appreciation and self-expression, and an open attitude towards diversity and creativity (Gilleran, 2014)

3.4 Summary

eTwinning provides a secure environment for pupils to work safely, which is a crucial aspect given the prevalent dangers on the internet today. According to the eTwinning brochure, there is a wide range of key competences that can be fostered through participation in eTwinning projects. The comprehensive list of competences highlights the potential for diverse skill development. Nevertheless, an inquiry arises whether it is feasible to cultivate such a diverse array of skills through international projects. Nonetheless eTwinning offers a distinctive pedagogical approach that immerses children in various activities and facilitates their engagement with students from across the globe.

4. PUTTING CLIL AND INTERNATIONAL PROJECTS TOGETHER

The following chapter delves into the list of basic foundations of CLIL introducing the core pillars upon which it is constructed. Additionally, it endeavours to compare the extent to which these principles are effectively implemented within the basic pillars of eTwinning projects.

There are various ways how to use CLIL in projects, from short language showers to almost bilingual education it depends on the age and level of English of pupils. In literature concentrating on CLIL are mentioned many types of CLIL education in which belong also international projects. The core features are: Multiple focus, safe and enriching learning environment, authenticity, active learning, scaffolding, cooperation (Mehisto, et al., 2008). All these principles are also applied when working on an eTwinning project.

4.1 Multiple Focus

- Supporting language learning in content classes
- Supporting content learning in language classes
- Integrating several subjects
- Organising learning through cross-curricular themes and projects
- Supporting reflection on the learning process

(Mehisto et al., 2008, p. 29)

This principle is given thanks to eTwinning as pupils are integrating several subjects and key competences during one eTwinning project. eTwinning supports critical thinking, and the pupils think about various subjects from different perspectives. One of the signs of project education is the endeavour to connect knowledge from various fields with what are the pupils confronted with on day-to-day basis. Project education focuses mainly on experience of the pupil with the idea that learning is more effective if methods that allow pupils to use gained knowledge in real situations are applied. This is one of the basic ideas of eTwinning and can be seen in the specific projects that are introduced below in this thesis.

Criteria of a project:

- One problem is given, there is clear aim of the project.

- Creates situations where pupil must show initiative
- Progression of the project is mapped and results evaluated.
- Project is relates to real life practise.
- The teacher's role is a facilitator who supports and guides.
- Topics which motivate pupils are chosen.
- Whenever project education is chosen, the teacher should consider whether project is the best way how to learn given topic.

Advantages of Project education:

- Connects knowledge from various subjects which helps to see things in context.
- Helps with the inclusion of senses and experience
- Allows pupil to be seen as an individual
- Motivates and activates the pupil
- Is closely connected with real life
- Develops pupil's work and study habits
- Allows pupils work in teams and groups.

(Tomkova et al 2009)

4.2 Safe and enriching learning environment

- Using routine activities and discourse
- Displaying language and content throughout the classroom
- Building student confidence to experiment with language and content
- Using classroom learning centres
- Guiding access to authentic materials and environments
- Increasing student language awareness

(Mehisto, et al, 2008, p. 29)

During eTwinning project pupils have access to a website and a safe chat where they can see the progress of their international project and cooperate with their schoolmates and pupils from different school. They can discuss the topics they are currently working on or just chat with cooperating school and practise their English. Students can also see the progress of their project around the classroom and have new English words and knowledge pinned on boards. (The fundamentals of eTwinning, 2021)

4.3 Authenticity

- Letting the students ask for the language help they need
- Maximizing the accommodation of student interests
- Making a regular connection between learning and the student's lives
- Connecting with other speakers of the CLIL language
- Using current materials from the media and other sources

(Mehisto et al, 2008, p. 29)

During eTwinning projects students have regular video conferences with the cooperating school where they can practise newly gained knowledge in English and explored how it can be applied in real life. Students are encouraged to use English as much as possible and know what tools to use when they are not able to express themselves, for example online dictionaries, translators, classic dictionaries, Vocabee (Smidova et al, 2012).

4.4 Active learning

- Students communicating more than the teacher
- Students help set the content, language and learning skills outcomes
- Students evaluate progress in achieving learning outcomes
- Favouring peer co-operative work
- Negotiating the meaning of language and content with students
- Teachers acting as facilitators

(Mehisto et al 2008, p. 29)

One of the great advantages of eTwinning is the active participation of pupils during projects where teacher acts solely as facilitator and help should the pupils need it. Most of work is done through projects and common goals where the teacher is not required to interfere. Pupils must cooperate amongst themselves on an outcome product it being presentation ebook etc. They must cooperate with partnering school and decide who is going to prepare which section of presentation or whatever product they are currently working on. (Czapiewska et. al., 2018)

4.5 Scaffolding

- Building on student's existing knowledge, skills, attitudes, interests, and experience

- Repackaging information in user-friendly way
- Responding to different learning styles
- Fostering creative and critical thinking
- Challenging students to take another step forward and not just coast comfort

As the name evokes, scaffolding is the basic concept where pupils are given support by the teacher with work that they are not able to do without help. Scaffolding is a collection of supporting strategies that effectively lead pupils to new knowledge and skills during CLIL lessons. This term was first used in 80s of the 20th century by American psychologist Jerome Bruner in relation to what a person is able to do by themselves and what they are able to do with support and help from somebody else. (Sladkovska,2010)

4.6 Co-operation

- Collaboratively designing courses, lessons, and thematic units with both CLIL and non-CLIL teachers
 - Engaging parents in understanding CLIL and providing support to students
 - Involving the local community, authorities, and employers in the learning process
- (Mehisto et al, 2008)

During eTwinning projects teachers from at least two countries collaborate, both language and non-language teachers. They communicate to deliver the students the best possible experience. They exchange ideas, report back to each other and develop effective, collaborative strategies. Cooperation amongst teachers can increase effectiveness and potentially even grades of the pupils (Clegg, 2023).

4.7 Summary

One important idea that emerges is the close connection between CLIL and eTwinning, where the former serves as a necessary foundation for the latter. This means that without CLIL, eTwinning projects would not be possible. The evidence within the previous chapter supports this notion by highlighting that students who have received CLIL instruction are well-prepared to actively participate in eTwinning projects. CLIL identifies and provides the necessary skills that enables students to effectively engage in eTwinning collaborations.

PRACTICAL PART

5. START OF COOPERATION WITH POLISH SCHOOL AND ETWINNING AT ZŠ ALOISE JIRÁSKA

The basic school of Aloise Jiráška started participation on eTwinning projects in 2016. It happened by a coincidence as the original idea was to find a partner school for their Erasmus+ program. Upon contacting a Polish school which promised participation in the project, the Polish school teacher suggested for the ZS Jiraska to try an eTwinning project. The Polish teacher trained one of the teachers in ZS Jiraska and lead her through their first project. (Kulturní dedictvi in eTwinning pg63 ,2018)

In 2018-2019, the school received an important European award ETWINNING SCHOOL. The school is amongst the 11 schools in Czech Republic which hold this award. In years 2018-2019 the school was working on 5 eTwinning projects in cooperation with Polish, Slovakian, Hungarian, Finnish and French schools. These included projects about art, space or fairy tales.

One of the most successful projects was a project called “True stories from WWII” which was done in cooperation with Polish school. The aim of this project was to introduce the topic of WWII to the pupils and teach them about the time during the second world war. This education did not only happen from textbooks, but mainly through meeting real people. The teachers consider it the most successful eTwinning project.

The afterschool club was also involved in eTwinning. They found partners in Poland and Turkey and the topic of the projects was Colours of spring- rainbow.

The international eTwinning projects became big part of ZŠ Aloise Jiráška and it increased an interested and motivation for foreign languages.

(Výroční zpráva školy, 2017)

The school has won in total four national awards for eTwinning and almost all projects have the certificate of quality.

The teacher that brought eTwinning to ZŠ Jiráška and is mainly involved in it has also won a national award for project called Looking for Similarities.

5.1 Research

Research is a certain process during which a person gathers new knowledge and confirms or disproves the current ones. At the same time it broadens the knowledge of humankind. It is in fact systematic and carefully planned activity which is led by aspiration to answer research questions and contribute to a development in certain fields (Skutil, 2011)

„Academic research is systematic, controlled, empirical and critical investigation of hypothetical statements about expected relations between natural phenomena.” (Kerlinger, 1972)

This definition can be used for research in any scientific field. In pedagogical field research can be defined as intentional and systematic activity for which empirical methods are used to research, verify and test hypothesis about relations between pedagogical phenomena (Chraska 2007, p12).

Research methodology

Research methodology is a scientific discipline that researches and describes planning, organization and realization of research including evaluation of researched data (Oberuč, 2012). It is important to concentrate on quantitative research. Quantitative research concentrates on description of a specific phenomenon in society. Its aim is to answer questions such as how much/many, how often in some cases its evaluation on a scale (podnikatel, undated)

Phases of classical pedagogical research

One or more usually interconnected problems are being solved during research. Solution of scientific problem then presents a number of related steps and actions that are dependant on one another. Individual researches can vary, but the basic scheme of course of action is as follows:

Determination of a problem

Formulation of hypothesis

Testing, verification of hypothesis

Elicitation of conclusion and its presentation

Aims of the practical part:

To analyse if pupils are less afraid to use English outside of school after undergoing CLIL and eTwinning education.

To analyse if more key competences are being developed during eTwinning than during classical education.

To analyse opinion of pupils on CLIL and eTwinning education.

To compare knowledge of pupils in non-language subject that is being taught traditionally with pupils that learned the facts through eTwinning project in CLIL education

To analyse opinions of teachers in relation to preparation of eTwinning projects and CLIL lessons and in relation to preparation of traditional lessons.

Research problems

Will the pupils that concentrate on a topic in a specifically given school subject be more successful than students who learned it through eTwinning?

Is preparation for eTwinning and CLIL lessons too time consuming for teachers it is not worth doing?

Will the topic of eTwinning project and CLIL lesson have influence on the opinion of pupils?

Do the pupils have broader vocabulary from eTwinning projects than pupils that only learn English during English lessons?

Research hypothesis

eTwinning projects contribute to the acquisition of a broader range of knowledge and skills compared to individual standard lessons.

Teacher's preparation for eTwinning projects and CLIL is more time consuming than preparation for classical lessons.

Pupils are more self-confident when using English outside of school after CLIL and eTwinning lessons than after standard English lessons.

eTwinning develops more key competences at once than individual standard lessons.

Chosen research methods:

- a. **Didactic test**
- b. **Questionnaire**

Didactic test

Can be defined as an exam where the objective is to test what level of knowledge reached a targeted group of persons. There is a difference between classical exam and didactic test as latter is designed, checked, evaluated, and interpreted by some given set of rules. It not only measures the level of skills obtained, but also the quality and the extent of knowledge. Basic characteristic of a good didactic test are validity, reliability, practicality, level of difficulty (Havlinova, 2011) Well prepared test can be one of options how to find out information about the process of education and what results are the pupils achieving. (Průcha,2009)

Types of didactic tests:

1. Measured characteristic of performance

- a. Tests measuring speed- researching how fast is a pupil capable of solving a certain type of tasks, they have strictly given time and contain usually easy tasks, it is expected that all pupils understand the given problematics.
- b. Tests measuring level- There is no given time limit, importance is put on level of knowledge and skills. They are widely used in Czech schooling system.

2. Style of preparation of the test

- a. Standardized tests- Tests that are prepared by professionals, conditions for the tests are unified. There is a test standard for interpretation and evaluation of reached results.
- b. Non-standardized tests- made by the teacher and therefore non-formal. These tests are not verified on larger numbers of pupils. Character of these tests is unknown and there is a risk that gained results will competently capture the knowledge of pupils. Interpretation of these tests is more difficult.

3. Character of tested activity

- a. Cognitive- measures pupil's level of knowledge
- b. Psychomotor- test researchers results of psychomotor education

4. Level of specific learning sphere which is being measured by the test

- a. Test measuring results of education – tests what the pupils learned in given sphere
- b. Test of study suppositions – measuring level person's general character important for future studies

5. Interpretation of performance

- a. Differentiating tests- it is called norm-referenced test where performance of a pupil is compared with performance of others.
- b. Verifying tests- it is called criterion-referenced test. It measures level of pupil's knowledge in exactly defined subject matter. It is not compared with the performance of others.

6. Timing of the test

- a. Entrance tests- tests are given to pupils at the beginning of certain study area and they are to capture level needed to manage the study area, it can also serve as a basis for differentiated education
- b. Continuous tests- tests are given during the study and give the teacher feedback about optimal way of conducting the teaching. Usually, they do not serve for evaluation of the pupils but merely to evaluate the progress of teaching
- c. Output tests- These tests are given to pupils at the end of teaching period or at the end of certain unit and usually give information for the evaluation of pupils. Are called summative tests.

7. Thematic extensivity

- a. Monothematic – Test only one field of study materials.
- b. Polythematic- Test teachings of few thematic units.

8. The level of objective scoring

- a. Objectively scored- Contain tasks where it is possible to objectively decide whether they had been solved correctly or not.
- b. Subjectively scored- Marked as essay tests, contain tasks, where it is not possible to unitedly define rules for scoring

(Havlikova,2011)

Questionnaire

Questionnaire can be defined as a asking questions in written form and obtaining written answers. (Gavora, 2000) There are two possibilities how to construct a questionnaire. Either we

can research internal phenomenon or external phenomenon. Examples of external phenomenon would be opinions of pupils or teachers about CLIL and internal would be their motivation, feelings etc. The questionnaire is a carefully planned collection of questions which are carefully ordered. There are some disadvantages of questionnaire, one of them being that respondents decide themselves how they want to be perceived rather than being observed. I am combining questionnaire with observation in attempt to have as accurate results as possible. (Chraska 2007, p.163)

Types of questions:

- Contact information

These questions are easy for the respondents to reply, they introduce the respondent into the problematics of a subject and do not take much time to answer. It's not suitable to ask any too personal questions which could make the respondent doubt anonymity of the questionnaire, or which are too delicate for the respondent.

- Functional psychological questions

These items in questionnaire have function of releasing any tension in respondent. They can be used to change the topic or as an easier question after some more intense topics. However, they can also have the function of breaking the stereotype in answering as respondents tend to create a pattern according to which they answer. These questions can be formulated so that they break such pattern and make the reader divert attention.

- Controlling questions

As the name suggests, these questions are created in such a way to confuse the respondent and make sure that they answer truthfully. We choose the same question but formulate it differently. For example: Do you enjoy CLIL lessons? The next question could be formulated like this: Do you want to have CLIL lessons at your school? However, problem arises should the respondent answer differently each time, because then we must question whether their response is credible and whether they are truthfully answering all the rest of the questions. Important rule for these types of questions is that we cannot put two questions which are investigating the same information next to each other.

- Filtration questions

Items like these are relevant if we want to research something that is only aimed at a specific group of people. For example, if we want to research the fitness of people that do not

do any elite sport, one of the first questions would be if a person does an elite sport, should the answer be yes, rest of the answers are irrelevant in the research. (Chraska, 2007) Another example of filtration questions can be when we want to split the respondents into two and more groups. For example: Do you enjoy CLIL lessons? If the answer is no, the respondent will have follow-up questions for no and if the answer is yes the respondent will have follow-up questions with yes

(Dotaznik-online, 2007).

Forms of required answers:

- Open questions

These questions can be very difficult to analyse as the respondent does not have any suggested answers and must answer to the given matter in their own words. Thanks to this there can be a wide variety of responses and the question may lose its credibility. Another option is to work only with responses that matter in the research and create evaluation based on this which can be very time consuming. However, unlike closed questions these can show more truthful perception of respondents than closed questions (Chraska 2007, p.165)

- Closed questions

This type of questions is easier for the researcher to analyse as they only provide given number of possible answers. However, the respondents may not find response they would like to give within the scale of responses. People might be more likely to fill in questionnaire that is assembled purely with closed questions as it is quicker and easier for them to fill in and does not require as much time as open questions. There are two types of questions within the closed questions section that being dichotomic questions which can only be answered by yes or no (for example: Are you currently attending basic school?) and polyatomic where can be more than two expected answers (for example: Do you enjoy English lessons?) (Chraska 2007. P166)

Subject which the question in the questionnaire is researching:

- Researching data
- Researching knowledge
- Researching opinions, attitude and motives

Research participants

ZS Jiraskova Lanskrout

This school was established approximately in 1861. Currently, there are 499 pupils attending the school, including 7 who are being educated abroad in the school year of 2022/2023. The average class size class is 25 with a total of 20 classes. The pupils are divided into two parts for English and ICT education. The school consists of 10 primary and 10 secondary classes. There are 40 teachers, 10 assistants, 5 afterschool club teachers and 7 maintenance workers. The school follows the educational programme “Learning for Life”. (ZSAJ, 2023)

CEIP Berango Merana HLHI

This school is situated in a small town of about 7 700 inhabitants. Currently there are 321 pupils attending the school and 40 teachers. The school consists of two buildings. One allocated for the infant school (children aged 2-6) and second building for children aged 7-12. The average number of pupils in one class is 17.

Szkola Podstawowa nr 9 im. Mikołaja Kopernika

The school was established in 1962. Currently there are 651 pupils in 25 classes. The school has years from 1-9 and the students are from 6-7 to 14-15 years old. The average class size is from 19-28 students in one class. The class is divided into two for ICT and language learning. The school have participated in eTwinning projects since 2005 in Erasmus + from 2018.

Executed research

The conducted research involved pupils from 5th grade of Czech school ZS Jiraskova, a Spanish school CEIP Berango Merana HLHI and a Polish School Szkola Podstawowa nr 9 imienia Mikołaja Kopernika. Two classes were selected from each school, one that participated in the eTwinning project Space Challenges and one that did not. Both groups in each school were given a didactical test to measure their acquired knowledge.

Teachers from Zs Jiraskova, Polish school, the Spanish school and other European schools were given a questionnaire to gather their views on eTwinning and CLIL education.

At the conclusion of their eTwinning project called “Space Challenges,” pupils from fifth grade of ZS Jiraskova received a questionnaire to assess which key competences they utilized during their project work.

Analysis of acquired data:

In this part collected data are analysed in detail. It is evaluation of questionnaires from pupils and from teachers. Each question individually is analysed. Only some tables are included within the analysis for better clarification. Other graphs are attached in appendix

6. TEACHER QUESTIONNAIRE:

There were in total 14 responses from different teachers in Europe, including teachers who took part in Space Challenges project and cooperate with ZS Jiraskova, Lanskrout. The questionnaire consisted of open questions in order to obtain as much data as possible and for the teachers to be able to express themselves fully.

1. State your name, name of your school and country where your school is.

Due to the General Data Protection Regulation (GDPR), I am unable to disclose sensitive data. However, for the purpose of this research, only the country and type of school are deemed essential information.

4x Spain

1x Italy

7x Czech Republic

1x Poland

1x Germany

7x Primary school teachers

7x secondary school teachers

The objective of this inquiry was to ascertain the geographic distribution of respondents and examine potential variations in their opinions based on their country and school type. Specifically, the survey revealed that four respondents originated from Spain, one from Italy, seven from the Czech Republic, one from Poland and one from Germany. Furthermore, the participants consisted of seven primary school teachers and seven secondary school teachers.

2. When considering the proficiency of your students in fundamental topics, such as travel or ordering meals in restaurants, do you observe any difference between the pre-CLIL era and the present?

The objective of this inquiry was to ascertain advancements in English proficiency and reduced apprehension in speaking. Out of the total of 14 respondents, a significant majority of 92.9% (13 individuals) acknowledged a noticeable difference between the pre-

CLIL period and the present, stating that even the parents of pupils confirm this fact. Conversely, one respondent indicated no recognizable difference.

3. What amount of English language input do you incorporate within a single Content and Language Integrated Learning (CLIL) lesson?

The aim of this question was to ascertain the extent of English language integrated in CLIL lessons and how it differs among teachers. Among the 14 participants, four teachers indicated their commitment to teach most or whole of the lesson in English. An additional four respondents stated that they allocate approximately half of the lesson time, specifically 20-25 minutes, for English language instruction. Two teachers acknowledged that their approach varies based on the English language proficiency levels of their students, using “language showers” with certain groups while opting for full immersion with others. Lastly, two participants did not provide a comprehensible response to this particular inquiry.

4. Are there any areas where you perceive certain drawbacks or limitations of Content and Language Integrated Learning (CLIL)?

The objective of this enquiry was to ascertain the perceived disadvantages of CLIL teaching according to teachers. Two teachers stated that children with special needs may encounter challenges in CLIL education. Three respondents expressed concerns about potential pronunciation errors and English language mistakes when CLIL is taught by a non-proficient English teacher, emphasising the scarcity of certified English teachers. Two respondents expressed no identified disadvantages. Two respondents highlighted significant variations in pupil’s English proficiency levels, with one mentioning potential vocabulary related issues if CLIL is introduced prematurely (Specific problems were not included) Four respondents stated that CLIL is highly time-consuming, both in terms of teacher preparation and the number of lessons, as they need to initially teach the content in Czech and then repeat it in English. One teacher expressed the view that replacing regular content and English lessons entirely with CLIL is not advisable, advocating for CLIL as complementary lessons. Lastly it was mentioned that if pupils dislike English lessons, their engagement in English activities during other content lessons may be perceived negatively by them.

5. Are there any subjects which you would consider unsuitable for CLIL?

In this inquiry, there was a rapid variation of opinions expressed. For a better clarity a table has been provided for reference. One respondent expressed the view that vocational training should be conducted in the mother tongue, although this is not applicable to basic

school education. Another one mentioned that history might be unsuitable for CLIL, while one respondent found it challenging to implement CLIL in history lessons. Two respondents indicated that the mother tongue should be used with exceptions such as language showers. Geography and ICT education were mentioned as subjects unsuitable for CLIL by one respondent. Other opinions included mathematics and chemistry. Two respondents believed that CLIL could be applied to all subjects, although they lacked personal experience in doing so. One teacher mentioned that the only subject they have not attempted with CLIL is social education, but they believe it could be feasible as well.

Table 1. Are there any subjects which you would consider unsuitable for CLIL?

Answers	Number of respondents
History	2
Geography	1
ICT	1
Mother tongue	2
Chemistry	1
Social education	1
Vocational training	1
Maths	1
All subjects are suitable	3
Foreign languages	2

6. How frequently do you employ CLIL in your lessons and in what specific ways to incorporate it? Do you utilize language showers, full immersion etc.?

The aim of this question was twofold: to examine the frequency at which teachers integrate CLIL into their lessons and to explore the techniques they employ for CLIL

implementation. A table is provided for better orientation. Half of the respondents indicated that they utilise various techniques to incorporate CLIL into their lessons. Three respondents reported conducting fully immersed lessons, while three respondents employ language showers. In terms of frequency, the integration of CLIL varied significantly: three respondents use CLIL on a daily basis, two respondents integrate it twice a week, two respondents once a week, three respondents three times a week, one respondent once a month, two respondents once per fortnight and one respondent twice a month.

Table 2. How frequently do you employ CLIL in your lessons and in what specific ways to incorporate it? Do you utilize language showers, full immersion etc.?

Every day	For instructions
Every day	Various techniques
Twice a week	Full immersion
Once a week	Various techniques
Three times a week	Full immersion
Once a week	Different techniques
Three times a week	Language showers
Twice a week	Various techniques
Every day	Various techniques
Once a month	Language showers
Three times a month	Language showers
Once per fortnight	Full immersion
Twice a month	Various techniques
Once per fortnight	Various techniques

7. Does everybody accept CLIL education or are there pupils that are not happy with CLIL methods?

The objective of this question was to research which pupils could potentially have negative attitude towards CLIL education as outlined in the theoretical part of my thesis. Five respondents highlighted that pupils who face difficulties with English often encounter challenges in CLIL lessons. On the contrary, nine respondents indicated that pupils either enjoy these lessons, or while it may have taken some time to adapt, they now accept CLIL education positively.

8. How do parents of your pupils and the head of the school evaluate CLIL and eTwinning? Does the leadership of your school demand implementation of new methods?

The purpose of this question was to ascertain the perception of innovative teaching methods, such as CLIL and eTwinning, by both the school administration and parents. The findings indicate that 93% of respondents reported a positive acceptance of these new methods by both parents and school leadership. Furthermore, it was noted that the school administration actively encourages the integration of innovative approaches in teaching. However, one respondent mentioned that their headmaster holds a disapproving stance towards CLIL and eTwinning due to a lack of perceived benefits from their perspective.

9. Do you see any differences in English lessons? Do the pupils have wider vocabulary?

The purpose of this question was to discover whether a key competence communication in English language is developed during CLIL lessons. All respondents answered this question positively. One stated that the pupil's vocabulary was more versatile.

10. Is it challenging for you to plan CLIL lessons?

The aim of this question was to research whether the teachers' perspectives on the challenges involved in planning CLIL lessons. Except for one respondent, all teachers indicated that planning CLIL lessons is demanding and time-consuming task. Most respondents agreed that the search for high-quality materials, requires a significant amount of time, and some teachers even develop their own textbooks, activities and materials. Additionally, several teachers collaborate with their colleagues to ensure the preparation of good quality lessons.

11. What do you consider to be the advantages and disadvantages of an eTwinning programme?

The objective of this question was to investigate whether teachers perceive the same advantages and disadvantages as outlined in the theoretical part. Table is provided for better clarity and organisation. Nearly all respondents, a total of 13 expressed, in various forms, that the primary advantage is the development of key competences. While some respondents individually named specific competences, others referred to them collectively as key competences. Additionally, four respondents emphasised the networking opportunities with schools and teachers worldwide as one of the main benefits. Two respondents mentioned motivation to learn foreign languages and their development, as well as the increased prestige for the school by being involved in eTwinning. Other responses included the development of independence, ability to manage workload, development in planning, self-evaluation, personal and professional growth for teachers, long-term cooperation on projects, and the potential for creating bonds and visiting each other.

Regarding the disadvantages, four respondents mentioned the time required for project planning and task completion. Others mentioned the unreliability of technical equipment, the inclusion of seemingly pointless tasks within the project to receive a certificate of quality, complicated administration such as GDPR compliance, communication challenges due to language barriers, ensuring equal participation of all countries involved, and unreliable partners. Based on the responses, it is evident that the advantages outweigh the disadvantages.

Table 3. What do you consider to be the advantages and disadvantages of an eTwinning programme?

Number of respondents	Advantages	Number of respondents	Disadvantages
2	Motivation to learn foreign languages	4	Time-consuming
1	Development of independence	1	Pointless tasks in order to receive a certificate of quality
1	Ability to manage workload	1	Complicated administration, GDPR

1	Self-evaluation	1	Communication challenges thanks to language barrier
1	Personal and professional development for the teacher	2	Technical issues
4	Networking with schools and teachers around the World	1	Ensuring equal participation is challenging
2	Recognition for the school	1	Unreliable partners
2	Innovative methods		
1	Cooperation on a long term project		
1	Interesting topics		
13	Development of key competences		
1	Creating bonds, visiting each other		

12. How do pupils react to eTwinning projects?

The objective of this question was to discover the perception of the eTwinning project among children. With the exception of three teachers who have not yet participated in eTwinning, all respondents stated that the majority of pupils have a positive reaction to the projects and enjoy them. Additionally three participants mentioned that children particularly like the opportunity to interact with children from another country.

13. What do you think are the main assets of CLIL and eTwinning?

The aim of this inquiry was to determine teachers' perceptions regarding the development of key competences during CLIL and eTwinning lessons. Four respondents stated that a significant benefit was the reduction of students' shyness when speaking a foreign language. Additionally, four respondents emphasised the integration of foreign language and content education as a major advantage. Two respondents stated that CLIL and eTwinning serve to establish a connection between school education and real-life experiences for the pupils. Finally, two respondents highlighted the importance of collaboration, fostering cultural

exchange, and facilitating connections between students from different countries as key assets of CLIL and eTwinning.

14. How much time on average does it take you to plan a typical English lesson?

The aim of this question was to determine the time needed for planning of traditional English lesson. All respondents replied that it takes them less than an hour, the time being on average about half an hour.

15. Is it more time consuming to plan CLIL lesson than standard English lesson? Is it worth it from your point of view?

The aim of this inquiry is to determine whether implementing CLIL in lessons poses greater challenges for teachers compared to creating standard lessons. All respondents agreed that it is indeed more time-consuming, taken in account the absence of standardized materials for CLIL education. They further expressed that planning CLIL lessons to ensure a coherent sequence of activities that align with the lesson objective can be particularly demanding.

16. Does planning an eTwinning project and carrying out its various steps with pupils require more time compared to standard English lessons? In your opinion, is the investment worth it?

The aim of this question was to discover whether teachers find the process of creating and implementing eTwinning projects more time-consuming compared to standard education, and whether they perceive it as a worthwhile endeavour. All respondents acknowledged that planning eTwinning projects requires a significant investment of time. However, they unanimously agreed that the effort is worthwhile as eTwinning projects provide students with added value beyond standard lessons.

17. Do you think that pupils develop more key competences at once (eg. Digital competence, social competence, competence to speak foreign language...) during eTwinning projects than during standard education?

The aim of this question was to find out whether teachers believed that key competences are being developed during eTwinning projects. All 14 respondents answered positively. Six respondents stated that they especially see the development of ability to work with digital technologies as most of eTwinning meetings and cooperation happens through IT media. Five respondents specified the development of social competence, ability to cooperate and to respect others.

6.1 Summary of the teachers' questionnaire

From the questionnaire, it is evident, that teachers observe a significant change in pupils' attitude towards the English language. Due to eTwinning projects and CLIL lessons, students have greater motivation to learn, establish contacts and friendships with students from other countries, and become familiar with cultural differences and specific aspects of other countries. Not all students receive eTwinning projects with enthusiasm, but the majority perceive them as fun and interesting form of learning. All teachers agreed that eTwinning projects contribute more to the development of key competences compared to traditional teaching methods. This observation is further supported by questionnaires given to children from schools participating in eTwinning projects.

When asked about differences in students' willingness to speak English outside the school environment, most respondents answered that they see significant differences. Students use English during vacations, when interacting with native speakers, and so on. Respondents also agreed that a disadvantage of CLIL lessons and eTwinning projects is the time required, not only for preparation but also for achieving the objectives of each lesson. Especially with more challenging topics, it is necessary to first build sufficient vocabulary in the native language before moving on to English.

An interesting finding was the exploration of inappropriate subjects for CLIL instruction. In this regard, teachers had almost no consistent answers, therefore any subject can be suitable for CLIL instruction depending on the teacher's approach and teaching methods. This was also evident in the question regarding the type of CLIL instruction, as some teachers use full immersion, others use language showers, and some switch between different types depending on their students.

A positive discovery was the responses regarding support from parents and the school in innovative teaching methods. It is important for teachers who introduce new methods to be supported by school leadership and parents.

7. DIDACTIC TEST

The Didactic test consisted of 14 questions. Apart from one they were all open questions. Together 84 respondents from Czech, Spanish and Polish school had taken a part in this test. 54 of them took part in Space Challenges and 30 of them have not. Two pupils from Czech class which did not take part in Space Challenges were born in United Kingdom therefore their English is very advanced. The aim of this test was to compare the knowledge of pupils who have undertaken the Space Challenges project and those who have not. There were ten words connected with Space to be translated and one asking about a famous astronomer, who was researched by the pupils during the project. Pupils who did not take part in Space Challenges covered this topic within their traditional lessons.

1. I have taken part in Space Challenges project

The aim of this question was to research which pupils took part in this project and which not in order to be able to compare the latter responses. Out of 84 responses 63.4% have taken part in Space Challenges project.

2. Vesmír

72.6% of respondents answered correctly. There were 13 wrong responses out of which nine pupils who answered wrongly did not take part in the space challenges project.

3. Venuše

90.5% of respondents answered correctly. There were 8 wrong responses all of which were answered by pupils who did not take part in the Space Challenges project.

4. Merkur

78.6% of respondents answered correctly. There were 18 wrong answers out of which 16 children who gave the wrong response did not take part in the Space Challenges project.

5. Země

82.1% respondents answered correctly. There were 15 wrong answers, out of which 10 children did not take part in the Space Challenges project.

6. Jupiter

82.1% respondents answered correctly. There were 15 wrong answers, out of which 13 pupils did not take part in the Space Challenges project.

7. Měsíc

91.7% pupils answered correctly. There were 7 wrong answers, out of which 2 children did not take part in the Space Challenges project.

8. Raketa

77.4% respondents answered correctly. Out of 19 wrong responses, 5 were answered by children who did not take part in the Space Challenges project.

9. Slunce

92.9% pupils answered this question correctly. There were 6 wrong answers out of which 1 was given by a child who did not take part in the Space Challenges project.

10. Sluneční soustava

73.8% of respondents answered correctly. There were 22 wrong answers out of which 19 who gave the wrong answer did not take part in the Space Challenges project.

11. Mléčná dráha

78.6% pupils answered correctly. There were 18 wrong responses, out of which 13 children did not take part in the Space Challenges project.

12. Who was Nicolaus Copernicus? Write as much information as possible

65.5% pupils answered correctly. There were 29 wrong answers, out of which 27 children did not take part in the Space Challenges project.

7.1 Summary of the didactic test

The aim of the test was to determine whether students who participated in the project-based learning of Space Challenges have a larger vocabulary compared to students who learn the same topics through traditional teaching methods. The results clearly indicate that students who participated in the project have a greater vocabulary related to the topic of Space. They also have knowledge about Nicolaus Copernicus and are able to write about him in English. On the other hand, a significant portion of students who did not participate in the project did not know who Nicolaus Copernicus was.

This research suggests that project-based learning, such as Space Challenges, can effectively support the development of vocabulary while motivating students to engage with the subject matter. The conclusions drawn from this test highlight the significance and benefits

of project- based learning for students, indicating that this approach can achieve significant results in enhancing their language skills and knowledge.

8. QUESTIONNAIRE FOR CHILDREN

Pupils from Czech, Polish and Spanish school who took part in Space Challenges project filled in the following questionnaire. The pupils were between age 10-12. The questionnaire consists of 43 closed questions researching the development of key competences and the importance of topic chosen for an eTwinning project. Filling out of the questionnaire was voluntary unlike the test, therefore less responses had been gathered, together 43 respondents participated in the questionnaire. There are Czech and English responses in the questionnaire, as due to the pupils being from various countries I created the questionnaire in Czech for Czech pupils and in English for other participants as the English is more advanced than English of an average fifth grade pupil would be. Teachers from participating school helped their pupils with the English. The questions are formulated very clearly taken in account the age of the pupils filling in the questionnaire.

1. I am...

Out of total 43 respondents, 46.6% of respondents were boys and 53.5% were girls.

2. Do you use digital technologies during eTwinning projects?

The aim of this question was to research whether use of digital technologies is being developed during eTwinning projects. Total 58.1% of respondents stated that they utilise digital technologies during eTwinning projects. Other 37.2% stated to mostly use digital technologies and 4.7% stated not to use digital technologies. This question is followed by a more clarifying question.

3. If you answered the previous question yes: What technologies do you use?

A table is provided for better orientation. More than one answer was possible. Most respondents- total of 18, use computer for their work on projects. Three respondents use the application Kahoot during eTwinning projects. The second most answered option was mobile phone with total of 8 respondents. Only 4 respondents stated interactive board, which seems untrue, as interactive board is only placed in the classroom, therefore if four respondents have used it, other pupils within that same class have very probably used it too. It is possible not all answers were stated as most of the communication between schools happens through digital technologies.

Table 4. If you answered the previous question yes: What technologies do you use?

Technology type:	Number of respondents:
Kahoot	3
Mobile phone	8
Computer	18
Interactive board	4
Zoom	2
Tablet	21

4. Does your teacher use native language during explanation of new things when working on an eTwinning project?

The aim of this question was to research whether communication in mother tongue happens during work on eTwinning projects. All 100% of respondents answered this question yes. It is therefore possible to draw the conclusion that communication in mother tongue takes place during eTwinning projects.

5. Do you need English during an eTwinning project?

The aim of this question was to research whether communication in foreign language takes place during project work and total 100% of pupils answered that they indeed need English during an eTwinning project. Clarifying question had been used to confirm the development of foreign language skills.

6. If you answered the previous question yes: Do you think that your English improved during the work on an eTwinning project?

The aim of this question was to determine whether or not English skills are being developed during an eTwinning project. 83.3% of respondents replied yes which is the majority of all respondents. Only 16.7% of respondents does not believe development of their English skills took place during an eTwinning project

7. Do you think you will use language and other skills learned during the project work in real life?

The aim of this question was to ascertain whether students see the usability of language and other knowledge gained during an eTwinning project in practical life. The majority of

60.4% of respondents answered yes to this question. Another 32.6% answered probably yes and only 7% answered probably no. It can therefore be concluded that most pupils see the applicability of the gained knowledge in everyday life.

8. Do you enjoy eTwinning projects?

Aim of this question was to see the pupils perception of eTwinning project and its dependence on the topic of the project, therefore a clarifying question had been provided next. Most pupils- 58.1% stated that they enjoy eTwinning project with 30.3% of respondents stating mostly yes. Some pupils do not enjoy eTwinning projects total of 9.3%.

9. If you answered no: Is it because you don't like the topic of an eTwinning project?

The aim of this question was to research whether the choice of topic for an eTwinning project is relevant to the pupils' opinions about eTwinning project. Together 57.1% of respondents stated that the topic has not relevance to their dislike of eTwinning projects. Further 21.4% stated that the choice of topic is the reason why they answered the previous question no and further 21.4% stated that the topic probably has no relevance on their opting for no in the previous question.

10 If you answered yes: Is the topic of an eTwinning project important for you?

The aim of this question was to ascertain whether the topic of an eTwinning project is relevant despite them answering the previous question yes. Total of 31.6% respondents stated that topic is not important for them, they enjoy eTwinning projects either way. Further 10.3% respondents stated that the topic is mostly not relevant to whether they like or dislike the project. On the contrary 34.2% stated that the topic is indeed important for them, 20.6% respondents stated that they mostly consider the importance of topic as relevant.

11 Do you use maths during an eTwinning project?

The aim of this question was to research whether mathematical competence is being developed during eTwinning projects. Total of 30.6% of respondents stated that they use maths during eTwinning project. Further 46.5% stated that they sometimes use Maths during an eTwinning projects, whilst 23.1% pupils stated that they do not use Maths during an eTwinning project. It can be concluded that most of pupils use Maths during eTwinning projects at least sometimes.

12 In what subjects do you use English?

A table has been provided for better clarification. There is a big variation of subjects that the pupils claim they use English in, more than one answer was allowed. Not surprisingly the highest number of respondents, 25 stated that they use English during English lessons. The second highest number is 22 in Geography with the Czech primary school version of this subject- Our World, included. Next favourite subject for CLIL lessons is Art and crafts and design, having 11 respondents stating art and 3 respondents crafts and design. Further eight respondents claimed using English in Maths CLIL lessons. Other subjects mentioned were Civic education, Natural science and ICT. Therefore there are more possible conclusions: Not all respondents remembered these classes and the numbers would be higher if they did, or the respondents that stated that they use English in these subjects did not remember using English in them correctly,

Table 5. In what subjects do you use English?

Subjects:	Number of respondents:
English	25
Crafts and design	3
Civic education	2
Art	12
Maths	8
History	1
Geography	22
Natural science	1

13 Have you measured anything during an eTwinning project (size, distance)?

The aim of this question was to explore whether students use Maths during eTwinning projects. Approximately half, 44.2% stated that they have indeed measured something during their project work. While 55.8% stating that they have not. Measuring something is of course just a fraction of the mathematical competence and the following question is designed to measure the same competence.

14 Have you explored natural patterns during an eTwinning project?

The aim of this question had similar aim as the previous question, only orientated more on scientific part of the mathematical competence. Here 62.8% of respondents answered that they did explore natural patterns at some point during an eTwinning project. Further 37.2% of respondents did not recollect exploring natural patterns.

15 Do you think that eTwinning project teaches you to study better and remain studying for longer (for example, when studying for a test)?

Aim of this question was to ascertain whether the learning to learn competence is being developed during eTwinning projects. 32.6% of pupils states that it is so with 41.6% of respondents opting for mostly yes. Further 7% of respondents claimed that eTwinning has not influence on their ability to study better and for longer with 14.7% opting for mostly no. Most respondents claim that eTwinning project has influence on their ability to learn.

16 Do you think that you are learning English better if it is used in different subjects other than English lessons?

The aim of this question was to see whether CLIL has influence on better English skills in pupils. More than half, 62.8% responded that learning English is better for them in different subjects. Further 11.6% claimed mostly yes, 11.6 mostly no and 14% stating no.

17 Do you look up new English words during the work on an eTwinning project?

The aim of this question was to research whether students search for new information, actively participate when they do not know the answer. Most respondents, totally 65.1% claimed that they look up new information with further 34.9% claiming they do not.

18 Do you enjoy looking up information about your history and culture?

The aim of this question was to see whether pupils enjoy learning about the history and culture of their countries. More than half, exactly 53.5% stated that they enjoy looking up new information. Further 28% stated that mostly yes and 16.3% claimed that mostly no with only 4.6% saying resolutely that they do not enjoy it at all.

19 Do you often cooperate in group during an eTwinning project?

The aim of this question was to find out whether social skills are being developed during an eTwinning project. 67.4% of pupils claim that group work is often part of project education with further 23.2% stating mostly yes, 7% mostly no and only 2.3% claiming no.

20 Do you present your work on an eTwinning project in English?

The aim of this question was to research whether pupils not only listen and read English during eTwinning projects, but also speak. Out of 43 respondents 65.1% stated that they present their work on project in English with further 33.9% stating that they do not present their work on eTwinning project in English.

21 Do you find it important to know English well?

The aim of this question was to ascertain whether pupils see the importance of a foreign language, in this case English for life. Full 79.1% of children believe that English is important language with 14% answering this question with mostly yes. 4.7% pupils believe that it is mostly not important and 2.3% do not see any importance at all.

22 Do you think you participate actively during the fulfilment of tasks on an eTwinning project?

The aim of this question was to research whether cooperation and active participation was being developed during an eTwinning project. Over half of respondents- 55.8% believe they participate actively and further 32.6% believe they mostly participate actively. Other 11.7% stated mostly no to participation.

23 Do you think that you have a better knowledge of your country thanks to eTwinning?

The aim of this question was to ascertain whether cultural competence is developed during eTwinning projects. 46.5% of respondents stated that they believe they have better knowledge. Further 21% stated mostly yes to this question and 20.9% expressed mostly no with further 11.6% stating no.

24 Are you afraid to speak English outside of school?

Aim of this question was to confirm or dispute opinion of teachers in their questionnaire about pupils' confidence when speaking in English. 14% of pupils answered yes to this question and further 13.9% claimed mostly being afraid. Other 18.6% claimed mostly not being afraid and 53.5% not to be afraid to use English outside of school.

25 Do you search for solutions of different problems in group during an eTwinning project?

Aim of this question was to ascertain whether the learning to learn competence and other competencies such as social competence are being developed during the work on an eTwinning project. 53.5% of participants claimed to search for solutions amongst other people. With 23.2% stating that they mostly search for solutions. 11.6% of respondents claimed mostly not to search for solutions and 11.6% claimed no to looking for solutions.

26 What's your opinion of eTwinning projects?

Aim of this question was to research whether pupils enjoy eTwinning projects or not. A table has been provided for further clarification. Most respondents claim that they like eTwinning projects and that they are fun, others clarified that they enjoy working in group and they helped with improvement of English. Two pupils claimed that they are boring and that is why they do not like it and one stated not to like eTwinning projects because English is not their favourite subject. Two respondents stated that it depends on the type of project, some are good and some are not. Three respondents particularly enjoy cooperation with children from abroad.

Table 6. What's your opinion of eTwinning projects?

Opinion:	Number of respondents:
It's fun, its's good	32
Boring, I don't like it	2
It helped me with English	1
I don't like it because I don't like English	1
It depends, some are good, some not	2
I like work in groups	1
I would like to do some models in crafts during the project	1
I like meeting children from abroad	3

27 Do you think you have an overview of current happenings in the world thanks to eTwinning?

Aim of this question was to ascertain whether pupils have an idea about current happenings in the world thanks to eTwinning and therefore the cultural competence is being developed. 41.9% stated to indeed have an overview and further 37.2% claiming mostly yes. 16.3% respondents stated mostly no to this question, 4.7% claiming no.

28 Do you think that you have better knowledge of Europe thanks to eTwinning?

Aim of this question was to ascertain whether the knowledge of Europe had been deepened thanks cooperation with other European countries during eTwinning. 51.1% respondents claimed yes and 14% stated that probably yes. 18.7% answered this question with probably no and 11.6% responded not to have better knowledge.

29 Do you use English outside of school?

Last question in the questionnaire aimed whether it is possible for pupils to use gained knowledge outside of school. 86% of respondents stated yes and 14% claimed no.

30 Is it difficult for you to communicate in group and search for solutions during an eTwinning project?

The aim of this question was to ascertain whether social competence is being developed during an eTwinning project. Most respondents 46.5% stated it is not difficult for them co communicate in group and search for solutions. Further 27.9% claimed that they mostly do not find it challenging. 7% of respondents answered this question with mostly yes and also 7% claiming yes it is difficult for them to operate within a group.

8.1 Summary of the pupils' questionnaire

The results from the student questionnaire indicate that the majority of students utilise digital technologies as a tool for eTwinning, including computers, tablets, mobile devices, and online platforms such as Kahoot and Zoom. Although specific eTwinning tools were not mentioned directly, it can be implied that eTwinning projects contribute to the development of digital competence based on the pupils' responses.

Furthermore, the questionnaire revealed that communication in the native language, particularly English is emphasised in eTwinning projects. Pupils recognised the importance of English language skills, demonstrated confidence in speaking, and acknowledged its practical

application in everyday life. It is encouraging to note that students presented their work in English during eTwinning projects, indicating the development of listening, speaking and reading skills.

While the evaluation of mathematical competence based on the questionnaire was inconclusive, there are indications that eTwinning projects contribute to the development of learning competence, as seen in the students' responses.

The Questionnaire also explored social and civic competences, with the majority of students reporting ease in working collaboratively and exhibiting knowledge of historical and current events, indicating the development of cultural competence. The questionnaire results also reflected the importance of initiative and entrepreneurship within teamwork.

Lastly, students expressed a high level of enjoyment in CLIL and eTwinning lessons, regardless of the topic. These findings emphasise the positive impact of these teaching approaches on student engagement and motivation.

It's important to acknowledge the limitations of the questionnaire, such as potential memory bias and the limited sample size. Further research and classroom observation would provide a more comprehensive understanding of the effects of eTwinning and CLIL on student competences.

In conclusion, the findings support the notion that eTwinning and CLIL positively contribute to the development of various competences, including digital competence, communication skills, cultural competence and teamwork. These insights can inform educators and policymakers in promoting the integration of eTwinning and CLIL to enhance students' learning experiences and competences.

9. CONCLUSION:

The aim of this thesis was to research aspects of CLIL in eTwinning international projects. Theoretical part included analysis of CLIL method and international project method with research questions arising about the implementation of eTwinning into the education. New methods in education are entering our lives, importance is put on the education materials not to be only informative, but useful in real life of the pupils. More importance is given especially to language education with the idea that pupils will improve their language skills more if language is taught “alongside” learning different content. This idea is not new and this concept can be seen in every person. Since we are born nobody explains to us our mother tongue, babies are discovering the world while simultaneously learning the language. There is no intention in it. The aim of CLIL and international projects is the same. Pupils experience various problems, solve tasks, must communicate with others using foreign language. The importance of English had become greater with European Union and the children are aware of that as discovered through questionnaire.

The first hypothesis is partially confirmed on base of didactic test conducted in classes where eTwinning is part of education and classes where eTwinning is not. However, in order to confirm this hypothesis more accurately a long-term research with more depths would have to be introduced it is not possible to conclude such statement with only one test.

Further investigation of negatives and positives of CLIL education and international projects one of which was how time consuming it is for the teachers. As discovered through research amongst teachers the second thesis is confirmed based on the research. However, all teachers stated that it is worth the time used for preparation as CLIL and project work are worth doing so.

Third hypothesis was confirmed based on questionnaire of both pupils and teachers with further discovery that pupils realise the importance of English learning. Most children and teachers enjoy cooperation with teachers and pupils from other countries.

Last hypothesis was confirmed based on questionnaire of both pupils and teachers. Question remains how many key competences can be developed during one eTwinning project. Most pupils further stated that they enjoy work on eTwinning projects regardless of topic.

Based on these findings it can be concluded that majority of pupils and teachers welcome project education in their lives and see its benefits for the future. It is important to concentrate

on more applicable information for life in the basic education, especially development of digital skills is crucial for new generation as more and more information is accessible online and traditional methods such as researching words in paper dictionary are becoming less common.

Bibliography:

BĚLECKÝ, Zdeněk. *Klíčové kompetence v základním vzdělávání*. V Praze: Výzkumný ústav pedagogický, 2007. ISBN 978-80-87000-07-6.

COUFALOVÁ, Jana. *Projektové vyučování pro první stupeň základní školy*. Praha : Fortuna, 2006. ISBN 80-7168-958-0.

COYLE, D., HOLMES, B., & KING, L. *Towards an integrated curriculum - CLIL National Statement and Guidelines*, 2009. ISBN 978-0-9564256-0-7

COYLE, Do, Philip HOOD a David MARSH. *CLIL: content and language integrated learning*. Cambridge: Cambridge University Press, 2010. ISBN 978-0-521-13021-9.

GAVORA, Peter. *Úvod do pedagogického výzkumu*. 2., rozš. české vyd. Přeložil Vladimír JÚVA, přeložil Vendula HLAVATÁ. Brno: Paido, 2010. ISBN 978-80-7315-.

HANESOVÁ, D. (2014). Pedagogická koncepcia Mateja Bela. *Pedagogika*, 5(4), 273-289.

HOSKINS, Bryony a Ruth DEAKIN CRICK. *Learning to Learn and Civic Competences: different currencies or two sides of the same coin?*. Luxembourg: European Communities, 2008. ISBN 978-92-79-08961-9.

CHRÁSKA, Miroslav. *Metody pedagogického výzkumu: základy kvantitativního výzkumu*. Praha: Grada, 2007. Pedagogika (Grada). ISBN 978-80-247-1369-4.

KERLINGER F. N. *Základy Výzkumu chování* 1972

Key competencies: a developing concept in general compulsory education. Bruxelles: Eurydice, c2002. Survey. ISBN 2-87116-346-4.

KOTÁSEK, Jiří, ed. *National programme for the development of education in the Czech republic: White Paper*. Prague: Institute for Information on Education, 2001. ISBN 80-211-0413-9.

KOVÁCS, J. (2014). CLIL – Early competence in two languages. In Kovács, J. & Benkő, É. T. (Eds.), *The World at Their Feet: Children's Early Competence in Two Languages through Education* (p. 15–97). Budapest: Eötvös József Könyvkiadó.

MALIERS A MARSH D WOLFF D. *Windows on Clil : Content and Language Integrated Learning in the European Spotlight*. The Hague: European Platform for Dutch Education; 2007.

MARSH, D, A MALJERS a A HARTIALA. *PROFILING EUROPEAN CLIL CLASSROOMS: Languages Open Doors*. Finland: University of Jyväskylä, Finland & European Platform for Dutch Education, The Netherlands, 2001. ISBN 951-39-0862-3.

MEHISTO, Peeter, María Jesús FRIGOLS a David MARSH. *Uncovering CLIL: content and language integrated learning in bilingual and multilingual education*. Oxford: Macmillan, 2008. Macmillan books for teachers. ISBN 978-0-230-02719-0.

OBERUČ, Jaroslav, Gustáv UŠIAK a Gabriela SLÁVIKOVÁ. *Metodológia pedagogického výskumu: vysokoškolská učebnica pre študentov študijného programu Učiteľstvo technických predmetov*. Dubnica nad Váhom: Dubnický technologický inštitút, 2012. ISBN 978-80-89400-41-6.

PRŮCHA, Jan, ed. *Pedagogická encyklopedie*. Praha: Portál, 2009. ISBN 978-80-7367-546-2.

RECOMMENDATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL: on key competences for lifelong learning. In: . Lisbon: European Parliament, 2006, (2006/962/EC). Dostupné také z: <https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:394:0010:0018:en:PDF>

SKUTIL, M. a kol. *Základy pedagogicko-psychologického výzkumu pro studenty učitelství*. 1. vyd. Praha: Portál, 2011. 256 s. ISBN 978-80-7367-778-7.

SPRATT, M. PULVERNESS, A. WILLIAMS, M. *The Tkt Course : Teaching Knowledge Test*. Cambridge: Cambridge University Press; 2005.

ŠMÍDOVÁ, Tereza, Lenka PROCHÁZKOVÁ a Naděžda VOJTKOVÁ. *CLIL ve výuce: jak zapojit cizí jazyky do vyučování*. Praha: Národní ústav pro vzdělávání, školské poradenské zařízení a zařízení pro další vzdělávání pedagogických pracovníků, 2012. ISBN 978-80-87652-57-2

TOMKOVÁ, Anna, Jitka KAŠOVÁ a Markéta DVOŘÁKOVÁ. *Učíme v projektech*. Praha: Portál, 2009. ISBN 978-80-7367-527-1.

VOJTKOVÁ, Naděžda a Světlana HANUŠOVÁ. *CLIL v české školní praxi*. Brno: Studio Arx, 2011. ISBN 978-80-866665-09-2.

Výroční zpráva školy. Lanškroun, 2017.

Online resources:

ATTARD-MONTALTO, Sandra a Lindsay WALTER. *THE CLIL4U GUIDEBOOK v.2 2021* [online]. Druhé. 2021 [cit. 2023-06-05]. ISBN 978-9918-0-0073-9. Dostupné z: <https://languages.dk/archive/clil4u/book/clil%20book%20en.pdf>

BALL, P. Jak se realizuje výuka metodou CLIL? KLEČKOVÁ, G. (Ed.) In. *Integrovaná výuka cizího jazyka a odborného předmětu – CLIL*. 1. vyd. Praha: Výzkumný ústav pedagogický v Praze [online]. 2006 [cit. 2015-06-04]. Dostupné na: <http://digifolio.rvp.cz/artefact/file/download.php?file=28339&view=2893&view=2893>. ISBN: 978-80- 87000-85-4

CLEGG. *Teacher collaboration in CLIL* [online]. 2023 [cit. 2023-06-13]. Dostupné z: <https://www.onestopenglish.com/clil/article-teacher-collaboration-in-clil/157768.article>

CZAPIEWSKA, Izabel, Marzena ZAWŁOCKA a Edyta RUTKOWSKA. *Active learning teaching strategies in CLIL* [online]. Varšava: Dwujęzyczna Szkoła Podstawowa, 2018 [cit. 2023-06-13]. Dostupné z: <https://cloud-f.edupage.org/cloud/?z%3AnOmOmGFCj4hUU2aJB7SY01hKJwia6%2FoWTClwb7s3or0s5Krow6EQ9yuMs7jYyTuZ>

Erasmus+. *ETwinning* [online]. Národní podpůrné středisko pro eTwinning v České republice, 2018 [cit. 2023-06-10]. Dostupné z: <https://www.etwinning.cz/erasmus/>

ETwinning: eTwinning – komunita škol v Evropě [online]. 2018 [cit. 2023-06-13]. Dostupné z: <https://www.etwinning.cz/o-nas/>

GREČNEROVÁ, Barbora. *ETwinning - online spolupráce škol v Evropě* [online]. [cit. 2023-06-18]. Dostupné z: <https://digifolio.rvp.cz/view/view.php?id=10400>

HANESOVA, Dana. *A Move toward Learner-Centred Foreign Language Pedagogy: Focusing te17*. ISSN 13378384. Dostupné z: doi:10.18355/XL.2015.08.04.46-59

HAVLINOVA, Hana. *Didaktické test* [online]. 2011 [cit. 2023-06-17]. Dostupné z: https://wiki.rvp.cz/Knihovna/1.Pedagogick%C3%BD_lexikon/D/Didaktick%C3%A9_testy

HROMÁDKA, Zdeněk. *Začínáme s metodou CLIL ve výuce fyziky na základní škole. Metodický portál: Články* [online]. 07. 05. 2019, [cit. 2023-05-26]. Dostupný z WWW: <<https://clanky.rvp.cz/clanek/21901/ZACINAME-S-METODOU-CLIL-VE-VYUCE-FYZIKY-NA-ZAKLADNI-SKOLE.html>>. ISSN 1802-4785.

Integrovaná výuka cizího jazyka a odborného předmětu – CLIL [online]. Praha: Výzkumný ústav pedagogický, 2011 [cit. 2023-06-17]. ISBN 978-80-87000-85-4. Dostupné z: <https://digifolio.rvp.cz/artefact/file/download.php?file=28339&view=2893&view=2893>

JAVORČÍKOVÁ, Jana a Anna ZELENKOVÁ. CLIL: Conceptual differences in teaching “realia” to philological and non-philological students. *Journal of Language and Cultural Education* [online]. 2019, 7(3), 18-34 [cit. 2023-06-17]. ISSN 1339-4584. Dostupné z: doi:10.2478/jolace-2019-0019

LOJDOVÁ, Kateřina. *Projektové vyučování* [online]. 2012 [cit. 2023-06-18]. Dostupné z: <https://docplayer.cz/978053-Projektove-vyucovani-skripta-ke-kurzu-13-12-2012-mgr-katerina-lojdova.html>

MARSH, David. *Content and Language Integrated Learning (CLIL) A Development Trajectory* [online]. universita Cordoba, 2012 [cit. 2023-06-17]. Dostupné z: <https://core.ac.uk/download/pdf/60884824.pdf>

Mezinárodní projekt jednoduše – příručka pro instituce zaměřené na formální i neformální vzdělávání [online]. Dům zahraniční spolupráce, 2021 [cit. 2023-05-30]. Dostupné z: <https://www.dzs.cz/sites/default/files/2021-06/Mezin%C3%A1rodn%C3%AD%20projekt%20jednodu%C5%A1e.pdf>

My Learning To Learn: WHAT IS LEARNING TO LEARN COMPETENCE? [online]. 2021 [cit. 2023-06-06]. Dostupné z: <https://mylearningtolearn.com/home/#:~:text=%E2%80%9CPersonal%2C%20social%20and%20learning%20to.one's%20own%20learning%20and%20career>

Národní certifikát kvality (eTwinning Quality Label). *ETwinning* [online]. 2018 [cit. 2023-06-10]. Dostupné z: <https://www.etwinning.cz/narodni-certifikat-kvality/>

NISS, Mogens. *Survey team on: conceptualisation of the role of competencies, knowing and knowledge in mathematics education research* [online]. 2016, 611-633 [cit. 2023-06-01].

NOVOTNÁ, J. a kol. CLIL – nový směr ve výuce [online]. [cit. 2023-06-10]. Dostupné na: <http://people.fjfi.cvut.cz/novotant/jarmila.novotna/CiziJazyky-def.pdf>.

NOVOTNÁ, Jarmila. CLIL v českém vzdělávacím systému. Metodický portál: Články [online]. 14. 05. 2013, [cit. 2023-06-13]. Dostupný z n

Podnikatel.cz [online]. 2023 [cit. 2023-06-17]. Dostupné z: <https://www.podnikatel.cz/pruvodce/marketing/kvantitativni-vyzkum/>

POKRIVČÁKOVÁ ET AL., Silvia. *CLIL in Foreign Language Education* [online]. Nitra: Constantine the Philosopher University, 2015 [cit. 2023-02-20]. ISBN 978-80-558-0889-5. Dostupné z: https://www.tedu.edu.tr/sites/default/files/content_files/research_files/e-textbook_clil_in_fle_-_final2.pdf

PÝCHOVÁ, Silvie. Co to je eTwinning. Metodický portál: Články [online]. 26. 06. 2007, [cit. 2023-06-18]. Dostupný z WWW: <https://clanky.rvp.cz/clanek/1454/CO-TO-JE-ETWINNING.html>. ISSN 1802-4785.

Rozpracovaný koncept digitální gramotnosti [online]. In: JEŘÁBEK, Tomáš. Druhé. 2018, s. 1-70 [cit. 2023-06-05]. Dostupné z: https://www.edu.cz/wp-content/uploads/2021/05/180901_Koncept-digitalni-gramotnosti.pdf

Rozvíjení kompetencí žáků pomocí eTwinningu [online]. Brusel: Centrální podpůrné středisko pro eTwinning, 2014 [cit. 2023-06-17]. ISBN 978-949144063-2. Dostupné z: <https://www.etwinning.cz/wp-content/uploads/2017/02/Rozv%C3%ADjen%C3%AD-kompetenc%C3%AD-%C5%BE%C3%A1k%C5%AF-prost%C5%99ednictv%C3%ADm-eTwinningu-2014.pdf>

SCRIDON, Alice. *Alice Scridon, Paola Bortini, Barbara Helm, Rüdiger Teutsch, Michaela Münster* [online]. Bratislava: BIND print, 2014 [cit. 2023-05-29]. Dostupné z: <https://iz.or.at/wp-content/uploads/2020/09/Handbook-for-International-School-Projects.pdf>

SHRAIBER, E.G. a L.N. OVINOVA. CLIL TECHNOLOGY AS AN INNOVATIVE METHOD TO LEARN FOREIGN LANGUAGES AT UNIVERSITY. *Bulletin of the South Ural State University series "Education. Education Sciences"* [online]. 2017, 9(2), 82-88 [cit. 2023-06-17]. ISSN 20737602. Dostupné z: doi:10.14529/ped170208

SLADKOVSKÁ, Kamila. Co je to scaffolding v CLILu?. Metodický portál: Články [online]. 02. 09. 2010, [cit. 2023-06-13]. Dostupný z WWW: <https://clanky.rvp.cz/clanek/9541/CO-JE-TO-SCAFFOLDING-V-CLILU.html>. ISSN 1802-4785.

Social competence. *Encyclopedia of children's health* [online]. 2004 [cit. 2023-06-07]. Dostupné z: <http://www.healthofchildren.com/S/Social-Competence.html>

SPACE CHALLENGES [online]. Poland, Czech Republic, Spain, 2023 [cit. 2023-06-10]. Dostupné z: <https://sites.google.com/view/spacechallenge/home>

STRUČNÉ VYMEZENÍ DIGITÁLNÍ GRAMOTNOSTI A INFORMATICKÉHO MYŠLENÍ. *Národní ústav pro vzdělávání* [online]. 2004 [cit. 2023-06-04]. Dostupné z: <https://archiv-nuv.npi.cz/t/strucne-vymezeni-digitalni-gramotnosti-a-informatickeho.html#:~:text=Digit%C3%A1ln%C3%AD%20kompetence%20ch%C3%A1pe me%20jako%20pr%C5%AF%C5%99ezov%C3%A9,%C4%8Dinnostech%2C%20p%C5%99i%20%C5%99e%C5%A1en%C3%AD%20nejr%C5%AFzn%C4%9Bj%C5%A1%C3%ADch%20probl%C3%A9m%C5%AF>.

ŠÍBOVÁ, Marta. Rozvoj klíčových kompetencí v matematice. Metodický portál: Články [online]. 05. 01. 2007, [cit. 2023-06-02]. Dostupný z WWW: https://clanky.rvp.cz/clanek/1076/ROZVOJ-KLICOVYCH-KOMPETENCI-V-MATEMATICE.html. ISSN 1802-4785.

ŠINDELÁŘ, Jan. Skupinová práce na ZŠ. Metodický portál: Články [online]. 31. 01. 2019, [cit. 2023-05-30]. Dostupný z WWW: https://clanky.rvp.cz/clanek/21894/SKUPINOVA-PRACE-NA-ZS.html. ISSN 1802-4785.

The European School Education Platform and its services. *European School Education Platform* [online]. Brussels, 2022 [cit. 2023-06-10]. Dostupné z: <https://school-education.ec.europa.eu/en/about>

THE FUNDAMENTALS OF ETWINNING. *ETwinning online* [online]. 2021 [cit. 2023-06-10]. Dostupné z: <https://etwinningonline.eba.gov.tr/lesson/what-is-etwinning/#:~:text=%2F%20E2%80%A2%20Live.run%20online%20projects%20in%20eTwinning>.

The importance of communicating in foreign languages. *School Education Gateway* [online]. 2017 [cit. 2023-06-01]. Dostupné z: <https://www.schooleducationgateway.eu/en/pub/resources/tutorials/the-importance-of-communicatin.htm>

The Learning to Learn Competence - Guarantor of Personal Development [online]. In: DRĂGHICESCU, Luminița Mihaela. Elsevier, 2015, s. 2487-2493 [cit. 2023-06-07]. Dostupné z: <https://www.sciencedirect.com/science/article/pii/S1877042815028311>

TICKLE, Louise. How international projects connect the curriculum to the real world. *The Guardian* [online]. 2012, 2012 [cit. 2023-05-29]. Dostupné z: <https://www.theguardian.com/teacher-network/2012/sep/24/international-collaboration-curriculum-learning>

TKT: Content and Language Integrated Learning (CLIL) [online]. Cambridge: Cambridge Assessment English, 2019 [cit. 2023-06-13].

WHAT IS PROJECT BASED LEARNING?. *Magnify Learning* [online]. Dallas [cit. 2023-06-13]. Dostupné z: <https://www.magnifylearningin.org/what-is-project-based-learning>

What schools can gain from international partnerships [online]. 2021 [cit. 2023-05-29].

Dostupné z: <https://www.tes.com/magazine/sponsored/british-council/what-schools-can-gain-international-partnerships>

Základní Informace. *ZŠAJ* [online]. [cit. 2023-06-05]. Dostupné z: <https://www.zsaj.cz/skola/zakladni-informace>

ZORMANOVÁ, Lucie. Projektová výuka. *Metodický portál: Články* [online]. 21. 05. 2012, [cit. 2023-05-29]. Dostupný z WWW: <https://clanky.rvp.cz/clanek/14983/PROJEKTOVA-VYUKA.html>. ISSN 1802-4785.

List of pictures:

Picture 1: Pyramid showing the elements necessary for successful implementation of CLIL

Picture 2: Basic pillars for implementation of the CLIL method into educating process

Picture 3: Showing important parts of project-based learning

Picture 4: Showing different options for CLIL education

List of tables:

Table 1. Are there any subjects which you would consider unsuitable for CLIL?

Table 2. How frequently do you employ CLIL in your lessons and in what specific ways to incorporate it? Do you utilize language showers, full immersion etc.?

Table 3. What do you consider to be the advantages and disadvantages of an eTwinning programme?

Table 4. If you answered the previous question yes: What technologies do you use?

Table 5. In what subjects do you use English?

Table 6. What's your opinion of eTwinning projects?

List of appendices:

Appendix 1 Questionnaire for teachers

Appendix 2 Questionnaire for pupils

Appendix 3 Didactic test

Appendix 4 Graphs from children's questionnaire

Appendix 5 Project Space Challenges

Appendix 6 Photos of eTwinning project (Space Challenges) from observation

List of used abbreviations:

CLIL	Content and Language Integrated Learning
Etc.	etcetera
Eg.	Exempli gratia
LAC	Language across the Curriculum
WAC	Writing across the Curriculum
USA	United States of America
PBL	Project Based Learning
CSS	Central Support Service
GDPR	
DZS	Dům zahraniční spolupráce

Appendix 1

Interview Diploma Thesis

Please complete this questionnaire for me, I will be very grateful for your responses. :)

* Indicates required question

1. Email *

2. Please could you tell me your name, name of your school and country where your school is?

3. 1. When considering the proficiency of your students in fundamental topics, such as travel or ordering meals in restaurants, do you observe any difference between the pre-CLIL era and the present?

4. 2. What amount of English language input do you incorporate within a single Content and Language Integrated Learning (CLIL) lesson?

5. 3. How do you assess the collaboration among international schools in eTwinning projects?

6. 4. Are there any areas where you perceive certain drawbacks or limitations of Content and Language Integrated Learning (CLIL)?

7. 5. Are there any subjects which you would consider unsuitable for CLIL ?

8. 6. How frequently do you employ CLIL in your lessons and in what specific ways do you incorporate it? Do you utilize language showers, full immersion etc,?

9. 7. Does everybody accept CLIL education or are there pupils that are not happy with CLIL methods?

10. 8. How do parents of your pupils and the head of the school evaluate CLIL and eTwinning? Does the leadership of your school demand implementation of new methods?

11. 9. Do you see any differences in English lessons? Do the pupils have wider vocabulary?

12. 10. Is it challenging for you to plan CLIL lessons?

13. 14. What do you consider to be the advantages and disadvantages of an eTwinning programme?

14. 15. How do pupils react to eTwinning projects?

15. 17. What do you think are the main assets of CLIL and eTwinning?

16. 19. How much time on average does it take you to plan a typical English lesson? *

17. 20. Is it more time consuming to plan CLIL lesson than standard English lesson? Is it worth it from your point of view? *

18. 21. Does planning an eTwinning project and carrying out its various steps with *
pupils require more time compared to standard English lessons? In your
opinion, is the investment of time worth it?

19. 22. Do you think that pupils develop more key competences at once (eg. *
development of foreign language, use of digital technologies, social
competence...) during eTwinning project than during standard education?

Mark only one oval.

- yes
- probably yes
- probably no
- no

Thank you very much.

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Appendix 2

Dotazník diplomová práce žáci

* Indicates required question

1. 1. I am... *

Mark only one oval.

- a boy
 a girl

2. 2. Do you use digital technologies during eTwinning projects? *

Mark only one oval.

- yes
 mostly yes
 mostly no
 no

3. 3. If you answered the previous question yes: What digital technologies do you use?

4. 4. Does your teacher use native language during explanation of new things when working on an eTwinning project? *

Mark only one oval.

- yes
 no

5. Do you need English during an eTwinning project? *

Mark only one oval.

- yes
- no

6. If you answered the previous question yes: Do you think that your English improved during the work on an eTwinning project?

Mark only one oval.

- yes
- no

7. Do you think you will use language and other skills learned during the project work in real life? *

Mark only one oval.

- yes
- mostly yes
- mostly no
- no

8. Do you enjoy eTwinning projects? *

Mark only one oval.

- yes
- mostly yes
- mostly no
- no

9. 9. If you answered no, Is it because you don't like the topic of the eTwinning project?

Mark only one oval.

- yes
 mostly yes
 mostly no
 no

10. 10. If you answered yes: Is the topic of an eTwinning project important for you?

Mark only one oval.

- yes
 mostly yes
 mostly no
 no

11. 11. Do you use maths during eTwinning projects? *

Mark only one oval.

- yes
 no
 sometimes

12. 12. In what subjects do you use English? *

13. 13. Have you measured anything during an eTwinning project? (distance, size) *

Mark only one oval.

- yes
 no

14. 14. Have you explored natural patterns during an eTwinning project? *

Mark only one oval.

- yes
 no

15. 15. Do you think that eTwinning project teaches you to study better and remain studying for longer (for example, when studying for a test)? *

Mark only one oval.

- yes
 mostly yes
 mostly no
 no

16. 16. Do you think that you are learning English better if it is used in different subjects than in English lessons? *

Mark only one oval.

- yes
 mostly yes
 mostly no
 no

17. 17. Do you look up new English words during the work on an eTwinning project? *

Mark only one oval.

- yes
 no

18. 18. Do you enjoy looking up information about your history and culture? *

Mark only one oval.

- yes
 mostly yes
 mostly no
 no

19. 18. Do you often cooperate in group during an eTwinning project? *

Mark only one oval.

- yes
 mostly yes
 mostly no
 no

20. 19. Do you present your work on an eTwinning project in English? *

Mark only one oval.

- yes
 no

21. 20. Do you find it important to know English well? *

Mark only one oval.

- yes
- mostly yes
- mostly no
- no

22. 21. Do you think you participate actively during the fulfillment of tasks on an eTwinning project? *

Mark only one oval.

- yes
- mostly yes
- mostly no
- no

23. 22. Do you think that you have better knowledge of your country thanks to eTwinning? *

Mark only one oval.

- yes
- mostly yes
- mostly no
- no

24. 24. Do you ever have problem to fulfill the tasks for an eTwinning project? *

Mark only one oval.

- yes
- mostly yes
- mostly no
- no

25. 25. Do you think you have an overview about important events in your history thanks to eTwinning? *

Mark only one oval.

- yes
- mostly yes
- mostly no
- no

26. 23. Are you afraid to speak English outside of school? *

Mark only one oval.

- yes
- mostly yes
- mostly no
- no

27. 24. Do you search for solutions of different problems in group during an eTwinning project? *

Mark only one oval.

- yes
 mostly yes
 mostly no
 no

28. 25. What's your opinion on eTwinning projects?

29. 26. Do you think you have an overview of current happenings in the world thanks to eTwinning? *

Mark only one oval.

- yes
 mostly yes
 mostly no
 no

30. 30. Do you think you have an overview of politics in your country thanks to eTwinning? *

Mark only one oval.

- yes
 mostly yes
 mostly no
 no

31. 27. Do you think that you have better knowledge of Europe thanks to eTwinning? *

Mark only one oval.

- yes
 mostly yes
 mostly no
 no

32. 28. Do you use English outside of school? (on holiday, when meeting a foreigner, when watching films...) *

Mark only one oval.

- yes
 no

33. 29. Is it difficult for you to communicate in group and search for solutions during an eTwinning project?

Mark only one oval.

- yes
 mostly yes
 mostly no
 no

Thank you very much for filling in the questionnaire :)

Appendix 3

Didactic test

Please fill it in without looking up the right answers.

** Indicates required question*

1. I have taken part in the Space Challenges project . *

Mark only one oval.

yes

no

2. Name and Surname *

3. Date: *

Example: 7 January 2019

Please translate these words in English (each country has the word in their own language):

If you don't know the answer, just simply write **IDK**- I don't know

4. 1. vesmír/ wszechświat/ universo *

5. 2.Venuše/ Wenus/Venus *

6. 3.Merkur/ Rteć/ Mercurio *

7. 4. Země/ Ziemia/ Tierra *

8. 5.Jupiter/ Jowisz/Júpiter *

9. 6. Měsíc/ Księżyc/ Luna *

10. 7. raketa/ rakieta/cohete *

11. 8.Slunce/ Słońce/Sol *

12. 10. sluneční soustava/Układ Słoneczny/ *
Sistema solar

13. 9. Mléčná dráha/ droga Mleczna/ vía Láctea *

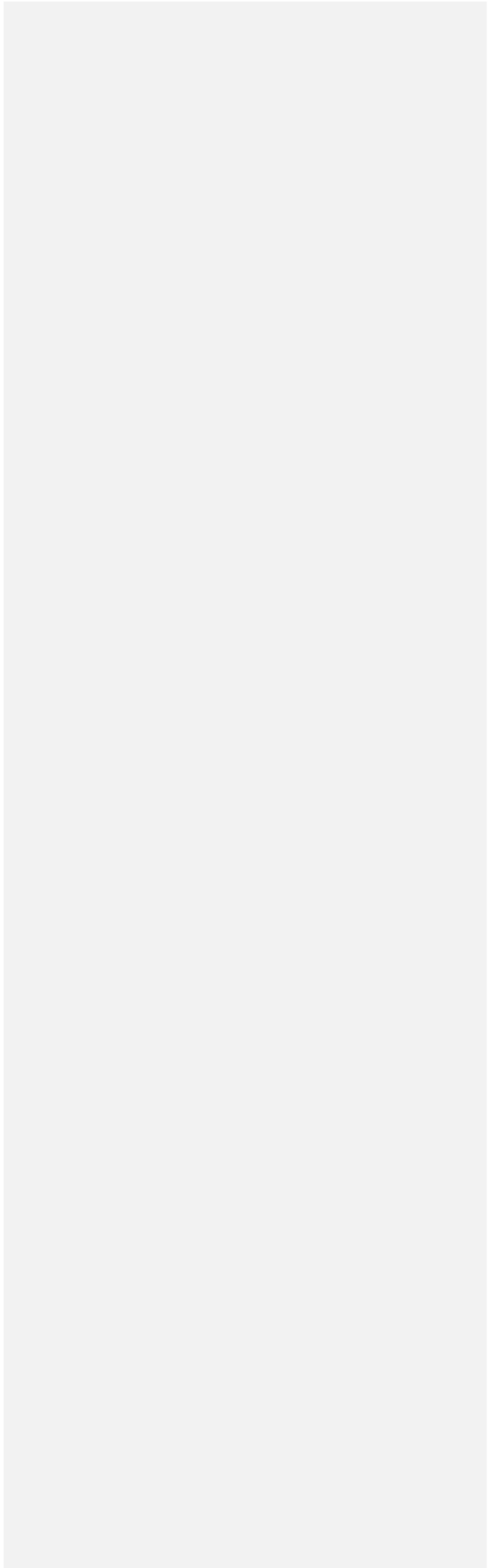
Please write what you know.

14. Who was Nicolaus Copernicus? Write as much information as possible. *

Thank you very much :)

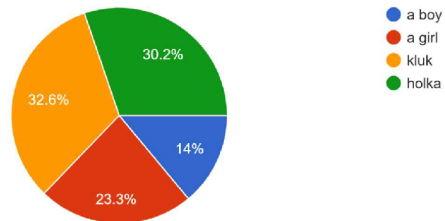
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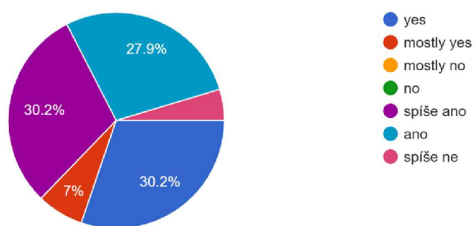


Appendix 4

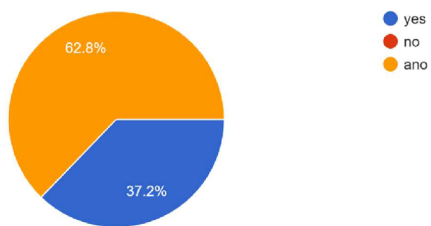
1. I am...
43 responses



2. Do you use digital technologies during eTwinning projects?
43 responses

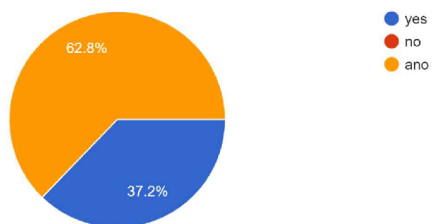


4. Does your teacher use native language during explanation of new things when working on an eTwinning project?
43 responses



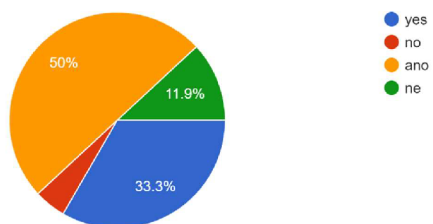
5. Do you need English during an eTwinning project?

43 responses



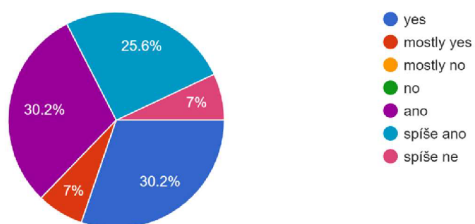
6. If you answered the previous question yes: Do you think that your English improved during the work on an eTwinning project?

42 responses



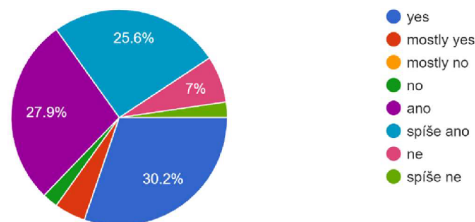
7. Do you think you will use language and other skills learned during the project work in real life?

43 responses



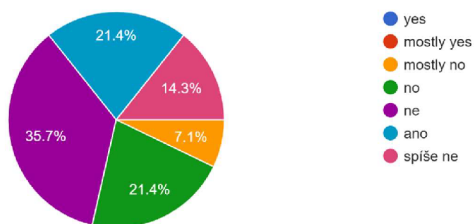
8. Do you enjoy eTwinning projects?

43 responses



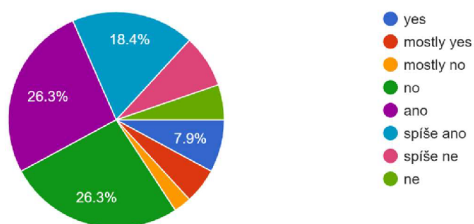
9. If you answered no, Is it because you don't like the topic of the eTwinning project?

14 responses



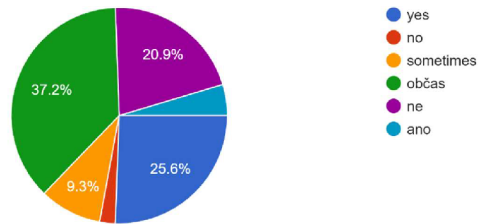
10. If you answered yes: Is the topic of an eTwinning project important for you?

38 responses



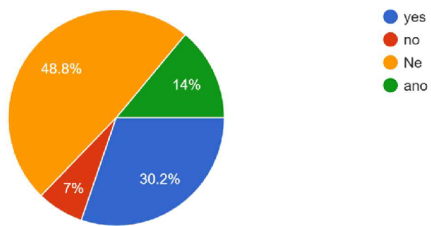
11. Do you use maths during eTwinning projects?

43 responses



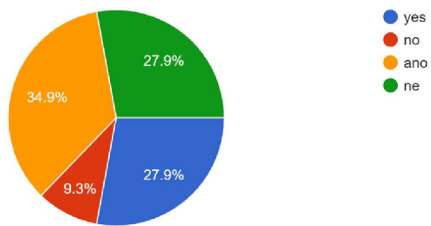
13. Have you measured anything during an eTwinning project? (distance, size)

43 responses



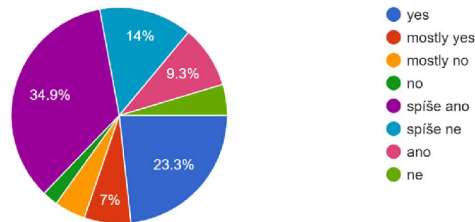
14. Have you explored natural patterns during an eTwinning project?

43 responses



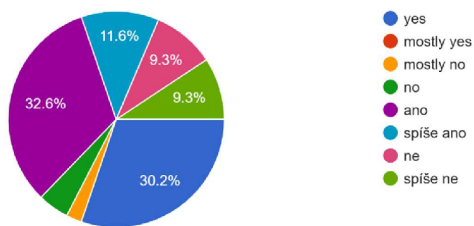
15. Do you think that eTwinning project teaches you to study better and remain studying for longer (for example, when studying for a test)?

43 responses



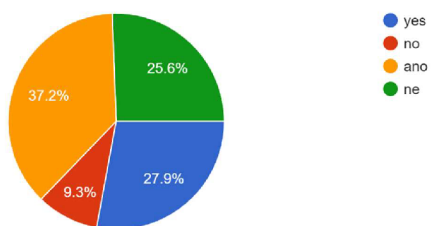
16. Do you think that you are learning English better if it is used in different subjects than in English lessons?

43 responses



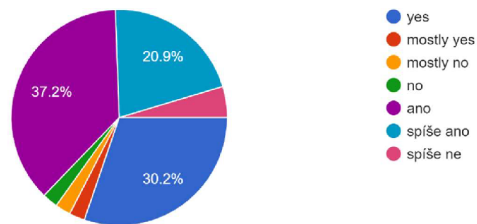
17. Do you look up new English words during the work on an eTwinning project?

43 responses



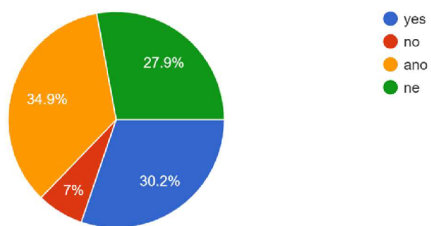
18. Do you often cooperate in group during an eTwinning project?

43 responses



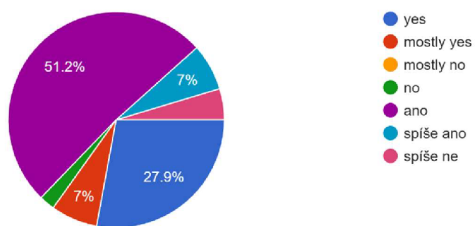
19. Do you present your work on an eTwinning project in English?

43 responses

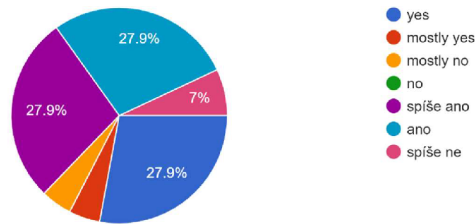


20. Do you find it important to know English well?

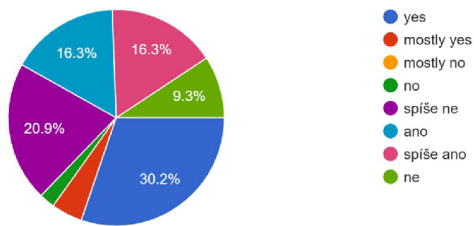
43 responses



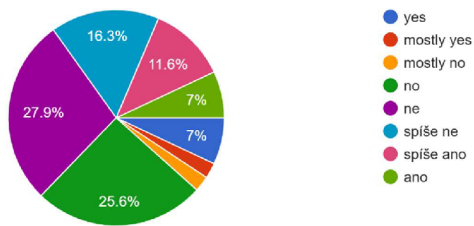
21. Do you think you participate actively during the fulfillment of tasks on an eTwinning project?
43 responses



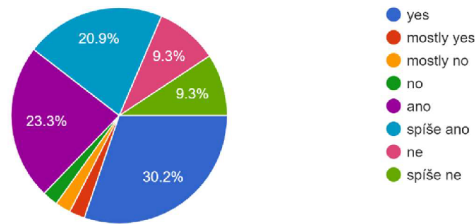
22. Do you think that you have better knowledge of your country thanks to eTwinning?
43 responses



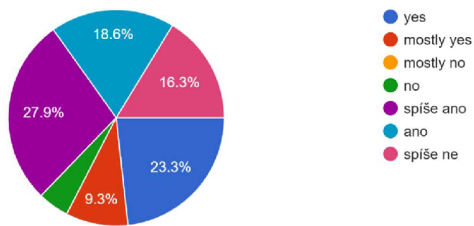
23. Are you afraid to speak English outside of school?
43 responses



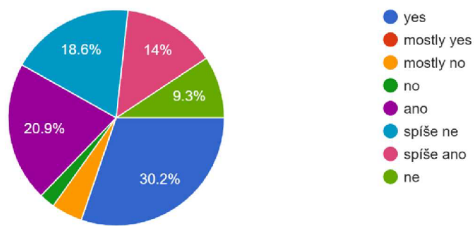
24. Do you search for solutions of different problems in group during an eTwinning project?
43 responses



26. Do you think you have an overview of current happenings in the world thanks to eTwinning?
43 responses

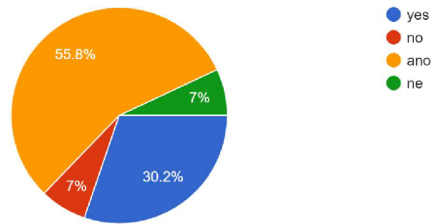


27. Do you think that you have better knowledge of Europe thanks to eTwinning?
43 responses



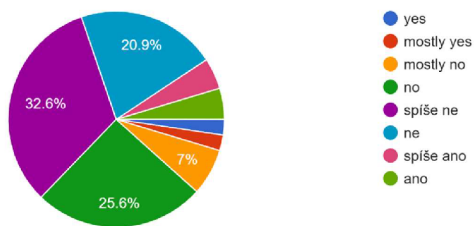
28. Do you use English outside of school? (on holiday, when meeting a foreigner, when watching films...)

43 responses



29. Is it difficult for you to communicate in group and search for solutions during an eTwinning project?

43 responses



Appendix 5

Space Challenges

Project is being realised at ZŠ Jiráskova in 2022/2023 together with schools in Poland and Spain

Length of this project: 1 year

Objectives of this project: Pupils will learn about the life of Nicolaus Copernicus and his achievements. They will learn about the solar system planets and discover space. Another important part is to motivate students to learn English and improve. Pupils will practise communication skills and develop their creativity when creating posters, presentations etc. Teachers from partnership schools will exchange new teaching methods.

At the beginning of the project pupils learned about each other's countries by creating posters about the other two partnership countries therefore pupils at ZS Jiraskova created posters about Poland and Spain. Then the students wrote letters about themselves and exchanged them with letters from pupils from partnership countries. Children also had to create an avatar and upload it using padlet and also create a short bio about themselves. Pupils also created quizzes about their countries and played them during first videoconference.

In the next step a logo for the project had to be done. Children created it by drawing individual letters filled with pictures related to the project and mixing letters done by pupils from all three countries. In December students started learning about the Nicolaus Copernicus' life and achievements by creating an ebook, interactive map and a comic about this Polish astronomer. They also deepened their knowledge by creating quizzes which were played with their partners, learned about the tools that he used when discovering the space and also created the model of the tools.

During the rest of the school year students will learn the names of the solar system planets first in their mother tongue and then in English with the aid of ebooks, comics and ICT materials that will be created by both teachers and students. In the end each country will make a model of the solar system for their classroom. Upon familiarizing themselves with solar system, students will create a plan about their first visit to space. They will research what fitness an astronaut must have in order to be declared fit for travelling to space, what does the aircraft look like and they will design their own spacecraft models. In the end they will write short poems about space.

During the whole school year pupils will visit science centres and planetariums where they can see the sky and learn more about the technology.

Appendix 6

